

Code-Mixing in the Bilingual Preschool Child:  
Understanding the Communicative Purpose

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### Abstract

This study aimed to identify the social functions and purposes to the commonly misunderstood act of code-mixing among bilingual preschool aged children, and to support its acceptance as a valid stage towards becoming bilingual. Current research in the field of bilingual language acquisition and development supports that preschool aged children are not only able to learn two languages simultaneously, but are further capable of differentiating and manipulating both languages given the social and communicative context (Genesee, 2008; Nicoladis & Genesee, 2007; Paradis & Nicoladis, 2007). Other research has demonstrated that code-mixing follows a specific syntactic pattern of production among emerging bilinguals (Woolford, 1983); however, there is limited evidence towards determining the purpose of the act, specifically from a Canadian English-French bilingual context. Bilingual language proficiency for the preschool students in this study were established through a *Family Language Use Survey*, a *Classroom Language Use Survey*, as well as a *Bilingual Questionnaire* designed to measure both expressive and receptive language skills in both languages for 12 English-French bilingual preschool students (aged 3-5). Interactions between participants were recorded and analyzed to first identify 186 incidences of code-mixing, which were then transcribed and coded based on communicative purpose (Brown, 2007), function of language use (Halliday, 1973; as cited by Brown, 2007), as well as for parts of speech (Celce-Murcia & Larsen-Freeman, 2015), in determining the functional and social purpose in language choice. This study hoped to demonstrate not only that bilingual preschool aged children's use of code-mixing serves as a stepping stone towards becoming bilingual, but that it further holds a real communicative and social purpose as well.

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They say that it takes a village to raise a child, but the same can be said of the completion of a Master's Thesis. This research and study is my child. A child whom I could not have raised and seen to achievement without the guidance, encouragement and support of my village. The successful completion of this Thesis was a journey of both great personal and professional growth, a journey that pushed the limits of what even I thought myself ever possible of accomplishing. It was a journey filled with countless highs and lows, but one that I am truly grateful to not have had to travel alone.

It is for these reasons that this Thesis is dedicated to the following:

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## Chapter 1: Introduction

Bilingual language acquisition and development has been the focus of much research and debate within the fields of linguistics, education and early childhood development, undoubtedly due to its contested understanding and the underestimation of its importance within the early years. Aside from the benefit of being able to speak and understand more than a single language, being bilingual has additional benefits that include improved cognitive abilities and stronger mental connections, as well as an increased command of executive control and attention (Bialystok, Martin & Viswanathan, 2005). Associated with bilingualism, the act of code-mixing involves the combining or mixing of elements from two separate languages within the same speech act (Genesee, 2008), and its distinctive functions within the emergent bilingual can be seen as propelling some of the more common misperceptions surrounding early bilingualism itself. Understanding not only the bilingual child but the path that they have travelled in their acquisition of two languages is essential in fully understanding and further examining the act of code-mixing. De Jong (2011) appropriately states that “our perspective on bilingualism affects how we view bilingual children,” (p.52) expressing at once the dichotomy of viewpoints surrounding early bilingualism, and the necessity to properly and justifiably argue for its value.

### **Rationale & Purpose**

Having personally completed the Early Immersion program in New Brunswick from grade 1 through 12, growing up with a bilingual education continues to show its influence in numerous facets of both my academic and professional career. Although my family claims no Francophone or Acadian connections, I consider myself to be successfully bilingual as an Early Childhood Educator and Director employed within a fully Francophone Early Childcare Centre that strives to promote French language skills and Francophone culture with our youngest of

generations. As one of the largest Early Childhood Centres within the province of Nova Scotia, CPE le Petit Voilier remains a minority in terms of their cultural and linguistic values within the city of Halifax. This double standard within society aptly mirrors the misunderstood nature of becoming and being bilingual. Current research in the field of bilingual language acquisition and development supports that preschool aged children (those ranging in age between three and five years, as defined by Hetherington, Parke & Schmuckler (2005) are not only able to learn two languages simultaneously, but are further capable of differentiating and manipulating both languages given the social and communicative context (Genesee, 2008; Nicoladis & Genesee, 1997; Paradis & Nicoladis, 2007). Common misperception surrounding early bilingual language acquisition include the perception of overall delays in speech and language production, and the inability to properly grasp either language. Research by Chiocca (1999) and Genesee (2008), among others, has shown however how these misperceptions can be discounted. Furthermore, the act of code-mixing, has been shown to follow a specific syntactic pattern of production among emerging bilinguals (Woolford, 1983), demonstrating much more than a common confusion between two languages.

In my own personal and professional experience as a Francophone Early Childhood Educator and Director, I see evidence of previous research surrounding and supporting early bilingualism on a daily basis. My academic experiences in early childhood education have taught me that all children will manipulate and further experiment with many developmental milestones and abilities with an aim towards self discovery, understanding and mastery. The acquisition of language (or a second language) being no exception in this regard, and in particular language acquisition and development possesses a window of opportunity from birth through puberty during which time attainment is more readily and naturally achieved (Hetherington, et al., 2005).

Bilingual or second-language learning shows evidence not only of acquisition through code-mixing but of continued understanding and progressive development as well. Preschool aged children's use of code-mixing in fact supports the success of bilingual language acquisition and development.

Stemming from and as a culmination of my own personal experiences with early bilingualism, along with my vocational and academic pursuits in early childhood education thus far, this study aimed to identify the social functions and communicative purposes to the commonly misunderstood act of code-mixing among bilingual preschool aged children. Although code-mixing is seen to rely on an underlying grammar based system in production (Woolford, 1983), there is limited evidence towards determining the social purpose or communicative function of the act, specifically from a Canadian English-French bilingual context. This study additionally aimed to support the acceptance of code-mixing as a valid stage towards becoming bilingual. In living the juxtaposition of being an Anglophone within a Francophone organization, my distinctive position posits me to uniquely impact not only the children, families and colleagues that I work with, but furthermore to be able to stand as an advocate for the importance and benefits of early bilingualism. It is appropriately recognized that I would not be in the position I am today without my own success and identity with bilingualism.

## **Chapter 2: Literature Review**

The following literature review explores some of the research to date involving both monolingual language acquisition and bilingual language acquisition, before assessing some of the benefits and further misconceptions surrounding early bilingualism. The phenomena of code-mixing (as later defined) is additionally explored in terms of its production and formation in preschool aged children and its underlying syntactic framework. Finally, the concept of bilingual communicative competence and how it relates to both bilingual language acquisition and bilingual code-mixing is discussed.

### **Monolingual Language Acquisition**

Monolingual language acquisition is defined as any single language learned at one time (Brown, 2007; Hetherington, et al., 2005; King, 2006). A monolingual individual would thus, only be able to speak and understand a single language. The monolingual developing child acquires language and linguistic skills following a pre-determined and biological set of developmentally appropriate milestones and patterns of acquisition. While variation exists, and can be largely influenced by individual, environmental and social factors, the same developmental sequence is common among all learners.

Monolingual language acquisition is well researched to follow a specific pattern of developmental milestones. From an early age, young infants begin to develop speech perception skills that involve the ability to distinguish similar sounding vowel sounds, and their associated facial movements, as well as recognizing their own name within a segment of speech. This early introduction to sound production and speech perception skills allows infants to develop more complex language abilities through scaffolding. Although infants come receptively pre-equipped to acquire and learn any and all languages, they will with time become more attuned to the

language characteristics and sounds of their native language (King, 2006), consequently and naturally becoming unable to distinguish or understand foreign languages.

Most monolingual children will produce some kind of vocalization or noise from birth, often in the form of cooing and typically aligning to vowel sounds, followed later by babbling or the combining and alternating between vowel and consonant sounds between two and six months of age (Brown, 2007; Chiocca, 1998; Hetherington, et al., 2005). The babbling stage of language acquisition is also the first vocalizations of sound that conform to adult sound patterns and speech, with infants gradually being able to partake in reciprocal exchanges known as 'proto-conversations' with an interlocutor (King, 2006). The first appearance of recognized and formed words is most often seen between twelve and eighteen months of age and begins what is commonly referred to as the holophrastic stage, although speech at this point in acquisition is often limited and repetitive (Hetherington, et al., 2005; King, 2006).

A child's vocabulary will continue to expand and grow rapidly throughout their early childhood development. During the preschool years, between the ages of three and five, the monolingual child will gain mastery of their language and begin to form multiword sentences (Brown, 2007; Chiocca, 1998; Hetherington, et al., 2005). This stage of rapid lexical development, also known as a vocabulary spurt, is often preceded by a delay in speech production as children continue to gain a solid comprehension base to their language acquisition. Young children will typically understand a significantly greater number of vocabulary items than their productive abilities demonstrate. During this stage of a vocabulary spurt, a child can be seen to gain an estimated two hundred new words per month to their useable vocabulary (King, 2006). As young children experiment and explore the limits of their language acquisition, they progressively begin to form more complex sentences and with an increase in confidence in

language use comes an increased flexibility and display of mastery with language from age six onwards (Chiocca, 1998; Hetherington, et al., 2005; King, 2006).

Monolingual language development further follows a set pattern of acquisition in regards to the order that different categories of words are produced. Nominal words appear first as the child learns associations between names and objects in their immediate environment, grasping concrete objects that are familiar to their everyday experiences and immediate environment faster (Hetherington, et al., 2005). Speech production and vocabulary errors are common at this stage of development, including lexical and semantic overextensions (using the same nominal to describe an entire category of nouns, i.e. all flowers or plants are ‘roses’) and underextensions (using a nominal too specific or restrictively, i.e. only a child’s pet dog is called a ‘dog’) (King, 2006). Around the age of two, children will begin grasping verbs as they learn to exert their desires on named objects and others. Modifiers, adjectives and descriptive words follow suit, expanding on the child’s knowledge and mastery of their environment (Hetherington, et al., 2005). The introduction of verbs into a child’s vocabulary begins the two-word stage of speech production, also referred to as telegraphic speech, in which combinations of subject and verb or verb and modifier, form the foundations of early speech. The beginning of the use of verbs in a child’s productive speech also forms a basis for early grammatical understandings, which will progress into higher morphological and semantic comprehension as children learn to form fuller and more complex sentences (King, 2006). Finally, words and phrases that serve a social and functional purpose are the last to be produced as children gain mastery not only over their speech production, but also their ability to express their own thoughts and communicative desires (Hetherington, et al., 2005).

## **Bilingual Language Acquisition**

Bilingual language acquisition is similar to monolingual language acquisition, but its development and production can be very different. Bilingual language development can be defined in several ways, the most encompassing and simplistic of which states that “bilingual describes an individual who has developed or is developing two languages regardless of the level of command in each language” (Wei, 2000; as cited by Solano-Flores, G. & Li, M., 2013, p.246). Contrary to a monolingual individual, a developing bilingual will be able to comprehend and utilise linguistic skills in any two languages, although these abilities too can vary (as examined below). Globally, it is estimated that nearly half of the world's population today will grow up speaking more than one language (King, 2006). Although bilingual language acquisition and development is found to follow the same developmental milestones and sequences as monolingual language acquisition, it does so at differing rates. Furthermore, while there has been much research into the field of bilingual language acquisition, there is at this current time no set or confirmed pattern of bilingual language development (Chiocca, 1998; McLaughlin, Blanchard & Osanai, 1995), yet attempts at classifying its varying forms of acquisition and development are seen.

The most common classification of bilingual language acquisition remains between simultaneous and sequential language learners. Simultaneous bilingual acquisition describes a child or individual who has been exposed to two languages from birth, while sequential bilingual acquisition describes the introduction of a second language after successful mastery of a first dominant and native language has already been attained (Chiocca, 1998; McLaughlin, et al., 1995). This separation between forms and manner of bilingual language acquisition is typically seen around the age of three years, as most concrete language development has occurred by this

period (McLaughlin, et al., 1995). These bilingual classifications however, can be further subdivided into four types of bilingual children ranging in variation of exposure and experience with use of each respective language.

Type 1 bilingual children are simultaneous bilinguals who have had equal or near equal exposure to their two respective languages from birth, and furthermore equal opportunities for the use of both languages. Bilingual children classified as Type 1 will be the most fluent in regards to comprehension and production of their two respective languages. Type 2 bilingual children have had the same frequent and consistent exposure to two languages, but with limited opportunities for the use of the second language. Consequently, the speech production and speaking abilities of Type 2 bilingual children will not be equal to those of Type 1 bilinguals. Interestingly, Type 2 bilingual children are also classified as receptive bilinguals, in that they will often have full understanding of the second language but limited expressive skills or communicative skills (Chiocca, 1998; McLaughlin, et al., 1995). Simultaneous bilingual language acquisition is found to be the most similar to the sequence, rate and pattern of monolingual language development, as children's abilities in both respective languages will correspond to one another and follow more closely to those of their same-age monolingual peers (Chiocca, 1998; Genesee, 2008; McLaughlin, et al., 1995; Nicoladis & Genesee, 1997; Thordardottir, Rothenberg, Rivard & Naves, 2006). While type 1 and type 2 simultaneous bilingual acquisition arguably represent a more ideally cohesive manner of bilingual language development, the remaining two types of sequential bilingualism are equally successful in terms of bilingual language acquisition and development.

The third type of bilingual children indicates a sequential learner who possesses a solid and fluent foundation in a first dominant and native language before the second language is

introduced. Type 3 bilingual children may have had prior exposure to a second language, but in a limited or minimal capacity. Type 3 bilinguals will typically not have encountered experiences or opportunities for use of their second language. Finally, type 4 bilingual children will comparatively have had no amount of prior exposure to the second language (Chiocca, 1998; McLaughlin, et al., 1995). Type 4 bilinguals are arguably parallel to new language learners, in being exposed to the second language for the first time. In a sequential learner, early second language skills will develop to a large extent in the same manner as their first language, beginning with the repetition of key words and phrases before full comprehension is attained. Sequential learners' receptive and comprehension abilities will likewise take time to develop before enough confidence is attained to begin production of autonomous incidences of their second language. Consistent with monolingual language acquisition however, nominals and verbs are again the first category of words seen to develop, followed closely by morphological markers and function words and phrases (McLaughlin, et al., 1995).

Through the description of these four distinct types of bilingual language learners, the succession in levels of bilingualism and second language learning is evident. Although as previously stated, bilingual language acquisition and development is known to follow the same developmental milestones as monolingual language acquisition, its progression is understandably variable and susceptible to many individual, as well as external or environmental factors, further necessitating the need to properly study and understand early bilingualism. These factors directing the course of bilingual language acquisition and development are discussed next.

### **Benefits of Early Bilingualism**

Bilingual and second language acquisition and development is influenced by a number of individual, external or environmental factors in the child's life, most important or notably by age

of first exposure and opportunities for the practical use of each language. While the age of first exposure to a given language is found to be important in terms of the depth of the bilingual experience and production of a native-like accent, repeated exposure and opportunities for the use of the language in a variety of practical and tangible contexts is found to equally contribute to the depth and expansion of knowledge and flexibility in the use of language (Bedore, et al., 2012).

Aside from functionally being able to use two languages, bilingual language learners also benefit from other opportunities that come with the learning of two languages. For fluent bilinguals who have regular opportunities for the use of both languages, the two languages remain active and available within the brain when only one is being used, creating stronger and more complete brain connections. Bilingual language acquisition can be associated with more resourceful problem solving, and a stronger command of tasks of executive functions, including attention control, working memory, multi-tasking, and the processing of conflicting stimuli (Bialystok, 2009; Bialystok & Craik, 2010). In young learners, bilingual language development is found to increase mental flexibility and an awareness of language. Additionally, possessing dual vocabularies for items and concepts contributes to a deeper conceptual knowledge and more resilient learning connections (Nicoladis & Genesee, 1997). In several studies, bilingual children tested better than their same age monolingual peers on tasks that demanded a focusing of attention and thought inhibitions (Bialystok, et al., 2005; Bialystok, 2009; Bialystok & Craik, 2010), demonstrating the ability to consciously monitor and control their mental concentration in the presence of intentional and external distractions.

The mental benefits of bilingualism are seen to maintain their advantages throughout childhood and adolescence, reaching a plateau in early adulthood. In late adulthood, however, an

enhanced mental flexibility and awareness once again benefits patients diagnosed with dementia who exhibit a delay in the onset of symptoms by up to four years in comparison with their monolingual counterparts. It would appear that the stronger and more resilient commands of executive function and control formed in early childhood, and otherwise associated with bilingual language acquisition and development, present an advantage both during the early stages of brain growth and maturation and later in life when these mental capacities are susceptible to decline and decay (Bialystok, et al., 2005; Bialystok, 2009; Bialystok & Craik, 2010). While the mental benefits of early bilingualism and its development are perhaps more noticeable during early childhood, their influence and resiliency throughout one's lifespan cannot be denied and are arguably of even more importance later in life.

### **Common Misperceptions in Early Bilingualism**

While some of the benefits of bilingualism and second language learning are discussed above, following are some common misperceptions (and supposed disadvantages) surrounding second language acquisition and development, in particular early bilingualism. This section explores the misperceptions that early bilingual language acquisition delays overall linguistic abilities, that bilinguals are two monolinguals in one, that code-mixing is indicative of language confusion, and finally argues the idea of a critical period for bilingual language acquisition.

While code-mixing, and its distinctive functions within the emergent bilingual, are arguably seen as propelling some of these more common misperceptions surrounding early bilingualism itself, current research in the field of linguistics and bilingual language development serves to counter these misperceptions, while continuing to support the benefits and advantages of being bilingual.

**Early bilingual language acquisition delays overall linguistic abilities.** This common misperception is grounded in evidence that simultaneous bilingual children take longer to

successfully attain critical developmental and language based milestones such as babbling and first spoken words. Sequential second language learners further show evidence of an initial non-verbal period during early language acquisition and the apparent regression to more basic linguistic stages of repetition (Chiocca, 1998; Genesee, 2008), suggesting that learning two languages is both overwhelming and burdensome to the child and further comprises and delays their overall linguistic and language development.

A child's level of proficiency in a given language is often determined based on their practical abilities in that language related to age-based monolingual expectations (Bedore, et al., 2012). Assessments of linguistic abilities among bilingual individuals however, are seen to be problematic when held to a monolingual standard or norm in considering that even simultaneous learners spend arguably less time immersed in either of their languages than a monolingual peer will spend in their singular linguistic environment to develop the same level of language mastery. As such, bilingual children will often possess to a given extent a more dominant language (Chiocca, 1998). Bilingual children are further reported to score lower on tests of measured vocabulary and verbal fluency, and to additionally perform below their monolingual peers on tasks of picture naming and word recall (Bialystok, 2009). However, when both languages are scored together bilingual children's total overall conceptual vocabulary is found to exceed that of their monolingual peers in either language (Bialystok, 2009; Thordardottir, et al., 2006). Unequal access, exposure and opportunity for the use of a language will also understandably cause dissimilar and unequal progress in the acquisition of a bilingual's two languages. It is further believed that the concept of a true 'balance bilingual' is rare (Bedore, et al., 2005; Hetherington, et al., 2005), if not impossible to find given this often unequal acquisition.

Subsequent research has further found tests of vocabulary measures to be both inaccurate and an unreliable means in assessing bilingual and second language proficiency and development. Such testing measures are further unpredictable in that translation equivalencies of standard measures lose their original testing validity once translated and formatted to different languages, circumstances or cultural contexts (Bedore, et al., 2012), as evidenced in that, for example, the French Peabody Picture Vocabulary Test remains to be standardized (Nicoladis, et al., 2010). Bilingual versions of the same tests have however become standard, albeit presenting other challenges in again unfairly assessing the developing bilingual's language abilities as a single entity.

Bilingual and monolingual children alike exhibit tremendous growth in vocabulary that is unequal to their rate of acquisition of grammar based skills, until a certain threshold of proficiency is attained. Bilingual children understandably score stronger in their dominant language, yet measures of semantic and grammatical knowledge will prove inaccurate until the same level of lexical proficiency is attained in both languages (Bedore, et al., 2012). Syntactic skills are less effected overall by bilingual capabilities, suggesting a more natural or innate driving mechanism, in comparison to lexical development which is largely dependent on external input and exposure. Syntactic knowledge however, increases with output and practical or contextual use of a language (Bedore, et al., 2012; Thordardottir, et al., 2006). Bilingual proficiency furthermore remains a highly variable concept, with rates of exposure and output remaining largely unequal from one language to the other, and for that matter from one individual to another. Bilingual language proficiency moreover, can be seen as a product of circumstance that changes over time as the bilingual learner matures and gains mastery over their linguistic abilities in both languages. Incidental assessments of proficiency fail to measure the

dynamic and growing linguistic and language abilities of even the monolingual developing child. Bilingual children tested longitudinally are found to exhibit differences not only in levels of proficiencies (lexical, semantic and syntactic), but changes in contextual uses of each respective language as well (Bedore, et al., 2012).

The failure to properly recognize and identify the multitude of factors and influences in a bilingual child's linguistic journey can lead to misinterpretations of proficiency and language based abilities. Further confusions in understanding the process of bilingual and second language acquisition can lead to misdiagnoses and typically occurring transitions in language development to be classified as symptoms of delay or even language impairment. Although widely acknowledged and accepted that essential foundations for language development are created and established in early childhood, there is unfortunately minimal research or support for the importance of fostering bilingual or second language development during this critical time period as well (Chiocca, 1998; Genesee, 2008).

Current research stresses the importance of assessing bilingual children's linguistic abilities in both of their two languages, and that comparisons made to a monolingual normative standard will persistently remain inaccurate and risk falsely attributing apparent delays in acquisition and development to the inability of the child to acquire two languages (Chiocca, 1998; Genesee, 2008). Appropriate methods of bilingual and second language assessment should focus on the learner's overall communicative competence, in conjunction with scores of vocabulary and use of words, phrases or full sentences in both languages. Other important considerations include the child's linguistic background in each respective language, in addition to age and degree of first exposure, as well as their current levels of exposure and opportunities for the practical use of each language (Bedore, et al., 2012; Chiocca, 1998).

**Bilingual are two monolinguals in one.** How bilingual language learners process two languages internally is similarly susceptible to misinterpretation, as the existence of a unitary language system is greatly disputed. Infants exposed to two languages simultaneously from birth were once thought to be incapable of differentiating between languages, thus forming an underlying unitary language system. Evidence from numerous studies however, has since demonstrated that bilingual children as young as two years of age have the ability to differentiate between their two languages from a phonological, lexical, syntactic and pragmatic level (Du, 2010; Genesee, 2008; Genesee, Nicoladis & Paradis, 1995; Nicoladis & Genesee, 1997; Thordardottir, et al., 2006). Even earlier, influence of bilingual language exposure during gestation is seen after birth in one study, in which newborns were shown to discriminate between consonantal and vocalic rhythms between languages. Infants exposed to only one language during gestation demonstrated undeniable preference to their native language, while those with exposure to two languages maintained interest in both after birth (Byers-Heinlein, Burns & Werker, 2010). Although continued exposure to both languages will ultimately determine a newborns continued level of bilingualism, this study aptly demonstrates an innate ability towards the acquisition and development of bilingualism, or even multiple languages, from birth.

The ability to discriminate between two competing and differing languages is not however parallel to equating bilinguals as two monolinguals in one. Bilingual language learners at once equally receive input from both languages, and possess the ability to discriminate and use each respective language according to and based on situation, interlocutor and context. Considerations of bilingual children as two monolinguals with separate and distinct language systems discounts the more complex linguistic mechanisms that are in fact at play and the associated advanced bilingual language skills (Genesee, 2008; Mahon, Crutchley & Quinn,

2003). As previously seen both languages are in fact active and engaged within the mind of the bilingual child.

The ability of early bilingual children to discriminate between languages at once contradicts the existence of a unitary language system, yet supports allegations of confusion involving the use of both languages if not confined to a single system. While being receptive to linguistic input from both languages supports the availability of a unitary language system, the intentional manipulation in choice of language of use during output discounts it (Genesee, 2008; Genesee, Nicoladis & Paradis, 1995). The linguistic system of bilingual language learners is found to incorporate and integrate elements from both languages indiscriminately.

Linguistic information inputted from one language may be encoded within the second, or vice versa, in part or in its entirety (Solano-Flores & Li, 2013). While both languages are consistently active in the mind of the bilingual child, discrimination can reasonably be expected to occur at time of output. An alternative view is likewise proposed of an existing universal pattern of acquisition common between all early language development (monolingual or bilingual), which is then later differentiated through language-specific features (Nicoladis & Genesee, 1997). Additionally, while code-mixing is known to operate based on its own structured set of rules, and not as an assumed haphazard confusion between both languages, it could arguably serve to stand as its own unique, third language at the disposal of bilingual language learners (Brice & Anderson, 1999; Woolford, 1983). Furthermore, if the language systems of an early bilingual stood distinct as two separate monolingual systems, the act of code-mixing itself would questionably not even exist.

**Code-mixing is indicative of language confusion.** In considering the bilingual language learner and their use of code-mixing, a child's documented ability to successfully discriminate

between languages based on communicative need is indicative of their level of control over this important aspect of bilingualism. While commonly misinterpreted as language confusion or the failure to properly acquire either language, the act of code-mixing is instead an application of higher bilingual communicative and linguistic abilities and further seen as a sign of linguistic vitality (Genesee, 2008; MacLaughlin, et al., 1995) and innovation.

While current research supports, as seen above, that even newborns and preschool aged children are capable of differentiating between two languages, the act of code-mixing is evidence of the ability to further differentiate between respective languages within differing social or communicative context. Code-mixing, described as a pragmatic differentiation of languages (Nicoladis & Genesee, 1997), supports bilingual language learners' strengths not only in the development of communicative competence but additionally in the increase of interpersonal communication skills as well. A bilingual conversational context not only necessitates, but further promotes the development of communicative competence skills at a level that exceeds those of their monolingual peers (Chiocca, 1998; Genesee, 2008; Nicoladis & Genesee, 1997). Bilingual children are found to vary their rates and patterns of code-mixing between interlocutors, with frequencies of code-mixing increasing in conversations or interactions with their own peers, while remaining more restricted with adult interlocutors. Bilingual children are further shown to be able to adjust their rates of code-mixing while within a conversation, according to and reflecting the manipulated rates of their interlocutors (Genesee, 2008; Paradis & Nicoladis, 2007). Results such as these more than support the ability of bilingual and second language learning children to intentionally manipulate not only their two languages, but acts of code-mixing as well, and further discount premises of language confusion.

One study in particular by Paradis & Nicoladis (2007) found that bilingual children are not only capable of manipulating the use of their two respective languages between interlocutors and context, but in terms of the social dominance and perceived value of a language as well. Their study examined the differences in rates of code-mixing between English-dominant and French-dominant three and four-year-old children within an English majority, French minority community. Results revealed that the English-dominant bilingual children code-mixed using their dominant language relatively frequently with both English and French speakers, while the French-dominant children code-mixed less frequently, especially with English speakers. Given the social dominance of the English language within their community, the bilingual children understood that their interlocutors (regardless of language choice) were more likely to understand them in English than in French.

Paradis & Nicoladis (2007) stress that while the unequal social value of the two languages necessitates that French-dominant speakers understand English, the reverse is not necessarily true and the children's manipulations of their code-mixing more often in English reflects this understated societal value of the language. Stated differently, the English-dominant children were more confident that their English incidences of code-mixing would be understood regardless of the language of their interlocutors, whereas the French-dominant children understood that the use of French code-mixing with English interlocutors was not always appropriate and ran the risk of being misunderstood. The bilingual children's manipulations of their two languages reflects much more than a simple bilingual communicative competence, but an understanding of the social politics and value placed on a given language within their society, and were further capable to use that language value to their advantage. Such findings adamantly

support young bilingual children's ability to control their two languages, and furthermore their code-mixing.

**Critical period for bilingual language acquisition.** Although a critical period for monolingual language acquisition exists from a developmental standpoint, the existence of a similar critical period for acquisition of a second language and fluent bilingualism is debated (Genesee, 2008). A critical period is defined as a stage during which a child is more sensitive and receptive to environmental input, exposure after which would not produce the same level of developmental achievements or milestones. In terms of language development, the critical period for acquisition ranges from infancy through early childhood, ending in puberty (Hetherington, et al., 2005). During this period, a child may with relative ease achieve full proficiency and fluency in one or multiple languages provided the availability of appropriate stimuli. After puberty and this critical period, the acquisition of a language (or second language) is still possible but requires more effort and commitment on the part of the learner, with levels of native-like proficiency notably affected (Hetherington, et al., 2005). It is argued however, that acquisition of a second language is affected differently.

Some results suggest that children introduced to a second language after the age of five possess smaller vocabularies than their monolingual peers, including total comprehension vocabularies. Children introduced to two languages between eighteen months and two and a half years however, maintain total overall comprehension vocabularies equal to that of their monolingual peers (Hetherington, et al., 2005). These results suggest a more minimal or sensitive critical period for the full and fluent acquisition of a second language, all other external factors being equal.

In addition to age of first exposure, bilingual and second language learning is affected by other external factors, including the type and duration of exposure and sources of input. Different sources of exposure for each respective language will arguably produce different results in terms of the acquisition and development, and cannot reliably be expected to produce comparative levels of proficiencies (Thordardottir, et al., 2006). The social and educational value of a given language within a global or societal context, existing within an additive or subtractive linguistic environment for example, can also effect second language development, and the learning experience itself (Bedore, et al., 2012; Mahon, et al., 2003; Thordardottir, et al., 2006). An additive linguistic environment denotes a context that is accepting of the acquisition of the second language and encouraging towards its continued development. A subtractive linguistic environment on the other hand, denotes a context that holds the second language is a minority context, and generally maintains a negative attitude towards its acquisition and continued development (Baker, 2006).

The context of use for each language can likewise affect development especially if a language is limited to a particular environment, having use only at school or home, for example. Whether or not the primary human source of input for a language is a monolingual or a fluent bilingual themselves, can further impact a young bilinguals' impressions of a language, and additionally that language's future development (Thordardottir, et al., 2006). Additionally, while language acquisition generally maintains a normative pattern of development across languages, specific linguistic variations have been found to exist within different languages in regards to different rates of lexical and grammatical development (King, 2006). Even differences in the combination of languages acquired by an individual can influence the nature of bilingual language development.

Other reliable results (Bedore, et al., 2012) suggest that the amount and quality of exposure to a second language is more predictive in being able to assess proficiency, regardless of age of first exposure and acquisition. Language dominance, established based on the amount of current use of a language, is more consistently reliable in predicting language performance and respective levels of proficiency. Consequently, opportunities for the practical use of a language during the learning process continue to be rated as more important than age of first introduction, not only for the acquisition of the second language itself but in terms of the maintenance and continued development of proficiency in each respective language as well. Although the confirmation of a critical period for early bilingualism remains unclear, opportunities for the practical use of language in tangible contexts will continue to dominate the progression and development of second language acquisition, regardless of age.

Misperception such as these and others continue to undermine the importance of early bilingualism, and furthermore the act of code-mixing itself. In order to advocate for and understand early bilingualism, it is important to dispel such misconceptions with real and concrete results. Furthermore, without fully understanding the process behind code-mixing in preschool aged children, we cannot hope to examine the process further.

### **Code-Mixing**

An analysis of bilingual language acquisition and development is not complete without an examination and exploration of the act of code-mixing, and furthermore an understanding of how and why code-mixing occurs to begin with. Code-mixing is a common and universal occurrence among all bilingual language learners, regardless of age or level of proficiency (Brice & Anderson, 1999; Nicoladis & Genesee, 1997). Code-mixing is defined as the combining or co-occurrence of elements (whether phonological, lexical, or grammar based) from two or more

languages within a single utterance (Genesse, 2008; Nicoladis & Genesee, 1997; Nicoladis, Rose & Foursha-Stevenson, 2010; Paradis & Nicoladis, 2007). An utterance being further defined as a segment of speech greater than a single word in length (Brice & Anderson, 1999), yet terminating at the end of a phrase or segment of speech. Bilingual code-mixing, can thus be defined as the combining of elements from two separate languages within a single utterance. Basic examples of bilingual code-mixing in preschool aged children include expressions such as "I need to *faire pipi*," "I'm *tout fini*," "I can't find my *chapeau*," or "can you *met* my *couverture* on *moi*?" These preschool aged examples of code-mixing demonstrate not only an underlying understanding of both languages, but furthermore the preschool aged child's tangible manipulations of their linguistic knowledge in both languages. Bilingual code-mixing allows second language learners and early bilinguals to experiment with the use of their new sense of emerging bilingualism, and to maintain a grasp on multiple linguistic abilities, furthering their second language acquisition and development. Although all bilingual language learners do code-mix, it is important to distinguish between the formation and function of child code-mixing and adult code-switching, as further described and defined below.

The use of elements from two different languages within a single utterance by a fluent bilingual adult learner is often referred to as 'code-switching,' and indicates an act that is deliberate and systematic in nature. Bilingual adult learners who code-switch regularly and habitually have been known to do so for stylistic effect in incorporating larger sections of speech, such as an entire phrase (Brice & Anderson, 1999; McLaughlin, et al., 1995), which can often become a separate dialect in itself. An example of a dialect that uses code-mixing would be the linguistic variety of French often heard among Acadian populations and referred to as 'chiac.' The more general term of 'code-mixing' however, is frequently associated with children or

younger language learners, and makes reference to an act involving smaller units of speech, typical of early bilingual language acquisition and development and language mixing (Brice & Anderson, 1999; Du, 2010; McLaughlin, et al., 1995; Nicoladis & Genesee, 1997). In considering these two definitions, the term 'code-mixing' is henceforth used for the purposes of this study.

Rates and patterns of code-mixing are variable and dependent on a number of competing factors, in many of the same ways as bilingual language acquisition and development itself. For early bilingual language learners, incidences of code-mixing are most frequent between two and three years of age, corresponding to the previously described period of rapid linguistic and lexical development associated with monolingual language acquisition. Frequency of code-mixing is further seen to decrease as children mature and become more linguistically proficient and confident, gaining mastery over their two languages (Brice & Anderson, 1999; McLaughlin, et al., 1995). Rates of code-mixing however fluctuate based on the linguistic elements mixed, the languages used and the context, or the nature of the individual child, during which preschool aged children will more reliably insert linguistic elements from their more dominant language into their non-dominant language, than vice versa (Genesee, 2008; Nicoladis, et al., 2010). Additionally, parental or adult models of language use and code-mixing are notably significant in predicting child rates of code-mixing, as well as the language(s) most frequently used by the child and their context of use. Mother-child relationships are further found to be more influential in determining patterns of language use than father-child connections (Paradis & Nicoladis, 2007). Variability in influences and patterns of code-mixing can thus be seen as uniquely developing as bilingual language acquisition and development itself. What more, the rate of bilingual code-mixing seen in preschool aged children remains unstable and undetermined,

further contributing to the variability of bilingual language acquisition and development during this malleable age.

Bilingual preschool aged children code-mix based on a number of reasons, including for gap-filling in knowledge of a lexical or syntactic nature, translation equivalents, word-borrowings, or simply for pragmatic and symbolic reasons (Brice & Anderson, 1999; Genesee, 2008; Nicoladis & Genesee, 1997; Nicoladis, et al., 2010; Paradis & Nicoladis, 2007). Through code-mixing, bilingual preschool aged children are resourceful in optimizing their knowledge of both languages, yet the underlying pattern of linguistic elements mixed surprisingly follows a structured set of rules that manipulates and influences its production and use.

Rather than a simple combining of linguistic elements from both respective languages, the act of code-mixing incorporates elements from the second non-dominant language into the already pre-existing grammar of the more dominant language, and is a result of a lexical choice between languages that occurs in the bilingual mind at the time of speech output. This lexical choice is dependent on an understanding of the underlying grammar of not just the dominant spoken language, but of both languages present and to be used. In a code-mixed segment of speech, the linguistic elements from the second non-dominant language are not altered, but rather appear intact and as they would normally occur in the target language, in all phonological, syntactic and semantic respects. Although code-mixed segments often occur at the end or beginning of sentence boundaries, they are also possible mid-sentence or within an otherwise perfectly smooth stream of speech (Greene, Pena & Bedore, 2012; Nicoladis, et al., 2010; Woolford, 1983). Bilingual code-mixing is thus, more organized and structured than commonly presumed.

## Understanding Code-Mixing

The syntactic model of speech production, was proposed by Woolford (1983) in explaining the act of code mixing and the underlying rules that govern its production and use. The syntactic model states that the grammar bound base of each of the two languages remains intact during code-mixing, in contrast to the alternative view of the creation of a hybrid grammar system. In this theoretical framework, each language is governed by its own respective syntactic model and grammar rules, in considering the segments of the phrase or utterance that each language contributes. The lexical and word formation components of language production are likewise maintained at a distance and separate from one another, yet both are again cognitively available at any given point in time (Nicoladis, et al., 2010; Woolford, 1983). Neither language is altered or weakened during the production of code-mixing; alternatively, both languages work in complement with one another providing more choice and variability in speech output, ultimately benefiting the bilingual learner.

According to Woolford (1983), grammar based rules governing sentence construction create at the intersection of two differing languages what are referred to as terminal or syntactic nodes. While the lexicon of each respective language remains accessible at these syntactic nodes, the choice in which language will be verbally expressed is controlled by the syntactic rules of the more dominant language. Incidences of code-mixing occur when the syntactic rules between two languages are congruent and compatible, allowing the bilingual learner freedom to choose between either of the two languages. When a syntactic rule is held by only one of the two languages, that language is the only choice that can be made and code-mixing will not occur. Code-mixing is thus a result of congruency not at the lexical level, but at the syntactic level

between two languages, although lexical items may be freely chosen from either of the two languages when the syntactic rules are in agreement (Nicoladis, et al., 2010; Woolford, 1983).

Furthermore, individual parts of speech chosen for code-mixing follow a syntactic hierarchy, with single word level code-mixes more frequent than entire phrases. Nouns are the most commonly mixed parts of speech, followed closely by verbs and verb phrases, with prepositional phrases, articles and adjectives also frequent targets for mixing (Brice & Anderson, 1999). The order in the hierarchy of linguistic elements that bilingual preschool aged children most frequently code-mix is again evidence of mastery and manipulation of these linguistic elements and of their mixing, and additionally suggestive of their continued development towards full acquisition and mastery of both languages. The pattern in prevalence of code-mixed elements is further seen to mirror the developmental pattern that these same linguistic elements and parts of speech follow as they are acquired in monolingual language acquisition, suggesting that all linguistic and language development possesses a unifying structure and pattern of acquisition (monolingual, bilingual, or mixed) (Brice & Anderson, 1999).

The syntactic model of speech production has important implications not only for the understanding of bilingual and second language acquisition and development, but for understanding the underlying cause and creation of code-mixing itself. Woolford (1983) further suggests that the act of code-mixing is regulated by a surface grammatical constraint, rather than internal mechanisms. As previously seen, the two respective languages of a bilingual learner remain distinct and separate with the bilingual mind, with children as young as two years of age being able to properly differentiate between their two languages (Du, 2010; Nicoladis & Genesee, 1997; Genesee, 2008; Genesee, Nicoladis & Paradis, 1995; Thordardottir, et al., 2006). What Woolford's (1983) syntactic theory suggests is that the ability of two languages to

cooperate structurally in output is evidence of cross-linguistic similarities between lexical and grammar-based categories of speech (nouns, verbs, adjectives, etc), and their functions. How a bilingual learner comes to utilise these underlying cross-linguistic similarities and elements to their communicative advantage and with what intent, remains to be seen.

### **Bilingual Communicative Competence**

Effectively integrating two languages or code-mixing properly within a practical context, such as conversation, requires a unique level of communicative competence. Bilingual communicative competence, and additionally the act of code-mixing, is arguably evidence of a higher cognitive and linguistic processing in not only functionally managing two languages within conversation, but in recognizing and understanding the social and linguistic contexts in which such conversations present themselves. The ability to discern the language choice(s) or level of code-mixing of an interlocutor and to respond appropriately demonstrates a communicative flexibility of bilingual language learners not exhibited by their monolingual peers (Genesee, 2008; Greene, et al., 2012). Bilingual children learn to navigate and discriminate between complex linguistic contexts, demonstrating a linguistic competency that goes a step beyond simply learning a second language.

Communicative competence is defined as "the child's total range of communicative skills, including but extending beyond lexical and syntactic skills. It includes in addition such things as skills of turn-taking, topic maintenance, nonverbal communication, word choice, and, in general, skills aimed at communicating effectively with another person given the contingencies of the current pragmatic context" (Tomasello, 1992, p.79). More simply put, communicative competence includes "knowledge about language use and how it changes according to context" (Cazden, John & Hymes, 1972; as cited by de Jong, 2011, p.49). Together, these two definitions

form the basis for understanding communicative competence in bilingual preschool aged children in this study.

Brown (2007) explores the notion of communicative competence more closely, in describing four specific subcategories of communicative competence. The first two related subcategories of communicative competence involve a grammatical competence and a discourse competence. The first one of grammatical competence requires the learning of lexical items and the grammar (including syntax) of the language itself, while discourse competence involves the understanding of how to connect these grammar-bound linguistic elements into meaningful utterances and segments of speech (Brown, 2007). The third and fourth subcategories of communicative competence involve acts of sociolinguistic competence and strategic competence, and explore elements of communicative competence and language use more closely aligned to this study. Sociolinguistic competence involves knowledge of the underlying sociocultural rules of a language, and what more an understanding of the social context in which a language is used (Brown, 2007). In terms of bilingualism and second language acquisition, learning a second language also involves acquiring the sociocultural norms associated with that language, and further recognizing the different linguistic contexts and social realities between both languages.

The fourth and final subcategory of communicative competence involves acts of strategic competence, or the knowledge and ability to successfully navigate incidences of language breakdowns and miscommunications. Strategic competence can also be described as the "the way we manipulate language in order to meet communicative goals" (Brown, 2007, p.220). In terms of bilingualism and second language acquisition, the act of code-mixing itself can be seen as a tangible application of strategic competence, and furthermore understanding when and how

it is appropriate to code-mix in context is evidence of a sociolinguistic competence. While the four subcategories are all important in the formation of a well-developed sense of communicative competence, the latter two are arguably of more importance in terms of learning to effectively and functionally communicate in a second language. The four subcategories of communicative competence as described further demonstrate the advanced cognitive and linguistic abilities of bilingual preschool aged children in application.

Closely associated with the concept of communicative competence, are Halliday's (1973; as cited by Brown, 2007) functions of language use. Functions of language use govern how and what happens when we utter a phrase, and more importantly what we wish to convey or to have occur when we communicate. Bilingualism and second language acquisition and development involves more than simply learning the language, but additionally learning how to successfully and intentionally execute the proper functions of conversation in that second language. Briefly described, Halliday's seven functions of language use include: using language to manipulate our environment in order to cause an event to occur (instrumental function); using language to control events or others (regulatory function); using language to convey knowledge, to explain, or describe the world around us (representational function); using language in order to maintain social contact or direct communication (interactional function); using language to express our own emotions, feelings, and personality (personal function); using language to question and gain more knowledge about our environment (heuristic function); and finally using language to create, imagine and dream (imaginative function) (Brown, 2007).

In describing these seven functions of language use, Brown (2007) goes even further in affirming the relationship that exists between these functions, where none are ever truly mutually exclusive, and furthermore that “it is the understanding of how to use linguistics forms to achieve

these functions of language that comprises the crux of second language learning” (p.225). In other words, learning a second language once again involves more than simply acquiring the lexical and grammatical foundations of that language, but understanding how to use such basic linguistic elements in order to communicate our thoughts, demands and desires. Understanding how to properly use language to serve these different functions is likewise the foundation to building a communicative competence in a second language. Bilingual communicative competence and Halliday’s (1973; as cited by Brown, 2007) seven functions of language use are seen in complement to one another, and as such form the basis for later analysis of code-mixed utterance in this study.

The bilingual communicative competence required to successfully navigate such multifaceted interactions develops mainly through communication and meaningful interactions themselves. Bilingual and second language proficiency involves more than acquiring linguistic skills and understanding the lexicon of a second language, but moreover understanding the social context in which that second language is used. This type of knowledge is learned through meaningful interactions with different interlocutors and the language, in turn coming to define the requirements of a bilingual communicative competence based on the available context. Further presented as a prime motivator in learning a second language is the act of authentic and meaningful communication in itself, in which young emerging bilinguals and second language learners will come to learn a second language as they see it used and are given the opportunity not only to see the value of the language's use, but to practice it for themselves (de Jong, 2011). In such a way, a bilingual communicative competence develops through a need towards understanding language use in context, and as a reflection of how bilingual language learners in turn use their developing language skills.

## Chapter 3: Theoretical Framework

### Language Socialization

This study followed a language socialization approach, in analysing and interpreting bilingual preschool aged children's incidences of code-mixing. It is argued that human functions are derived through communication, with communication in turn being derived through social interaction. Given that the primary facilitator driving human communication is language, then language use is thus classified as social interaction (Tomasello, 1992). Language socialization is described as “the practice by which children or novices to a community, are socialized both to the language forms and, through language, to adopt the values, behaviours, and practices of that community” (Schiefflin & Ochs, 1986, p.303; as cited by Zuengler & Cole, 2008). It is a dynamic and reciprocal process in which socialization occurs through the natural and contextual use of language, and as younger or more novice language learners come to understand not only the language being used, but how to apply it, they come to understand the social context in which it exists.

Language socialization is a natural process for monolingual language acquisition, but it is even more applicable in considering second language development. The social context of language acquisition is utilised in furthering second language development skills, in which the social context of language use is both the instructor and a tool towards language acquisition, expanding so far as societal attitudes and assumptions towards bilingual and multilingual development (de Jong, 2011; Tomasello, 1992; Zuengler & Cole, 2008). In a social context or society in which bilingualism and second language acquisition is valued, the learner and the learning process are both supported and sustained, in what is known as an additive bilingual context (de Jong, 2011). The social context of language acquisition is thus seen as a framework

for understanding not only second language skills, but the acquisition of social cultural knowledge as well.

Of importance to consider, is that the acquisition of a second language involves more than just the language as spoken, but often the acquisition of a second culture as well. Brown (1980; as cited by Brown, 2007) suggests the idea of an optimal distance model in regards to cultural acquisition, describing a phase in second language acquisition during which an individual caught between two cultural and linguistic models is at an optimal distance from both circles in order to more readily acquire and merge the cultural context of the second language. Brown (1980; as cited by Brown, 2007) furthermore suggests that younger learners or children would more easily transition through this phase of cultural acquisition in that their cultural worldview is perhaps less rigidly formed compared to that of an adult second language learner. It can thus be argued, that preschool aged children learning a second language are more readily primed not only for the acquisition and development of the second language itself, but are in a better position in terms of the associated cultural acquisition with a second language as well. The optimal distance model of cultural acquisition can also be seen as running parallel to critical periods of second language acquisition and development (Hetherington, 2005), both of which more than adamantly support early bilingualism.

### **Constructionism**

Of further importance to this study, and to this researcher, are the underpinnings of theories of early childhood development, most notably the constructionist view of development in which children are active agents in charge of their own learning and development.

Furthermore, ideologies first introduced by Lev Vygotsky, view the child as supported in their active development by the addition of more experienced interactants who serve to uplift the

child's own discoveries higher, in a process known as scaffolding (Hetherington, et al., 2005). In describing language socialization, Zuengler and Cole (2008) state that "without access to experts who engage learners in an extensive range of interactions in the second language, their language development will likely be limited," (p.314) expressing core beliefs that run parallel to the words and ideals of Vygotsky. Tomasello (1992) further complements Vygotsky's theory of social development in arguing that when both adult and child possess the motivation and communicative competence to establish joint and intentional interactions through language and social context, the acquisition of new linguistic skills is a natural process. Through a language socialization approach, novice learners are further seen as cooperative and agentive in their own socialization, once again echoing a constructivist approach to early childhood development. The constructivist theory of development additionally sees the child as in control of the growth of their own identity which, coupled with a language socialization approach, additionally propels them to construct and forge a connection with their new found emergent bilingualism, and the bilingual social context in which they find themselves immersed (Hetherington, et al., 2005; Zuengler & Cole, 2008). The term 'bilinguïté,' describes this ideal, in which practices of language use are connected to constructions of identity and in turn, to larger social processes and the social context (Hamers & Blanc, 2000; as cited by Dagenais, 2013). The emergent bilingual ultimately must identify with themselves not only as an individual, but in terms of their individual bilingualism as well.

Further utilizing methods that both support and strengthen the purpose of this study, a language socialization approach is described as most often applying to research with preschool aged children and their interactional routines, as facilitated and supported by language use and as rich sites for language socialization (Tomasello, 1992; Zuengler & Cole, 2008). Moreover, it is

described further still as applicable to “research in which participants are neither monolingual nor proficient bilinguals, but who, implicitly or explicitly, are in the process of acquiring a second language” (Zuengler & Cole, 2008, p.303). A language socialization approach to bilingual language acquisition and development is therefore appropriately seen to aptly mirror and support not only ideologies of early childhood development, that support the totality of the child’s developmental knowledge and skills, but more notably towards the purposes of this study, the successful acquisition of second language skills and the social context in which they occur.

### **Holistic Bilingualism**

While the social context of a bilingual language environment is of undeniable importance, in regards to the interactional role it plays in second language acquisition, so too is the approach towards bilingualism that the social environment upholds. Prevailing attitudes and beliefs towards bilingualism and second language acquisition can impact more than the emergent learner and their developing language skills. In addition to a language socialization and constructivist approach to second language acquisition and development, a holistic approach towards bilingualism was upheld throughout this study. A holistic view of bilingualism takes into consideration the entirety of a learner’s linguistic abilities within and across both languages, understanding that, rather than possessing two competing stores of language based knowledge, abilities from both languages are cognitively and linguistically interconnected. Bilingual language proficiencies moreover develop based on and through a tangible communicative purpose and social need, with differing levels of proficiency possible from one language to the other based on contextual need (de Jong, 2011; Tomasello, 1992). Bilingual language

proficiency is thereby understood as a continuous development of skills within and dependent on context and frequency of use, further reaffirming theories of language socialization.

If the social context of learning is to be included as contributing to the continued language development of young learners, then the importance of understanding the bilingual learner's linguistic history and experience cannot be disregarded. Although, as previously seen, practical experience is as important as the level and quality of exposure to a second language, the context of exposure and experience is perhaps even more important to acknowledge.

Understanding the emerging bilingual in a holistic manner requires consideration of each young second language learner in terms of their own unique linguistic development as a bilingual, at whatever stage that might occur.

Moreover, a holistic view of second language acquisition and development considers the act of code-mixing as normal and expected bilingual behaviour, both in the classroom and as spontaneously occurring within natural conversation (de Jong, 2011). The competing fractional view of bilingualism and second language acquisition and development, on the other hand, views the bilingual child as possessing two separate and independent monolingual proficiencies, further reducing the act of code-mixing to a matter of linguistic confusion, and a failure to properly acquire either language (de Jong, 2011). It is thus without question, that this study maintains a holistic view towards both the state of bilingualism itself and the act of code-mixing.

## **Research Questions**

This study aimed to examine the frequency of incidences of code-mixing among English-French bilingual preschool aged children, with an aim towards analysing and understanding their intended use of the act. To address this objective, the guiding research questions for this study included:

1. Are bilingual preschool aged children code-mixing, as an expression of their emerging sense of bilingualism?
2. What communicative or social purpose do bilingual preschool aged children utilize through their use of code-mixing?
3. What parts of speech (i.e. noun, verb, adjective, etc.) are bilingual preschool aged children code-mixing most frequently?

## Chapter 4: Methodology

This study took a qualitative approach in examining the prevalence and frequency of communicative competence, functions of language use, as well as parts of speech, chosen to code-mixed by English-French bilingual preschool aged children. A qualitative approach was taken in using observation sessions to record naturally occurring incidences of code-mixing during interactions between preschool students. The purpose of this study is to gain a deeper understanding of the use of code-mixing among English-French bilingual preschool aged children, in particular in terms of the communicative purpose and function in utilizing this act.

### Setting

The setting for this research study was a fully Francophone Early Childhood Centre within the city of Halifax. As one of the largest Early Childhood Centers within the province of Nova Scotia, CPE le Petit Voilier currently maintains 6 active locations across the greater HRM, and aims to work in partnership with the Acadian school board to build foundational French language skills in preschool aged children of Francophone and Acadian heritage, in preparation for entrance and continued success within the Acadian school system here within the city of Halifax and across the province of Nova Scotia. Entrance requirements for CPE le Petit Voilier, and furthermore the Acadian school board, mandate that preschool students come from a Francophone or an Acadian background, with French being a first language requirement of at least one parent or grandparent of the child, or at least one parent having received their primary education in the French language themselves (CSAP, 2015). While entrance requirements are in place in terms of family language background, the amount and quality of exposure to the French language that each preschool student will possess upon entering CPE le Petit Voilier, is greatly variable; ranging from preschool students who are dominantly Francophone, fluently bilingual,

or dominantly Anglophone in nature, with their first contact with the French language being the Early Childhood classroom.

### **Participants**

Participants in this study were categorized into three main groups; preschool students, preschool students' parents and/or caregivers, and early childhood educators.

**Preschool students.** A total of 12 preschool students were recruited for this study, all of whom were currently attending one of CPE le Petit Voilier's locations in Halifax, Nova Scotia. All of the preschool students were between 3-5 years of age by the time data collection began.

Preschool students in this study understandably possessed different levels of language proficiencies, as well as different degrees of both experience and use with language in both English and French. All of the preschool students however, had spent a minimum of one month enrolled in and attending one of CPE le Petit Voilier's preschool programs five days a week, for an average of six to eight hours a day. Prior to beginning observation and data collection, all of the preschool students were assessed to identify their level of bilingual language abilities in both English and French. Preschool students found to not possess a strong enough bilingual language ability (as described below) in both English and French were excluded from this study, as the intended purpose is to examine successful acts of bilingual language code-mixing. A total of 13 preschool students were assessed during this study, with 1 preschool student having to be excluded based on the criteria of the *Bilingual Questionnaire* (see Appendix F), resulting in a total of 12 preschool students who participated in this study.

**Parents and/or caregivers.** The second category of participants in this study were the parents and/or caregivers of the preschool students. Only the primary parents and/or caregivers for each preschool student were included in this study, as having the most familiarity with not

only the preschool aged child, but their language use on a daily basis. Secondary caregivers (eg. grandparents, other relatives) were not considered for inclusion in this study. The parents and/or caregivers were either dominantly English or French speaking, or bilingually proficient themselves, and were given the opportunity to provide consent and language related information about their preschool aged child in either language of English or French.

**Early Childhood Educators.** The third category of participants included in this study were the Early Childhood Educators, who led the French classrooms that the preschool students attended. Five Early Childhood Educators participated in this study in so far as giving consent for not only themselves, but their preschool classrooms to be used for the purposes of this study. Only the primary Early Childhood Educators for the chosen classrooms were used, as having the most familiarity with not only the preschool students, but their language use on a daily basis within the classroom environment. The Early Childhood Educators were either dominantly English or French speaking, or bilingually proficient themselves but it is understood that French is the language of use within their classrooms, as well as within CPE le Petit Voilier.

### **Instruments**

This study used two surveys, one bilingual language assessment, and multiple sessions of audio and visual recordings.

**Family Language Use Survey.** The *Family Language Use Survey* (see Appendix E) was completed by the parents and/or caregivers of each preschool student and used to gather background language data on the preschool student's prior exposure and experience with the use of both languages of English and French. It consisted of 7 questions, most of which could be answered with a simple check-mark, and were available to parents and/or caregivers in both languages of English and French. The survey served to indicate which language was

predominately used within the home environment, as well as the language predominantly used by each preschool student outside of the French classroom. The survey also requested whether or not the preschool student had a prior history or experience in using code-mixing, and furthermore whether such incidences of code-mixing were supported or corrected within the home environment.

**Classroom Language Use Survey.** The Classroom Language Use Survey (see Appendix D) was completed by the 5 Early Childhood Educators in the French classrooms. The survey served to gather background language data on the preschool students' prior exposure to and experience with the use of both languages of English and French while attending CPE le Petit Voilier. The survey consisted of 8 questions, most of which could be answered with a simple check-mark. The survey served to indicate which language was predominately used within the French classrooms, as well as the language predominantly used by the Early Childhood Educators themselves. It also requested whether or not the preschool students had a prior history or experience in using code-mixing within the French classrooms, and furthermore whether such incidences of code-mixing were supported or corrected within the French classroom environment.

**Bilingual Questionnaire.** The *Bilingual Questionnaire* (see Appendix F) was completed by the researcher and used to assess each preschool student's current expressive and receptive skills in both languages of English and French, keeping in perspective a holistic view of their emerging state of bilingualism and combined linguistic communicative competences. The questionnaire served to establish each preschool student's current expressive and receptive skills in both languages of English and French, in helping to determine levels of bilingual language proficiency prior to primary data collection for each preschool student, as well as collectively

across the group. The survey consisted of 10 questions; 5 of which were in English and 5 of which were in French, in an alternating pattern beginning with English. Expressive skills were assessed with basic open-ended questions (questions 1, 2, 5, 9, 10), while receptive skills were assessed with simple requests and vocabulary tasks, in both respective languages (questions 3, 4, 6, 7, 8). Preschool students were considered sufficiently proficient in either language of English or French if they could successfully and correctly answer 3 out of 5 of the questions in each respective language. Preschool students were further considered sufficiently bilingually proficient if they could successfully and correctly answer 7 out of 10 questions from the entire assessment. Preschool students who failed to meet these standards after completing the *Bilingual Questionnaire* with the researcher were not considered to possess a sufficient enough bilingual language proficiency, and consequently were not considered further for the purposes of this study.

**Audio and video recordings.** Primary collection of code-mixed utterances was gathered using both auditory and visual recordings. All auditory and visual recordings were performed by the researcher with the use of a handheld video camcorder. The auditory recordings of the preschool students' verbal exchanges allowed for the accurate collection of code-mixed utterances, while the accompanied visual documentation allowed for further analysis of the social means of the preschool students' interactions and the context of their code-mixed utterances. All recordings and collected data were later transcribed and coded, again by the researcher, using MAXQDA software.

### **Data Collection**

This study involved the use of two rounds of data collection, during which three sequential stages of data collection occurred respectively. Data collection included the collection

of the two surveys, the implementation of all bilingual assessments, and the gathering of the audio and video recordings. The first round of data collection began in July 2015, with the second round of data collection occurring in August 2015. Consent from the UREB and all participants was obtained prior to both rounds of data collection.

**Stage one – surveys.** The *Classroom Language Use Survey* and the *Family Language Use Survey* were distributed to Early Childhood Educators and parents and/or caregivers of the preschool students in the chosen French classroom as part of the process for obtaining consent. The first round of data collection involved the distribution of 3 Early Childhood Educator consent packages, and 19 parent and/or caregiver consent packages; each containing a *Letter of Information*, *Consent Form*, and *Consent Form for Audio/Video Recording*, as well as the respective surveys regarding prior language use (see Appendices B through E). Although 19 consent packages were distributed to parents and/or caregivers of preschool students in the chosen French classroom, only 8 returned allowing consent for their preschool student to participate in this study. The completed *Family Language Use Survey* from each of the 8 parents and/or caregivers of preschool students who had been given consent, as well as the 3 completed *Classroom Language Use Survey*, were the first measures of data collection.

Additional surveys were distributed during the second round of data collection, to another 2 Early Childhood Educators and a further 8 parents and/or caregivers of preschool students in a second French classroom, following the same protocol and procedures that had been observed during round one of data collection. During this second round of data collection, an additional 5 preschool students were given consent by their parents and/or caregivers to participate in this study, including one late returning consent package from the first round of preschool students, for a total of 13 preschool students. Language background data from the two surveys, from the

two respective rounds of data collection, were compiled together by the researcher in determining prior language use in and exposure to both languages of English and French, as well as prior experiences with the act of code-mixing within the French classroom and home environment, for the collective group as well as for each preschool student.

**Stage two – Bilingual Questionnaires.** Thirteen bilingual language assessments were completed by the researcher during a brief session with each of the preschool students for whom consent had been given, during which the researcher asked each question on the *Bilingual Questionnaire* (see Appendix F) in sequence. Audio and video recordings of these sessions were recorded by the researcher with the use of a handheld video camcorder for purposes of accurate documentation and later analysis. Following the completion of the *Bilingual Questionnaire* and a confirmation of bilingual language ability, preschool students returned to their normal and daily preschool classroom routines and activities. Eight preschool students were assessed during round one of data collection, with 7 preschool students demonstrating sufficient bilingual language abilities. Round two of data collection involved the assessment of an additional 5 preschool students, all of whom were successfully bilingual; for a total of 12 bilingually proficient preschool students.

**Stage three – audio and video recordings.** Audio and video recordings were collected by the researcher with the use of a handheld video camcorder, in standing a short distance from groups of preschool students in the least possibly disruptive way, in order to record the naturally occurring speech and language interactions of the preschool students. Ideal times for recording language interactions and incidences of code-mixing included during snack time or free play, as well as during more structured interactions or conversations with an Early Childhood Educator. Language interactions and incidences of code-mixing occurred most often between two or more

preschool students, or between two or more preschool students and an Early Childhood Educator; although only the incidences of code-mixing spoken by the preschool students were used for analysis. Using observational and recording techniques in the least possibly disruptive way allowed the preschool students (and to an extent the Early Childhood Educators present in the French classroom) to more naturally and genuinely interact and converse with one another, without the interruption, intrusion or influence of the researcher.

Round one of data collection involved 4 observation sessions (varying between 30-60 minutes in duration each) completed during the month of July 2015. Round two of data collection involved an additional 9 observation sessions (varying between 30-60 minutes each in duration) completed during the month of August 2015, during which all 12 preschool students were included in an attempt to facilitate and encourage more conversation and language interactions from a larger and mixed-aged group. Ideal times for recording language interactions and incidences of code-mixing remained during snack time or free play, as well as during more structured interactions or conversations with an Early Childhood Educator. Overall, 13 observation sessions were completed with a combined 7 hours and 24 minutes of recorded observations and assessments.

### **Data Analysis**

Data analysis for this study involved the use of three stages. The first stage involved the identification of all observable incidences of code-mixing demonstrated by the preschool students in this study. The second stage required the application of the previously established coding framework (as described further below), while the third stage involved the interpretation and analysis of coded data according to each research question.

**Stage one – identification of observable incidences.** All data and information collected from both the 5 Early Childhood Educators and the parents and/or caregivers of the 12 preschool students were immediately coded with the use of pseudonyms to protect the identity of all participants and their families' anonymity. Pseudonyms were used for the remainder of the study, including during the bilingual assessments that were conducted immediately under the preschool students' given pseudonyms. All observation sessions were stored under the dates recorded, to further protect the participants' identities, before being uploaded into MAXQDA software.

Observation sessions were reviewed solely by the researcher, identifying and transcribing all observable incidences of code-mixing performed by the preschool students during language interactions and conversation. Observable incidences of bilingual code-mixing, as previously defined, involve the combining of elements from two separate languages within a single utterance (Brice & Anderson, 1999; Genesse, 2008; Nicoladis & Genesee, 1997; Nicoladis, Rose & Foursha-Stevenson, 2010; Paradis & Nicoladis, 2007). All identified and observable incidences of code-mixing were subsequently coded as outlined in the *Coding Framework*, seen below.

**Stage two – application of coding framework.** All observable incidences of code-mixing were coded based on four criteria; language(s) of use, communicative competence, functions of language use, and parts of speech. The criteria for coding applied to the individual words themselves that were chosen to mix.

Observable incidences of code-mixing were coded first based on the nature or origin of the language(s) used to code-mix. An incidence of *English code-mixing* was identified by the mixing of an English word into an otherwise French sentence or utterance. Conversely, an

incidence of *French code-mixing* was identified by the mixing of a French word into an otherwise English sentence or utterance. The language of origin of the original sentence or utterance was determined based on the context of the surrounding dialogue and language(s) used immediately before or after the incidence of code-mixing. Furthermore, incidences of code-mixing could also be coded for *Language Switching* if a complete and abrupt change in language was performed.

Observable incidences of code-mixing were subsequently coded according to the four subcategories of communicative competence, including grammatical competence, discourse competence, sociolinguistic competence, and strategic competence, as previously described and defined by Brown (2007). Table 1 below, further defines the boundaries for coding based on communicative competence.

Table 1. *Coding framework – communicative competence* (Brown, 2007).

<b>Communicative Competence</b>	<b>Definition</b>
<b>Grammatical Competence</b>	Involves the learning of lexical items and the grammar (including syntax) of the language itself. Focuses on individual word or sentence-level grammar.
<b>Discourse Competence</b>	Involves the understanding of connecting grammar-bound linguistic elements into meaningful utterances and segments of speech. Focuses on meaning between sentences.
<b>Sociolinguistic Competence</b>	Involves the knowledge of the underlying sociocultural rules of a language, and the social context in which a language is used. Recognizing the different linguistic contexts between both languages and understanding when and how it is appropriate to code-mix in context.
<b>Strategic Competence</b>	Involves the ability to successfully navigate incidences of language breakdowns and miscommunications, and how to manipulate language to achieve communication goals.

Following coding for communicative competence, observable incidences of code-mixing were coded for communicative purpose or intent following Halliday's (1973; as cited by Brown (2007)) previously described functions of language use (instrumental, regulatory, representational, interactional, personal, heuristic and imaginative). Table 2 below, further defines the boundaries for coding based on functions of language use.

Table 2. *Coding framework – functions of language use* (Halliday, 1973; as cited by Brown, 2007).

Functions of Language Use	Definition
<b>Instrumental</b>	Using language to manipulate the environment in order to cause an event to occur. Involves speech with a specific force, power and/or control.
<b>Regulatory</b>	Using language to control/maintain events or others. Involves speech that expresses approval/disapproval of rules without the control of power.
<b>Representational</b>	Using language to convey knowledge, to explain, make statements or describe the world around us.
<b>Interactional</b>	Using language in order to maintain social contact or direct communication.
<b>Personal</b>	Using language to express our own emotions, feelings, and personality.
<b>Heuristic</b>	Using language to inquire, question and gain more knowledge about our environment. Usually in the form of a question.
<b>Imaginative</b>	Using language to create, imagine and dream.

Following coding for functions of language use, observable incidences of code-mixing were coded based on parts of speech or the nature of the individual words themselves chosen by the preschool students to mix (ex. noun, verb, adverb, etc.). Table 3 below, further defines the boundaries for coding based on parts of speech.

Table 3. *Coding framework – parts of speech* (Celce-Murcia & Larsen-Freeman, 2015).

<b>Parts of Speech</b>	<b>Definition</b>
<b>Noun</b>	A word that describes a person, place or object.
<b>Pronoun</b>	A word that serves to replace a noun.
<b>Adjective</b>	A word that serves to describe a noun.
<b>Verb</b>	A word that describes an action or state of being.
<b>Adverb</b>	A word that serves to describe a verb.
<b>Preposition</b>	A word that describes the relationship between a noun/pronoun and another word.
<b>Conjunction</b>	A word that serves to join other words or parts of a sentence.
<b>Article</b>	A word used before a noun that serves to determine its state.
<b>Interjection</b>	An exclamation or expression.

Observable incidences of code-mixing were additionally coded by age of the preschool students' in attempts to reveal potential differences between bilingual preschool students of 3, 4, and 5 years of age. In further choosing to use an open-coding system, it was anticipated that the data itself would reveal additional potential functions or social purposes to the incidences of code-mixing. An open-coding system further supports not only a language socialization approach in analyzing the data within the social context it occurs, but also the holistic approach to early bilingualism (de Jong, 2011; Tomasello, 1992; Zuengler & Cole, 2008) in being receptive to the communicative intent or purpose that the individual preschool students may display through their acts of code-mixing.

**Stage three – analysis of results by research question.** After application of the described coding framework to all observable incidences of code-mixing, the resulting data was analyzed in considering each separate research question.

**Research question 1.** The first research question examined the data for overall trends in terms of the type of code-mixed utterance, the age of the preschool students, as well as for the specific language(s) chosen to code-mix. Language dominance and preference for use was also established based on answers provided through the completed *Family Language Use Survey*, as well as the *Classroom Language Use Survey*. The data during this first analysis was further examined for unique patterns or trends based on the code-mixed utterances demonstrated by the individual preschool students.

**Research question 2.** The second research question examined the data for overall trends in terms of the communicative purpose or intent of the code-mixed utterances. Coding for communicative competence was analyzed further in examining each subcategory of grammatical competence, discourse competence, sociolinguistic competence, and strategic competence (Brown, 2007) for preferences and patterns, in considering the age of the preschool students, language dominance, as well as the individual preschool students. Coding for functions of language use were also further analyzed in examining each function of representational, regulatory, instrumental, interactional, heuristic, personal, and imaginary (Halliday, 1973; as cited by Brown, 2007) uses of language, once again in considering the age of the preschool students, language dominance, as well as the individual preschool students. Finally, the data was analyzed in terms of the language(s) chosen to code-mix in terms of both communicative competence, and all functions of language use.

**Research question 3.** The third and final research question examined the data for overall trends in terms of the specific parts of speech chosen to mix during observable incidences of code-mixing. Coding for parts of speech was further examined in terms of each specific part of speech of nouns, pronouns, adjectives, verbs, adverbs, conjunctions, prepositions,

article/determiner, and interjections. Parts of speech chosen to mix were once again analyzed in considering the age of the preschool students, language dominance, as well as the individual preschool students. Additionally, the data was analyzed in terms of the language(s) chosen to code-mix for the specific parts of speech.

## Chapter 5: Results & Discussion

This chapter examines the results of this study in relation to the three previously stated research questions, while discussing some of the significance of these outcomes. The results from this study and discussions in this chapter will explore incidences of code-mixing as they relate to each research question, in further examining each coding based on language choice, and age of the preschool students.

### **Research Question 1. Are bilingual preschool aged children code-mixing, as an expression of their emerging sense of bilingualism?**

This first research question is examined in two parts. Observable incidences of code-mixing are considered first based on language choice and age of the preschool students, followed by a discussion of distinctive differences from three individual preschool students. Overall, the results suggest that the bilingual preschool aged children in this study are indeed code-mixing, as a means of expressing their emerging sense of bilingualism.

Over the course of thirteen observation sessions, the 12 bilingual preschool students in this study were seen to produce 186 observable incidences of code-mixing over the course of 7 hours and 24 minutes of recorded observations and assessments. Based on the results from Table 4 below, the bilingual preschool students were found to demonstrate a preference for English code-mixing, with 102 observable incidences of code-mixing involving the integration of English words in French utterances. In contrast, French code-mixing or the mixing of French words within English utterances, made up 59 of the observable incidences. The remaining 25 observable incidences of code-mixing were indicative of a complete language switching, or the complete changing from one language to another.

### Code-Mixing by Age

Important distinctions between ages of the participants were seen with preschool students with 5 years of age accounting for 98 of the observable incidences of code-mixing, as seen in Table 4 below. Preschool students with 4 years were seen to account for 81 of the observable incidences, while preschool students with 3 years demonstrated 7 observable incidences of code-mixing. Preschool students with 5 years were more likely to use incidences of English code-mixing, while preschool students with 4 years were more balanced between the two languages, yet of the three age groups they were the most likely to exhibit displays of complete language switching. Interestingly enough, preschool students with 3 years of age were more likely to use incidences of French code-mixing in their speech output, than the other two types of language choices considered.

Table 4. *Incidences of code-mixing by age.*

<b>Incidences of Code-Mixing</b>	<b>Age 3 (n=3)</b>	<b>Age 4 (n=5)</b>	<b>Age 5 (n=4)</b>	<b>Total</b>
<b>English Code-Mixing</b>	---	32	70	102
<b>French Code-Mixing</b>	6	33	20	59
<b>Language Switching</b>	1	16	8	25
<b>Total</b>	7	81	98	186

The strong preference found for the use of English code-mixing within French utterances for preschool students with 5 years may be explained by the nature of the Early Childhood classroom and Center, where French is more often than not being learned as a second language. In fact, only 3 of the 12 preschool students were noted as speaking French as their first language, as indicated on the returned *Family Language Use Survey* (see Appendix E). This strong use of

English code-mixing by preschool students with 5 years of age is supported in the literature where preschool aged children are found to more reliably insert linguistic elements from their dominant language into their non-dominant language (Genesee, 2008; Nicoladis, et al., 2010). Given that almost all of the preschool students indicated a native language dominance towards English, the preference towards the use of English code-mixing within their interactions is to be expected.

As seen in Table 4, the disparity and differences likewise observed in the preschool students with 4 years of age can also be supported by the previous literature in that, preschool children between the age of three and five years, whether monolingual or bilingual, will begin to gain mastery of their language and start to form multiword sentences, progressing to more complex sentences and an increased flexibility with language from age six onwards (Chiocca, 1998; Hetherington, et al., 2005). Results from this study support the previous literature with observable incidences of code-mixing increasing accordingly as the age of the preschool students also increases. As the preschool students gain confidence and mastery not only with their first language, but their emerging sense of bilingualism and second language, their ability and willingness to code-mix is also seen to increase.

Furthermore, previous research from Chiocca (1998) and Genesee (2008) indicate that sequential second language learners additionally demonstrate an initial non-verbal period during language acquisition. This occurrence of a non-verbal period can be seen within the results of this study and utilised to additionally explain the disparity and minimal incidences of code-mixing seen to be produced by the preschool students with 3 years of age as again, their lack of ability or willingness to produce observable incidences of code-mixing is evidence of further internal processing of their emerging sense of bilingualism.

Interestingly enough, results from this study are seen to contradict the findings from previous studies of Brice & Anderson (1999) and McLaughlin, et al. (1995) which found that the frequency of code-mixing is seen to decrease as children mature and become more linguistically proficient and confident in their language use. Observable incidences of code-mixing in this study are seen to increase with age and mastery over two languages, rather than decrease; however, the previous literature is unclear on specific ages at which this decrease appears. It could be speculated that a decrease in rates of code-mixing could still be seen among the same preschool students at a later age.

### **Code-Mixing by Preschool Student**

In examining the differences between the ages of the preschool students, observable incidences and frequencies of code-mixing were further seen to differentiate based on the individual child. As seen in Table 5 below, the majority of observable incidences of code-mixing were produced by three preschool students, namely Child7, Child10 and Child11. It should also be noted that preschool students who failed to produce any observable incidences of code-mixing during observation sessions were not included in Table 5.

Table 5. *Incidences of code-mixing by preschool student.*

<b>Pseudonyms</b>	<b>English Code-Mixing</b>	<b>French Code-Mixing</b>	<b>Language Switching</b>	<b>Total</b>
<b>Child2</b>	---	1	---	1
<b>Child3</b>	---	5	1	6
<b>Child4</b>	2	8	1	11
<b>Child7</b>	30	24	15	69
<b>Child9</b>	---	1	---	1
<b>Child10</b>	24	16	6	46

<b>Child11</b>	41	---	1	42
<b>Child12</b>	1	4	1	6
<b>Child13</b>	5	---	---	5
<b>Total</b>	103	59	25	187

Child7, Child10 and Child11 were seen to produce the majority of observable incidences of code-mixing, with Child7 in particular producing a remarkable 69 incidences of code-mixing and accounting for over a third of observable incidences alone. Child10 and Child11, nonetheless, still produced a significant number of observable incidences of code-mixing, with 46 and 42 incidences, respectively. While Child11 comes from a dominantly English household, Child7 and Child10 both have trilingual family backgrounds. All three preschool age children present interesting cases for further discussion.

**Child11.** Results from Child11 demonstrate the typically developing emergent and sequential bilingual language learner, as previously seen and described in prior research from Chiocca (1998), Genesee (2008) and McLaughlin, et al. (1995). Coming from a dominantly English household, with both parents and a younger sibling identified as monolingual English speakers within the home on the *Family Language Use Survey* (see Appendix E), the child's exposure to and opportunity for use of the French language is largely limited to the preschool classroom setting. Child11 was seen to produce 42 observable incidences of code-mixing, including 41 incidences of English code-mixing and 1 incidence of complete language switching. Given Child11's language background, the unilateral preference towards incidences of English code-mixing is reasonably expected, and shows evidence of inserting their more dominant language of English into their less dominant French language. Moreover, the strong preference towards incidences of English code-mixing demonstrated by Child11 is further an example of the

ability of preschool aged students to not only be able to successfully acquire a second language, but to be able to functionally utilise this second language for their conversational purposes.

**Child10.** Results from Child10, on the other hand, present a different picture of an emerging bilingual. Coming from a dominantly Arabic household, it was however shown through the *Family Language Use Survey* (see Appendix E) that the three languages of English, French and Arabic are all used within the home environment. While Child10 and their mother were described as using mainly Arabic and French within the home, the father was identified as speaking English and Arabic (a younger sibling was also identified in the household, speaking solely Arabic). The three bilingual members of the household were all additionally identified as using code-mixing within the home, incidences of which were further encouraged yet corrected at home. Responses from the *Family Language Use Survey* strongly suggest a trilingual household, the influence of which can be seen in further examining Child10's observable incidences of code-mixing.

Child10 was seen to produce 46 total observable incidences of code-mixing, including 24 incidences of English code-mixing, 16 incidences of French code-mixing, and a further 6 incidences of complete language switching. Although largely exposed to the French language through the preschool classroom setting, interactions with peers present an interesting additional exposure with the English language, with 9 of the 12 preschool students, although bilingual, being identified as using English more dominantly. Child10 further produced a high number of observable incidences of French code-mixing, demonstrating an increased ability to use both languages not only together, but interchangeably. The 6 incidences of complete language switching seen by Child10 additionally present evidence of being able to separate the two

languages based on interlocutor and sociolinguistic context, to be discussed more fully in the section on sociolinguistic competence as part of research question two.

As seen with Child10, Child11's ability to use both English and French incidences of code-mixing interchangeably strongly demonstrates the ability of preschool aged students to acquire additional languages, and once again to be able to manipulate their expanding linguistic knowledge to their own communicative needs.

**Child7.** Finally, Child7 presents an interesting profile, as having produced a surprising 69 observable incidences of code-mixing. Despite being 4 years of age, Child7 outperformed all preschool students in not only their own age group but those who were older with 5 years as well (Child10 and Child11 both being 5 years of age). Coming from a dominantly Greek household, it was however shown again through the *Family Language Use Survey* (see Appendix E) that all three languages of English, French and Greek are used within the home environment. While Child7 and the father were described as using all three languages at home, the mother was identified as using mainly French and Greek, with an additional set of grandparents present in the immediate household speaking primarily Greek. All members of the immediate household were additionally identified as using code-mixing within the home, incidences of which were further encouraged and corrected within a positive reference at home. Responses from the *Family Language Use Survey* once again strongly suggest a trilingual household, the influence of which can be seen in further examining Child7's observable incidences of code-mixing.

Child7 was seen to produce 69 observable incidences of code-mixing, including 30 incidences of English code-mixing, 24 incidences of French code-mixing, and a further 15 incidences of complete language switching. As with Child11, Child7 was identified through the *Family Language Use Survey* as dominantly using the English language, reasonably explaining

their preference towards English code-mixing. Similarly, to Child10 however, Child7's exposure to the French language largely through the preschool classroom setting, while influential enough to encourage a number of incidences of French code-mixing, was not as influential as interactions with English dominant peers as observable incidences of English code-mixing were once again more prevalent. Child7's ability however to produce a significant number of observable incidences of English code-mixing, as well as French code-mixing, demonstrates an ability to not only use the two languages together, but interchangeably based on their own manipulations. The 15 incidences of complete language switching seen by Child7 once again additionally presents evidence of being able to separate the two languages based on interlocutor and sociolinguistic context (to be discussed in the section on sociolinguistic competence, as part of research question two).

The fact that Child7 was able not only to produce substantially more observable incidences of code-mixing, but a higher number of complete language switching in comparison to the other preschool students in this study, further suggests an increased flexibility and mastery over the use of language itself. Moreover, Child7's apparent ease of use and comfort with code-mixing in both English and French, as well as with complete language switching, supports the importance of external factors, as argued in previous literature by Thordardottir, et al. (2006) with different influences for and exposure to languages resulting in different levels of dominance and use. Child10 and Child7's trilingual and additive language home environments demonstrate the effect of supportive external influences, evidenced in their increase of observable incidences of code-mixing. The presence of additional languages within the home environment for both preschool students appears to support the continued acquisition of multiple languages, and likewise the prevalence of the preschool aged students' manipulated use of language as well.

**Research Question 2. What communicative or social purpose do bilingual preschool aged children utilize through their use of code-mixing?**

Beyond simply identifying observable incidences of code-mixing, the incidences of code-mixing were further examined based on four discernable types of communicative competence (Brown, 2007), as well as Halliday's (1973; as cited by Brown, 2007) seven functions of language use. To properly answer this second research question, results from this study will be discussed first based on communicative competence, followed by functions of language use, and concluding with a brief summary of functions of language use based on the language(s) chosen to code-mix.

**Communicative Competence**

This section will be further divided according to the four types of communicative competence; grammatical competence, discourse competence, sociolinguistic competence, and strategic competence. Results from this study revealed 197 observable incidences of communicative competence (see Table 6 below). Although the results from the previous section revealed 186 observable incidences of code-mixing, several occurrences served multiple elements of communicative competence (incidences of strategic competence also serving to demonstrate grammatical competence, for example), and were thus cross-coded.

Table 6. *Incidences of communicative competence per language.*

<b>Communicative Competence</b>	<b>English Code-Mixing</b>	<b>French Code-Mixing</b>	<b>Language Switching</b>	<b>Total</b>
<b>Grammatical Competence</b>	6	4	---	10
<b>Discourse Competence</b>	98	55	4	157

<b>Sociolinguistic Competence</b>	---	---	21	21
<b>Strategic Competence</b>	6	3	---	9
<b>Total</b>	110	62	25	197

**Grammatical Competence.** Observable incidences of grammatical competence through code-mixing involved gap-filling (demonstrating lexical knowledge in the opposing language), as well as incidences of incorrect grammatical blending. Incidences of code-mixing such as “one, two, three, four, *cinq*” (Child2), for example, demonstrate lexical awareness and a further level of comfort or ease with producing lexical words in either language. Other incidences of code-mixing such as “can you move-*er*?” (Child10) contains a demonstration of grammatical knowledge involving the common ‘er’ termination of French verbs. Although applied incorrectly to an English verb, the grammatical knowledge involved in this communicative utterance is however evident in the preschool student’s direct manipulation of language use. Finally, the use of code-mixing such as “Prin-*cesse*” (Child7) once again demonstrates a use of grammatical and lexical knowledge in blending the beginnings of the English word for ‘princess’ with the French ending of the lexical equivalent of ‘princesse,’ as evidence in the changing in pronunciation and intonation from the beginning and the ending of the word. Grammatical or lexical blending such as this appear to be mostly unconscious in nature, further establishing the effortless nature of the observable incidences of code-mixing.

These and other examples of grammatical competence through code-mixing show evidence of supporting previous research claims that bilingual preschool aged children will code-mix for gap-filling in lexical knowledge (Brice & Anderson, 1999; Genesee, 2008; Nicoladis & Genesee, 1997; Nicoladis, et al., 2010; Paradis & Nicoladis, 2007). The bilingual preschool aged

students in this study are seen to demonstrate elements of grammatical competence through the use of their observable incidences of code-mixing.

**Discourse Competence.** Observable incidences of discourse competence through code-mixing were strongly found to be the most prevalent, although this can arguably be expected given its broad definition. Previous literature by Brown (2007) described discourse competence as the ability to connect grammar-bound linguistic knowledge into meaningful utterances and segments of speech. Results from this study more than aptly demonstrate the ability of bilingual preschool age children to properly execute and perform this task. Incidences of code-mixing such as “[Child’s name] *bouteille* is in our class” (Child7) demonstrate discourse competence in a seamless integration of the French word ‘*bouteille*’ into an otherwise English phrase, where the change in language does not interfere with the flow of the preschool student’s speech or the semantics of their utterance. While this utterance, and other such examples, can also be considered as an incidence of grammatical gap-fillings, discourse competence is likewise demonstrated in being able to connect this grammatical knowledge in the formation of sentences (Brown, 2007).

Other results from this study demonstrating discourse competence include observable incidences of code-mixing such as “est-ce que je peux avoir un *tape*, s’il-vous-plaît?” (Child10), where the fluidity and intent of the utterance and question is not altered by the English code-mixing, and “I want the *fleur*” (Child4), where the preschool student is able to express their own desires with the use of both code-mixing and discourse competence simultaneously. Results such as these and several others demonstrate the bilingual preschool students’ ability to successfully code-mix and manipulate their language use to their own advantage, in a variety of contexts and forms. What is also evident through these examples is the underlying communicative and

discourse competence that is also being manipulated through the preschool students' use of observable incidences of code-mixing.

**Sociolinguistic Competence.** Results from this study support previous research in terms of sociolinguistic competence, and furthermore bilingual communicative competence. Cazden, John & Hymes (1972; as cited by de Jong, 2001) previously described communicative competence as “knowledge about language use and how it changes according to context” (p.49), an ability that is revealed by the preschool students in this study and their demonstrations of complete language switching. Other previous literature by Genesee (2008) and Green, et al. (2012), pertained that the ability to discern the language choice(s) of an interlocutor and to respond appropriately demonstrates a communicative flexibility of bilingual language learners not exhibited by their monolingual peers, and furthermore that learning a second language involves acquiring the sociocultural norms associated with the second language, while simultaneously recognizing the different linguistic contexts between both languages.

Based on the results from this study, a relationship appears to exist between sociolinguistic competence and complete language switching, with all 21 observable incidences of sociolinguistic competence demonstrated through acts of complete language switching (as seen in Table 6). According to the previous literature by Brown (2007), sociolinguistic competence involves knowledge of the underlying sociocultural rules of a language, and an understanding of the social context in which a language is used. Results from this study aptly suggest that bilingual preschool students are more than able to successfully navigate the sociolinguistic and sociocultural rules associated with their emerging sense of bilingualism.

Observable incidences of sociolinguistic competence through code-mixing that involve complete language switching include examples such as “What’s this? *Madame c’est quoi ça?*”

(Child7). In this utterance the preschool student begins the interactions upon discovering an unknown object in the sand box by interacting in English with their peers, but quickly switches to French when addressing the Early Childhood Educator, demonstrating not only their bilingual language abilities, but respecting the sociocultural rules of the French preschool classroom setting. In executing a complete language switch in this manner, the preschool student not only successfully demonstrates their flexibility with the use of language and their emerging bilingualism, but respect for the authority of the Early Childhood Educator and social value of the French language within the classroom setting, despite the dominating and influence of English peer interactions.

Other observable incidences of sociolinguistic competence through complete language switching include interactions such as “*Qui est là? We have something outside,*” (Child11) where the preschool student is seen to incorporate a whole learned French phrase into their otherwise dominantly English play scenario. The first part of the above utterance coming after a knock at the door, before going out to investigate who in fact was outside. Executing a complete language switch by incorporating a fully learnt utterance into their speech demonstrates not only understanding of the French utterance itself but of its context of use as well, once again code-mixing without interrupting the fluidity of their interactions.

In discussing sociolinguistic competence, it is noteworthy to mention that while almost all of the preschool students successfully recognized the context of language use and switched languages during interactions with an Early Childhood Educator, Child7 once again managed to go beyond the abilities of the other preschool students in this study in performing a complete language switch based on interactions with their peers as well. In a play scenario, Child7 is seen to interact and converse comfortably in French with Child8, who is a French dominant speaker.

In moving around the play table, Child7 makes a complete language switch now standing beside and interacting with Child4, who is English dominant. In such a way, Child7 has demonstrated their sociolinguistic competence and awareness of the context of use of language based on interlocutor.

Child4 also demonstrates examples of sociolinguistic competence and complete language switching, manipulated based on the dominant language of interaction with their peers. In a play scenario with both Child8 and Child2, Child4 demonstrates an acute awareness towards the context of language use. In interactions with their peers, Child4 is heard to say “non, ça c’est à [Child... 2] *wants to put the water inside them all.*” Beginning their dialogue in French with Child8 (French dominant), Child4 interestingly makes a complete language switch to English when referring to Child2 (English dominant). In such a way, Child4 demonstrates their awareness in the difference in language dominance between their peers, and the difference in the appropriate contextual use of both languages.

Further previous studies by Paradis & Nicoladis (2007) found that bilingual children varied their rates of code-mixing between interlocutors, more specifically in code-mixing more frequently among peers than with adult interlocutors. It is evident from the results of the bilingual preschool students’ use of code-mixing in both languages, that different sociolinguistic influences for both the English and French language exist and carry different effects, with English language interactions with peers perhaps carrying more social power than the French classroom setting itself. Bilingual preschool children in this study were seen to be able to adjust their rates of code-mixing within a conversation based on the conversational abilities modeled by different interlocutors, as seen in the examples above from Child4 and Child7. The preschool students in this study undeniably support the results of previous research in being able to

recognize the appropriate linguistic context of their two languages. The preschool students successfully demonstrate this ability in not only code-mixing interchangeably between two languages, but in further being capable of performing complete language switching based on interlocutor and sociolinguistic context.

**Strategic Competence.** Observable incidences of strategic competence through code-mixing include incidences of language switching, grammatical blending and creative uses of pronunciations. Although all identified incidences of strategic competence were also cross-coded with grammatical competence, it is worth discussing the incidences in terms of their strategic manipulations of language use. Results from this study support definitions found in previous literature describing strategic competence as language manipulated to attain communicative goals (Brown, 2007) or more specifically as “the strategies that one uses to compensate for imperfect knowledge of rules” (Savignon, 1983; as cited by Brown, 2007, p.220). The preschool students in this study are indeed seen to execute their own strategic manipulations of language use in order to achieve their communication goals.

Observable incidences of code-mixing such as “c’est.. *it’s white*” (Child7), shows an example of Child7 strategically utilising a complete language switch when faced with a communication impasse, in which they recognize their own lack of knowledge in how to respond in the intended language. Performing a complete language switch in this incidence allows the preschool student to continue in their communication efforts. Other examples of strategic competence through code-mixing include the previously described use of grammatical blending such as “et toi tu *watch-ais le tv*,” (Child10) in which the English verb ‘watch’ has been incorrectly but creatively paired with the French verb ending ‘ais.’ Acts of grammatical blending such as this, whether grammatically correct or not, are excellent examples of strategic

competence in which the preschool student is directly manipulating their knowledge and use of both languages in an attempt to once again convey their communication intentions.

Finally, the use of code-mixing such as “ça c’est les *batteries*” (Child11), where the English word ‘batteries’ is not only inserted into a French sentence but voiced and pronounced with an otherwise French pronunciation, is also an example of strategic competence. Recognizing their lack of knowledge in terms of the lexical equivalent for the word “piles” (batteries) in French, the preschool student has nonetheless attempted to discern the correct word by altering its pronunciation, once again directly manipulating their use of language.

As seen in Table 7 below, observable incidences of strategic competence were only seen in preschool students with 4 or 5 years of age, suggesting a certain established level of proficiency and maturity with the use of both languages that was not exhibited by the less developmentally mature preschool students with 3 years. The same observations in regards to age can be seen throughout all levels of communicative competence, indicating a level of cognitive and developmental maturity required for not only more frequent evidence of communicative competence, but observable incidences of code-mixing as well.

It is also noteworthy to mention that although in Table 7 observable incidences of sociolinguistic competence appear to be likewise more prevalent among preschool students with 4 years, those results are however skewed and dominated by Child7’s elevated use of observable incidences of code-mixing, with 15 of the 16 observable incidences of sociolinguistic competence performed by this one preschool student.

Table 7. *Communicative competence by age.*

<b>Communicative Competence</b>	<b>Age 3 (n=3)</b>	<b>Age 4 (n=5)</b>	<b>Age 5 (n=4)</b>	<b>Total</b>
<b>Grammatical Competence</b>	1	4	5	10
<b>Discourse Competence</b>	5	62	91	158
<b>Sociolinguistic Competence</b>	---	16	5	21
<b>Strategic Competence</b>	---	4	5	9
<b>Total</b>	6	86	106	198

Results from this study aptly support the previous research and literature in regards to bilingual communicative competence, where bilingual children were found to not only navigate but further discriminate between two linguistic contexts, ultimately demonstrating an enhanced bilingual linguistic competency (Genesee, 2008; Greene, et al., 2012). The preschool students in this study are indeed seen to utilise their emerging bilingualism to their own communicative advantages. Although observable incidences of strategic competence through code-mixing were less prevalent overall in the results of this study, the few examples of strategic competence found however can be seen to be produced by those preschool students who produced the majority of observable incidences of code-mixing, namely Child7, Child10 and Child11. It could thus reasonably be speculated that those preschool students who are more comfortable and familiar with their use of both languages, are in turn more apt to take chances in creating their own strategies towards the continue progressions and development of their own bilingual communicative competence.

### Functions of Language Use

Results from this study revealed 191 observable incidences of functions of language use through code-mixing, as coded based on Halliday's (1973; as cited by Brown, 2007) seven functions of language use. Overall, the preschool students in this study demonstrated a strong preference towards a representational use of language. Other functions of language use most commonly seen included an interactional and a regulatory use of language.

Table 8. *Functions of language use by age.*

Functions of Language Use	Age 3 (n=3)	Age 4 (n=5)	Age 5 (n=4)	Total
<b>Representational</b>	5	56	72	133
<b>Regulatory</b>	---	9	8	17
<b>Instrumental</b>	---	2	---	2
<b>Interactional</b>	---	3	13	16
<b>Personal</b>	1	7	1	9
<b>Heuristic</b>	---	5	5	10
<b>Imaginative</b>	---	3	1	4
<b>Total</b>	6	85	100	191

**Representational.** A representational use of language through code-mixing was seen to represent a vast majority of the results of this study, accounting for a remarkable 133 of an overall 191 observable incidences of functions of language use through of code-mixing. A representational use of language through code-mixing scored highest across all three age groups, and accounted for one of the two functions of language use seen to be performed by preschool students with 3 years of age. The higher frequency and prevalence of a representational use of language through code-mixing however, is understandable given its broad definition and most

generalizable manner of use. Brown (2007) previously described a representational use of language as “the use of language to make statements, convey facts and knowledge, explain, or report,” (p.224) or more simply language used to describe the world around us. Moreover, given the more basic functions of a representational use of language, it is understandable that preschool students with 3 years of age were comfortable using this function of language use through their observable incidences of code-mixing, and able to properly and more freely express their more basic grasp of their two languages.

Examples of a representational use of language through code-mixing seen in this study include the preschool students’ ability to explain facts and convey knowledge, note and describe observations, and to make comments. Examples of a representational use of language include “because the bird *voler*,” (Child3), where the preschool student is giving a response and using reasoned logic to explain that birds fly; “you got tw.. *deux* yellows,” (Child12), where the preschool student is commenting on the descriptive qualities of the objects in front of one of their peers; and “ça c’est *cute*,” (Child11), where the preschool student is expressing their own thoughts on a favoured toy.

These and many other examples of a representational use of language through code-mixing serve not only to support previous literature (Brown, 2007) in the vast use of a representational function of language use, but the ability to portray its use through code-mixing. The definition of a representational use of code-mixing can be further supported by literature relating to early language acquisition and development (Genesee, 2008; Hetherington, et al., 2005) where preschool aged children are known to successfully acquire and use more than one language. Additional previous research by Brice & Anderson (1999) is also supported in a representational use of language demonstrated through code-mixing, in establishing the ability of

bilingual preschool students to produce acts of code-mixing, and moreover the preschool students' manipulated use of code-mixing and their two languages.

**Regulatory.** A regulatory use of language is described in previous research as using language to control/maintain events or others, and involves speech that expresses approval or disapproval of rules without necessitating a dominating control or display of power (Brown, 2007). A regulatory use of language through code-mixing accounted for 17 observable incidences and was only seen in preschool students with 4 or 5 years of age, with preschool students with 3 years failing to properly perform a regulatory use of language. Examples of a regulatory use of language through code-mixing include, “je veux le fruit *and* le fromage” (Child7), in which the preschool student is communicating their wants and thereby controlling their own snack; “si il y a du feu tu *press* le bleu” (Child11), where the preschool student is giving instructions to a peer in order to control the play scenario; and “you’re going to *ramasse bien, s’il-te-plait*” (Child10), where the preschool student is repeating an established rule in the preschool classroom. These examples of a regulatory use of language demonstrate the preschool students' ability to control their play, while simultaneously using acts of code-mixing.

A regulatory use of language was also seen during complete language switching such as “where’s mine? *Madame il pas partage*” (Child7), in which the preschool student performs a complete language switch in addressing the Early Childhood Educator, but does so with the intent of getting the Early Childhood Educator to help them get their peer to share a desire toy, and in such a way control their play scenario. Examples of a regulatory use of language through code-mixing aptly demonstrate preschool students' direct manipulations not only over their two languages, but in using language to control their environment, play scenarios, and peers.

**Instrumental.** An instrumental use of language is described by Brown (2007) as using language to manipulate the environment in order to cause an event to occur. In contrast to a regulatory use of language, an instrumental use of language involves speech with a more specific force, power and intentional control. Results from this study show only a minimal use of an instrumental use of language, accounting for only 2 observable incidences, with in fact, only Child7 managing to demonstrate an instrumental use of language through code-mixing.

The two examples of an instrumental use of language expressed by Child7 include “*Beaucoup [Child4]. Beaucoup [Child4]! Beaucoup [Child4].* Okay now it’s full, now it’s full,” where Child7 is explicitly and firmly giving Child4 instructions during their play scenario. First on how much to fill the empty bottle of water, and secondly affirming that it is now full. Child7’s firm tone and insistence demonstrate more than a regulatory control of events, but rather an instrumental and purposeful display of language. The second example of an instrumental use of language through code-mixing seen in this study again demonstrates the giving of firm instruction by Child7. An instrumental use of language through code-mixing is seen in the statement “*Je pas [mispronunciation of Child7’s name]. My daddy said je pas [mispronunciation of Child7’s name], je [corrected pronunciation of name],*” where Child7 is firmly giving instruction on the correct pronunciation of their name to another preschool student. In both cases of an instrumental use of language seen in this study, Child7 is manipulating not only their use of language but the events of their play scenario in a very direct and clear way.

**Interactional.** An interactional use of language is defined in previous literature as language used in order to establish and maintain social contact or direct communication (Brown, 2007). An interactional use of language through code-mixing accounted for 16 observable incidences and was interestingly seen to be more prevalent among preschool students in this

study with 5 years of age over preschool students with 4 years, yet remaining once again absent in preschool students with 3 years of age. An interactional use of language requiring a more direct approach in establishing and maintaining social communication (Brown, 2007), can understandably require a more precise or mature level of language use and manipulation. This level of direct language manipulation can be speculated as not yet as fully developed by preschool student with a less developmentally mature age of 3 years.

Examples of an interactional use of language through code-mixing include “regarde, les deux *monkey*, regarde,” (Child11) where the preschool student is directly attempting to gain their peer’s attention by describing the object in their hand, and start an interaction with them.

Likewise, the following is also an example of an interactional use of language:

madame, le *space ship* va aller *on the* rampe ...

madame ... madame ...

madame ...

le *space ship* il va madame (Child10).

This interactional use of language although one-sided on the part of the preschool student, demonstrates a direct and very insistent attempt to gain the Early Childhood Educator’s attention from a short distance away, alas unsuccessfully. Child10’s direct manipulation of language however in repetitively calling their teacher, and further attempting to gain their attention in describing their play scenario, is evident of a very direct interactional use of language.

Alternatively, more involved examples of an interactional use of language through code-mixing are seen in the exchanges and dialogue between two preschool students who have set up a small store, wherein Child11 is the shopkeeper and Child13 a customer. A small interactional exchange follows:

Combien ça? (Child13)

Ça c'est *fifty-twenty* (Child11)

*Fifty-twenty*, okay là (Child13).

The nature of their play and the direct manipulation of their language necessitates an exchange of dialogue for the play scenario of a storefront to continue, demonstrating not only linguistic and language abilities, but a level of communicative competence and conversational understanding. Through this small exchange, the preschool students further demonstrate their conversational understanding in taking turns speaking, and replying to the previous utterance in a logical and reasonable way, further based on the context of their play. The use of code-mixing dispersed within their dialogue further demonstrates an innate comfort with the direct manipulation and use of both of their languages, from both preschool students.

**Personal.** A personal use of language is described as the use of language to express our own emotions, feelings, and personality (Brown, 2007), and is perhaps the most individual of the functions of language use. A personal use of language through code-mixing accounted for 9 observable incidences and was found to be more prominent among preschool students with 4 years of age. However, most of the observable incidences of a personal use of language were again seen to be performed by the more vocal Child7, who accounted for 5 of the reported 7 incidences of a personal use of language among preschool students with 4 years of age.

Examples of a personal use of language through code-mixing seen in the results of this study include observable incidences of self-expression such as “yay, mon *hamster*” (Child11), where the preschool student is expressing contentment after finding their toy; and “hey, come back to *moi*,” (Child7), during which the preschool student is speaking to a water toy that is floating away from them. Through both examples the preschool students are vocally expressing

their personal feelings and emotions in their play scenarios. The preschool students in these two examples are further speaking to themselves in their individual play scenarios, displaying a glimpse into their internal and personal dialogue.

A different example of a personal use of language through code-mixing include statements such as “I want the *fleur*,” (Child4) in which the preschool student is explicitly expressing their own wants and for their peer to give them back a flower card. A personal use of language reveals the ability of preschool aged students to express their own emotions, desires and individuality through language, as supported in previous literature by Brown (2007). Incorporating incidences of code-mixing into their personal use of language, displays an internalization of their two languages and furthermore a deeper level of comfort with their own sense of identity through their emerging sense of bilingualism.

**Heuristic.** A heuristic use of language can be defined as using language to inquire, question and gain more knowledge about our surrounding environment (Brown, 2007). A heuristic use of language is most evident in the form of inquisition or questioning, a trait often characteristic of preschool students themselves. A heuristic use of language through code-mixing accounted for 10 observable incidences and was seen to be equally as common in this study among preschool students with 4 years of age as those with 5 years, although once again absent among preschool students with 3 years.

Examples of a heuristic use of language through code-mixing seen in the results of this study include, “where’s he *acher*?,” (Child4) where the preschool student is searching for a hidden friend; “mais ou est le *puppy*?,” (Child11) where the preschool student is questioning where a dog toy has gone; and “*glace*, where’s the *glace*?” (Child4) where the preschool student is looking for a puzzle piece with the picture of an ice cube depicted. In each of these examples,

the preschool students are seen to express their inquisitive thoughts in a heuristic manner, whether as part of their play scenario, as part of their personal dialogue, or as a means of acquiring more information. The fluid use of code-mixing seen throughout their heuristic uses of language once again demonstrates not only their level of comfort with the use of their two languages, but furthermore their manipulated use of language.

**Imaginative.** Finally, as arguably the most ambiguous to classify, an imaginative use of language has been defined in previous literature as using language to create, imagine and dream. More specifically, Brown (2007) described an imaginary use of language as language used “to create imaginary systems or ideas” (p.224). An imaginative use of language demonstrated through code-mixing accounted for only 4 observable incidences, and was once again only seen to be expressed by preschool students with 4 or 5 years of age, remaining absent among preschool students with 3 years.

While examples of imaginative games are found abundant in the play of preschool aged students, an imaginative use of language seen in the results of this study include “oui, c’est chocolat avec le *princess*,” (Child7) where the preschool student is creating an imaginative world involving chocolate and princesses; as well as “oh, bonjour *kitty*,” (Child11) where the preschool student is demonstrating an imaginative interaction in opening a dialogue and conversation with a toy cat. An imaginative use of language through code-mixing is evident not only of the preschool students’ level of comfort and mastery over their two languages, but furthermore of the ability to extend that language use beyond the limits of the tangible real world, into their own imaginations, where it once again serves as a template for direct manipulation and creation. The use of code-mixing in their imaginative world additionally demonstrates an internalisation of their second language, and emerging sense of bilingualism.

### Functions of Language Use by Language

The results of this study additionally demonstrate that functions of language use differ based on the language chosen for use. As seen in Table 9 below, a strong preference was found for demonstrating functions of language use through acts of English code-mixing, with 107 observable incidences of English code-mixing seen among a total of 191 observable incidences of functions of language use. The remaining observable incidences of functions of language use revealed 59 incidences of French code-mixing, as well as 25 incidences of complete language switching.

Table 9. *Functions of language use by language.*

<b>Functions of Language Use</b>	<b>English Code-Mixing</b>	<b>French Code-Mixing</b>	<b>Language Switching</b>	<b>Total</b>
<b>Representational</b>	75	46	12	133
<b>Regulatory</b>	9	4	4	17
<b>Instrumental</b>	1	---	1	2
<b>Interactional</b>	12	2	2	16
<b>Personal</b>	4	5	---	9
<b>Heuristic</b>	2	2	6	10
<b>Imaginative</b>	4	---	---	4
<b>Total</b>	107	59	25	191

Through closer examination, a representational and an interactional function of language use were found to be most often demonstrated through incidences of English code-mixing. This pattern in language choice runs parallel to results reported in the section on sociolinguistic competence for research question 2, in noting the influence and prevalence of English language dominated peer social interactions versus the French language preschool classroom setting. It

further matches results from research question 1, regarding code-mixing by language and language dominance.

A personal use of language was found to be slightly more prevalent through French code-mixing, while both an instrumental and an imaginative function of language use were notably absent through French code-mixing. An imaginative function of language use was in fact solely represented through observable incidences of English code-mixing, once again demonstrating the preschool students' more dominant influences of the English language, and perhaps further their still emerging sense of bilingualism in failing to demonstrate an imaginative function of language use in another language. A representational use of language, while encompassing a dominant 133 displays of functions of language use, was also the most prevalent function of language use for each separate language as well as in complete language switching.

It is further interesting to note that a heuristic function of language use was most prevalent through complete language switching in general, which is further reflective of not only the preschool students' demonstration of sociolinguistic competence but of their understanding of the social dominance of language within the French preschool classroom setting as well. In order for their questions to be heard, the preschool students not only demonstrated their bilingual language abilities in completely switching languages, but their ability to further manipulate their language use based on their intended purpose, in this case to be properly understood.

**Summary.** Overall, the results of this study demonstrate that bilingual preschool students are indeed making use of several functions of language use through their observable incidences of code-mixing, as coded based on Brown's four depicted types of communicative competence and Haliday's (1973) seven functions of language use. While observable incidences of discourse competence were most prevalent, important elements of bilingual language acquisition and

development were nonetheless evident in other areas. Especially in terms of sociolinguistic competence, the preschool students in this study were able to tangibly demonstrate their knowledge and awareness of the social value and power of their language choices.

In terms of functions of language use, a strong preference was found for a representational use of language through code-mixing, followed secondarily by an interactional and regulatory use of language through code-mixing. Interesting enough, an imaginative as well as an instrumental use of language through code-mixing were found to be the least frequently seen in the results of this study. Moreover, results from this study reveal a difference in functions of language use according to age of the preschool students. Preschool students with 5 years of age were the most diverse in their manipulations of functions of language use, followed closely by preschool students with 4 years of age. Preschool students with an age of 3 years however, were found to be notably less flexible in their manipulations of language and functions of language use, perhaps demonstrating less linguistic maturity and acquisition given their young age.

Inclusively however, the preschool students in this study aptly support results from previous literature and research that young bilingual children are not only capable of directly manipulating their incidences of code-mixing to serve their own needs, but furthermore that their use of language and code-mixing can be additionally adaptive based on functions of language use (Brice & Anderson, 1999; Brown, 2007; Genesee, 2008; Nicholas & Genesee, 1997). Results from this study support not only the existence of a bilingual communicative competence and advantage (Thordardottir, et al., 2006), but of an important additional mental processing in the varied functions of language use displayed through code-mixing by the bilingual preschool students in this study.

**Research Question 3. What parts of speech (i.e. noun, verb, adjective, etc.) are bilingual preschool aged children code-mixing most frequently?**

Following coding for communicative competence and functions of language use, observable incidences of code-mixing were finally coded based on parts of speech, or the nature of the individual words chosen to code-mix. This third and final research question examines the specific parts of speech chosen by the bilingual preschool students in their observable incidences of code-mixing. Observable incidences of code-mixing are once again discussed in terms of language choice and by age of the preschool students.

**Code-Mixing by Parts of Speech**

Overall, the preschool students in this study produced a total of 194 observable incidences of the use of specific parts of speech through code-mixing. Results from this study strongly suggest a preference for specific parts of speech when code-mixing, in particular the use of nouns, followed by adjectives, verbs, and conjunctions. Results from this study further demonstrate a differentiation in the use of different parts of speech according to the age of the preschool students.

Table 10. *Parts of speech in code-mixing by age.*

<b>Parts of Speech</b>	<b>Age 3 (n=3)</b>	<b>Age 4 (n=5)</b>	<b>Age 5 (n=4)</b>	<b>Total</b>
<b>Noun</b>	3	23	49	75
<b>Pronoun</b>	---	7	8	15
<b>Adjective</b>	2	8	28	38
<b>Verb</b>	4	8	13	25
<b>Adverb</b>	---	2	1	3

<b>Preposition</b>	---	3	2	5
<b>Conjunction</b>	---	18	7	25
<b>Article</b>	---	3	2	5
<b>Interjection</b>	---	2	1	3
<b>Total</b>	9	74	111	94

**Nouns.** The use of nouns through code-mixing is defined as a word that describes a specific person, place or object (Celce-Murcia & Larsen-Freeman, 2015), and was seen to account for 75 observable incidences in the results of this study. A strong preference towards this specific part of speech was demonstrated in particular by preschool students with 5 years of age. Preschool students with 4 years, although recording less observable incidences of the use of nouns, still maintained nouns as their most frequent choice when code-mixing. Preschool students with 3 years of age displayed less examples of the use of parts of speech through code-mixing, with the use of nouns falling as their second most prevalent choice for code-mixing.

Examples of the use of nouns through code-mixing include statements such as “regarde, un brun *monkey*,” (Child11); “ça c’est *race car*,” (Child10); “they’re taking all of the *sable*,” (Child4); and “this *crocodile*, that *crocodile*” (Child3). These and other examples of the use of nouns demonstrate the preschool students’ manipulations of language through code-mixing by incorporating the subject of their utterance in another language. Examples such as these further demonstrate the preschool students developing lexical abilities in their second language, as well as their emerging sense of bilingualism as they begin to experiment with basic lexical items in their use and choice of language.

Results from this study with respect to the prevalence of the use of nouns through code-mixing can furthermore be seen to support previous research by Hetherington, et al. (2005) who

described a set pattern in regards to the order of acquisition of specific parts of speech in language development, and in particular the authors found nominals to be the first and most frequently parts of speech produced among early linguistic and language development. Nouns being the most frequent parts of speech utilised by bilingual preschool students in the results of this study, not only supports previous findings regarding language acquisition and development, but additional previous studies by Brice & Anderson (1999) as well, who found patterns of acquisition and language development to be similar, if not parallel, in bilingual language development. Moreover, Brice & Anderson (1999), further found nominals to be the most frequent parts of speech utilised in acts of code-mixing, previous findings that are supported by the results of this study.

**Pronouns.** The use of pronouns through code-mixing is defined as a word that serves to replace a noun in an utterance (Celce-Murcia & Larsen-Freeman, 2015), and accounted for 15 observable incidences. The use of pronouns through code-mixing were only seen to be demonstrated by preschool students with 4 or 5 years of age, and absent from preschool students with 3 years.

Examples of the use of pronouns through code-mixing in this study include “hey, come back to *moi*,” (Child7), where the preschool student is speaking to a water toy that is floating away; and “*c’est* uh oh.. something’s happening” (Child10), where the preschool student is reacting to something happening in the sandbox. Both of these examples demonstrate the preschool students’ use of pronouns through code-mixing, in different contexts and in being able to utilise examples of both indirect and indefinite pronouns. The use of pronouns through code-mixing demonstrates not only the preschool students’ developing lexical and linguistic abilities, but their ease of use and flexibility with both languages as well. The absence of the use of

pronouns by preschool students with 3 years of age can be possibly attributed to their less developmentally mature lexical development, and having not attained the same level of language mastery as their older peers.

**Adjectives.** The use of adjectives is defined as a word that serves to describe a noun (Celce-Murcia & Larsen-Freeman, 2015), and accounted for 38 observable incidences of code-mixing. The use of adjectives through incidences of code-mixing were second in overall prevalence of parts of speech chosen to code-mix by the preschool students in this study. The use of adjectives through code-mixing however, were found to be much more prevalent among preschool students with 5 years of age. Preschool students with 3 and 4 years of age also demonstrated observable incidences of the use of adjectives through code-mixing, albeit at a much smaller rate.

Examples of the use of adjectives through code-mixing in the results of this study include “*il y a many* bouteilles de l’eau” (Child7) where the preschool student is describing the amount of bottles in the water table; “ça c’est *cute*,” (Child11) where the preschool student is describing her small animal toy; and “I don’t have any *noir*” (Child7) where the preschool student is commenting on their coloured blocks. These and other examples, demonstrate the preschool students’ ability to incorporate adjectives describing quantity, descriptive qualities, and colours respectively, through their observable incidences of code-mixing, without interrupting the flow of their utterances. Such fluidity in code-mixing between languages once again demonstrates an innate level of flexibility and comfort with the use of both of their languages.

**Verbs.** The use of verbs can be defined as a word that describes an action or state of being (Celce-Murcia & Larsen-Freeman, 2015), and accounted for 25 observable incidences of code-mixing. The use of verbs through observable incidences of code-mixing were found to be

of moderate prevalence in the results of this study. Preschool students with 5 years of age continued to maintain dominance in the use of verbs through code-mixing, while preschool students with 3 and 4 years demonstrated fewer incidences of the use of verbs. Interestingly, the use of verbs was in fact the most frequently used part of speech demonstrated through code-mixing for the preschool students with 3 years of age.

Examples of the use of verbs through code-mixing in the results of this study include “because the bird *voler*,” (Child3); “*stay*, justqu’a là,” (Child7); “look, *regarde* them workers,” (Child3); and “Je vais *stick*-er sur le pied” (Child11). These and other examples of the use of verbs through code-mixing demonstrate the preschool students’ ability to incorporate verbs into their observable incidences of code-mixing, in either language of English or French. These examples further demonstrate the preschool students’ knowledge of common French verb endings, such as ‘er,’ and the ability to blend such terminations onto otherwise English verbs. The use of verbs through code-mixing in these examples are further evidence not only of the preschool students’ emerging bilingual communicative competence, but of a deeper lexical and grammatical knowledge, and their manipulations of this part of speech in both languages.

**Adverbs.** The use of adverbs is defined as a word that serves to describe a verb (Celce-Murcia & Larsen-Freeman, 2015), and accounted for just 3 observable incidences of code-mixing. Preschool students with 4 years of age demonstrated 2 incidences of the use of adverbs through code-mixing, while a single preschool student with 5 years demonstrated the remaining single use of adverbs through code-mixing. The use of adverbs through code-mixing were absent from observable incidences of preschool students with 3 years.

The use of adverbs in the results of this study were found in utterances such as “put that inside, *comme ça*,” (Child4) where the preschool student is describing how to insert a peg into

the appropriate hole; “uh oh, un araignée est *down there*,” (Child7) where the preschool student is describing the location of a spider; and “you’re going to ramasse *bien*, s’il te plait” (Child10) where the preschool student is explaining how to clean up. These examples of the use of adverbs through code-mixing, while minimal, nonetheless display a variety of contexts of use, including guidance on how to use something, a location, and an example of describing a desired action. The use of adverbs in the results of this study serve to once again demonstrate the bilingual preschool students’ ability to seamlessly integrate both languages in their discourse, as well as the ability to describe action and thought through the use of adverbs, whether through code-mixing or not.

**Prepositions.** The use of prepositions is defined as a word that describes the relationship between a noun/pronoun and another word, or between two other parts of speech (Celce-Murcia & Larsen-Freeman, 2015), and accounted for only 5 observable incidences of code-mixing in the results of this study. Preschool students with 4 years of age demonstrated a slightly higher frequency of use than preschool students with 5 years. The use of prepositions through code-mixing were once again absent from observable incidences of preschool students with 3 years of age.

The use of prepositions through code-mixing in the results of this study include examples such as “we’re going to do it *pour* ourselves,” (Child7) and “... il va aller *on the* rampe” (Child10). These and other examples of the use of prepositions through code-mixing demonstrate not only the preschool students’ grammatical knowledge, but furthermore their ability to connect nominals with other parts of a sentence through code-mixing. In connecting phrases and utterances through code-mixing, the preschool students are once again demonstrating their flexibility and the manipulation of their two languages.

**Conjunctions.** The use of conjunctions is defined as a word that serves to join other words or parts of a sentence (Celce-Murcia & Larsen-Freeman, 2015), and accounted for 25 observable incidences of code-mixing. The use of conjunctions through code-mixing was found to be of moderate prevalence in the results of this study, with preschool students with 4 years of age seemingly possessing a dominant 18 of a total of 25 recorded incidences. These results however, are partly skewed once again due to the more vocal influence of Child7, who accounted for all 18 observable incidences of the use of conjunctions through code-mixing by themselves. The use of conjunctions through code-mixing was once again absent from observable incidences of preschool students with 3 years. Furthermore, the remaining 7 incidences of the use of conjunctions through code-mixing were exhibited by Child11, representing preschool students with 5 years of age, and suggesting an even further distorted summary of the results as all recorded incidences were produced by two preschool students.

Examples of the use of conjunctions through code-mixing seen in this study by Child7 and Child11 include statement such as “le jaune *and* le rouge,” (Child7); “*but*, madame s’est fâchée,” (Child7); and “*so* elle fait dodo sur le pied” (Child11). These and other examples of the use of conjunctions through code-mixing, from these two preschool students, demonstrate the cognizant ability of the bilingual preschool students in this study to connect parts of sentences, in either language, in a fluid manner without interrupting the sense or meaning of their utterance as a whole. The noteworthy fact that all observable incidences of the use of conjunctions through code-mixing in this study were performed by two preschool students in particular, suggest a still further level of communicative and bilingual competence exhibited by Child7 and Child11, and moreover with their comfort and ease of use of their two languages.

**Articles.** The use of articles is defined as word used before a noun that serves to determine its state (Celce-Murcia & Larsen-Freeman, 2015), and accounted for only 5 observable incidences of code-mixing. The use of articles through code-mixing found preschool students with 4 years of age to once again demonstrating a slight dominance in frequency of use in comparison to preschool students with 5 years. The use of articles through code-mixing were once again absent from observable incidences of preschool students with 3 years of age.

Examples of the use of articles through code-mixing in the results of this study include “all *la* candles,” (Child7) and “regarde ici, *the... the* space ship il va” (Child10). These and other examples of the use of articles through code-mixing demonstrate not only the ability of the bilingual preschool students in this study to introduce nominals, but furthermore the ability to do so in either language, once again smoothly and fluently connecting their phrases without impeding the sense or meaning of their utterances as a whole.

**Interjections.** Finally, the use of interjections can be defined as a word used to display an exclamation or convey expression (Celce-Murcia & Larsen-Freeman, 2015), and accounted for just 3 observable incidences of code-mixing. Preschool students with 4 years of age demonstrated 2 observable incidences of the use of interjections through code-mixing, with a single preschool student with 5 years accounting for the remaining incident. The use of interjections through code-mixing were once again absent from observable incidences of preschool students with 3 years of age.

The use of interjections through code-mixing were found in this study in examples such as “oh, wash crab. *Voilà!*,” (Child7) where the preschool student is exclaiming their emotion over a finished task; “*no*, moi je fais le gâteau aussi,” (Child4) where the preschool student is strongly expressing their disaccord with the play scenario; and “*noo*, ça!” (Child11) where the

preschool student's intonation in speech displays strong emotion. These examples of the use of interjections through code-mixing demonstrate stronger than typical expressions or manifestations of emotions in comparison to the standard speech or discourse of the preschool students seen in other interactions, and once again exemplifies the ability of the bilingual preschool students in this study to tangibly express such emotion in either language.

### Parts of Speech per Language

The results of this study additionally demonstrate a difference in the parts of speech used through code-mixing in relation the language(s) chosen for use. Following table 11 below, these differences based on respective languages are examined.

Table 11. *Parts of speech by language.*

Parts of Speech	English Code-Mixing	French Code-Mixing	Language Switching	Total
<b>Noun</b>	47	26	1	74
<b>Pronoun</b>	4	11	---	15
<b>Adjective</b>	29	9	1	39
<b>Verb</b>	14	11	1	26
<b>Adverb</b>	1	2	---	3
<b>Preposition</b>	2	2	---	4
<b>Conjunction</b>	24	1	---	25
<b>Article</b>	3	2	---	5
<b>Interjection</b>	2	1	---	3
<b>Total</b>	126	65	3	194

Through closer examination, nouns, adjectives, and conjunctions are seen to be more dominantly used through English code-mixing, while verbs, articles, and interjections demonstrated only a minimal preference of use through English language code-mixing.

Conversely, verbs were seen to be of dominant choice for use through French language code-mixing, in considering the total number of incidences for that language. Likewise, adverbs maintained a slight dominance in French language code-mixing, while pronouns interestingly demonstrated a significant preference for French language code-mixing. Prepositions utilised through code-mixing were the only parts of speech to demonstrate a completely equal distribution between English and French language code-mixing. Nouns, adjectives, and verbs were also the only parts of speech to be seen to be utilised through demonstrations of complete language switching. Results of this study thus suggest that the choice in parts of speech chosen to code-mix is also influenced based on the language of the code-mixing utterance itself.

**Summary.** Results from this study followed previous findings by both Brice & Anderson (1999) and Hetherington, et al. (2005), in demonstrating nominals to not only be the most commonly produced parts of speech, but also the most frequently chosen to code-mix. Previous literature and research, by the same authors, also states however that verb and verb phrases should be seen to closely follow the frequency of nominals used. Results from this study converge however from these previous findings as observable incidences of the use of verbs through code-mixing were not found to be nearly as frequent as nouns, and were in fact only the third most commonly used parts of speech by the preschool students in this study. Prepositions, articles, and adjectives were also found by Brice & Anderson (1999) to be frequent targets chosen for code-mixing, although results only support adjectives having a dominant presence in the parts of speech chosen for code-mixing by the preschool students in this study. Both prepositions and articles were only minimally demonstrated through code-mixing in this study, and not chosen as commonly utilised parts of speech as the findings from the previous authors would suggest.

General congruencies in patterns of acquisition between singular monolingual language development and bilingual language development however, suggests a common underlying rate or pattern of linguistic development among all early language learners (Brice & Anderson, 1999; Woolford, 1983), a common underlying core to language development that the preschool students in this study still exhibited and demonstrated. Although patterns in the rates and frequencies of parts of speech chosen by the bilingual preschool students in this study did not run parallel to previous literature and research (Brice & Anderson, 1999; Hetherington, et al., 2005), a pattern of prevalence in use was still seen, suggesting nonetheless a consistent linguistic progression and continued bilingual language acquisition and development. Congruencies and patterns of acquisition at the core of language development further suggest and support the idea of language development and production being regulated and constrained to rules at the surface grammatical level (Brice & Anderson, 1999; Hetherington, et al., 2005), rather than internal mechanisms, as originally proposed by Woolford (1983) in his syntactic theory of language development.

The use of parts of speech in their observable incidences of code-mixing by the preschool students in this study, suggest a progression of linguistic acquisition and development according to age, with a greater variety and number of parts of speech being chosen for use in code-mixing with a greater maturity and older age. Results from this study demonstrate not only an increased ability to use language and parts of speech through code-mixing with increased age, but also differences in the parts of speech chosen to use in their code-mixing according to age of the preschool students as well.

## Summary of Results

Overall, the results from this study serve to aptly and consistently demonstrate that bilingual preschool aged children are capable not only of learning and acquiring two separate languages, but further capable of directly manipulating both their linguistic and cognitive abilities in each respective language to their own communicative advantages. The results of this study additionally demonstrate differences in the use of code-mixing according to age of the preschool students themselves, with preschool students with 4 and 5 years of age consistently seeming to outperform their peers with only 3 years. Once again, disparities based on age of the preschool students can be speculated to be associated with not only the developmental maturity of the preschool students themselves, but also their level of comfort with their use and manipulation of their linguistic capabilities, and the functional use of their two languages. These results would suggest that, in addition to bilingual language abilities in both languages, a more basic level of linguistic competencies can also be seen as a requirement for the production of code-mixed utterances. In addition, variations seen in the use of each respective language further serve to suggest a difference in the influence of interlocutor and sociolinguistic context on language use as well, with the dominant English language interactions of peers in this study far outweighing the nature of the French language preschool classroom setting.

Previous literature by Bedore, et al. (2012), argues for the importance of the amount and quality of external language influences, and that opportunities for the practical use of a language during the acquisition process are more influential than the amount of exposure in determining language dominance outcomes. While the results of this study support previous findings and literature in the importance of external language factors, the finding from this study additionally suggest that the nature or type of external linguistic influences may carry different social values

as well. The overall strong preference shown with 102 observable incidences of English code-mixing supports the dominating influential value of peer interactions as arguably more important than the influence of language use within the home environment, or the dominant presence of the French language within the preschool classroom setting. Results from this study aptly demonstrate the differences between external language influences in the disparity between numbers of observable incidences of both English and French code-mixing.

Results from this study are further seen to support previous literature (Chiocca, 1998; Genesse, 2008) in arguing that rates of code-mixing are largely variable and known to fluctuate based on the linguistic elements mixed, the languages used and the context, or the nature of the individual child. Of the 12 bilingual preschool students included in this study, no two produced identical results in their use of code-mixing. Results from this study serve to support not only the variability of early bilingual language acquisition and development, but more importantly the ability of preschool aged students to be able to successfully acquire and use multiple languages.

Finally, results from this study also demonstrate a difference in the parts of speech or individual words chosen by the preschool students to mix in their observable incidences of code-mixing, according to the age of the preschool child, as well as the respective languages used. What is further suggestive from the results of this study is that a basic level of linguistic mastery or maturity is required for some specific parts of speech, demonstrated by the fact that the younger preschool students with 3 years of age were only seen to produce nouns, adjectives, and verbs. Results from this study nonetheless support the ability of bilingual preschool aged students to successfully code-mix and use specific parts of speech to their communicative advantage, regardless of age or level of language maturity.

## Chapter 6: Conclusion

### Summary of Overall Results

The aim of this study was to identify the social functions and communicative purposes to the commonly misunderstood act of code-mixing among bilingual preschool aged children, as well as, to dispel some of the more common misperceptions surrounding the act of code-mixing itself. Additionally, this study aspired to support the emerging bilingual, particularly those between three to five years of age, in recognizing the control that preschool aged children have and do exert on their two languages and furthermore their use of code-mixing.

The results of this study found that bilingual preschool aged children are indeed capable of code-mixing. Furthermore, the findings provided evidence that bilingual preschool students' use of code-mixing is subject to their direct manipulations in utilizing their two languages to their own communicative advantage and intent. Through code-mixing, the bilingual preschool students in this study demonstrated not only linguistic proficiencies, but a bilingual communicative competence, in recognizing the social power and value of a language's use based on sociolinguistic context, as well as by interlocutor.

This study also revealed the linguistic dominance of the English language in the current social context within the city of Halifax, Nova Scotia. Regardless of the dominant French language used within CPE le Petit Voilier and their preschool classrooms, results of this study revealed English language code-mixing to outnumber incidences of French code-mixing, in addition to language switching. Moreover, the results of this study further found the language influences of the preschool students' peers to outweigh the language influence and encouragement from the Early Childhood Educators. Although the Early Childhood Educators

continuously encouraged and supported the use of the French language, the preschool students in this study continued to dominantly interact with their peers in the English language.

Preschool students that chose to interact with their peers in the French language were seen to be more vocal in general and represented a majority of the results themselves. Observable incidences of French code-mixing were thus seen in those preschool students who had gained a greater mastery over their two languages, and were as a result shown to be more comfortable with their use and manipulations of such. Two preschool students, who were documented as coming from trilingual households, accounted for 115 of a total of 186 incidences of code-mixing (with one trilingual preschool student accounting for 69 incidences alone). It could reasonably be suggested that the influences, and support in use of other languages in the home environment, additionally created a deeper level of comfort and awareness of language, leading to more direct manipulations and flexibility of use between languages. It is possible that beyond the benefits of early bilingualism, the addition of other languages is of further advantage to preschool age students.

Similarly, differences in rates of code-mixing were also observed according to the age of the preschool students. Preschool students with 4 or 5 years of age demonstrated a greater frequency of the ability to produce observable incidences of code-mixing, while preschool students with 3 years visibly demonstrated less tangible incidences of code-mixing. It can be reasonably explained that the younger and less developmentally and linguistically mature preschool students with an age of 3 years, were less comfortable with their use and manipulations of language use, in either language, and consequently the functional use of their two languages together. Results from this study are seen to support previous research by Chiocca (1998) and Genesee (2008), both of whom found that sequential second language learners

showed evidence of an initial non-verbal period during early language acquisition and the apparent regression to more basic linguistic stages. Preschool students with an older age were not only more developmentally mature, but more linguistically proficient according to age and experience, and therefore more likely to be comfortable in exerting their own manipulations over the use of their two languages.

Finally, results from this study demonstrate a tangible communicative purpose or social function to the act of code-mixing, with all observable incidences of code-mixing aligning with and demonstrating both functions of language use as defined by Halliday (1973; as cited by Brown, 2007), as well as levels of communicative competence (Brown, 2007). In terms of communicative competence, the preschool students in this study demonstrated a strong preference for displays of discourse competence through code-mixing, although noteworthy and albeit clever displays of grammatical competence were seen through manipulated experimentation with language use.

Perhaps of most interest however, remains displays of sociolinguistic competence, which while less prevalent, were consistently demonstrated through acts of complete language switching. Results from this study thus suggest that bilingual preschool aged children are not only cognizant of the social place and value of a language, but further capable of utilizing the social value of a language to their communicative and linguistic advantage. The findings suggest that preschool students in this study were fully capable of manipulating the sociolinguistic context and use of their two languages, between peers and Early Childhood Educators, in order to maximize their communicative success. Results from this study support the ability of bilingual preschool aged children to be able to successfully acquire and further differentiate between the use of two languages.

In terms of functions of language use, results from this study found a notable preference towards a representational use of language through code-mixing. Other preferred, although far less prevalent, functions of language use included a regulatory use of language, an interactional use of language, and a heuristic use of language. Moreover, specific parts of speech additionally proved to be an important factor when code-mixing, with nouns being the most prevalent parts of speech demonstrated, followed by adjective, verbs, and conjunctions. The results of this study both support and suggest that bilingual preschool aged children's use of code-mixing is indeed seen to follow a set structure or pattern of development and use.

### **Limitations**

This study was not without limitations. To begin, the sample size of bilingual preschool students in this study was small, with the observation and data collection stages of this study conducted during the summer months, a time period that typically sees lower records of attendance, or less reliable or consistent attendance from preschool aged children in Early Childhood Centers. Observation sessions attempted during this time period were seen to be effected as well, with smaller than typical groups of preschool students in the Center leading to less opportunities for interaction and communication between the preschool students.

The preschool students who were given consent to participate in this study were from three separate preschool classrooms. Combining the preschool students who had been given consent to participate into one group for the purposes of this study created somewhat forced interactions between preschool students who might not have interacted otherwise during the rest of the school year. It can be speculated that these types of interactions were less than natural during the beginning stages of the observations and data collection.

It can also be argued that the presence of a researcher in the preschool classroom setting also contributed to less than natural interactions between the preschool students in this study. Although the researcher was previously familiar to the majority of the preschool students, as well as to the location of CPE le Petit Voilier, their presence in the preschool classroom with a handheld video camcorder was not. The introduction of the handheld video camcorder into the preschool classroom setting created noticeable interruptions at the beginning of observation sessions and recordings, as the preschool students demonstrated their natural curiosity towards this new instrument. As observation sessions progressed, the preschool students were seen to become visibly more comfortable with both the researcher's presence within the preschool classroom, as well as more comfortable with the handheld video camcorder. The researcher's previous familiarity to both the context and setting of this study can be seen as both having been beneficial to the outcomes of this study, as well as a limitation.

A final limitation to the results of this study can be considered in that, although Child7 proved to be a very vocal participant and likewise very proficient in the act of code-mixing, their elevated observable incidences of code-mixing can be seen as having skewed the results of this study. Moreover, with a smaller sample size, the impact of this higher frequency of incidences of code-mixing from Child7 are more noticeable in the results. In fact, as seen in Table 5, the three more vocal preschool students (Child7, Child10 and Child11) collectively produced 157 of the total 187 incidences of code-mixing, with two families documented as being trilingual instead of bilingual. Additionally, 2 preschool students recorded a single incident of code-mixing each, while another 3 preschool students failed to produce any incidences of code-mixing. A much larger group of eligible participants would be needed in order to reduce the impact of Child7 in comparison to other preschool students' results.

## **Implications & Relevance**

This study aimed to determine whether a specific pattern existed in the code-mixed utterances used by English-French bilingual preschool aged children in terms of their communicative and social purpose, and furthermore in their language choices. Results from this study confirm previous research within the fields of linguistics, education and early childhood development, while additionally supporting the bilingual social context in which this study took place.

**Understanding Early Bilingualism.** This study has important implications in terms of our continued understanding of early bilingual language acquisition and development, and the educational programs that support these primary and fundamental skills. This study contributes to the expanding wealth of knowledge and research already in existence to support early language acquisition and development (Brown, 2007; Hetherington, et al., 2005; King, 2006), and furthermore where bilingual, second language or multilingual skills are concerned (Chiocca, 1998; Genesee, 2008; McLaughlin, et al., 1995; Nicoladis & Genesee, 1997; Thordardottir, et al., 2006). Results from this study will additionally contribute more specifically to the domain of early bilingualism in exploring second language acquisition from a sequential developmental standpoint, with preschool aged children, in a Canadian English-French bilingual context; a domain only previously limitedly explored.

Additionally, the results from this study contributes to the expansion of knowledge surrounding specific early bilingual language skills such as code-mixing, in understanding the function of the act as well as its purpose, and furthermore in supporting the acceptance of bilingual code-mixing as a valid stage of emerging bilingualism (Brice & Anderson, 1999; Genesee, 2008; MacLaughlin, et al., 1995; Paradis & Nicoladis, 2007). This study however,

stands in contrast from previous literature and research in that the aim of this research was to discover a communicative purpose to the act of code-mixing and furthermore in examining the act from a social context. While previous literature and research to date has focused on the successful linguistic progression and development of bilingual language learners, and whether or not code-mixing exists (Brice & Anderson, 1999; Chiocca, 1998; Genesee, 2008; MacLaughlin, et al., 1995), this study aspired to reach further in discovering the purpose behind the act of code-mixing and how it is tangibly used in a practical social and communicative context, thereby dispelling previous misperceptions surrounding both early bilingualism and code-mixing.

Finally, coming with a holistic approach to early bilingualism, results from this study stand to inform educational programs and practices that support and develop second language skills, especially from an early age. In exploring the function and purpose of code-mixing among preschool aged sequential second language learners, this study sought to understand and support the emerging bilingual in their entirety. A holistic approach to early bilingualism (de Jong, 2011) stresses the importance of not just considering, but understanding the bilingual language learner in all of their social and practical contexts, recognizing again that a bilingual communicative competence is dependent on social interaction and meaningful purpose for use of a language. An early bilingual curriculum from a holistic standpoint would focus on the culmination of a young learner's skills from both languages, drawing from linguistic abilities and cognitive skills across proficiencies to promote and encourage the total of the developing child (de Jong, 2011).

**Bilingual Social Context.** This current study also has important implications in terms of the chosen population of participants, preschool aged children of a unique Francophone populace who, although living as a language minority group within the province of Nova Scotia and the Halifax Regional Municipality, have access to full educational options in their native or second

language. The language development of these preschool aged children with Francophone or Acadian heritage will understandingly vary from that of their monolingual or more language mainstreamed peers, and even more so from those following language immersion programs in Anglophone settings.

With the introduction of the Official Languages Act in 1969, the previously co-existing languages of English and French both became recognized as official languages of use in Canada (Degenais, 2013). The implications of this were far reaching in terms of informing social access to both languages, and educational practices across the country. While today, the French language remains mainly concentrated within the province of Quebec, its influence in neighboring communities can be seen. De Jong (2011) makes reference to the term "ethnolinguistic vitality" (p.64) to describe a language community that not only retains their native language, but their socio-cultural identity, when surrounded with other dominant linguistic models. The Francophone and Acadian population in the Halifax Regional Municipality, and furthermore throughout the province of Nova Scotia, has succeeded in doing just that. The social context that this study, and furthermore the results of this study, are imbedded in cannot be disregarded. This study not only supports the ethnolinguistic vitality of the chosen population and sociolinguistic context, but furthermore maintains and promotes its continued development within the next generation of young learners, and to support its place within the larger social context in which it exists.

**Understanding Early Childhood.** While the research and results from this study have largely focused on language acquisition and the developmental advantages from a cognitive and linguistic standpoint, it would be remiss to conclude without recognizing the implications and practical applications of these findings in both educational and early childhood settings. From a

constructivist standpoint, the preschool aged child is viewed as in control of their own development, and moreover as in control of the growth of their own emerging identity (Hetherington, et al., 2005; Zuengler & Cole, 2008). For the preschool students in this study, that identity additionally includes their emerging sense of bilingualism, an identity that is seen to be tangibly demonstrated through the control that bilingual preschool aged children do in fact have over their acts of code-mixing, and moreover the manipulated use and knowledge of both of their languages. Through code-mixing, the preschool aged students in this study are actively demonstrating and experimenting with this facet of their own development.

At the classroom level, the results from this study can tangibly convey to Early Childhood Educators and parents alike, that the act of code-mixing does serve a purpose on the journey towards bilingualism, and furthermore that it is a stage of linguistic development to be supported and in fact encouraged in preschool aged children. This study will serve to support sequential early bilinguals who may not be linguistically confident enough yet to produce full sentences in their second language. Moreover, educational practices and policies surrounding early language development can serve to be informed about the importance of supporting and facilitating the development of both languages, in contrast to programs that focus only on the acquisition of one language.

In my experience and role as a Francophone Early Childhood Educator and Director, the results from this study confirm previously held beliefs in not only the possibility of the acquisition of a second language from a young age, but the benefits and linguistic growth that are seen through early bilingualism. Additionally, previously held beliefs towards the beneficial act of code-mixing are likewise supported in the results of this study. Merging the fields of early bilingualism and language development with early childhood education involves supporting the

development of the whole child, supporting their linguistic development in both languages simultaneously and helping preschool aged children to succeed in the bilingual social context in which they find themselves immersed. The results from this academic study will further serve to promote my own professional growth, in advocating for early bilingualism, and moreover in being able to support its development in young preschool aged children, in whatever from it may take.

### **Future Research**

While the results of this study stand to have important implications, their impact and reach could serve further potential in expanding the results of this research study in the future. Beginning from perhaps a more basic standpoint, similar studies examining other languages and social contexts should be conducted. While an English-French bilingual context is common from a Canadian standpoint, it would be worthwhile to investigate how bilingual language code-mixing is demonstrated in other languages, and how different combinations of languages used affect rates of code-mixing, communicative competence, or functions of language use. Such studies could help explore further into the basis and very nature of language acquisition and development itself.

Additionally, in regards to the bilingual preschool aged children themselves, future studies should explore the act of code-mixing with older elementary age children or adolescents in determining if the age of the students affects the level or type of observable incidences of code-mixing. Likewise, future studies could explore if the age of the students further affects the functions of language used or the parts of speech seen during acts of code-mixing. While results from this study demonstrated a tangible difference in bilingual code-mixing, according to the age of the preschool students, future research could also explore how rates in frequency of incidences

of code-mixing can fluctuate with the same students over a longer period of time, with an increased age and more experience with both languages. Previous literature and research has found rates of bilingual code-mixing to decrease with age and linguistic mastery (Hetherington, et al., 2007), although a longitudinal study to explore such claims further are beyond the reach of this present study.

Finally, in examining the influence of the French preschool classroom and the effects of environment and the sociocultural context in which this study took place, future studies should explore how rates of English-French bilingual code-mixing would differ in a dominantly Francophone social context, in particular in regards to the strong influence of interactions with the preschool students' English dominant peers. Additional future studies could also explore how results and rates of bilingual code-mixing differ in alternate preschool programs, such as more immersion or bilingual programs, versus a fully francophone program as seen in this study. Moreover, it would be worthwhile to explore if rates of code-mixing increase or decrease when the second language is explicitly taught in a more structured environment versus acquisition through natural methods. These and other questions could tangibly serve to further impact and influence the fields of linguistics and language acquisition and development, in particular approaches towards early bilingualism.

### **Final Thoughts**

The act of bilingual code-mixing, now seen to be common and frequent among bilinguals of all ages (Brice & Anderson, 1999; Nicoladis & Genesee, 1997), still remains greatly misunderstood and subject to much of the criticism surrounding early bilingualism. As a common basis in regards to arguments of language confusion and linguistic burden, this current study intended to examine both the prevalence and frequency of bilingual code-mixing, with

specific interest towards understanding patterns in functions of language use and specific parts of speech most commonly chosen to code-mix by bilingual preschool aged children. It was anticipated through this study to gain a deeper understanding of the use of code-mixing among bilingual preschool aged children, in particular in terms of their communicative purpose and social function in utilizing this act.

As seen in previous research, as well as this current study, bilingualism is variable and the bilingual preschool aged child is even more unique in circumstance, as they possess within them a deeper and more complex source of linguistic knowledge and abilities that they must discriminate in use between language, interlocutor and context. While monolingual children draw on the base of their knowledge and linguistic skills in only one language, the bilingual child is benefited in the availability of resources from both languages (Genesee, Nicoladis & Paradis, 1995). The bilingual child can thus arguably be seen as more resourceful, adaptive and constructive in their use of language, and to possess unique abilities that will separate them from their monolingual counterparts throughout their life.

Furthermore, the unique act of code-mixing is not, as commonly misunderstood to be, a confusion between two languages but rather a display of increased communicative and interpersonal competence, along with the increased ability to regulate one's language choice and use based on interlocutor and social context. As seen in the results of this study, bilingual preschool aged children are not only capable of controlling their acts of code-mixing, but furthermore capable of discriminating and differentiating their use of two languages. Through code-mixing, the bilingual preschool aged child demonstrates a multitude of linguistic skills and abilities including the flexible understanding of their two languages, as well as an acute awareness of the social functions of languages use and the sociocultural value of a language

based on context. This study stands in support and avocation not only of the benefits of early bilingualism, but additionally towards the acceptance of the act of code-mixing in preschool aged children as a valid stage towards bilingualism.

This study can be summarized in coming full circle, and once again quoting de Jong (2011), who appropriate states that “our perspective on bilingualism affects how we view bilingual children” (p.52). If we choose to view preschool aged children as overwhelmed and burdened by the weight of learning two languages, then we limit ourselves from seeing the true wealth of learning that is occurring. While this sentiment can be true in all areas of early childhood development, it is perhaps more easily dismissed in regards to early language acquisition and development. Although the acquisition of language in young children is generally accepted as a naturally occurring process, early bilingualism and the acquisition of two languages simultaneously is still questioned. In changing our viewpoint towards the acceptance and encouragement of early bilingualism, we instead empower preschool aged children to be in control not only of their own development, but of their continually emerging language capabilities as well.

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## Appendices

### Appendix A – Consent Package for Director



Chère Directrice de Centre,

Avec cette lettre d'information, vous et le CPE Le Petit Voilier êtes invités à participer à une étude de recherche intitulée '*Code-Mixing in the Bilingual Preschool Child: Understanding the Communicative Purpose.*' Cette étude sera menée par l'étudiante de maîtrise Amy Lyne et fera partie de sa Thèse finale avec le Département de Child & Youth Study, tel que approuvé par le Comité d'éthique à l'Université Mount Saint Vincent.

Le but de cette étude est d'explorer le processus de mélange de codes dans la langue parlée des enfants bilingues d'âge préscolaire. Un mélange de codes indique quand un enfant utilise des parties de deux langues dans la même phrase, dans ce cas l'anglais et le français (par exemple, "Can you *met* my *couverture* on moi?").

Les objectifs de cette étude sont:

- De démontrer que les mélanges de codes des enfants d'âge préscolaire peuvent servir un besoin communicatif.
- De démontrer que les enfants d'âge préscolaire possèdent un contrôle de leurs mélanges de codes.
- Supporter le processus de mélange de codes comme une partie de l'apprentissage vers le bilinguisme.
- Servir à améliorer les pratiques et les programmes bilingues pour les enfants d'âge préscolaire.

Si vous permettez à votre centre de la petite enfance de participer à cette étude, les enfants seront impliqués comme suit:

- Ils/elles répondront aux questions d'un '*Bilingual Questionnaire*' pendant une brève session (10 minutes) enregistré avec la chercheuse. Ce questionnaire contiendra des questions simples en anglais et en français reliées aux habiletés expressives et réceptives des enfants afin de confirmer leurs compétences bilingues.
- Ils/elles seront filmés pendant une série de sessions d'observation d'une durée de 30-60 minutes chacune. Les sessions d'observations seront focalisées sur les incidences de mélange de codes entre les enfants, sans perturber les activités habituelles de la classe préscolaire. Des échantillons de langage de ces sessions pourraient être utilisés dans la thèse finale.

Malgré que votre participation à cette recherche puisse être connue par d'autres participants, vous ne serez pas identifié par nom durant cette étude. Votre identité, ainsi que toutes informations que vous fournissiez, seraient protégées de façon suivante:

- Toute information reliée aux participants sera codée sous des pseudonymes, qui seront utilisés dans toutes les transcriptions, l'analyse des données, la Thèse finale, ainsi que toutes présentations ou publications à l'avenir.
- Seulement la chercheuse principale, superviseure de thèse et le comité auront accès aux enregistrements et aux données de recherche.

- Les enregistrements et les données seront sauvegardés sous des pseudonymes, ainsi que dans des fichiers électroniques protégés par des mots de passe; les enregistrements seront supprimés après l'analyse finale et toutes les données inutilisées seront supprimées après cinq ans.

Votre participation à cette étude, ainsi que celle des enfants de votre centre, est complètement volontaire. Vous et/ou les enfants avez le choix de vous retirer de cette étude à n'importe quel moment, sans aucun effet négatif ou conséquence pour vous ou les enfants. Si un enfant refuse d'être enregistré pendant une des sessions d'observation, la chercheuse arrêterait tout enregistrement immédiatement. Durant cette étude, les enfants ne seront mis à aucun moment dans une situation où ils/elles se sentent inconfortable ou en danger. Si vous demandez qu'un des enfants soit retiré de cette étude à n'importe quelle étape, toutes les données associées avec cet enfant seront supprimées immédiatement et enlevées de l'analyse finale et des résultats. Un sommaire des résultats finaux de cette étude sera disponible pour tous les participants, sur demande.

Avec cette lettre, je voudrais ainsi vous informer d'un possible conflit d'intérêt relié à cette étude. Je suis, comme la chercheuse principale de cette étude, présentement employée du CPE Le Petit Voilier. En vous divulguant ceci maintenant, je vous donne également ma garantie totale qu'à aucun moment durant cette étude, que mon rôle comme chercheuse ne sera en conflit avec mon rôle comme éducatrice au CPE le Petit Voilier. De plus, je n'utiliserai aucun des résultats de cette étude pour mon propre bénéfice ou avancement auprès du CPE le Petit Voilier et je n'accepterai aucun salaire ni compensations financières pour les heures travaillées durant lesquelles les données seront collectées, ni durant n'importe quelle autre fonction associée avec cette étude.

Pour donner votre consentement pour que le CPE le Petit Voilier participe à cette étude de recherche, veuillez signer le '*Formulaire de consentement*' ci-joint, ainsi que le '*Formulaire de consentement pour être enregistré/filmé,*' et retourner les deux à **Amy Lyne** avant **le lundi 6 juillet 2015**. Votre signature sur ces formulaires indique votre compréhension de cette recherche et de son processus. Veuillez garder cette lettre et une copie des formulaires de consentement pour vos propres dossiers.

Si vous avez des questions reliés à cette étude de recherche, ou à propos de la participation des enfants de votre centre, veuillez contacter **Amy Lyne** par courriel à amy.lyne@msvu.ca. Vous pouvez aussi contacter ma superviseuse de thèse, **Dr. Christine Doe** au (902) 457-5554 ou par courriel à christine.doe@msvu.ca. Si vous avez des questions ou des préoccupations reliées à l'éthiques de cette étude ou si vous voulez en discutez d'avantage avec quelqu'un qui n'est pas directement impliqué dans le processus, vous pouvez contacter le président du Comité d'éthique à l'Université c/o MSVU Research and International Office au (902) 457-6350 ou par courriel à research@msvu.ca.

Je vous remercie pour votre considération, ainsi que pour votre participation éventuelle et celle du CPE Le Petit Voilier à cette étude de recherche.

Merci,

**Amy Lyne**  
Master of Arts (CYS) étudiante  
Bachelor of Applied Arts (CYS)  
L'Université Mount Saint Vincent



**Formulaire de consentement** (Directrice)

***Veillez lire et mettre vos initiales à coté des déclarations suivantes:***

\_\_\_ J'ai lu et gardé la *Lettre d'information* et fait une copie du *Formulaire de consentement* pour mes propres dossiers. J'ai eu toutes mes questions concernant les deux formulaires répondues.

\_\_\_ Je comprends qu'on me demande de donner mon consentement pour que mon centre de la petite enfance participe à une étude de recherche intitulée '*Code-Mixing in the Bilingual Preschool Child: Understanding the Communicative Purpose.*' Cette étude sera menée par l'étudiante de maîtrise Amy Lyne à travers le Département de Child & Youth Study, tel que approuvé par le Comité d'éthique à l'Université Mount Saint Vincent. Le but de cette étude est d'explorer le processus de mélange de codes dans la langue parlée des enfants bilingues d'âge préscolaire.

\_\_\_ Je comprends que les enfants de mon centre répondra aux questions d'un '*Bilingual Questionnaire*' avec la chercheuse, et qu'ils/elles seront enregistré et filmé pendant une série de sessions d'observation d'une durée de 30-60 minutes chacune. Les sessions d'observations seront focalisées sur les incidences de mélange de code.

\_\_\_ Je comprends que malgré que mon participation à cette recherche puisse être connue par d'autres participants, je ne serai pas identifier par nom durant cette étude. Mon identité, ainsi que toutes informations que je fournis, serai protégées avec l'utilisation de pseudonymes, qui seront utilisés dans toutes les transcriptions, l'analyse des données, la Thèse finale, ainsi que toutes présentations ou publications à l'avenir. Je comprends que seulement la chercheuse principale, superviseure de thèse et le comité auront accès aux enregistrements et aux données de recherche.

\_\_\_ Je comprends que ma participation, ainsi que celle des enfants de mon centre, est complètement volontaire et qu'un enfant peut refuser de participer ou d'être enregistré à n'importe quel moment durant cette étude. Je comprends que je peux demander que moi et/ou un enfant soit retiré de cette étude à n'importe quelle étape et qu'il n'y aura aucun effet négatif ou conséquence sur moi et/ou l'enfant retiré. Toutes les données et les enregistrements associés avec l'enfant retiré seront supprimés immédiatement.

\_\_\_ Je comprends que la chercheuse principale Amy Lyne est présentement engagée par le CPE Le Petit Voilier, mais que son rôle comme chercheuse ne sera pas en conflit avec son rôle d'éducatrice. Elle n'utilisera aucun des résultats de cette étude pour son propre bénéfice ou avancement auprès du CPE Le Petit Voilier et n'acceptera aucun salaire ni compensations financières pour des heures travaillées durant lesquelles des données seront collectées, ni durant n'importe quelle autre fonction associée avec cette étude.

Je \_\_\_\_\_ donne mon consentement pour que CPE Le Petit Voilier  
(Nom de la Directrice) participe à cette étude de recherche.

Signature de la Directrice du centre: \_\_\_\_\_ Date: \_\_\_\_\_

J'aimerais recevoir une copie sommaire des résultats finaux, à être envoyée à (courriel ou adresse postale):

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***Veillez signer et retourner ce Formulaire de consentement à Amy Lyne avant le lundi 6 juillet 2015.***



**Formulaire de consentement pour être enregistré/filmé (Directrice)**

Votre participation dans l'étude de recherche '*Code-Mixing in the Bilingual Preschool Child: Understanding the Communicative Purpose*' impliquera l'utilisation des enregistrements audio et vidéo.

***Veillez lire et mettre vos initiales à côté des déclarations suivantes:***

\_\_\_ Je comprends que les enfants de mon centre seront *enregistrés* en complétant le '*Bilingual Questionnaire*' avec la chercheuse.

\_\_\_ Je comprends que les enfants de mon centre seront *enregistrés et filmés* pendant une série de sessions d'observation d'une durée de 30-60 minutes chacune. Les sessions d'observations seront focalisées sur les incidences de mélange de codes entre les enfants préscolaire, sans perturber les activités habituelles de la classe préscolaire.

\_\_\_ Je comprends que comme Directrice dans la centre de petite enfance, je pourrais aussi être *enregistré et filmé*, mais que l'objectif principale serait sur les enfants.

\_\_\_ Je comprends que les citations directes et/ou les échantillons de langage des enfants pendant ces sessions d'observation pourraient être utilisés dans la thèse finale, mais que mon identité, ainsi que celle des enfants de mon centre, seront protégées avec l'utilisation des pseudonymes, qui seront utilisés dans toutes les transcriptions, l'analyse des données, la Thèse finale, ainsi que toutes présentations ou publications à l'avenir. Cependant, malgré ces précautions, ma participation à cette recherche puisse être connue par d'autres participants.

\_\_\_ Je comprends que les *enregistrements auditoire et filmé* seront sauvegardés sous des pseudonymes, ainsi que dans des fichiers électroniques protégés par des mots de passe; les enregistrements seront supprimés après l'analyse finale et toutes les données inutilisées seront supprimées après cinq ans.

Je \_\_\_\_\_ consens à être **enregistré** selon les objectifs de cette étude de recherche.  
(Nom de la Directrice)

Je \_\_\_\_\_ consens à être **filmé** selon les objectifs de cette étude de recherche.  
(Nom de la Directrice)

Je consens que des **échantillons auditoire** de moi puissent être utilisées dans des présentations reliées au Thèse finale. \_\_\_\_\_ oui \_\_\_\_\_ non

Je consens que des **échantillons de vidéo** avec ma participation puissent être utilisés dans des présentations reliées à la Thèse finale. \_\_\_\_\_ oui \_\_\_\_\_ non

Signature de la Directrice du Centre: \_\_\_\_\_ Date: \_\_\_\_\_

***Veillez signer et retourner ce Formulaire de consentement pour être enregistré/filmé à Amy Lyne avant le lundi 6 juillet 2015.***

## Appendix B – Consent Package for Early Childhood Educators



Dear Early Childhood Educator,

With this letter of information, I invite you and your preschool classroom to participate in a research study entitled '*Code-Mixing in the Bilingual Preschool Child: Understanding the Communicative Purpose.*' This study will be conducted by Graduate student Amy Lyne, as part of her Master's Thesis with the Department of Child & Youth Study, and as approved by the Research Ethics Board at Mount Saint Vincent University. This project has additionally been cleared by the director for CPE le Petit Voilier.

The purpose of this study is to explore the act of code-mixing in bilingual preschool aged children's spoken language. Code-mixing refers to when a child uses elements from two languages within the same sentence, in this case English and French (for example, "Can you *met* my *couverture* on moi?").

This study aims to:

- Demonstrate that preschool aged children's acts of code-mixing can serve a communicative purpose.
- Demonstrate that preschool aged children have a control over their code-mixing.
- Support code-mixing as part of the learning process towards becoming fully bilingual.
- Serve to inform future bilingual language programs and practices for preschool aged children.

Should you agree to participate in this study, you will be asked to complete a short '*Classroom Language Use Survey,*' that will give data on the language(s) used in your preschool classroom. In addition, preschool students from your classroom will be involved in the following ways:

- In completing a '*Bilingual Questionnaire*' during a brief recorded session (10 minutes) with the researcher. This questionnaire will involve simple questions assessing expressive and receptive abilities in both English and French in order to confirm a bilingual proficiency for each student.
- In being video recorded during a series of observation sessions, lasting from 30-60 minutes each. Observation sessions will focus on the naturally occurring incidences of code-mixing between children, in the least possibly disruptive way within the preschool classroom. Language samples from these sessions may be used in the final Thesis.

Although your involvement in this research may be known to other participants, you will not be identified by name in this study. Your identity, as well as any information that you provide, will be protected in the following ways:

- All participant data will be coded with the use of pseudonyms, to be used in all transcripts, analysis of data, the Master Thesis, as well as any future presentations or publications.
- Only the student researcher, Thesis supervisor, and committee will have access to recordings and data.
- Recorded data will be kept under pseudonyms, under password protected files; recorded data will be deleted after final analysis, with all unused data being deleted after a maximum of five years.

You participation, as well as that of your preschool students, in this study are completely voluntary. You and/or your students are free to withdraw from this study at any time, with no negative effect or

consequence to you or your students. Should you and/or your students refuse to be recorded during an observation session, the researcher will immediately stop recording. You and/or your students will not at any point during this study be made to feel uncomfortable or put at risk. Should you request that yourself or any of your students be removed from this study at any stage, all data associated with you and/or your withdrawn students will be immediately deleted and removed from final analysis and results. A summary of the final results of this study will be made available to all participants, upon request.

With this letter, you are also being made aware of a potential conflict of interest in regards to this study. I am, as the primary student researcher in this study, also currently employed by CPE le Petit Voilier. In disclosing this fact to you now, I also give you my assurance that at no point during this study will my role as student researcher interfere or conflict with my role as employee under CPE le Petit Voilier. I will further not use any of the results of this study for my personal benefit or advancement within CPE le Petit Voilier, nor will I accept wages or financial compensation of any kind for hours during which data collection or any proceedings relating to this study are taking place.

To give consent to participate in this research study, please sign the accompanying '*Consent Form*,' as well as the '*Consent Form for Audio/Video Recording*,' and return them both to **Amy Lyne** by **Tuesday, August 4<sup>th</sup> 2015**. Your signature on these forms indicates your understanding of this study and its procedures. I also ask that you please complete the attached '*Classroom Language Use Survey*' and return it with the signed consent forms. Please keep this letter and a copy of the consent forms for your own records.

If you have any questions about this research study, or you and/or your preschool classroom's involvement, please contact **Amy Lyne** by email at amy.lyne@msvu.ca. You may additionally contact my Thesis supervisor, **Dr. Christine Doe** at (902) 457-5554 or by email at christine.doe@msvu.ca. If you have any questions or concerns about the ethics of this study or would like to speak to someone who is not directly involved, you may contact the chair of the University Research Ethics Board c/o MSVU Research and International Office at (902) 457-6350 or by email at research@msvu.ca.

Thank you in advance for your consideration of this research study and for considering the participation of you and your preschool classroom.

Sincerely,

**Amy Lyne**  
Master of Arts (CYS) student  
Bachelor of Applied Arts (CYS)  
Mount Saint Vincent University



**Consent Form** (Early Childhood Educator)

***Please read and initial the following statements:***

\_\_\_ I have read the *Letter of Information* and made a copy of this *Consent Form* for my own records. I have had any questions regarding both answered to my satisfaction.

\_\_\_ I understand that I am being asked to participate and to allow my preschool classroom to be used in the research study entitled '*Code-Mixing in the Bilingual Preschool Child: Understanding the Communicative Purpose.*' This study will be conducted by Graduate student Amy Lyne through the Department of Child & Youth Study, and as approved by the Research Ethics Board at Mount Saint Vincent University. The purpose of this study is to explore the act of code-mixing in bilingual preschool aged children's spoken language.

\_\_\_ I have completed and am returning with this form the '*Classroom Language Use Survey.*'

\_\_\_ I understand that preschool students from my classroom will complete a '*Bilingual Questionnaire*' with the researcher, as well as be audio and video recorded during observation sessions lasting no more than 30-60 minutes. These observation sessions are looking for natural incidences of code-mixing.

\_\_\_ I understand that although my involvement in this research may be known to other participants, I will not be identified by name in this study. My identity, as well as any information that I provide, will be protected with the use of pseudonyms, to be used in all analysis and final results of this study, the Master Thesis, as well as in any future presentations or publications. I further understand that only the student researcher, her Thesis supervisor, and committee will have access to recordings and data collected during this study.

\_\_\_ I understand that my participation, as well as that of my preschool students, is completely voluntary, and that I and/or any of my preschool students may refuse to participate or be recorded at any point during this study. I further understand that I can request that I and/or any of my preschool students be withdrawn from this study at any point, with no negative effect or consequence. All data and recordings associated with me and/or any of my withdrawn students will be immediately deleted.

\_\_\_ I understand that the primary researcher Amy Lyne is currently employed by CPE le Petit Voilier, but that her role as a student researcher will not conflict with her role as an employee. She will not use any of the results of this study for her personal benefit or advancement within CPE le Petit Voilier, nor accept wages or financial compensation of any kind for hours during which data collection or any proceedings relating to this study are taking place.

I \_\_\_\_\_ consent to participate and for my preschool classroom to be used in this research study.  
(Name of Early Childhood Educator)

Signature of Early Childhood Educator: \_\_\_\_\_ Date: \_\_\_\_\_

I wish to receive a summary of the final results of this study, to be sent to (email or postal address):

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*Please sign and return this Consent Form to Amy Lyne by Tuesday, August 4<sup>th</sup> 2015.*



**Consent Form for Audio/Video Recording** (Early Childhood Educator)

Participation in the research study '*Code-Mixing in the Bilingual Preschool Child: Understanding the Communicative Purpose*' will involve the use of both audio and video recording.

***Please read and initial the following statements:***

\_\_\_ I understand that preschool students from my classroom will be *audio recorded* while completing a '*Bilingual Questionnaire*' with the researcher.

\_\_\_ I understand that preschool students from my classroom will be *audio and video recorded* during a series of observation sessions, lasting no more than 30-60 minutes each. These observation sessions will focus on natural incidences of code-mixing between preschool students, in the least possibly disruptive way within the preschool classroom.

\_\_\_ I understand that, as an Early Childhood Educator in the preschool classroom, I may also be *audio and video recorded*, but that the main focus will be on the preschool students.

\_\_\_ I understand that direct quotes and/or language samples from these observation sessions may be used in the final Thesis, but that my identity, as well as any information I provide, will be protected with the use of pseudonyms, to be used in all analysis and final results of this study, the Master Thesis, as well as in any future presentations or publications. However, despite these precautions, my involvement in this research may still be known to other participants.

\_\_\_ I understand that all *audio and video recorded* data will be kept under pseudonyms, under password protected files; recorded data will be deleted after final analysis, with all unused data being deleted after a maximum of five years.

I \_\_\_\_\_ consent to be **audio recorded** for the purposes of this research study.  
(Name of Early Childhood Educator)

I \_\_\_\_\_ consent to be **video recorded** for the purposes of this research study.  
(Name of Early Childhood Educator)

I consent for **audio samples** of me to be used in future presentations of Thesis material.  
\_\_\_ yes                      \_\_\_ no

I consent for **video samples** of me to be used in future presentations of Thesis material.

\_\_\_\_\_ yes

\_\_\_\_\_ no

Signature of Early Childhood Educator: \_\_\_\_\_ Date: \_\_\_\_\_

***Please sign and return this Consent Form for Audio/Video Recording to  
Amy Lyne by Tuesday, August 4<sup>th</sup> 2015.***

**Appendix C – Consent Package for Parents and/or Caregivers**  
**English version.**



Dear Parent and/or Caregiver,

With this letter of information, I invite you and your preschool age child to participate in a research study entitled '*Code-Mixing in the Bilingual Preschool Child: Understanding the Communicative Purpose.*' This research study will be conducted by Graduate student Amy Lyne, as part of her Master's Thesis with the Department of Child & Youth Study, and as approved by the Research Ethics Board at Mount Saint Vincent University. This project has additionally been cleared by the director for CPE le Petit Voilier.

Given the potential bilingual nature of your household, the following letter of information and adjoining consent form is made available in both English and French, for your convenience.

The purpose of this study is to explore the act of code-mixing in bilingual preschool aged children's spoken language. Code-mixing refers to when a child uses elements from two languages within the same sentence, in this case English and French (for example, "Can you *met* my *couverture* on moi?").

This study aims to:

- Demonstrate that preschool aged children's acts of code-mixing can serve a communicative purpose.
- Demonstrate that preschool aged children have a control over their code-mixing.
- Support code-mixing as part of the learning process towards becoming fully bilingual.
- Serve to inform future bilingual language programs and practices for preschool aged children.

Should you agree to participate in this study, you will be asked to complete a short '*Family Language Use Survey,*' that will give data on the language(s) used in your immediate household. In addition, your child will be involved in the following ways:

- In completing a '*Bilingual Questionnaire*' during a brief recorded session (10 minutes) with the researcher. This questionnaire will involve simple questions assessing expressive and receptive abilities in both English and French in order to confirm a bilingual proficiency for each child.
- In being video recorded during a series of observation sessions, lasting from 30-60 minutes each. Observation sessions will focus on the naturally occurring incidences of code-mixing between children, in the least possibly disruptive way within the preschool classroom. Language samples from these sessions may be used in the final Thesis.

Although your involvement in this research may be known to other participants, you and/or your child will not be identified by name in this study. Your identity, as well as any information that you provide, will be protected in the following ways:

- All participant data will be coded with the use of pseudonyms, to be used in all transcripts, analysis of data, the Master Thesis, as well as any future presentations or publications.
- Only the student researcher, Thesis supervisor, and committee will have access to recordings and data.
- Recorded data will be kept under pseudonyms, under password protected files; recorded data will be deleted after final analysis, with all unused data being deleted after a maximum of five years.

Your participation, as well as that of your child, in this study is completely voluntary. You and/or your child are free to withdraw from this study at any time, with no negative effect or consequence to you or your child. Should your child refuse to be recorded during an observation session, the researcher will immediately stop recording. Your child will not at any point during this study be made to feel uncomfortable or put at risk. Should you request that your child be removed from this study at any stage, all data associated with your withdrawn child will be immediately deleted and removed from final analysis and results. A summary of the final results of this study will be made available to all participants, upon request.

With this letter, you are also being made aware of a potential conflict of interest in regards to this study. I am, as the primary student researcher in this study, also currently employed by CPE le Petit Voilier. In disclosing this fact to you now, I also give you my assurance that at no point during this study will my role as a student researcher interfere or conflict with my role as employee under CPE le Petit Voilier. I will further not use any of the results of this study for my personal benefit or advancement within CPE le Petit Voilier, nor will I accept wages or financial compensation of any kind for hours during which data collection or any proceedings relating to this study are taking place.

To give consent to participate in this research study, please sign the accompanying '*Consent Form*,' as well as the '*Consent Form for Audio/Video Recording*,' and return them both to **Amy Lyne** by **Tuesday, August 4<sup>th</sup> 2015**. Your signature on these forms indicates your understanding of this study and its procedures. I also ask that you please complete the attached '*Family Language Use Survey*' and return it with the signed consent forms. Please keep this letter and a copy of the consent forms for your own records.

If you have any questions about this research study, or your preschool aged child's involvement, please contact **Amy Lyne** by email at amy.lyne@msvu.ca. You may additionally contact my Thesis supervisor, **Dr. Christine Doe** at (902) 457-5554 or by email at christine.doe@msvu.ca. If you have any questions or concerns about the ethics of this study or would like to speak to someone who is not directly involved, you may contact the chair of the University Research Ethics Board c/o MSVU Research and International Office at (902) 457-6350 or by email at research@msvu.ca.

Thank you in advance for your consideration of this research study and for considering the participation of your child.

Sincerely,

**Amy Lyne**  
Master of Arts (CYS) student  
Bachelor of Applied Arts (CYS)  
Mount Saint Vincent University



***Consent Form*** (Version en français disponible au verso)

***Please read and initial the following statements:***

\_\_\_ I have read the *Letter of Information* and made a copy of this *Consent Form* for my own records. I have had any questions regarding both answered to my satisfaction.

\_\_\_ I understand that I am being asked to allow my child to participate in the research study entitled '*Code-Mixing in the Bilingual Preschool Child: Understanding its Communicative Purpose.*' This study will be conducted by Graduate student Amy Lyne through the Department of Child & Youth Study, and as approved by the Research Ethics Board at Mount Saint Vincent University. The purpose of this study is to explore the act of code-mixing in bilingual preschool aged children's spoken language.

\_\_\_ I have completed and am returning with this form the '*Family Language Use Survey.*'

\_\_\_ I understand that my child will complete a '*Bilingual Questionnaire*' with the researcher, as well as be audio and video recorded during observation sessions lasting no more than 30-60 minutes. These observation sessions are looking for natural incidences of code-mixing.

\_\_\_ I understand that although my involvement in this research may be known to other participants, I and/or my child will not be identified by name in this study. My identity, as well as any information that I provide, will be protected with the use of pseudonyms, to be used in all analysis and final results of this study, the Master Thesis, as well as in any future presentations or publications. I further understand that only the student researcher, her Thesis supervisor, and committee will have access to recordings and data collected during this study.

\_\_\_ I understand that my participation, as well as that of my child, is completely voluntary, and that my child may refuse to participate or be recorded at any point during this study. I further understand that I can request that my child be withdrawn from this study at any point, with no negative effect or consequence. All data and recordings associated with my withdrawn child will be immediately deleted.

\_\_\_ I understand that the primary researcher Amy Lyne is currently employed by CPE le Petit Voilier, but that her role as a student researcher will not conflict with her role as an employee. She will not use any of the results of this study for her personal benefit or advancement within CPE le Petit Voilier, nor accept wages or financial compensation of any kind for hours during which data collection or any proceedings relating to this research study are taking place.

I consent for my child \_\_\_\_\_ to participate in this research study.  
(Name of Child)

Name of Parent and/or Caregiver: \_\_\_\_\_

Signature of Parent and/or Caregiver: \_\_\_\_\_ Date: \_\_\_\_\_

I wish to receive a summary of the final results of this study, to be sent to (email or postal address):

---

*Please sign and return this Consent Form to Amy Lyne or your child's teacher by Tuesday, August 4<sup>th</sup> 2015.*



**Consent Form for Audio/Video Recording** (Version en français disponible au verso)

Participation in the research study '*Code-Mixing in the Bilingual Preschool Child: Understanding the Communicative Purpose*' will involve the use of both audio and video recording.

***Please read and initial the following statements:***

\_\_\_ I understand that my child will be *audio recorded* while completing a '*Bilingual Questionnaire*' with the researcher.

\_\_\_ I understand that my child will be *audio and video recorded* during a series of observation sessions, lasting no more than 30-60 minutes each. These observation sessions will focus on natural incidences of code-mixing between preschool students, in the least possibly disruptive way within the preschool classroom.

\_\_\_ I understand that direct quotes and/or language samples from my child during these observation sessions may be used in the final Thesis, but that my child's identity will be protected with the use of pseudonyms, to be used in all analysis and final results of this study, the Master Thesis, as well as in any future presentations or publications. However, despite these precautions, my involvement in this research may still be known to other participants.

\_\_\_ I understand that all *audio and video recorded* data will be kept under pseudonyms, under password protected files; recorded data will be deleted after final analysis, with all unused data being deleted after a maximum of five years.

I consent for my child \_\_\_\_\_ to be **audio recorded** for the purposes of this research study. (Name of Child)

I consent for my child \_\_\_\_\_ to be **video recorded** for the purposes of this research study. (Name of Child)

I consent for **audio samples** of my child to be used in future presentations of Thesis material.  
\_\_\_ yes                      \_\_\_ no

I consent for **video samples** of my child to be used in future presentations of Thesis material.  
\_\_\_ yes                      \_\_\_ no

Name of Parent and/or Caregiver: \_\_\_\_\_

Signature of Parent and/or Caregiver: \_\_\_\_\_ Date: \_\_\_\_\_

***Please sign and return this Consent Form for Audio/Video Recording to Amy Lyne or your child's teacher by Tuesday, August 4<sup>th</sup> 2015.***

**Appendix C – Consent Package for Parents and/or Caregivers**  
**French version.**



Cher Parent et/ou Gardien,

Avec cette lettre d'information, vous et votre enfant d'âge préscolaire êtes invités à participer à une étude de recherche intitulée '*Code-Mixing in the Bilingual Preschool Child: Understanding the Communicative Purpose.*' Cette étude sera menée par l'étudiante de maîtrise Amy Lyne et fera partie de sa Thèse finale avec le Département de Child & Youth Study, tel que approuvé par le Comité d'éthique à l'Université Mount Saint Vincent. Ce projet a également été approuvé par la directrice du CPE Le Petit Voilier.

Pour votre facilité, cette lettre d'information et le formulaire de consentement ci-joint sont disponibles en français et en anglais, selon vos besoins.

Le but de cette étude est d'explorer le processus de mélange de codes dans la langue parlée des enfants bilingues d'âge préscolaire. Un mélange de codes indique quand un enfant utilise des parties de deux langues dans la même phrase, dans ce cas l'anglais et le français (par exemple, "Can you *met* my *couverture* on moi?").

Les objectifs de cette étude sont:

- De démontrer que les mélanges de codes des enfants d'âge préscolaire peuvent servir un besoin communicatif.
- De démontrer que les enfants d'âge préscolaire possèdent un contrôle de leurs mélanges de codes.
- Supporter le processus de mélange de codes comme une partie de l'apprentissage vers le bilinguisme.
- Servir à améliorer les pratiques et les programmes bilingues pour les enfants d'âge préscolaire.

Si vous choisissez de participer à cette étude, vous serez demandé de compléter un court '*Questionnaire de langue utilisée en famille,*' qui servira à informer à-propos des langues utilisées chez vous. De plus, votre enfant serait impliqué comme suit:

- Il/elle répondra aux questions d'un '*Bilingual Questionnaire*' pendant une brève session (10 minutes) enregistré avec la chercheuse. Ce questionnaire contiendra des questions simples en anglais et en français reliées aux habiletés expressives et réceptives de l'enfant afin de confirmer sa compétence bilingue.
- Il/elle sera filmé pendant une série de sessions d'observation d'une durée de 30-60 minutes chacune. Les sessions d'observations seront focalisées sur les incidences de mélange de codes entre les enfants, sans perturber les activités habituelles de la classe préscolaire. Des échantillons de langage de ces sessions pourraient être utilisés dans la thèse finale.

Malgré que votre participation à cette recherche puisse être connue par d'autres participants, vous et/ou votre enfant d'âge préscolaire ne seront pas identifiés par nom durant cette étude. Votre identité, ainsi que toutes informations que vous fournissiez, seraient protégées de façon suivante:

- Toute information reliée aux participants sera codée sous des pseudonymes, qui seront utilisés dans toutes les transcriptions, l'analyse des données, la Thèse finale, ainsi que toutes présentations ou publications à l'avenir.

- Seulement la chercheuse principale, superviseure de thèse et le comité auront accès aux enregistrements et aux données de recherche.
- Les enregistrements et les données seront sauvegardés sous des pseudonymes, ainsi que dans des fichiers électroniques protégés par des mots de passe; les enregistrements seront supprimés après l'analyse finale et toutes les données inutilisées seront supprimées après cinq ans.

Votre participation à cette étude, ainsi que celle de votre enfant d'âge préscolaire, est complètement volontaire. Vous et/ou votre enfant avez le choix de vous retirer de cette étude à n'importe quel moment, sans aucun effet négatif ou conséquence pour vous ou votre enfant. Si votre enfant refuse d'être enregistré pendant une des sessions d'observation, la chercheuse arrêtera tout enregistrement immédiatement. Durant cette étude, votre enfant ne sera mis à aucun moment dans une situation où il/elle pourrait se sentir inconfortable ou en danger. Si vous demandez que votre enfant soit retiré de cette étude à n'importe quelle étape, toutes les données associées à votre enfant seront supprimées immédiatement et enlevées de l'analyse finale et des résultats. Un sommaire des résultats finaux de cette étude sera disponible pour tous les participants, sur demande.

Avec cette lettre, je voudrais ainsi vous informer d'un possible conflit d'intérêt relié à cette étude. Je suis, comme la chercheuse principale de cette étude, présentement employée du CPE Le Petit Voilier. En vous divulguant ceci maintenant, je vous donne également ma garantie qu'à aucun moment durant cette étude, que mon rôle comme chercheuse ne sera en conflit avec mon rôle d'éducatrice au CPE le Petit Voilier. De plus, je n'utiliserai aucun des résultats de cette étude pour mon propre bénéfice ou avancement auprès du CPE le Petit Voilier et je n'accepterai aucun salaire ni compensations financières pour les heures travaillées durant lesquelles les données seront collectées, ni durant n'importe quelle autre fonction associée avec cette étude.

Pour donner votre consentement pour que votre enfant participe à cette étude de recherche, veuillez signer le '*Formulaire de consentement*' ci-joint, ainsi que le '*Formulaire de consentement pour être enregistré/filmé*,' et retourner les deux à **Amy Lyne** ou à l'éducatrice de votre enfant avant **le mardi 4 août 2015**. Votre signature sur ces formulaires confirme votre compréhension de cette recherche et de son processus. Je serais reconnaissante si vous remplissiez également le '*Questionnaire de langue utilisée en famille*' ci-joint et le retourniez avec les formulaires de consentement signés. Veuillez garder cette lettre et une copie des formulaires de consentement pour vos propres dossiers.

Si vous avez des questions reliés à cette étude de recherche, ou à propos de la participation de votre enfant, veuillez contacter **Amy Lyne** par courriel à [amy.lyne@msvu.ca](mailto:amy.lyne@msvu.ca). Vous pouvez aussi contacter ma superviseure de thèse, **Dr. Christine Doe** au (902) 457-5554 ou par courriel à [christine.doe@msvu.ca](mailto:christine.doe@msvu.ca). Si vous avez des questions ou des préoccupations reliées à l'éthique de cette étude ou si vous voulez en discutez d'avantage avec quelqu'un qui n'est pas directement impliqué dans le processus, vous pouvez contacter le président du Comité d'éthique à l'Université c/o MSVU Research and International Office au (902) 457-6350 ou par courriel à [research@msvu.ca](mailto:research@msvu.ca).

Je vous remercie pour votre considération, ainsi que pour votre participation éventuelle et celle de votre enfant d'âge préscolaire à cette étude de recherche.

Merci,

**Amy Lyne**

Master of Arts (CYS) étudiante  
Bachelor of Applied Arts (CYS)  
L'Université Mount Saint Vincent



**Formulaire de consentement** (English version available on reverse)

***Veillez lire et mettre vos initiales à coté des déclarations suivantes:***

\_\_\_ J'ai lu et gardé la *Lettre d'information* et fait une copie du *Formulaire de consentement* pour mes propres dossiers. J'ai eu toutes mes questions concernant les deux formulaires répondues.

\_\_\_ Je comprends qu'on me demande de donner mon consentement pour que mon enfant d'âge préscolaire participe à une étude de recherche intitulée '*Code-Mixing in the Bilingual Preschool Child: Understanding the Communicative Purpose.*' Cette étude sera menée par l'étudiante de maîtrise Amy Lyne à travers le Département de Child & Youth Study, tel que approuvé par le Comité d'éthique à l'Université Mount Saint Vincent. Le but de cette étude est d'explorer le processus de mélange de codes dans la langue parlée des enfants bilingues d'âge préscolaire.

\_\_\_ J'ai rempli et retourné avec ce formulaire le '*Questionnaire de langue utilisée en famille.*'

\_\_\_ Je comprends que mon enfant répondra aux questions du '*Bilingual Questionnaire*' avec la chercheuse, et qu'il/elle sera enregistré et filmé pendant une série de sessions d'observation d'une durée de 30-60 minutes chacune. Les sessions d'observations seront focalisées sur les incidences de mélange de codes.

\_\_\_ Je comprends que malgré que ma participation à cette recherche puisse être connue par d'autres participants, moi et/ou mon enfant d'âge préscolaire ne seront pas identifiés par nom durant cette étude. Mon identité, ainsi que toutes informations que je fournis, seraient protégées avec l'utilisation des pseudonymes, qui seront utilisés dans toutes les transcriptions, l'analyse des données, la Thèse finale, ainsi que toutes présentations ou publications à l'avenir. Je comprends que seulement la chercheuse principale, superviseuse de thèse et le comité auront accès aux enregistrements et aux données de recherche.

\_\_\_ Je comprends que ma participation, ainsi que celle de mon enfant, est complètement volontaire et que mon enfant peut refuser de participer ou d'être enregistré à n'importe quel moment durant cette étude. Je comprends que je peux demander que moi et/ou mon enfant soit retiré de cette étude à n'importe quelle étape et qu'il n'y aura aucun effet négatif ou conséquence sur moi et/ou mon enfant. Toutes les données et les enregistrements associés à mon enfant seront supprimés immédiatement.

\_\_\_ Je comprends que la chercheuse principale Amy Lyne est présentement engagée par le CPE Le Petit Voilier, mais que son rôle comme chercheuse ne sera pas en conflit avec son rôle d'éducatrice. Elle n'utilisera aucun des résultats de cette étude pour son propre bénéfice ou avancement auprès du CPE Le Petit Voilier et n'acceptera aucun salaire ni compensations financières pour les heures travaillées durant lesquelles les données seront collectées, ni durant n'importe quelle autre fonction associée avec cette étude.

Je donne mon consentement pour que mon enfant \_\_\_\_\_ participe à cette étude de recherche.  
(Nom de l'enfant)

Nom du parent et/ou de gardien: \_\_\_\_\_

Signature du parent et/ou de gardien: \_\_\_\_\_ Date: \_\_\_\_\_

J'aimerais recevoir une copie sommaire des résultats finaux, à être envoyée à (courriel ou adresse postale):

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***Veillez signer et retourner ce Formulaire de consentement à Amy Lyne ou à l'éducatrice de votre enfant avant le mardi 4 août 2015.***



**Formulaire de consentement pour être enregistré/filmé** (English version available on reverse)

Votre participation dans l'étude de recherche '*Code-Mixing in the Bilingual Preschool Child: Understanding the Communicative Purpose*' impliquera l'utilisation des enregistrements audio et vidéo.

***Veillez lire et mettre vos initiales à coté des déclarations suivantes:***

\_\_\_ Je comprends que mon enfant sera *enregistré* en complétant le '*Bilingual Questionnaire*' avec la chercheuse.

\_\_\_ Je comprends que mon enfant sera *enregistré et filmé* pendant une série de sessions d'observation d'une durée de 30-60 minutes chacune. Les sessions d'observations seront focalisées sur les incidences de mélange de codes entre les enfants d'âge préscolaire, sans perturber les activités habituelles de la classe préscolaire.

\_\_\_ Je comprends que les citations directes et/ou les échantillons de langage de mon enfant pendant ces sessions d'observation pourraient être utilisés dans la thèse finale, mais que l'identité de mon enfant sera protégée avec l'utilisation des pseudonymes, qui seront utilisés dans toutes les transcriptions, l'analyse des données, la Thèse finale, ainsi que toutes présentations ou publications à l'avenir. Cependant, malgré ces précautions, mon participation à cette recherche puisse être connue par d'autres participants.

\_\_\_ Je comprends que les *enregistrements auditoire et filmé* seront sauvegardés sous des pseudonymes, ainsi que dans des fichiers électroniques protégés par des mots de passe; les enregistrements seront supprimés après l'analyse finale et toutes les données inutilisées seront supprimées après cinq ans.

Je donne mon consentement pour que mon enfant \_\_\_\_\_ puisse être **enregistré** selon les objectifs de cette étude de recherche. (Nom de l'enfant)

Je donne mon consentement pour que mon enfant \_\_\_\_\_ puisse être **filmé** selon les objectifs de cette étude de recherche. (Nom de l'enfant)

Je donne mon consentement pour que des **échantillons auditoire** de mon enfant puissent être utilisés dans des présentations reliées à la Thèse finale.

\_\_\_ oui                      \_\_\_ non

Je donne mon consentement pour que des **échantillons de vidéo** de mon enfant puissent être utilisés dans des présentations reliées à la Thèse finale.

\_\_\_ oui                      \_\_\_ non

Nom du parent et/ou de gardien: \_\_\_\_\_

Signature du parent et/ou de gardien: \_\_\_\_\_ Date: \_\_\_\_\_

***Veillez signer et retourner ce Formulaire de consentement pour être enregistré/filmé à Amy Lyne ou à l'éducatrice de votre enfant avant le mardi 4 août 2015.***

**Appendix D – Classroom Language Use Survey**



**Classroom Language Use Survey**

***This survey will be used to assess your preschool students' level of language exposure and use within your Early Childhood classroom. You are free to leave blank any questions you do not wish to answer.***

1. What was your first spoken language?  
 English                       French
  
2. What language do you use most frequently at *home*?  
 English                       French
  
3. What language do you use most frequently at *work*?  
 English                       French
  
4. Do *you* use code-mixing in your classroom?  
 Yes                       No  
  
If yes, how frequently?  
 At least once a day (or more)     At least once a week     Once every 2-3 weeks  
  
Please specify, in what circumstances: \_\_\_\_\_
  
5. Do *your preschool students* show evidence of code-mixing in the classroom?  
 Yes                       No  
  
If yes, how frequently?  
 At least once a day (or more)     At least once a week     Once every 2-3 weeks  
  
Please specify, in what circumstances: \_\_\_\_\_
  
6. In what dominant language do your preschool students typically use code-mixing?  
 Using French words in English phrases     Using English words in French phrases
  
7. Are your preschool students' incidences of code-mixing encouraged in the classroom?  
 Yes                       No
  
8. Are your preschool students' incidences of code-mixing corrected in the classroom?  
 Yes                       No

***Please return this completed survey with the signed Consent Forms to  
Amy Lyne by Tuesday, August 4<sup>th</sup> 2015.***

**Appendix E – Family Language Use Survey**  
**English version.**



***Family Language Use Survey*** (Version en Français disponible au verso)

***This survey will be used to assess your child's level of language exposure and use within their home environment. You are free to leave blank any questions you do not wish to answer.***

1. Please fill out the following table based on your immediate household and their language use (including your preschool child).

Family Member	Age	First spoken language	Language used most often at home	Do they code-mix? (yes/no)
1.				
2.				
3.				
4.				
5.				

2. How would you rate your preschool child's spoken language use?  
 \_\_\_ English-dominant                      \_\_\_ French-dominant
3. Does your preschool child use a different language with different members of your immediate household?  
 \_\_\_ Yes                                      \_\_\_ No
- If yes, please specify: \_\_\_\_\_
4. Does your preschool child show evidence of code-mixing at home?  
 \_\_\_ Yes                                      \_\_\_ No
- If yes, how frequently?  
 \_\_\_ At least once a day (or more)    \_\_\_ At least once a week    \_\_\_ Once every 2-3 weeks
- Please specify, in what circumstances: \_\_\_\_\_
5. In what dominant language does your preschool child typically use code-mixing?  
 \_\_\_ Using French words in English phrases    \_\_\_ Using English words in French phrases

6. Are your preschool child's incidences of code-mixing encouraged at home?  
 Yes                       No
7. Are your preschool child's incidences of code-mixing corrected at home?  
 Yes                       No

***Please return this completed survey with the signed Consent Forms to Amy Lyne or your child's teacher by Tuesday, August 4<sup>th</sup> 2015.***

**Appendix E – Family Language Use Survey**  
**French version.**



***Questionnaire de langue utilisée en famille*** (English version available on reverse)

***Ce questionnaire sera utilisé afin de déterminer le niveau d'utilisation de la langue française ou anglaise de votre enfant dans l'environnement familial. Vous pourriez choisir de ne pas répondre à n'importe laquelle des questions (or n'importe quelle question).***

1. Veuillez remplir le tableau suivant en indiquant tous les membres de votre maison immédiate et leur langue utilisée (incluant votre enfant d'âge préscolaire).

Membre de la famille	Âge	Première langue parlée	Langue utilisée le plus souvent à la maison	Utilise-t-il des mélanges de codes? (oui/non)
1.				
2.				
3.				
4.				
5.				

2. Comment est-ce que vous décrivez la langue parlée de votre enfant d'âge préscolaire?  
 Anglais-dominant                       Français-dominant
3. Est-ce que votre enfant utilise une langue différente avec de différents membres de votre maison?  
 Oui                                               Non

Si oui, veuillez précisez: \_\_\_\_\_

4. Est-ce que votre enfant utilise des mélanges de codes à la maison?  
 Oui                                               Non

Si oui, avec quelle fréquence?                       Au moins une fois par jour (ou plus)

Au moins une fois par semaine                       Au moins une fois aux 2-3 semaines

Veuillez précisez, dans quelles situations: \_\_\_\_\_

5. Dans quelle langue dominante est-ce que votre enfant utilise normalement des mélanges de codes?  
 Utilise le français dans des phrases d'anglais     Utilise l'anglais dans des phrases de

français

6. Est-ce que les mélanges de codes de votre enfant sont encouragés à la maison?  
 Oui  Non
7. Est-ce que les mélanges de codes de votre enfant sont corrigés à la maison?  
 Oui  Non

***Veillez retourner ce questionnaire compléter avec les formulaires de consentements signé à Amy Lyne ou l'éducatrice de votre enfant avant le mardi 4 août 2015.***

**Appendix F – Bilingual Questionnaire**



**Bilingual Questionnaire**

**Pseudonym Code:** \_\_\_\_\_

1. How old are you?
2. Est-ce que tu es un garçon ou une fille?
3. Can you show me your nose?
4. Peux-tu me montrer tes pieds?
5. Do we wear gloves on our hands or our feet?
6. Il est où ton manteau?
7. What color is a banana?
8. De quelle couleur est un arbre?
9. Can a fish live in a tree? Why?
10. Est-ce qu'un chat peut voler? Pourquoi?

*Total (English):* \_\_\_\_\_      *Total (French):* \_\_\_\_\_

*Total Bilingual Score:* \_\_\_\_\_