CANADIAN SCHOOL-AGED HERITAGE LANGUAGE LEARNERS’ PATTERNS OF LANGUAGE USE, PROFICIENCY AND BELIEFS ABOUT LEARNING THEIR TWO LANGUAGES

by

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The present dissertation examined the language use, proficiency and beliefs of child heritage language learners (HLLs) from Spanish and Chinese heritage language (HL) backgrounds exposed to English as a second language (L2) upon school entry (N=63). Data were collected via HL and L2 proficiency measures and a semi-structured interview and pictorial measure, during the primary years, a period noted for HL loss (Wong Fillmore, 1991). Study 1 focused on patterns of language input and use in children’s lives. Children mostly used L2 in their activities and in their interactions with siblings, cousins and peers. With parents, grandparents and older relatives, children mostly used HL. Study 2 investigated children’s proficiency and changes in proficiency across HL and L2 language and literacy domains. Children appraised their HL oral language skills at low to moderate levels, and viewed their HL literacy skills as very low. Contrarily, their appraisals of L2 skills were uniformly high across all domains. Children demonstrated limited HL proficiency, whereas they demonstrated moderate L2 skills in all domains. Concordance between perceived and demonstrated proficiency was low, with only one in three children accurate in their self-evaluations. While children indicated loss, stability and growth in their HL skills equally, most children indicated growth in L2 skills since beginning school. Children demonstrated growth in HL oral language and reading and in all L2 domains. Qualitative analysis indicated that children overwhelmingly referenced markers of language and literacy skill in
explanations of their appraisals. Other attributions for proficiency and changes in proficiency included assistance from others, different learning approaches, the influence of language environments, and feedback received from others. Study 3 investigated children’s affects and beliefs in relation to HL and L2 situations. Positive affect was associated with listening and speaking HL in the home context, and with L2 across all domains and contexts. Skill in the domain or language was a common rationale for children’s affective responses to language and literacy situations. Children also associated their affect with interest in the target domain/language, availability of assistance, membership in language groups and the influence of language environments. Considerations for further research with this population and recommendations for relevant parties are discussed.
Acknowledgements

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Dedication

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This thesis is dedicated to my grandparents and parents. My A-yei and A-ngeen, to whom through Toishanese words I felt connected and loved, and my Po-Po, who seldom spoke more than a few words at a time, but still taught me a lot.

My late father, Wayne Jean, fostered my appreciation of ways Chinese culture can stay vital in an English-speaking environment such as soy sauce on spaghetti and Worcestershire sauce on egg noodles. Each is richer with the addition of the other. I thank him for his creative attempts to resist language shift in our home. His reprise of “Change to the Chinese channel” during dinnertime conversations should be credited, at least in part, for my Cantonese language skills.

Countless thanks go to my mother, Betty Jean, for providing me with love and encouragement through words as well as food. I thank her for never calling me a “jook sing” (hollow bamboo) and for always helping me with my homework in both languages. I am grateful that she never stopped speaking Cantonese to me, even after I started answering in English.

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Chapter 1. Introduction

In recent decades, researchers in several fields including education, linguistics and psychology have begun to examine the changes that occur in children’s first languages after beginning school in the majority language. Many researchers and educators have reported a consistent pattern of heritage language loss following entry into formal schooling in the second language (L2) (e.g., Wong-Fillmore, 2000). This pattern of rapid heritage language (HL) loss and stunted HL development among younger minority bilinguals has been widely documented in survey and demographic studies (for a review, see Krashen, 1996) as well as case studies (e.g., Kouritzin, 1999).

Given the many benefits of multilingualism, the loss of minority languages is of great concern. There is substantial support for the view that knowing more than one language has numerous advantages, such as a positive effect on overall linguistic and cognitive development (Adesope, Lavin, Thompson & Ungerleider, 2010; Bialystok & Feng, 2011; Krashen, 1998) perhaps due to the proposed linguistic interdependence across languages (Cummins & Swain, 1986). Additionally, there are many noted economic benefits including broader employment opportunities (Krashen, 1998) particularly in light of the ‘shrinking' of the world marketplace due to technological advances. On a sociocultural level, maintenance of HL in immigrant children has been shown to offer benefits such as better relationships with their family members and stronger links to the HL community (Cho, Cho & Tse, 1997; Cho & Krashen, 2000; Wong Fillmore, 1991), and contributing to the development of ethnic identity (Lawson & Sachdev, 2004; Mills, 2001; You, 2005).
The research forming the basis of this thesis was concerned with heritage language learners’ experiences of learning two languages. An overview of the relevant research to date is provided. Following a review of the literature, an outline and rationale of the current research, including the objectives of each of the three component studies, is detailed. Study 1 explored children’s exposure to, and use of, both their HL and English. Study 2 investigated children’s perceived and demonstrated levels of language and literacy proficiency in both languages, and their theories regarding their development of proficiency and any changes they have noticed in their skills over time. Finally, Study 3 examined how children view their two languages including the affects they associate with HL and English language and literacy activities and the beliefs and perceptions revealed by their attributions for their chosen affect.
Chapter 2. Review of the Literature

Bilingual Learners: Dichotomies and Definitions

The diversity of bilingual learners has been recognized (Fitzgerald, 1995). Across the many disciplines interested in this population, including education, linguistics, psychology, sociology and education, there are numerous terms used and no standardized definitions (Stern, 1992). One important distinction that has been identified, however, has been the difference between individual bilingualism and societal bilingualism (Baker, 2006). In individual bilingualism, bilingualism belongs to the individual and is "experienced by individual people" (Baker, 2000, p. 2). That distinction aside, significant intra-group differences among bilingual learners remain. Valdes-Fallis (1978) emphasized this fact by stating that the only feature that bilingual individuals have in common is that they are not monolinguals. Various dichotomies or dimensions have been used to distinguish types of bilinguals. These dichotomies have been related to numerous factors such as level of proficiency, function, alternation between languages, and age of acquisition (Baetens Beardsmore, 1986; Mackey, 1972). Valdes and Figueroa (1994) describe and categorize this group according to age of acquisition of the two languages (simultaneous/sequential/late), ability (incipient/receptive/productive), balance of the two languages, contexts or domains in which languages are acquired or used (e.g., at home, school), and whether the individual had a choice to learn the second language (circumstantial/elective).

The current study focused on children who were exposed to their L2 upon school entry, known as “sequential bilinguals”.

Numerous terms have been used to refer to bilingual children’s first language. In Canada, these include minority language, non-official language, immigrant language, home
language, ethnic language and heritage language (Jedwab, 2000). The application of these terms varies by research or practice area (e.g., education, language revitalization), and there are significant differences in their historical, demographic, social, linguistic and political meanings and implications. The term heritage language purportedly originated in Canada from the field of heritage language education (Baker, 2006). Heritage language learners (HLLs) is a term often used interchangeably with “bilingual children”. However, some have questioned what defines HLLs as a group, and what differentiates them from second language learners (e.g., see Carreira, 2004 for a review). Distinct defining factors that have been identified include membership in an HL community, personal connection to the HL through the learner’s family background and proficiency in the HL (Carreira, 2004). Draper and Hicks (2000) defined HLLs as a specific subset of bilingual children who “has had exposure to a non-English language outside the formal education system. It most often refers to someone with a home background in the language, but may refer to anyone who has had in-depth exposure to another language.” (p. 19). The present research used the term HL and HLLs, based on the Valdes’ (2001) widely accepted definition of HLLs. According to this definition, HLLs fall into two main groups: 1) learners who have a historical or personal connection to a language (e.g., endangered indigenous language or immigrant language not taught in the school context); and 2) learners who appear in a foreign language classroom, who originate from homes in which a non-English language is spoken, who speak or understand the heritage language and are to some extent, bilingual in English and the HL (Valdes, 2001). It should be noted that the first group emphasizes connection to the HL and not necessarily proficiency; while, the second group includes a requirement of some degree of proficiency in the HL.
Terminology in the Field of Language Change

Language change is a broad term used to refer to a wide range of language-related topics including language acquisition, learning, as well as loss (Anderson, 1982). Language shift refers to "the change from the habitual use of one language to that of another" (Weinreich, 1952, cited in de Vries, 1992, p.213), which can occur either in the individual or at the community level. Many factors that may account for language shift exist, and they exist at various levels (e.g., economic, political, psychological, sociolinguistic). These factors interact in a complex manner over time to lead to maintenance or shift. Language attrition, language erosion or language regression all refer to the loss of language or portion of a language by an individual or a community due to a variety of reasons (including aphasia, aging, or social or political reasons).

The term language loss describes the situation in which a minority group member can no longer access or use their first language (L1) the way he/she could previously (Fase, Jaspaert, & Kroon, 1992). It occurs in four possible situations (Van Els, 1986; cited in Kouritzin, 1999). One situation in which loss of a L1 may occur is within an L1 environment such as the deterioration of language skills through the aging process in elderly people. Another situation, loss of an L2 may also occur in an L2 environment such as L2 loss in elderly immigrants. A third situation is loss of an L2 occurs in an L1 environment (e.g., loss of a foreign language). The fourth and final situation of language loss is when L1 loss occurs in an L2 environment. In the latter case, the L1 is the individual’s HL. The group of interest in the current study, child HLLs, faces this situation at the start of schooling in the L2.

When the L1 remains stable in situations of language contact, it is referred to as language maintenance. Stability in L1 can take a number of forms including in terms of proficiency in
Survey Studies of Language Shift from HL to L2 in Immigrant Populations

Sociolinguists and demographers have examined large samples of data to investigate linguistic changes over time in groups of immigrant people. Fishman (1966) described the process of language shift in immigrants as taking place over 3 generations. In the first generation, immigrants learn some of the majority language in the community as a L2 but remain strongly dominant in the HL at home. Their children, the second generation, typically use their HL at home and learn the majority language at school and use it outside of the home. In the third generation, children are essentially monolingual. English becomes the sole language used at home and at school and in later years, in the workplace. Using information from the Survey of Income and Education from the National Center for Education Statistics in United States (US), a national opinion research center, Veltman, (1983; 1988) documented this 3 generation shift in immigrants from various ethnic groups. He concluded “children are more anglicized than their parents...moving inexorably toward English monolingualism” (Veltman, 1983, p. 140). Lopez (1978) also documented shifts from Spanish to English use across generations in the US. Waas (1996), in his study of German HL loss in immigrants to Australia, deemed HL loss and attainment of the majority language “inevitable overall” (p. 171). Contrary the popular belief that immigrants are resistant to learning the language of the majority, the shift in language from in HL to L2 in immigrants has been widely documented (e.g., Arce, 1982; Grenier, 1984; Pease-Alvarez, 2002; Portes & Hao, 1998; Veltman, 1983, 1988). This phenomenon has been demonstrated in reviews of research conducted in many English-dominant countries including
Canada (O’Bryan, Reitz, & Kuplowska, 1976), United States (Fishman, Gertner, Lowy & Milan, 1985; Hakuta, 1986; Veltman, 1983) and Australia (Clyne, 1988; Clyne & Jaehrling, 1989).

While previous studies have documented the shift to the majority language as taking place over three generations, Veltman’s (2000) most recent examination of data from the 1976 Survey of Income and Education and on 1990 census data found that immigrant groups in the United States, irrespective of their country of origin, are learning their L2, English, at a faster rate and simultaneously are losing their HLs more quickly than in previous years. Studies which have examined the shift at the individual level have shown accelerated HL loss in immigrant families (Hinton, 1999; Kouritzin, 1999, Portes & Hao, 1998; Portes & Rumbaut, 1990; Wong-Fillmore 1991) suggesting that the complete shift takes place within two generations instead of the previous three generation pattern (Wiley, 2001). According to Shin (2005), although the shift appears to be slower in areas with high concentrations of HL users, the preponderance of minority languages do not survive past two or three generations. Images of language death are evoked by descriptions of the United States as a “language graveyard” for the second generation (Rumbaut, 2009, p. 35) and a "veritable cemetery of foreign languages" (Portes & Hao, 1998, p. 269).

In Canada, several studies of have revealed intergenerational language shift among immigrant families (Harrison & Lachapelle, 1990; O’Bryan, Reitz & Kuplowska, 1976). O’Bryan, Reitz and Kuplowska (1976) revealed that a mere 10% of second generation Canadians had fluency in their HL and among those in the third generation, the proportion was negligible. Another study by Harrison & Lachapelle (1990) noted that transmission of HL to children took place in only half of the families in their study.
There is considerable evidence that, as averred by Krashen (1996, 2000), immigrants are not ‘clinging’ to their HLs as often misconceived, but are losing their HL skills at an alarming pace. Krashen (1998) describes immigrants as "victims of the powerful forces of language shift” (p. 20) for whom the language of the home is taken over by the language of the country.

**Definitions of Language Proficiency in HLLs**

Language proficiency has been hypothesized as being one global language factor (Oller & Perkins, 1980) while others have proposed as many 64 distinct components to language proficiency (Hernandez-Chavez at al., 1978). Cummin's (2000) differentiated between conversational competence and academic language proficiency. His influential model states that while basic interpersonal communicative skills (BICS) can be attained within 2 to 3 years of L2 learning, the acquisition of cognitive/academic language proficiency (CALP) takes significantly longer, from 5 to 8 years. The present study approximately followed the multidimensional model of language proficiency described by Baker (2006). It includes 4 basic skills on 2 dimensions: oracy skills, which includes listening and speaking, and literacy skills which includes reading and writing. The second dimension is receptive or productive skills, with listening, reading being receptive in nature, and speaking and writing being productive skills.

Although a description of subtractive bilingualism was generated several decades ago to refer to the loss of HL occurring during the course of L2 learning (Lambert, 1975), only in more recent decades have researchers documented the shift from HL to English in child HLLs. The focus has previously been on the acquisition of the school language (L2) and the academic achievement of young HLLs, with a tendency to “ignore” the HL (Oller & Pearson, 2002, p. 9). There continues to be a lack of studies which have examined child HLLs’ language and literacy
proficiency in both of their languages (Oller, Jarmulowicz, Pearson, Cobo-Lewis, 2010). Furthermore, methods used to evaluate HLLs language skills in each language separately may not capture HLLs’ knowledge, given the distributed characteristic of some linguistic skills such as vocabulary knowledge (Oller & Pearson, 2002). Depending on the situations in which a child is exposed to HL and L2, he/she may learn different words in each language that represent his/her “pattern of living experienced” (p. 10). In other words, children know some words only in HL and not in English and also the reverse. Allen, Crago, and Pesco (2006) asserted that HL is learned in the home and community and therefore, these contexts may not contribute adequately to the development of academic language proficiency.

*Language Loss versus Incomplete Acquisition and Language Suppression in HLLs*

Studies which have investigated the nature of the language change in children from immigrant families following exposure to L2 have raised several issues. Snow and Hakuta (1992) described the costs of exposure to L2 for HL children at the start of L2 schooling, stating: “the child who is still learning the first language, as five- and six-year-olds certainly are, is particularly susceptible to stagnation and decline.” (p. 388). A related issue that has been raised is whether levels of HL proficiency measured in children are signs of HL stagnation or incomplete learning rather than actual loss of language skill previously acquired (Wei & Lee, 2001). Several researchers have suggested that weak HL performance over time may reflect incomplete encoding of linguistic structures rather than loss or ‘forgetting’ (e.g., Isurin, 2000; Saville-Troike, Pan, & Dutkova-Cope, 1995). A number of studies have revealed findings that seem to support this possibility. For example, studies involving Turkish HL children in the Netherlands showed that although their skills are on par with monolingual Turkish children (in
Turkey) until the age of 5, following school entry, their rate of development in HL slows significantly (Verhoeven & Boeschoten, 1986) and seems to stagnate. Even in later years, HLLs in the study never reached the same level of HL proficiency as the monolingual Turkish children. Another study conducted in Tyneside, England with Chinese-English families with British-born children ages 5 to 16 years, examined the HL usage patterns of children enrolled in English-only public schools. The children in the sample also participate in a 3 hour Chinese (Cantonese) language class every Sunday. Using recordings of their conversations and narrative data from the home environment, Wei and Lee (2001) found that the repertoire of noun classifiers and quantifiers and specific morphosyntactic features in Chinese are limited. Children tended to switch to L2 (English) often or use Chinese words with English syntax. Since the study took place at one time point only, conclusions about whether language attrition was taking place could not be drawn. However, findings did indicate delayed and stagnated HL development.

A second issue which has been raised in the literature in this area relates to the linguistic domains examined in language loss research. Wei and Lee (2001) argue that some domains (e.g., storytelling or formal language) may be functionally irrelevant in the life of a HLL and therefore the collection of information about these domains lacks meaningfulness.

Oller and associates examined the language development of HLLs and indicated asymmetries in children’s language skills. While HLLs in the study were able to understand at a level similar to monolingual speakers, their HL expressive skills were significantly poorer than monolinguals (Oller et al., 2010). A longitudinal study of 5,300 immigrant families in the US found that among child HLLs surveyed, nearly three-quarters (72%) indicated that English had become their primary language by the time they reached seventh grade (Portes and Rumbaut, 2001). Min (2000) reported that more than 90% of second-generation respondents reported that
they spoke English fluently. Merino (1983) investigated the language skills of Spanish-American HLLs from kindergarten to grade 4 who were considered as able to speak and understand both languages with equal proficiency at age 5. By grade 4, while HL comprehension skills continued to develop, HL productive proficiency significantly dropped to a level of performance similar to kindergarten students. A recent case study of a Korean-American HLL found that with parental support for HL, HL tutoring and HL class attendance, the focal child’s literacy skills in HL increased over the 10 months under study (Ro & Cheatham, 2009). However, not surprisingly, the child’s literacy skills did not reach the level of HL monolingual age-mates. Further investigation of HLLs performance in various language and literacy domains may help to clarify if these activities and language uses are indeed socially relevant and meaningful in the lives of this group of children.

Wei and Lee (2001) also point out that any losses in linguistic skills may have different causes. One potential cause identified by Ecke (2004) is the intentional avoidance of HL. Young HLLs may engage in suppression of their HL related to their desire to assimilate or due to pressure from peers and teachers (Fishman, 1966; Fries, 1998; Kouritzin, 1999; Turian & Altenberg, 1991) or even parents with hopes of supporting children’s development of L2 and acceptance in L2 society (Lambert & Taylor, 1996; Wong Fillmore, 1991). In the case histories of Canadian children and adolescents experiences with their HLs documented by Kouritzin (1999), there was evidence of avoidance and suppression of HL use in these young HLLs’ lives.

Maintenance and Change in Language and Literacy Proficiency of Young HLLs

Beyond survey and census studies, loss of the HL in immigrant families has been shown at the micro level. Wong-Fillmore (1991) conducted a seminal study focusing on language loss
immigrant families from diverse language backgrounds in the United States. Through interviews with immigrant parents about their children's use of their HL and L2 (English), she observed that linguistic change began with the children upon school entry. Children quickly chose English as their preferred language and used it in their interactions at school as well as at home. The findings suggested that the earlier the children came in contact with the L2, the greater the loss of HL. In a case study, Wong-Fillmore (2000) explored the language experiences of a Chinese-American immigrant family and revealed the impact of English language learning and HL loss upon family relationships. The switch to English took place shortly after school entry, and hindered inter-generational communication, particularly between grandparents who spoke only the HL and children who no longer were able and/or willing to communicate in the HL. In a similar vein, a recent study by Oller and colleagues described children’s rapid shift from Spanish (HL) to English (L2) as “abrupt” rather than gradual in nature (Oller et al., 2010, p. 97).

Sohn (2001; as cited in Kim, 2006) investigated HL loss in Korean-American children from immigrant families and observed that before entering school, children's HL (Korean) proficiency was much higher than their L2 (English) proficiency. However, around age 5, by which time most of their day was spent outside the home, English use dominated and their proficiency in English increased. HL attrition became evident soon afterward (Shin, 2002; Wong-Fillmore, 1991). Even with significant parental involvement to support HL maintenance, HL skills declined significantly. A case study by Ro and Cheatham (2009), which followed a 6 year-old Korean-American boy in the US, also found that even with considerable HL instruction (i.e., private HL tutoring and regular attendance at HL classes), the focal child’s HL use declined over a 10-month period. Li (2006b) conducted a longitudinal ethnographic study of a first-generation 6 year old in a Canadian city with low Chinese vitality. He observed that the child
was unable to express himself in HL as he was able to in the past, and became very frustrated at not being able to remember words. Apparent losses in HL literacy knowledge were also observed (e.g., not able to read and write characters that he knew before, could no longer write to grandparents, had to copy mother's writing). Additionally, the boy was aware of these changes and remarked “I forgot most of my Chinese” (p. 24).

There is some evidence that loss of the HL may take place even before children begin school. Pearson, Fernandez, Lewedag and Oller (1997) conducted a longitudinal study in Miami which tracked 25 infants in bilingual Spanish-English families on a monthly basis from birth until 3 years. Children were tested using standardized language measures and language samples were taken at numerous time points. Parents completed questionnaires to assess the development of children’s communication and language use. By age 3, one-quarter of the children had ceased to use Spanish, and also did not appear sufficiently comfortable in English to respond to their parents or to researchers, and did not make attempts to initiate interactions in English either (Pearson et al., 1997).

In her study of immigrant families of Puerto Rican descent in New York, Zentella (1997) found increased use of English in the home over time and increased code switching and receptive competence in Spanish. This pattern of steady decreases in HL use was supported by Garcia and Diaz (1992) in their survey of second generation Spanish-English high school students in Miami, they found that use of HL declines over the course of their schooling. According to the participants’ self-report, before starting school 85% used Spanish only, by junior high school, 37% spoke only Spanish at home and by the end of high school, only 18% of participants spoke solely Spanish at home. Children also indicated higher levels of competence in English than in HL (Portes & Rumbaut, 2001), with very few learners indicating strong proficiency in HL.
There is some evidence for differential change in HLLs’ proficiency in different domains of language and literacy. For example, Jia and Aaronson (2003) found that according to parental report, children’s and adolescents’ listening and speaking remained stable across the years, but reading and writing proficiency decreased over the 3-year study period.

One study involving Vietnamese-English adolescent HLLs over 2 years (Zhou, 2001) found (by self-report) declines in proficiency across listening, speaking, reading and writing domains. Espiritu and Wolf (2001) found similar declines in their sample of Filipino-American HLLs. In sum, findings of these studies provide strong evidence of a switch to increased English use and preference among child and adolescents HLLs.

**Demographic and Family Factors Related to HL Maintenance and Loss**

Several demographic and family variables have been identified as contributors to HL loss such as age of arrival in the majority culture (for parents of immigrant children and children who were born abroad), parental language background, and length of residence. The influence of age of L2 exposure and gender have also been examined.

Evidence from long-term attainment studies suggest that HL and L2 proficiency are associated with the age at which immigrants arrive in the majority culture (e.g., Jia & Aaronson, 1999; Yeni–Komshian et al., 2000). Jia and Aaronson (2003) found that in a group of first generation Chinese-American children, the children who arrived at younger ages tended to switch from HL to L2 use while children who were older at the age of arrival were more likely to maintain HL as their dominant language. Veltman (1983, 1988) found that lower use of Spanish was significantly related to age at the time of immigration and the amount of time lived in the US. Similarly, Luo & Wiseman (2000) examined differences in HL use and proficiency between
Chinese-English bilingual adolescents in the US who arrived at age 5 years or older (late arrivals) and those who arrived prior to age 5 or were born in the US (early arrivals). Compared to late arrivals, early arrivals rated their English proficiency and frequency of English use substantially higher. Late arrivals reported valuing their HL as their ethnic language more than early arrivals and using their HL more frequently and more fluently. Kim (2004) surveyed 40 university students with varying ages of arrival in the US about their HL use and proficiency (0 years to 20 years). Self-ratings of HL proficiency and use related to their age of arrival. Students who arrived before age 12 rated their level of HL proficiency as lower than students arrived after age 12.

Although many studies have used self-report measures of HL proficiency and use, Kataoka, Koshiyama and Shibata (2008) showed a relationship between age at arrival in the US and HL and L2 proficiency as measured on a variety of objective measures of HL vocabulary, structural patterns and kanji and English vocabulary. In their large-scale study of nearly 1600 children in grades 1 through 9 in hoshuu koo (supplementary Japanese school), the findings suggested that age of arrival seemed to predict the course of HL and English development. Despite their attendance in the HL school, children who arrive before age 10 demonstrated greater L2 proficiency than HL proficiency within 2 years of arrival in the US. From her review of recent studies involving immigrants from East Asian backgrounds, Kondo-Brown (2006) concluded that in children from immigrant families, the earlier the age of arrival, the lower the self-evaluated and demonstrated HL proficiency levels at later ages.

The length of residence in the majority language environment has been associated with a greater tendency toward English dominance and/or monolingualism (Portes & Schauffler, 1994). However, a recent case study of four Spanish-English bilingual families in Canada found that the
families with longer residence experienced more success in HL maintenance (Guardado, 2002). Due to the small sample size of the study, more research is needed to clarify the influence that length of residence in Canada may have upon HL maintenance.

Hakuta & D'Andrea (1992) investigated language maintenance in Mexican-Americans by analyzing the HL and L2 abilities of adolescents of different 'depths' of immigrant status. Depths were categorized according to how established the family was in US, based on the age of arrival of the immigrant(s) in the family. The most balanced bilinguals (those with strong levels of proficiency in both Spanish and English) were in Depth 3 (first generation children who came to the United States before age 5) and in Depth 4 (second-generation children who were born in the US but whose parents were born in their country of origin). Hakuta & D'Andrea (1992) identified exposure to English at an early age and a home environment in which parents speak mostly Spanish as the features which promote strong HL and L2 skills in these individuals.

Other variables that have been hypothesized to be related to HL loss include age of L2 exposure and gender. Although it has been posited that the earlier the individual is exposed to the L2, the stronger tendency towards greater HL loss (e.g., Hakuta & D’Andrea, 1992), there is no evidence for an association between early L2 exposure and HL loss (Pease-Alvarez & Hakuta, 1993). Likewise, research on gender differences is limited and equivocal in nature. A large sample of adolescents from East Asian, Filipino and Latin American backgrounds showed no gender differences in HL and L2 use with parents (Tseng & Fuligni, 2000). Chinen and Tucker (2006) also found no significant relationships between gender and adolescents’ ratings of their ethnic identity, attitudes towards school, and HL proficiency among 13 and 14 year old Japanese-English bilinguals in California. However, Portes and Hao (1998) found in their large-scale survey of adolescents from immigrant families that females were more likely to maintain
the HL than males. On the whole, Kondo (1998) noted that research on gender differences in HLL learners is lacking and warrants further attention.

Parental language background is another influential factor in HL maintenance. Compared with children of exogamous marriages (i.e., those with parents from two different linguistic backgrounds), children whose parents have the same HL are more likely to speak the HL (Harrison, 2000). Kondo-brown (2004) also identified having two HL speaking parents (i.e., rather than one HL-speaking) as a significant predictor of HL skills in Japanese-English bilingual university students in Hawaii. Parent variables such as years of formal instruction, number of years living in Japan predicted participants’ placement scores on measures of HL grammar, listening comprehension and writing in university students.

*Patterns of Language Input and Use in HLLs*

Language input and use patterns are of interest to researchers in the area of HL maintenance due to the association between HL input, use and proficiency. It is believed that through balanced use of their two languages, HLLs can develop bilingual language skills (e.g. Landry & Allard, 1992). Pearson and associates (1997) created a model for conceptualizing the linkages between these variables in HLLs which describes adequate input as facilitating use and practise by promoting the child’s comfort with their HL (Pearson et al., 1997). The language which HLLs receive more exposure to tends to become their dominant language (Pearson et al., 1997), and “greater proficiency will contribute to greater use” (Pearson et al., 2007, 401). Moreover, use of HL, in turn, invites more input which promotes further language development. In a recent review of the literature by Pearson (2007), quantity of linguistic input was the most
influential factor in determining the likelihood of a child retaining his/her HL, among other factors such as language status, access to literacy, family language use, and community support (e.g., schooling). Exploration of HLLs’ patterns of language input and use requires attention to Grosjean’s (1985) Complementarity Principle, which states that bilinguals usually acquire and use their languages for different purposes, in different domains of life, and with different people. Similarly, Snow and Hakuta (1992) described bilinguals as having different languages in different “spheres of life”. As they begin to recognize the different patterns of language use across multiple contexts, HLLs develop domain separation wherein their language use patterns may change according to many factors, including where they are (e.g., at home or at school) and with whom they are speaking (e.g., parents, relatives, peers). Children’s input and use patterns with various interlocutors will be discussed in turn.

Language Use with Parents, Grandparents and Relatives

Not surprisingly, HL input factors are largely related to the home context. Numerous studies have shown a link between HL competence and parental use (Hinton, 1999; Kondo, 1998; Portes & Hao, 1998). Hakuta & D’Andrea (1992) singled out the language practices of adults in the home as the primary determinant of HL proficiency in their sample of Mexican-American adolescents. For parents who had limited ability in English, sufficient interaction took place in Spanish to provide children with the necessary linguistic input for HL learning (Hakuta & D’Andrea, 1992). In fact, De Houwer (2004) found that parental input accounts for 84% of variance in children’s language use patterns. Another more recent study by De Houwer (2007) found that children are unlikely to develop HL proficiency if one parent does not understand the
L2 or unless parents (one or both) firmly maintain a HL-only policy in the home. Harrison (2000) identified that in 7 of the 13 largest language groups in Canada, 90% of children of endogamous marriages (i.e., both parents have same HL mother tongue) knew the HL sufficiently well to conduct a conversation. However, across many studies involving immigrant families, children have been found to respond in English to parental utterances in HL (Dabene & Moore, 1995; Kuo, 1974; Li, 2006; Oller, et al., 2010). Interestingly, Hurtado and Vega (2004) interviewed children in seventh grade and their parents about their language use, and found little reciprocity in their reports. Children’s and parents’ report of their own and each other’s language use were incongruent. The authors concluded that “while the children may be speaking mostly in English, and the parents mostly in Spanish, they still can understand each other, and even have the notion that they do so in the same language” (Hurtado & Vega, 2004, p.148).

Language Use Patterns with Grandparents and Elder Relatives

Research has indicated grandparents have an influential role in children’s HL use. Since grandparents in immigrant families often have little or no L2 knowledge, children are provided with significant exposure to HL. Furthermore, children must use their HL to communicate with them. In fact, the presence of grandparents in the household has been shown to be related to HL use by their grandchildren (Ishizawa, 2004; Kondo-Brown, 2005). Ishizawa (2004) found that children who lived in three-generation households were more likely to use their HL than those living in two-generation households, based on data from the 2000 US Census Supplementary Survey. Using language samples from diaries of adolescents ages 12 to 15 years, Lawson and Sachdev (2004) found that adolescents most commonly reported using HL (Bengali) with family members, particularly older family members. Kondo (1998) conducted a qualitative study of the
patterns of language use with different language contacts in Japanese-American students enrolled in university level Japanese courses in Hawaii. Many respondents recalled their use of Japanese with their grandparents during their childhood. For example, one respondent reflected on using HL solely with his grandma during his elementary years: “I didn’t speak Japanese at home already except the times when I had to speak to grandma. I said only what I knew…simple words or sentences, like I’m hungry”. Another responded noted “I remember when I was in kindergarten, I was always with grandma and so I spoke Japanese a lot.” Use of HL with other elder relatives has also been associated with proficiency in HL among child HLLs (Raschka, Wei & Lee, 2002).

Language Use with Siblings and Cousins

Siblings are also important interlocutors to consider within the family. Several studies have found that children tend to use significantly more HL with their parents than with their siblings or peers (Garcia & Diaz, 1992; Lawson & Sachdev, 2004; Nguyen, Shin, & Krashen, 2001; Pearson & McGee, 1993). Stevens and Ishizawa (2007) found that younger children were less likely to speak HL at home as they grew older and were exposed to English outside the home compared with their elder siblings. In general, siblings tend to quickly adopt the majority language as the dominant language used between them. Nguyen, Shin and Krashen (2001) explored the language use of grade 1 to 8 Vietnamese HL students in California and found that despite speaking a significant amount of HL with their parents, only 15% use solely Vietnamese with their siblings. Similarly, in a survey of Vietnamese-American parents in California, parents reported that their children tend to speak only English with one another (Young & Tran, 1999).
In a qualitative study involving young HLLs (ages 6 to 10) in England, children reported using HL with siblings at home, even when parents were unable to understand English (Pagett, 2006). Pease-Alvarez followed Mexican-American children in a high Mexican HL area longitudinally and found that siblings shifted from using more Spanish than English to more English than Spanish over time. Among Bangledeshi-British children, older siblings were found to use HL and L2 in interactions or via book-sharing with younger siblings (Gregory & Williams, 2000). This sharing of knowledge acquired at school and/or HL classes may facilitate HLLs bilingual language and literacy development (Gregory & Williams, 2000). HLLs’ language use with cousins has been less studied. However, one study’s analysis of the language diaries of adolescent HLLs in the UK revealed that English was the dominant language when interacting with younger relatives (Lawson & Sachdev, 2004).

As Kuo (1974) noted, the family is “influential in language socialization, but not dominant” (p. 191). As the children grow older, exposure to language influences from outside of the home increases. For second-generation immigrants, contact with L2 speakers is typically high within the community (Bourhis & Sachdev, 1984). Additionally, children’s social and educational activities in the community tend to take place in English (Ro & Cheatam, 2009).

**Language Use with Peers**

When children from immigrant families reach school age, they are quickly exposed to the majority language. At school, children from various linguistic and cultural backgrounds share the same classroom. As described by Wong-Fillmore (2000), they soon identify their lack of majority language skills as a barrier to social success and the formation of friendships. Siraj-Blatchford and Clarke (2000) identified that children’s desire to fit in with their English speaking
peers may experience “a stage where they are reluctant to speak the home language” (p. 29). As children make friends with non-HL speaking peers, their use of HL declines since interactions take place in the language they have in common with their peers. English becomes the dominant language among friends (Garcia & Diaz, 1992; Lawson & Sachdev, 2004). Use of English all or most of the time was observed even with other children with the same HL (Kuo, 1974).

Based on data from the large-scale Language and Literacy in Bilingual children project, Oller and associates (2010) found that children’s use and preference for L2 was influenced by peers in school. They concluded that “language preference can shift quickly, very early in life, apparently under the influence of schooling, and especially under the influence of peers in school” (Oller, et al., 2010, p. 95). Furthermore, the association between peer language and HLLs’ use of HL or L2 was demonstrated in Jia and Aaronson’s (2003) longitudinal study of Chinese-speaking children and adolescents who immigrated to the New York City area between ages 5 and 16. Using a wide-range of methods (including language testing, questionnaires, interviews with parents and children, observation at home and social settings), researchers found that younger participants (who arrived in the US before age 9) had more L2-speaking friends and low numbers of HL-speaking friends. This was in direct contrast to immigrant children who arrived after age 9, who as a group had consistently high numbers of HL-speaking friends and low numbers of L2-speaking friends. To a large extent, children in the younger group spoke English with their friends, and were motivated to speak English fluently to avoid feeling different from their friends. As Feinberg (2000) points out, individuals are motivated "to learn the language of the groups in which they want membership" (p. 220). These findings suggest that friendship choices provided opportunities for L2 practice and also L2 input.
According to Luo and Wiseman (2000), when children from immigrant families grow up, the "search for extra-familial confirmation from peers is inevitable" (p. 319). It was noted that over time, with greater exposure to situational demands in the school and community, adolescents showed more inclination to use the majority language in their interactions. Raschka, Wei and Lee (2002) examined patterns of HL use within their social networks in Chinese families (34 children and their families) in Tyneside England. Based on the findings of the study, they asserted that the pressure to conform to the majority language is an influential factor in HL maintenance. For children from immigrant families, there is the tendency to shift to the language spoken by the majority as "the preferred medium" (p. 23) within peer networks.

Similarly, DeWaele's (2000) case study of a young girl learning French and Dutch in the home, and English in a multiethnic area in London found that by 5 years of age, she did not want her father to speak French at school in the presence of her peers, preferring him to use English or whisper in French (DeWaele, 2000).

Opportunities to use the HL outside the home with friends or other HL speakers have been associated with HL maintenance. Friendships formed with children that share the same HL can strengthen HL maintenance (Luo & Wiseman, 2000; Oketani, 1997). Oketani (1997) found that in her sample of 42 second-generation Japanese Canadian adolescents and young adults (mean age of 20 years) in Toronto, the quality, proportion, frequency and stability of contact with friends who speak HL was correlated positively with HL language skills demonstrated on an oral proficiency test for bilingual students. Having friends who speak HL also related to HL literacy skills (measured by a Japanese proficiency test) as indicated by its positive correlation with HL reading abilities. Tonami (2005) also identified interaction with HL speakers as a factor which contributes to HL maintenance in her ethnographic study of the language histories of
young Japanese-Canadian adults. Likewise, from their exploration of the language preferences, attitudes and language use patterns of Chinese-American first and second-generation adolescents, Luo & Wiseman (2000) found a positive association between influence from Chinese peers and degree of HL maintenance, and a negative association between influence from English-speaking peers and HL maintenance. Using regression analyses, influence from Chinese peers was the factor most predictive of self-ratings of their own proficiency, followed by influence from English-speaking peers. Kondo (1997) administered a language survey to second-generation Japanese-American bilingual undergraduate university students in Hawaii. Those who had less developed HL skills had fewer contexts in where Japanese was used and also had less extensive HL-speaking contacts than students with less developed Japanese skills. Similarly, in a sample of Mexican-American adolescents, contact with monolingual speakers of the HL (Spanish) supported HL development (Hakuta & D’Andrea, 1992). The positive influence of exposure to HL peers was demonstrated by Skourtou’s (2002) study which connected monolingual Greek children and Greek-Canadian HLLs via the internet. Greek-Canadian children in the study were found to have greater motivation to learn their HL if they have contact with monolingual students in Greece (Skourtou, 2002).

*Other sources of language input*

In addition to use of HL by adults in the household and by HL-speaking peers, other sources of HL input include ties to HL-speakers in the home country and visits abroad. Both have been found to predict HL linguistic skill in HLLs (Cho & Krashen, 2000; Demos, 1988, Hakuta & D’Andrea, 1992; Kondo, 1998). Church attendance has been identified as another source of HL exposure through access to HL print materials and HL-speakers and participation
in cultural activities (Pak, 2003; Park & Sarkar, 2007; Tse, 2001). In their autobiographies, HLLs recognized church as an important place for bilingual and bicultural learning (Hinton, 1999).

Technology and media are also sources of additional language input in HL and English (Harrison, 2000; Lee, 2006; Skourtou, 2002). English is prevalent in the media and popular culture (Tabors & Snow, 2001). Children have been found to seek out further L2 input from media sources, in order to improve their friendships with L2 speaking peers (Jia & Aaronson, 2003). Jia and Aaronson (2003) found that over time, regardless of age, Chinese-American children in the study watched mostly English TV. Li (2006) conducted an ethnographic study of 3 children in British Columbia, Canada. A parent of one of the focal children speculated that his son’s use of English at home was due to his media exposure: “Maybe because he seldom watches Chinese TV programs. He likes to watch English ones and he is used to it and English has become his language”. (p. 371). Li (2006) found that English cartoons and video games were a significant part of children’s everyday lives. However, HL media exposure, such as input from reading in HL or watching TV has been shown to be helpful in maintaining HL (Cho & Krashen, 2000). Hinton (1999) noted that viewing HL TV programming was noted by adolescent HLLs as helpful in maintaining HL. Hayashi’s (2006) study involving Japanese-English bilingual students in the US and Japan reported listening to Japanese pop music. Similar sources of HL exposure were identified by Tonami (2005) in her ethnographic case studies of Japanese-Canadian youth living in Toronto, Canada. Lee’s (2006) case studies of two young adult Korean-American HLLs’ participation in weblogs found that electronic literacy practices provided opportunities for HL use and supported the development of a network of HL users.
The literature reviewed above suggests that children use their languages differentially with various people in their lives and are exposed to several sources of language input. Children use HL within the home setting, particularly with parents and grandparents. However, English use predominates among siblings. Furthermore, peers can be influential in language use. Although it appears that children use English with their peers, HL use within peer networks can promote children’s HL development as well. Settings in which HL is used (e.g., church) and exposure to HL and English through other sources of input including television, music and computer use appear to have an impact on children’s language use patterns.

**Children’s Ability to Make Accurate Self-evaluations**

Based on empirical evidence of children’s performance expectations, preschool and kindergarten-aged children tend to make inaccurate judgements, usually overestimating their skills (Stipek, 1984). In middle childhood, the period commonly considered to begin around ages 5 or 6 and conclude at approximately ages 10 to 12 (Charlesworth, Wood & Viggiani, 2011), children’s self-evaluations increase in their accuracy (Lipka & Brinthaupt, 1992). By grades 2 and 3, Stipek (1981) found that children’s ratings of their cognitive competence were related to ratings by teachers and peers. Harter (1982) found that from grades 3 to 6, correlations between children’s ratings of competence and teacher’s ratings and children’s performance on achievement tests progressively increased. During this period, growth in several developmental processes may contribute to children’s greater accuracy in self-evaluation including use of social comparison information (e.g., comparing self to a peer reference group), and increased capacity for self-reflection (Lipka & Brinthaupt, 1992). In the elementary years, children rely more on feedback from teachers and peers, rather than on their parents who may tend to provide inflated
feedback on children’s skills (Lipka & Brinthaupt, 1992). While children’s self-evaluations increase in their accuracy over middle childhood, correlations between self, other (e.g., teacher), and objective measures of performance are low to moderate at best, calling into question the utility of self-report with this age group. For example, in a sample of children in grades 4 through 12, Kraemer and Zisenwine (1989) found that despite increasing amounts of language instruction, self-ratings of language proficiency (counter-intuitively) decreased over the years.

Very few studies have investigated the concordance of HLLs’ self-evaluations with other measures of proficiency. The possibility that self-assessments of proficiency may be subjective, and therefore potentially inaccurate, to the extent that they are influenced by language attitudes, confidence or limited metalinguistic awareness has been proposed (Gibbons & Ramirez, 2004; Kraemer & Zisenwine, 1989). It has also been proposed that due to increased experience with languages, bilingual individuals may possess greater awareness of their two languages (Vygotsy, 1986). Bialystok and Ryan (1985) hypothesized that "using more than one language may alert the child to the structure of form-meaning relation and promote the ability to deliberately consider these separate aspects of propositions" (p.217). In fact, Bialystok and associates have demonstrated greater executive skills (e.g., inhibitory control and cognitive flexibility) among children and adolescents (see Bialystok & Feng, 2009, for a review). However, Garcia, Jimenez and Pearson (1998) found that the metalinguistic developmental advantage emerges in preschool and decreases through the school-age years, leading them to conclude that greater metacognitive awareness is not an outcome of bilingualism. In fact, one study involving adolescent HLLs in the United States provides no evidence of a metalinguistic advantage with respect to accuracy of self-evaluation for bilingual learners. Gibbons and Ramirez (2004) revealed concluded, based on their study of that in their sample Spanish-American adolescents, that self-assessments of
proficiency correlated with measures of grammar and vocabulary, but not with measures of basic literacy or register development. It was speculated that participants did not take these language skills into account when making their self-assessments, or lacked awareness of them.

It is worth noting that many studies involving older adolescent or adult foreign language learners and HLLs, measure HL and L2 proficiency through self-report. Although considerable research has suggested that learners can accurately assess their abilities (see Blanche & Merino, 1989, for review), errors in self-assessment do occur. For example, Clément and his colleagues (Clément, Dörnyei & Noels, 1994) examined the accuracy of self-assessments of L2 proficiency and found a stronger association between self-rated language proficiency and language-related anxiety than between self-rated and objective measures of L2 proficiency.

Differences in accuracy have also been found between learners of at different proficiency levels. Previous research with adult learners has found that those with lower ability tend to be less accurate in their evaluating their performance in a course than other students (Moreland, Miller, & Laucka, 1981). This has been found in the area of reading comprehension, with less skilled readers less accurate in their assessment of their skills than strong readers (Maki, Jonas, & Kallod, 1994). Kruger and Dunning (1999) explored young adults’ ability to estimate their own skills in several areas including humour, logical reasoning and English grammar. Findings revealed that across different areas of competence, those with poor skills provided inflated self-assessments of their ability (Kruger & Dunning, 1999). The authors speculated that for these individuals, their insufficient skill in the target area made it difficult for them to be aware of their lack of knowledge. High-ability learners tended to underestimate their abilities across the areas assessed. It was speculated that their bias was due to the false consensus effect, the tendency to believe that peers performed at a similar skill level.
There remains a dearth of studies investigating young bilingual children’s ability to appraise their own language proficiency. Given the developmental considerations for this age group and previous reliance on self-ratings in past studies with this population, there is a clear need for further study.

*Children’s Beliefs and Attributions Regarding Language Learning*

The importance of exploring the beliefs that learners hold about language has been emphasized (Ellis, 1994). Learners’ beliefs are described by Wenden (1986) as “a sort of logic, determining – consciously or unconsciously – what they (do) to help themselves learn” (p. 4). These beliefs relate to various aspects of language learning including the nature of the language, different language domains and speakers, the goals of language learning and individual perceptions about one’s ability to learn the target language (Richards & Lockhart, 1996). They can influence individual’s expectations regarding the learning process, what learning strategies are used and how difficult aspects of the language are perceived to be (Richards & Lockhart, 1996). Horwitz (1987) stated that language learning beliefs can influence the learner’s level of engagement and result in differential response to instructional methods. Beliefs are based on information gathered from various experiences during instructional activities (Mori, 1999), previous learning (Tudor, 1996), and in different sociolinguistic contexts (e.g., home, community) (Spolsky, 1988). Of interest is the extent to which child HLLs are aware of their language learning experiences and the nature of their beliefs and naive theories they hold about bilingual language acquisition. While studies that explore these issues directly are lacking, related research with monolingual children provides some insight into children’s beliefs about learning.
Chan and Sachs (2001) examined grade 4 and grade 6 children’s beliefs about learning and the influence of their beliefs upon their comprehension of science texts. Older children in the study tended to hold constructivist views of learning. They suggested that understanding children’s beliefs about learning is important because “if knowledge is actively constructed by the learners themselves, what they believe about the nature of learning will play a significant role in their learning outcomes”. (Chan & Sachs, 2001, p. 194). Another study of relevance to understanding HLLs’ beliefs about language learning, investigated young children’s perceptions of learning to write. Martello (1999) interviewed Australian children in their first year of school (ages 4 to 5 years) about the nature of writing and the strategies they used to learn to write. There was significant variation in children’s metacognitive and metalinguistic awareness in their responses. Some children struggled to reflect on their own to learning and thinking. However, others children in the study were able to comment on strategies they used to learn to write. Most commonly identified strategies were copying and practicing, and learning from parents, siblings and teachers. Other strategies mentioned included repeated independent practice and computer use. Children lacked the vocabulary to adequately describe their learning and often used demonstratives in their explanations (e.g., the ones, this one) in reference to words and letters. However, from the findings it was evident that children demonstrated “conscious knowledge” (p. 34) of the metalinguistic nature of print concepts such as letters and words.

Another study examined children’s judgements of their success in learning French as a L2 in England (Williams & Burden, 1999). Qualitative interviews were conducted with the participants aged 10 to 15 years of age and found that the majority of students judged their success in language learning by external factors including teacher approval, marks, or grades. Younger children in the sample relied on feedback from teachers (e.g., “Mr. R. says I'm doing
awfully well.”), while adolescents more frequently focused on their greater sense of competence or confidence in their language skills. However, adolescents continued to refer to teacher feedback, marks or grades to determine their progress in the L2. Other attributions for learning L2 included listening and concentrating, remembering and practicing, and enjoyment of the work. The oldest participants described help and encouragement from friends, parents and teachers as contributing factors in their language learning (e.g., “My mum helps me”). Authors noted that no references were made to internal factors (e.g., comprehension of spoken language, effective communication), and recommended further research into the area of beliefs about language learning (Williams & Burden, 1999). In Ro and Cheatham’s case study of a Korean-American HLL (2009), the focal child compared his HL (Korean) and L2 (English) when explaining his difficulties with writing in HL: "It is so difficult when I write [in Korean].... It's easy to write in English ... I can just write. But it is difficult when the sound and writing is different in Korean. And I don't know many words in Korean, so I have to ask [for help]." (p.300). A similar sentiment was expressed by an adolescent in Jia and Aaronson’s (2003) study of Chinese-American HLLs: “English is easier to write . . . because you just have to know ABCDEFG, the 26 letters. But in Chinese, you have to draw a lot of stuff to get it.” (p. 144). Another adolescent noted that speaking English is easier by explaining a characteristic of Chinese words: “Yeah, because it [English] go[sic] faster. Yeah, you don’t have to say two words [sic] in, in one…Like ‘friend,’ you don’t have to say Peng-You. Two word [sic] in only one word. That’s easier.” These explanations provide a glimpse into children’s understandings of differences between their HL and English.

On the whole, the available literature on children’s beliefs and attributions for language learning indicates variability in children’s explanations for their development of language skills.
There is evidence that children differ in the degree to which they are able to reflect on their experiences with language acquisition. Some children demonstrated conscious awareness of the efforts they put forth to learn language and were able to articulate these approaches (e.g., practice, learning from others, using computers), while others simply referred to external factors such as feedback from teachers or achievement (marks). Finally, studies involving HLLs have suggested a developing awareness of linguistic differences between HL and English among child HLLs.

Language Attitudes of HLLs

While there is strong evidence that input patterns are highly influential in maintenance and loss of HL in immigrant children, attitudes towards, and motivation to learn HL have also been implicated. As stated by Grosjean (1982) “language attitude is always one of the major factors in accounting for which languages are learning, which are used and which are preferred by bilinguals” (p. 127). According to Cummins (1986), attitudes are determinants of the manner in which students engage in language learning at school and they influence students’ expectations for success. Language attitudes and motivation are thought to shape behaviour of learners, thereby influencing their language proficiency and use (Shameem, 2004).

In their pioneering work on motivation specific to language learning, Gardner and Lambert (1972) described two types of learner motivation and their roles in determining linguistic competence in a second language. Second language learners who are motivated to learn the target language for practical reasons, such as for employment purposes or to meet degree requirements, are described as having instrumental motivation. Learners who have an integrative motivation want to acquire the target language to learn about the members of the
linguistic group or culture and may be interested in becoming part of the community. Although literature exists in support of the effects of both types on proficiency in the target language, of the two types, it has been suggested that learners with an integrative motive tend to achieve higher levels of language competence than those with an instrumental motive since they are more likely to attain the aspects of language needed for group integration and not solely what is needed for basic communication. The desire for affiliation and communication with L2 users will lead to more interactions and thus, more exposure to the L2 and greater frequency of L2 use (Krashen, 1981). Personal relationships developed with L2 speakers tend to promote lasting contact and use, whereas instrumental motivation may be more short-term and self-oriented (Gardner & Lambert, 1972). In this way, attitudes can be a bridge or barrier to language input (Krashen, 1985).

Some have posed the question of how motivation for learning a HL may differ from motivation for learning an L2. As with second language learning, instrumental motivation for learning an HL is to obtain a desired goal or reward that is functional in nature (Han, 2003). In the case of children learning an HL, the goal may be better grades in HL courses, meeting requirements for entry to post-secondary education or better job opportunities. In addition to instrumental motivation, cultural motivation, the desire for cultural awareness and ethnic identity, has been proposed as a distinctive form of motivation for HL learners. In a sample of 152 Korean-American high school students in California, the intrinsic desire for self-awareness and cultural learning was shown to enhance HL learning while instrumental motivation was not associated with HL proficiency enhancement (Han, 2003).

Krashen (1981) also notes the importance of affective factors in the development of language, with positive attitudes toward HL supporting its development and negative attitudes
restraining it. The feelings held by the learner towards a language may foretell the likelihood of successful maintenance of HL (Döpke, McNamara & Quinn, 1991; Tannenbaum, 2003).

Positive perceptions of the HL have been shown to be related to HL skills in Japanese-Canadian young adults (Tonami, 2005). In other words, the more positive the feelings are towards the language, the greater the motivation for further language use and development. The association between language attitudes and language use was demonstrated by Hakuta and D'Andrea (1992) in their study of Mexican-American adolescents. Positive attitudes towards HL were related to preference and use of HL with peers and siblings.

Although attitudes have the potential to affect language behaviour, its degree of influence or extent to which they may shape behaviour is not known. This is because its influence may operate at a subconscious level, and is thus difficult to measure (McGroarty, 1996). Another issue in the examination of these factors is the difficulty of establishing a sequence of cause and effect (Gardner & Clement, 1990). Shameem (2004) explains that the correlational nature of the data available makes it challenging for cause and effect to be identified. Beyond a simple cause-effect model, an alternate hypothesis is that language attitudes, language use and language proficiency exist in a cycle of mutual influence in which "one builds on the other in an upward or downward relationship" (Baker, 1992, p. 44).

Language Attitudes in Childhood and Adolescence

Many studies involving bilingual children and adolescents have revealed positive attitudes towards HL. In the elementary and middle school years, children tend to hold positive attitudes towards their HL (Cho, Shin, & Krashen, 2004). For example, Nguyen, Shin and Krashen’s (2001) study of Vietnamese-English elementary and middle school children in the US
showed that 80% of children endorsed the statement “it is important to speak, read and write Vietnamese”. Another study involving Hmong-English bilinguals in the US revealed that 96% of the elementary and middle school-aged participants felt that it was important to maintain their HL and 88% were interested in learning HL literacy skills at school (Shin & Bo, 2003). Several other studies involving second and third generation bilinguals have indicated a strong desire to maintain their HL (Rivera-Mills, 2001; Lee, 2002). A longitudinal case study of a Korean HL child in the US revealed that the child liked both languages at the start of school but began to prefer using English in grade 1, which was attributed to watching TV and communicating with peers (Ro & Cheatham, 2009). This shift in preference has been noted to occur within the first 2 to 3 years of beginning schooling (Oller & Eilers, 2002; Veltman, 1983).

Despite the positive attitudes towards HL endorsed by bilingual children, many studies involving immigrant adolescents indicate a preference for English in this group. Pease-Alvarez (2002) found that while Mexican-American children from immigrant backgrounds reported positive views towards HL maintenance and bilingualism, they also endorsed strongly positive attitudes towards English throughout the 7-year longitudinal project. Ghuman (1991), examined HL attitudes and use in 13 to 15 year old Indian-British adolescents and found that 96% of the participants considered themselves to be bilingual and more than 90% reported a desire to learn their HL. However, nearly all of the participants preferred to speak English “most of the time”. In Garcia and Diaz’ (1992) sample of Spanish-English high school students in Miami, 91% reported that English is very important while 80% endorsed the statement “Spanish is very important.” Portes and Shauffler (1994) noted an overwhelming preference for English in the lives of their adolescent (grades 8 and 9) participants. More than two-thirds of a sample of 5000 US adolescents from immigrant families of diverse language backgrounds reported a preference
for English over their HL (Portes & Hao, 1998). Among Spanish-English HLLs in California, attitude towards English was a better predictor of English use than their demonstrated proficiency in English (Hakuta and D’Andrea, 1992).

According to Tse (1998), in early childhood, bilingual children lack awareness of their HL as a minority language. Near the end of childhood and into adolescence (beginning around age 8 years), HLLs begin to experience ambivalent feelings about their HL and may show apathy towards it, or avoid using it. This ethnic ambivalence is fuelled by a desire to integrate into the majority culture and language and recognition of their minority status. The HL avoidance or suppression that can take place during this stage is illustrated effectively by one of Tse’s (1998) respondents who described her experiences of having friends over to her house during elementary school: "If I had friends over, I purposely spoke English to my parents. Normally, we only spoke Chinese at home. Because of the presence of a non-Chinese, I used to purposely speak English." (p. 21). It has been hypothesized that these negative feelings toward the HL are related to unpleasant reactions from HL speakers. As a consequence of ridicule or correction by more proficient HL speakers, bilingual children may feel less competent in their HL and thus, be less willing to use it due to the embarrassment they associate with its use. This results in even less HL input or exposure from others (Krashen, 1998).

In a study of British children and adolescents from Asian backgrounds, one girl shared comments that she had received from relatives: “You sometimes get like, ‘Oh, you should be able to speak it better’, that sort of thing. And that also puts it for us, we’re thinking, ‘Yes, we should know more than we do’” (Mills, 2001). The emotional impact of others’ negative feedback can be significant. As stated by a Spanish-English bilingual adolescent regarding comments and corrections to his HL attempts: "every laugh and giggle chipped away at my self-
esteem” (Krashen, 1998, p. 42). Krashen (1998) referred to anxiety regarding language use as language shyness, while research involving adult foreign language learners has referred to this phenomenon as language anxiety (e.g., Horwitz, Horwitz, & Cope, 1986). Hinton (1999) described the consequent HL language anxiety, rejection and avoidance as “less emotional and more pragmatic” than continued criticism or ridicule.

There is evidence that negative feelings can actually have an impact on language fluency since anxiety, nervousness, fatigue, and tiredness may have hinder word retrieval in bilingual individuals (Kenny, 1996). Furthermore, high levels of anxiety during a task can reduce concentration and resources for in-depth processing of information and contribute to reduced use of metacognitive strategies to facilitate learning process (Zeidner, 1998). Research for the field of educational psychology has found that emotions may influence learning and academic achievement in learners (Pekrun, Goetz, Titz & Perry, 2002). Positive emotions (e.g., enjoyment of learning) have been found to enhance academic motivation, while negative emotions (e.g, boredom) may have a detrimental effect on performance such as interfering with cognitive tasks (Pekrun et al., 2002). Pekrun and associates (2002) proposed emotions such as enjoyment of learning, pride of success and test-related anxiety to be academic emotions due to their direct link to academic learning, classroom instruction and achievement. The most common emotions reported by learners were anxiety, enjoyment of learning, hope, pride, relief, anger, boredom, and shame. While attitudes have been investigated among adolescents using primarily self-report measures, no studies to date have explored more broadly, the beliefs and perceptions younger HLLs have about their HL and English, and the emotions that they associate with tasks that correspond to domains of language and literacy in both languages.
Other Considerations in the Study of Language Attitudes in Bilingual Children

In their everyday linguistic experiences, bilingual children and adolescents interact with different interlocutors and navigate through numerous linguistic contexts. To understand the potential differences in language attitudes across environments, Oliver, Rhonda and Purdie (1998) studied the attitudes of Australian bilingual children ages 9 through 12 from a variety of backgrounds (Chinese, Vietnamese, Greek, Arabic) towards their HLs and L2 (English) in various contexts (e.g., home, classroom and playground) as well as the attitudes they attribute to others (i.e., parents, teachers and peers). Children’s attitudes towards English were significantly more positive than towards their HL. However, overall, children reported moderate to positive attitudes towards both their HL and English. Their attributions indicated that they felt their parents, teachers and peers also held positive views towards both of their languages. Interestingly, their attributions for attitudes held by others differed according to the language context. As a group, they perceived parents as preferring use of HL at home, and English at school. Other aspects of the environment may also influence perceptions of the HL. In a multi-city study of Spanish-English bilingual high school students, Ramirez (2000) found that students living in cities with significant presence of Hispanic culture and language such as Miami and Los Angeles tended to value Spanish more highly than those in cities with a weaker presence.

There is evidence that attitudes towards the HL may vary according to language or literacy domain. Smolicz, Nical, and Secombe (2000) found that Filipino-Australian high school students held positive attitudes towards speaking in the HL but less positive attitudes towards HL literacy activities. Attitudes may also vary based on individual factors such as level of proficiency and age of arrival. Older children with higher HL abilities at the time of arrival in the United States have been found to hold more positive attitudes toward continuing to use HL,
while younger arrivals with lower HL abilities were less comfortable and had less positive feelings about HL (Jia & Aaronson, 2003).

Rationale for the Studies

In contrast to the emphasis placed on second (majority) language learning, the field of HL maintenance and loss in multilingual Canadian society has been understudied and overlooked (Guardado, 2002). Although research interest has steadily increased over the years, the factors that contribute to the process of HL maintenance and loss in Canadian HLLs are not well understood. To date, the majority of studies have focused on the experience of HL maintenance or loss in older children, adolescents or adults. In previous research, there is an apparent selection bias due to recruitment of participants from heritage language programs or bilingual education programs. These children were already learning their HL in formal settings, and may differ from children who do not participate in HL instruction. Furthermore, many studies have focused on L2 acquisition or academic achievement, while overlooking the HL and the “pattern of living experienced by the individual” (p 10) which takes place across different contexts (Oller & Pearson, 2002).

The current research sought to investigate Canadian HLLs’ patterns of language use and proficiency and beliefs about learning HL and English. Three studies were conducted with HLLs in grades 3 and 4. This age group was targeted due to significant changes in language and literacy development that take place during the formidable early elementary years. There is also evidence that a shift in preference from HL to English occurs in middle childhood (Orellana, Ek & Hernandez, 1999). In addition, as Tse (1998) has noted in her stage model of ethnic identity development in HLLs, ambivalent feelings towards, and avoidance of HL may develop
beginning in childhood. Others (e.g., Portes & Rumbaut, 1996; Rumbaut, 2007) have indicated that beginning around age 8, the steepest declines in HL are observed. For the three studies, a combination of quantitative and qualitative methods was employed as appropriate. Study 1 was quantitative in nature and Study 2 and Study 3 utilized both quantitative and qualitative methods.

The three studies, their respective rationales and the research questions addressed are described below:

**Study 1**

The first study focused on children’s patterns of language input and use. Despite the recognized importance of language input and use in the maintenance of HL (e.g., Pearson, 2007), few studies have provided insight into Canadian children’s patterns of language use in different activities and with people in various linguistic contexts. Study 1 sought to address this gap in the literature by examining one research question: What are the patterns of language input and use in different situations and with different interlocutors in this group of children?

**Study 2**

While many case studies and qualitative accounts of the process of HL change have been documented (e.g., Kouritzian, 2000; Wong-Fillmore, 1991, 2000), there remains a dearth of knowledge regarding both child HLLs’ perceived and actual HL proficiency levels in different language and literacy domains as they progress from school entry to the mid-elementary years. Little is known about how elementary-aged children understand or conceptualize their language skills and on what basis they make self-judgments of language proficiency. A large proportion of studies to date involving HLLs have relied on self-ratings of proficiency to determine
language proficiency rather than objective measures (i.e., demonstrated skill on linguistic tasks). Since research regarding the accuracy of self-ratings of language proficiency has been mixed at best, there is a clear need to examine children’s levels of HL and English proficiency through more objective means. Therefore, the second study focussed on children’s proficiency in HL and English including their perceived proficiency in both languages and their attributions for their self-ratings, their demonstrated proficiency (on objective measures) and the concordance between their perceived and demonstrated proficiency in HL and English. The following questions were examined to provide insight into HLLs’ proficiency during this period of development:

(a) By what means do bilingual children judge their own proficiency in various language and literacy domains? (b) How do they assess their own skills in HL and English? (c) To what extent are children aware of any changes in language skill over time in their two languages? (d) How do they describe, and to what do they attribute their perceived language loss, maintenance or growth? (e) What are child HLLs’ demonstrated levels of language proficiency and literacy skills in HL and English? (f) How accurate are children’s appraisals of their own skills?

**Study 3**

As children’s feelings and perspectives regarding their heritage and second languages have yet to be explored in a comprehensive manner, Study 3 focussed on children’s affective responses to language and literacy domains in both languages as well as the beliefs and perceptions they have about their HL and English. The following research questions were addressed:
(a) What affective responses do children associate with HL and English language and literacy domains (i.e., listening, speaking, reading, spelling and writing)? (b) To what do they attribute these affective responses? In other words, what beliefs and perceptions about HL and English domains do they hold?
Chapter 3. Method

Participants

The participants (n = 63) for the present study were Spanish-English and Chinese-English HLLs, enrolled at 12 schools from 3 school boards in metropolitan Toronto. They were participants in a longitudinal study of language and literacy development of English- as-a-second-language (ESL) primary students from three different language backgrounds over a period of 5 years, from senior kindergarten to grade 4. The ESL status of all participants was determined by the local school board and subsequently confirmed by their classroom teachers. HL was also confirmed as the children’s first language by parental report.

Participant Demographics

Since the sample was not homogeneous and consisted of children of three different HL origins, it was important to investigate whether the three groups could be used together in the analyses. The demographic variables of the groups were investigated using a series of chi square goodness of fit tests and analysis of variance (ANOVA). Results of the analyses are presented in Table 1.

Table 1. Demographic Characteristics of Participants by HL group

<table>
<thead>
<tr>
<th>Demographic variable</th>
<th>N</th>
<th>Cantonese</th>
<th>Mandarin</th>
<th>Spanish</th>
<th>Statistic*</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age M (SD) in years</td>
<td>63</td>
<td>30</td>
<td>14</td>
<td>19</td>
<td>4.19^a</td>
<td>.020</td>
</tr>
<tr>
<td>Gender Female/Male</td>
<td>63</td>
<td>15:15</td>
<td>7:7</td>
<td>10:9</td>
<td>.037^b</td>
<td>.982</td>
</tr>
<tr>
<td>Country of Birth Canada/HL country (%)</td>
<td>63</td>
<td>86.7: 13.3</td>
<td>50.0:50.0</td>
<td>94.7: 5.3</td>
<td>11.67^b</td>
<td>.003</td>
</tr>
<tr>
<td>Age of arrival if not born in Canada</td>
<td>12</td>
<td>3.0 (1.73)</td>
<td>2.83 (1.47)</td>
<td>3.0 (-)</td>
<td>.014^a</td>
<td>.986</td>
</tr>
<tr>
<td>Current attendance at HL class Y/N (%)</td>
<td>63</td>
<td>93.3: 6.7</td>
<td>42.9: 57.1</td>
<td>73.7: 26.3</td>
<td>13.50^b</td>
<td>.001</td>
</tr>
</tbody>
</table>
As indicated in Table 1, language groups were not identical in terms of mean age, country of birth, current attendance at HL class, and parents’ highest level of education. Specifically, the mean age of children in the Spanish group was greater on average by 2 to 4 months than the other language groups. Additionally, a greater proportion of children in the Mandarin group was born outside Canada compared with the other two HL groups. In addition, the Mandarin and Cantonese HL groups had parents who attained higher levels of parental education than the children the Spanish group. Moreover, approximately half of the Mandarin speaking parents had a university degree whereas in the other two groups there was more variance in parental education. Lastly, the majority of children in the Cantonese and Spanish HL groups reported current attendance at HL class, in contrast with roughly half of children in the Mandarin group. These differences reflect immigration patterns to Canada (for a review of intragroup differences within Chinese immigrants to Canada, please see Guo & DeVortz, 2007).

Preliminary comparison of language groups on the variables of interest, namely children’s reported language use patterns, self-ratings of proficiency and affective responses to HL and English, indicated no differences. To ensure that the absence of HL group differences on these variables in the full sample were not due to counterbalancing from the interactions of age, country of birth, current attendance at HL class, and parents’ highest level of education with the

<table>
<thead>
<tr>
<th>Parent’s highest level of education (%)</th>
<th>55</th>
<th>19.65&lt;sup&gt;b&lt;/sup&gt;</th>
<th>.003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some elementary or high school</td>
<td>26.9</td>
<td>10.0</td>
<td>21.1</td>
</tr>
<tr>
<td>High school diploma</td>
<td>23.1</td>
<td>10.0</td>
<td>52.6</td>
</tr>
<tr>
<td>Some college or university</td>
<td>19.2</td>
<td>0.0</td>
<td>21.1</td>
</tr>
<tr>
<td>University degree</td>
<td>30.8</td>
<td>80.0</td>
<td>5.3</td>
</tr>
</tbody>
</table>

*Statistic reported: <sup>a</sup> F test, <sup>b</sup> χ²
variables of interest, a matched pairs analysis was conducted. Mandarin and Cantonese HL groups were combined into a single group identified as “Chinese” due to the small number of participants in the Mandarin language group and its similarity to the Cantonese language group on mean age. Pairs were created by matching participants from the Chinese and Spanish groups on age, country of birth, HL class attendance and highest level of parental education, factors identified as significantly different between the two language groups. In addition to these variables, when possible, pairs were matched on gender to maximize the similarity of paired participants. The main variables of interest (i.e., self-ratings of language use, proficiency and affective responses to HL and English) were compared across the matched groups using paired samples t-tests (for continuous variables) and chi-square tests of goodness of fit (for all categorical variables). The 16 generated matched pairs did not differ on any of the objective measures of language use, self-ratings of proficiency, self-ratings of changes in proficiency and affective responses to language and literacy domains (see Appendix C). The results of this more rigorous analysis, which indicated no differences on the variables of interest, provided greater confidence that the differences in demographic variables do not affect the variables of interest for the larger sample. Therefore, to maximize the power of the analyses, subsequent analyses included the full sample rather than the matched sample (with the exception of language-specific measures of proficiency in HL language and literacy).

Measures

Children’s language input and use patterns, perceived proficiency and changes in proficiency and affective responses to HL and English were investigated using a structured interview format. Interviews took place on an individual basis. The structured interview format
was chosen as it allowed the interviewer the opportunity to gain further clarity and breadth of response through non-directive follow-up probes (e.g., “what do you mean”, “tell me more about that”). The protocol was designed specifically to be suitable for children in middle childhood (see Appendix A). Since the combination of auditory and visual stimuli promote better informational processing and maximize understanding of verbal concepts for children (Frostig & Maslow, 1979), each item in the interview was presented orally using both auditory instructions and a visual representation of the rating scale. The inclusion of visual stimuli was aimed at facilitating children’s comprehension of task demands, stimulating their attention and interest, and minimizing the memory load of the questions. The interview was piloted on 5 child HLLs from several language backgrounds in grades 3 through 5, to determine the appropriateness of the items and stimuli and to assess its overall appeal. Several interview items were modified based on the pilot data and other items were added in response to feedback from participants. Each of the sections of the interview, including examples of interview items and their accompanying visual stimuli are described in detail in the following sections.

**Self Ratings of Language Input and Use**

A section of the interview questionnaire included questions about children’s current use of their two languages during language and literacy-related activities (e.g., watching television, listening to music) and with various interlocutors (e.g., with parents, siblings, peers). The checklist was divided into three parts: language used by the child in specific activities; language used to speak to specific individuals; and language used by specific individuals to speak to the child. It was adapted from a language background self-rating scale developed by Baker (2006). Due to the age group of the participants, several language activities were excluded including
“earning money” and “clubs and societies”. Based on the literature reviewed, several activities were added including “using the computer” and “going to church”. To minimize the length of the interview, only a selection of activities were chosen as items in the Language Use portion (see Appendix A1) of the final interview questionnaire. In the sections which focus on the language(s) used to speak with specific individuals and the language(s) spoken to the child by specific individuals, several interlocutors were added based on the comments made by the pilot participants and findings of the literature to date. Aunts and uncles, grandparents, cousins and best friends were included. Please refer to the section entitled “Language Use” in Appendix A1: Structured Interview Protocol. The participants were required to rate their language use across the different items, using a 5-point scale that indicated the degree of use of his/her two languages used during the activity or with the specified individual (see Appendix A2). On this scale, a rating of 1 referred to “always in HL”, 2 was “more HL than English”, 3 was “HL and English about the same”, 4 was “more English than HL” and 5 referred to “always in English”. The child was instructed to indicate his/her response verbally (in words or by saying the number that corresponds with his/her choice) or nonverbally (pointing to visual representation of the scale). To demonstrate the task, for the first item, the tester introduced an example of how different fictional child HLLs (illustrated in drawings) with different patterns of HL and L2 use would respond to the item. Sample children were designed to provide an example of a degree of use of HL and L2 and how different behaviour mapped onto the five-point scale. For example, to demonstrate languages used in different activities, children were shown a picture of Andrew/Andrea and provided with a description of his/her TV viewing habits, and the rating he/she chose on the five-point scale:
Here’s Andrew/Andrea. When he/she watches TV, he/she watches programs in HL on Mondays and the rest of the week he/she watches programs in English. So if I asked him/her “when you are watching TV, is it (while pointing to options) “always in HL, more in HL than English, HL and English about the same, more English than HL or always in English”. Andrew said “more English than HL” (pointing at option 4) since he/she watches TV in English for most of the week and he/she watches HL TV only one day a week.

Each of the other 4 points on the scale was illustrated using descriptions of sample children, their language use and their appropriate corresponding choice on the scale (please refer to Appendix A1 for the tester’s demonstration script).

**Self-ratings of Proficiency**

Questions related to students' self-ratings of proficiency in their HL and English were administered using a similar method to their items pertaining to language input and use. Children were asked to rate their own skills in five language and literacy domains (i.e., listening, speaking, reading, spelling, and writing stories), on a five-point scale (ranging from 1 = “not at all” to 5 = “very well”), presented on a visual stimulus (see Appendix A3) as well as verbally by the tester. Fictional sample children illustrated in pictures were introduced to provide examples of different levels of skill and their corresponding points on the five-point scale. One sample child was introduced by saying “This is Kenneth/Karen. When other people talk to Kenneth/Karen in HL, he/she can’t understand any of the words they are saying. When I asked him/her how well he/she can understand HL, he/she said “not at all” (while pointing to “not at all” on the visual stimulus). Please refer to section entitled “Self-rated Proficiency” in Appendix A1 for the demonstration script. Children were asked to rate their skills first in one language and then their other language. The order of questioning (HL/English or English/HL) was counterbalanced to control for order of presentation effects. For example, in the listening
domain, half of the children were first presented with the item “How well can you understand HL”, followed by the item “How well can you understand English”, while the other half of children received the items in the reverse order.

**Self Ratings of Change in Proficiency**

After asking children to rate their current levels of proficiency in HL and English, children were also asked to rate their level of proficiency in each of the language and literacy domains in kindergarten. On this scale, a rating of 1 referred to “forgot a lot”, 2 was “forgot a little”, 3 was “stayed the same”, 4 was “got a little better” and 5 referred to “got a lot better”. Sample children and descriptions of their degree of language change were provided to elucidate the task as well as visual of the scale (Appendix A4). For example, children were introduced to a picture of George/Gloria, the changes in his/her language skills were described and his/her corresponding response was identified on the visual scale: “This is George/Gloria. When he/she started school, he/she could speak HL pretty well and now in grade 3/4, he/she has forgotten a lot. So when I asked him/her if he/she has forgotten or gotten better at understanding HL, he/she said “I forgot a lot” (say while pointing at option 1)”. Please refer to the section entitled “Awareness of Change in Language Proficiency” in Appendix A1 in for further details regarding the introduction and demonstration for these items.

**Attributions for Proficiency and Change Ratings**

For each of their ratings, children were asked to explain the reasoning behind their rating. The interviewer queried: “How do you know that you listen/speak/read/spell/write in HL/English (insert child’s rating on 5-point scale)” For example, if a child rated him/herself as able to read in HL “very well”, the interviewer would respond with “How do you know that you read in HL
very well? Children’s elaborations of their explanations were encouraged using specific prompts including “What tells you this” and “How can you tell?”

**Affective Responses to Language and Literacy Activities**

Children’s affective responses to their HL and English were assessed using an experimental pictorial method. Children were introduced to the protagonist depicted in a picture, described as similar to him/her by gender, age and the amount of HL and English knowledge possessed. The tester requested assistance from the children in determining how the protagonist in the picture feels in two separate non-linguistic training scenarios (playing at the park, going to the doctor). To maximize the similarity between the protagonist and each child, the picture items portraying the character were matched to each child’s gender. Since the protagonist was presented from the back view in all the situations and depicted with generic hairstyles, the same pictures could be used for all of the children without the risk of having the pictures resemble some children more than the others. After the picture was presented and the situation was stated by the tester, the child was requested to indicate how the protagonist feels in the situation by pointing to the facial expression that matches the feeling (i.e., positive, neutral or negative face, see Appendix A4). At the beginning of the task, the tester stressed that there are no right or wrong answers. Following the training items, the tester presented the child with 20 language and literacy-related situations, one at a time. The items covered 5 language and literacy domains (i.e. speaking, listening, reading, spelling and writing stories). To distinguish the potential differences between affective responses for literacy activities that take place in the private context (i.e., home) versus those that happen in public contexts (e.g., school, on the street), for each of the 5 literacy domains, the character was shown in doing the target activity (i.e.,
listening, speaking etc.) at home in one item and in a public context in a separate item.

Furthermore, each language and literacy domain was presented, in separate items, as taking place in the child's HL and also English. The picture stimuli that accompany both HL and English items were identical, with the exception of the language shown in the picture (see Appendix A5 for picture items). For each item, the tester stated what activity the character is engaged in (e.g. "This is a picture of X reading a book in HL at home") and the child was asked to indicate the character's affective response on the facial expression visual stimulus scale. To maximize the child's level of interest and attention, the 20 items were divided into 5 separate colour-coded booklets, according to the 5 language and literacy domains. The sequence of presentation of the 5 domains was fixed, however, the order of 4 items within each domain booklet (i.e., HL/private, English/private, HL/public, English/public) was randomized. It should be noted that this task is not a projective test since the pictures depict specific situations which permit little interpretation. It was designed by the researcher as a non-threatening and developmentally appropriate tool that can be used to elicit children's beliefs and feelings towards language and literacy-related activities. It was developed through extensive piloting testing with children in the target age group and from several HL backgrounds. Results of the piloting supported the use of the pictorial style as it appeared to facilitate good rapport and child participation, thereby enhancing the quality of information provided by the child.

**Attributions for Affective Responses to Language and Literacy Activities**

After the child chose a facial expression and provided a label for the protagonist in the target situation, children were asked to explain the reasoning behind their affective response. Children were asked, “What makes X feel (point at chosen facial expression/insert emotion label
assigned by child) when he/she is (insert scenario)”. For example, in response to the listening in HL scenario at home, if a child chose the neutral face and labelled the protagonist’s affect as “bored”, the interviewer would query “What makes X feel bored (pointing to the neutral face on the visual stimulus) while listening to someone speak HL at home?” To encourage children to elaborate on their responses, a number of standard prompts were used including “What do you mean” and “Tell me a bit more”.

Demographic Information

A Family Questionnaire (Appendix B) was sent to each participant’s family in order to identify home literacy practices and provide demographic information (e.g., birthplace of students and their parents, date of birth and immigration, family structure, contact with home country). The questionnaires were translated into Chinese (i.e., traditional and simplified) and Spanish.

Objective Measures of Language and Literacy Proficiency

A combination of non-standardized and standardized tasks was administered in the children’s’ HL (Chinese or Spanish) as well as English. When available, commercial original versions of the test in the students’ first language were used. This was the case for some of the Spanish tasks (e.g., Spanish Woodcock Language Proficiency Battery-Revised (WLPB-R)). Several other measures were translated into Cantonese, Mandarin, and Spanish from the English version for the purposes of this study by graduate assistants who are native speakers of these languages and have backgrounds in linguistics. The language and literacy skills under study were measured using the following task batteries. All tasks were administered in both children’s
HL (mostly adapted versions) and English (standard versions) and were scored by trained graduate assistants:

**Language Proficiency**

Vocabulary The Peabody Picture Vocabulary Test-Revised (PPVT-M) (Dunn & Dunn 1981, 1983) is a measure of receptive vocabulary in English and verbal comprehension. In this test, the child hears a word, is presented with four pictures, and is asked to point to the picture that matches the word stated by the tester. The task is comprised of 168 items, and is discontinued after 8 errors within a 10-item set. The Spanish version of this task, the Test de Vocabulario en Imagenes Peabody (TVIP; Dunn, Padilla, Lugo, & Dunn, 1986) was administered to children with Spanish as an HL, it contained 125 items. The task was discontinued after 6 consecutive errors. Cantonese and Mandarin HL children were administered an experimental Chinese version of the PPVT-M (Dunn & Dunn 1981, 1983) developed by M. Lam. This task contained 168 items and was discontinued after 8 errors within a 10-item set.

**Spoken Language Proficiency**

The Oral Expression subtest of the Test of Language Competence (TLC) (Wiig & Secord, 1989) was used as a measure of speaking proficiency in English. The translated version of this task was also administered to each child in his/her respective HL. In this task, children were asked to produce a speech act (thanking, promising, requesting, describing, reporting, etc.) which included two given stimulus words and matched the stimulus pictures presented (e.g., “get” and “cat” presented with an illustration of a cat in a tree). There are 16 items in total and no discontinue criteria. The children’s responses were transcribed verbatim and were scored in terms of grammatical and semantic appropriateness (holistic score) and inclusion of the stimulus
words (word count score). The holistic score and word count score were summed to yield a total score. Due to the judgment required in the scoring of this task, two independent raters scored this task. Discrepancies were resolved via discussion. Table 2 presents average percentage agreement between scorers for the Oral Expression task in English and each of the HLs in grades 1 and 2.

Table 2.  *Average Percentage Agreement of Two Independent Scorers for Oral Expression Task by Language and Grade*

<table>
<thead>
<tr>
<th>Language</th>
<th>Grade 1</th>
<th>Grade 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Holistic</td>
<td>Word count</td>
</tr>
<tr>
<td>English</td>
<td>88.6</td>
<td>94.0</td>
</tr>
<tr>
<td>Cantonese</td>
<td>85.2</td>
<td>87.5</td>
</tr>
<tr>
<td>Mandarin</td>
<td>82.6</td>
<td>88.2</td>
</tr>
<tr>
<td>Spanish</td>
<td>83.3</td>
<td>88.8</td>
</tr>
</tbody>
</table>

*Word Reading Skills*

The Word Identification (WI) subtest of the Woodcock Reading Mastery Test Revised (WRMT-R, Woodcock, 1987) was used as the measure of English word level reading ability. For this task, children were required to read words that increase in length and level of difficulty. The task was comprised of 106 items, discontinued after 6 consecutive errors that end with the last item within a set. For both Cantonese and Mandarin HL children, an experimental word recognition task (adapted from Chan & Siegel, 2001) consisting of 100 items was administered. The discontinue criteria for both sections was 6 consecutive errors. To measure Spanish reading ability, the Word Identification subtest of the Spanish Woodcock Language Proficiency Battery-
Revised (WLPB-R) was used. The task contained 56 items and was discontinued after 6 consecutive errors. Both HL word reading tasks are structured similarly to the WI.

*Spelling Skills*

The experimental Real Word Spelling task was used to measure spelling ability. For this group-administered task, children were required to write a series of single words dictated by the tester that increased in level of difficulty. The task consisted of 15 single word items and was discontinued after 6 consecutive mistakes. Cantonese and Mandarin HL children were group-administered an experimental Character Dictation task as well, which consisted of 16 items. There were no discontinue criteria for this task. Spanish HL children were not administered a task of spelling ability.

*Writing Skills*

The Writing Fluency subtest of the Woodcock Johnson Tests of Achievement, third edition (WJ-III ACH, Woodcock, McGrew & Mather, 2001) was administered to measure writing ability in English. The translated versions of this task were also administered to each child in his/her HL. For this group-administered task, children were required to write simple sentences describing an illustration using specific target words. For example, for one item, children were provided with an illustration of a dog and asked to write a sentence with the words “this”, “dog” and “big” that matched the illustration. The task was to write as many sentences (which included the target words and matched the illustrations) within the 7-minute time limit. The score on this task was the total number of grammatically correct sentences written within the permitted time. There are 40 possible items on this measure. As this task required judgment to
be exercised on the part of the scorer, two independent raters scored this task. Discrepancies were resolved via discussion. Average percentage agreement was calculated and inter-rater reliability was found to be adequate for all versions and time points. This task was administered in grades 2, 3 and 4 in English and in HLs in grade 2 only. Percentage agreement was 93.4 in grade 2, 95.2 in grade 3 and 96.28 in grade 4. In grade 2, for the Spanish version of the task, percentage agreement was 90.5. For the Cantonese version, it was 84.2 percent and for the Mandarin version, it was 100 percent.

**Testing Procedure**

The assessment of a variety of cognitive, language and literacy skills took place once a year (during the spring). From senior kindergarten until grade 2, participants were assessed in both their HL (i.e., Cantonese, Mandarin or Spanish) and L2, English. For grades 3 and 4, testing occurred only in English. Testing sessions took place in a quiet room designated by each of the schools. Listening, speaking and reading measures and the structured interview were administered to participants on an individual basis in sessions of 30 minutes to an hour. Measures of spelling and writing ability were group tasks, administered to up to 5 children at a time. Tasks were administered by trained graduate students and research assistants with majors in psychology, linguistics, or human biology. HL tasks were administered by graduate or undergraduate students who were native speakers of Spanish or Chinese.

**Qualitative Coding Procedures**

To explore children’s understandings of themselves as HLLs, responses to open-ended questions in the semi-structured interview were transcribed and checked for accuracy by the
primary researcher and research assistants. Transcripts were coded using qualitative analysis procedures (Strauss & Corbin, 1990) to allow salient themes to emerge. Children’s responses to questions about their attributions of proficiency, change and affective responses were coded separately. Most individual responses were coded under a single theme, however, there were instances, particularly among lengthier or more semantically complex responses, when multiple themes were evident in the same response. In these cases, distinct excerpts of a single response were coded within the corresponding themes. The qualitative analysis software NVivo8 was used to manage and code the data. It allowed the researcher to organize the data, change revise and merge codes easily, and create annotations and memos to audit the coding process.

Process of Establishing Validity and Reliability of Derived Themes

In qualitative research, validity can be understood as how accurately the account represents participants’ realities of the social phenomenon (Schwandt, 1997). According to Stringer (2004), the findings of qualitative studies are tied to the participants, their setting and time period, and thus traditional procedures for ensuring reliability and validity are not appropriate. The commonly applied alternate criteria for establishing the trustworthiness of the research are credibility, dependability, confirmability and transferability as originally outlined by Lincoln and Guba (1985). Each of the criteria, and the strategies used to meet them, will be discussed in turn. To enhance the credibility of the research, the primary researcher regularly engaged in peer debriefing with a qualified external researcher who was able to critique and evaluate the study design, data collection methods, analyses chosen. Another threat to the credibility of the research is the risk of biases that may be introduced by participants at each data
collection site. This was minimized by drawing participants from 15 different schools, a strategy referred to as location triangulation.

After open coding\(^1\) the data for themes and categories, to increase the dependability of the identified themes, transcripts of nearly 20 percent of the participants (n = 15) were coded by an independent second coder. Discrepancies were discussed and consensus was reached through further analysis and discussion. Subsequently, appropriate revisions were made to the codes to ensure valid representation of the data. Annotations and memos describing the revision process were created. Using the amended themes and categories, the data were re-coded by the primary researcher.

Additionally, to promote confidence that the data were neutral and objective (i.e., its confirmability), examples of data were provided for review so that interpretations could be made based on the data and evaluated by others, including a psychology and linguistics graduate student. Though the results of the proposed study are intended to apply only to its participants, detailed and thick descriptions of all aspects of the research have been provided to inform readers’ judgments of the transferability of the results. Interested readers are responsible for judging the applicability of the results to a new context (Marshall & Rossman, 1989).

\(^1\) Open coding is the process of "breaking down, examining, comparing, conceptualizing, and categorizing data" (Strauss & Corbin, 1990, p. 61) to describe the overall features of the phenomenon being studied.
Chapter 4. Study One: Patterns of Language Input and Use of HLLs

Language Input and Use during Linguistic Activities

Each of the language use items was measured on a 3-point scale. Chi-square goodness-of-fit tests were used to explore children’s use of their two languages in various language-related activities. The results of the analyses are summarized in Table 3.

Table 3. Children’s Use of HL and English During Language-related Activities

<table>
<thead>
<tr>
<th>Activity</th>
<th>N</th>
<th>All or mostly HL</th>
<th>HL and English equally</th>
<th>All or mostly English</th>
<th>$\chi^2$</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Watching television</td>
<td>63</td>
<td>4.8</td>
<td>22.2</td>
<td>73.0</td>
<td>47.52</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Listening to music</td>
<td>60</td>
<td>23.3</td>
<td>26.7</td>
<td>50.0</td>
<td>7.60</td>
<td>ns</td>
</tr>
<tr>
<td>Reading books</td>
<td>63</td>
<td>3.2</td>
<td>1.6</td>
<td>95.2</td>
<td>108.67</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Using the computer</td>
<td>62</td>
<td>0.0</td>
<td>6.4</td>
<td>93.6</td>
<td>101.55</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Singing songs</td>
<td>59</td>
<td>10.2</td>
<td>20.3</td>
<td>69.5</td>
<td>35.63</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>At church</td>
<td>29</td>
<td>41.4</td>
<td>10.3</td>
<td>48.3</td>
<td>7.10</td>
<td>ns</td>
</tr>
</tbody>
</table>

As indicated in Table 3, children tended to use mostly or all English in many of their everyday activities. When watching television, nearly all children reported using some English, with almost three-quarters reporting their television viewing as involving all or mostly English. Children also tended to read in English. When asked about their computer use, the overwhelming majority of children reported using the computer all or mostly in English. Some children reported the equal use of HL and English or predominantly HL in certain oral language activities including listening to music and in church activities, but chi-square tests were not significant after bonferroni correction. That is, children were equally likely to listen to music in one or both of their two languages. However, children tended to mostly sing songs in English, rather than in their HL.
Language Input and Use with Different Interlocutors

Children reported their use of their two languages when speaking to individuals in their lives. Specific interlocutors explored included children’s parents, siblings, grandparents, aunts and uncles, cousins, and friends. A series of chi-square goodness-of-fit tests were conducted to explore the distribution of children’s responses. The results of the analyses are presented in Table 4.

<table>
<thead>
<tr>
<th>Child speaking to:</th>
<th>N</th>
<th>All or mostly HL</th>
<th>HL and English equally</th>
<th>All or mostly English</th>
<th>$\chi^2$</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father</td>
<td>62</td>
<td>66.1</td>
<td>14.5</td>
<td>19.4</td>
<td>30.23</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Mother</td>
<td>63</td>
<td>60.3</td>
<td>23.8</td>
<td>15.9</td>
<td>21.24</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Siblings</td>
<td>52</td>
<td>15.4</td>
<td>17.3</td>
<td>67.3</td>
<td>27.04</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Grandparents</td>
<td>57</td>
<td>100.0</td>
<td>0.0</td>
<td>0.0</td>
<td>114.00</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Cousins</td>
<td>59</td>
<td>25.4</td>
<td>8.5</td>
<td>66.1</td>
<td>31.05</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Aunts &amp; Uncles</td>
<td>61</td>
<td>68.8</td>
<td>14.8</td>
<td>16.4</td>
<td>34.66</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Friends</td>
<td>63</td>
<td>0.0</td>
<td>6.3</td>
<td>93.7</td>
<td>103.52</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Best friend</td>
<td>62</td>
<td>6.4</td>
<td>6.4</td>
<td>87.1</td>
<td>88.75</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

Findings in Table 4 indicate that children tend to use HL when speaking to elder members of their families including their parents, grandparents, aunts and uncles. Only a small proportion of children reported using all or mostly English to communicate with their parents. With grandparents, all children reported using all or mostly HL. In contrast, the opposite pattern of language use was reported by children when asked about their language use with interlocutors likely to be more similar in age to them including siblings, cousins and friends. More specifically, as illustrated in Table 4, English is the predominant language used by children to communicate with their siblings. With their cousins, the majority of children use all or mostly
English. However, about one-quarter of children reported speaking all or mostly HL with their cousins. Nearly all children indicated that they spoke to their friends in all or mostly English, with the remaining children reporting equal use of HL and English. Similarly, when speaking with their best friend, children tend to use English, with only a few children indicating using some HL.

In addition to the languages children themselves use in their interactions, the language used by their interlocutors was also explored, to provide information about the language input available to these young heritage language learners. Children’s reported the language(s) used by the individuals in their lives. Chi-square goodness-of-fit tests were conducted to investigate language use by various interlocutors. Table 5 provides a summary of the results of these analyses.

Table 5. Use of HL and English by Different Interlocutors

<table>
<thead>
<tr>
<th>Interlocutor speaking to child:</th>
<th>N</th>
<th>Language(s) used %</th>
<th>All or mostly HL</th>
<th>HL and English equally</th>
<th>All of mostly English</th>
<th>( \chi^2 )</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father</td>
<td>62</td>
<td></td>
<td>75.8</td>
<td>12.9</td>
<td>11.3</td>
<td>50.36</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Mother</td>
<td>63</td>
<td></td>
<td>79.4</td>
<td>14.3</td>
<td>6.3</td>
<td>60.67</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Siblings</td>
<td>50</td>
<td></td>
<td>8.0</td>
<td>20.0</td>
<td>72.0</td>
<td>34.72</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Grandparents</td>
<td>58</td>
<td></td>
<td>93.1</td>
<td>3.5</td>
<td>3.5</td>
<td>93.24</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Cousins</td>
<td>60</td>
<td></td>
<td>23.3</td>
<td>13.3</td>
<td>63.3</td>
<td>25.20</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Aunts &amp; Uncles</td>
<td>61</td>
<td></td>
<td>70.5</td>
<td>14.8</td>
<td>14.8</td>
<td>37.90</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Friends</td>
<td>63</td>
<td></td>
<td>0.0</td>
<td>7.9</td>
<td>92.1</td>
<td>44.59</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Best friend</td>
<td>61</td>
<td></td>
<td>3.3</td>
<td>6.6</td>
<td>90.2</td>
<td>88.75</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

As seen in Table 5, both fathers and mother tend to use HL when speaking to their children. Likewise, by the children’s report, grandparents use HL when speaking to their grandchildren, with only a tiny proportion of grandparents communicating using some English. Aunts and uncles tend to use all of mostly HL with the children. Similar to parents, a relatively
small proportion of aunts and uncles speak English at least half of the time with the children. However, the majority of children report that their siblings, cousins and friends speak English to them. Only one-fifth of children indicated that their siblings speak HL and English equally and few reported all of mostly HL is spoken by their brothers or sisters. However, a small, but notable proportion of children indicated that their cousins speak all or mostly HL. Finally, friends and best friends tend to speak English to the children. Few children reported equal use of HL and English by their friends and best friends.

**Summary of Study 1**

Several overall trends were evident in children’s patterns of language input and use. In everyday linguistic activities, children tended to use English when watching TV, reading books and using the computer. Some children also reported use of HL in these activities, to a lesser extent than English. Children were equally likely to listen to music in one or both of their two languages, but tended to sing songs in English, rather than in their HL.

Children were exposed to, and used, their two languages differently with various people in their lives. Children and their parents tended to communicate with each other using their HL. Most children spoke to, and were spoken to, in HL by their grandparents, aunts and uncles. While two-way communication between children and elder family members tended to be in HL, English tended to be the dominant language of interactions between children and their brothers and sisters. English also tended to be used among children and their cousins. Similarly, with friends, communication took place in English, rather than in HL.
Chapter 5. Study Two: Children’s Proficiency in Language and Literacy

Chapter Overview

One objective of this chapter was to explore children’s own perceptions of their current proficiency in HL and English language and literacy domains as well as their awareness of any changes in their proficiency over time in their two languages. The second objective of the current chapter was to present children’s actual levels of language proficiency and literacy skills in HL and English as demonstrated on objective measures. By comparing children’s perceived and demonstrated proficiency, this chapter also provides a response to the question “How accurate are children’s appraisals of their own skills?” In addition to examining children’s self-ratings, the current study sought to explore the means by which children judge their own proficiency in various language and literacy domains by analyzing children’s attributions for their self-ratings of proficiency. This chapter presents the primary themes which emerged from the analyses of the interview data. The current study also aimed to answer another query: “How do children describe, and to what do they attribute, their perceived language loss, maintenance or growth?” Qualitative analysis of the interview data revealed that children’s attributions for changes in their language proficiency extended across the same primary themes as their explanations of proficiency. Furthermore, the relative frequency of these themes was consistent for both attributions for proficiency and change. Therefore, this chapter provides an overview of these primary themes, drawing from children’s understandings of both their current proficiency levels, as well as their explanations of changes they have observed in their skills over time.
Self-ratings of Current Proficiency in HL and English

Children were asked to identify which of their two languages they learned first. Sixty-three percent of children reported their HL as the language to which they were first exposed. Although HL was confirmed to be the first language of all children in the study by parental report, twenty-seven percent of children stated that English was their first language. Two children reported being exposed to both their HL and English at the same time.

Children provided self-ratings for their perceived level of proficiency in different language and literacy domains in each of their two languages on a 5-point scale, ranging from 1 = “not at all” to 5 = “very well” (see methods for more information about this scale). Figure 1 summarizes children’s ratings of proficiency across listening, speaking, reading, spelling and writing stories.
Figure 1 illustrates that for aspects of language proficiency (i.e., listening and speaking), children’s ratings of HL and English proficiency followed a similar trend: Children tended to rate their HL listening and speaking skills at a moderate level, and their level of proficiency in speaking and listening in English as high. In other words, the majority of children saw themselves as able to listen and speak in both of their languages at least moderately well.

In contrast, on literacy areas, children assigned different levels of proficiency to HL as compared with English. The majority of children indicated low levels of proficiency in reading and spelling in their HL, but high levels of proficiency in English.

Figure 1. Children’s Self-ratings of Proficiency across Language and Literacy Domains in HL and English
discrepancy between children’s self-ratings of proficiency in HL versus English was evident.

Whereas children tended to report very low levels of proficiency in writing in HL, they reported high levels of writing proficiency in English. A series of Wilcoxon Signed Ranks tests were carried out between children’s ratings of proficiency in HL and English in each language and literacy domain. For example, a child’s rating of their listening skills in HL was compared with their rating of listening skills in English on the same 5-point scale. The results of the comparisons for the five domains of language and literacy are presented in Table 6.

Table 6. *Comparison of Children’s Ratings of Proficiency in English vs. HL*

<table>
<thead>
<tr>
<th>Domain</th>
<th>English rating – HL rating (%)</th>
<th>Z</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Negative</td>
<td>Tie</td>
<td>Positive</td>
</tr>
<tr>
<td>Listening</td>
<td>6.3</td>
<td>38.1</td>
<td>55.6</td>
</tr>
<tr>
<td>Speaking</td>
<td>7.9</td>
<td>34.9</td>
<td>57.1</td>
</tr>
<tr>
<td>Reading</td>
<td>1.6</td>
<td>12.7</td>
<td>85.7</td>
</tr>
<tr>
<td>Spellinga</td>
<td>0.0</td>
<td>6.3</td>
<td>93.7</td>
</tr>
<tr>
<td>Writinga</td>
<td>0.0</td>
<td>4.8</td>
<td>95.2</td>
</tr>
</tbody>
</table>

*Note.* All analyses based on N = 63 unless otherwise indicated.

Negative: English < HL, Tie; English = HL, Positive: English > HL

*a* based on N = 62

The Wilcoxon Signed Ranks tests showed that there were statistically significant differences between children’s ratings of proficiency in HL and in English for each of the language and literacy domains (*p* < .001). For the majority of children, self-ratings of listening and speaking proficiency in English were higher than their ratings of proficiency in HL (positive ranks). However, more than one-third of children assigned the same proficiency levels in the two languages (ties). Notably, for listening and speaking areas, very few children provided ratings of proficiency in HL that were higher than their ratings in English. In literacy domains, the higher appraisal of proficiency in English was even more apparent. Overall, children tended to rate their level of proficiency in reading in English as higher than their skills in HL. Only a
small proportion of children (12.7%) rated their HL and English reading skills at the same level of proficiency. In the areas involving written language (i.e., spelling and writing domains), nearly all children rated their proficiency in English more highly than their self-ratings in HL (>93% for spelling, >95% for writing).

Perceptions of Changes in Language Proficiency Over Time

Children were asked to indicate which language they currently find easier as well as which language they found easier when they first began school. Results of the chi-square tests were significant ($\chi^2 = 27.71, p = .000$). A comparison of the responses revealed that the majority of children identified English as easier both at present and in the past (79.4% and 56.5% respectively). However, it was noted that whereas only 6.3% of children felt that learning HL was easier than English at present, 40.3% selected HL as the language they found “easier” in grade 1. A small proportion of children felt that at present, neither language was easier than the other (14.3%) while a negligible number (N=2, 3.2%) felt that neither language was easier in the past.

Children were asked to identify any changes in their level of proficiency in their two languages since beginning school. Changes in children’s perceptions of their abilities in HL and English and each of the language and literacy domains were rated on a 3-point scale (1 = forgot, 2 = stayed the same, 3 = got better). Chi-square goodness of fit tests were conducted to investigate any perceived changes. The findings are represented in Table 7.
Table 7. *Children’s Perceptions of Changes in Proficiency in HL and English by Language and Literacy Domain*

<table>
<thead>
<tr>
<th>Language</th>
<th>Domain</th>
<th>Perceived change (%)</th>
<th>( \chi^2 )</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Forgot</td>
<td>Stayed the same</td>
<td>Got better</td>
</tr>
<tr>
<td>HL</td>
<td>Listening</td>
<td>33.3</td>
<td>25.4</td>
<td>41.3</td>
</tr>
<tr>
<td></td>
<td>Speaking</td>
<td>20.6</td>
<td>30.2</td>
<td>49.2</td>
</tr>
<tr>
<td></td>
<td>Reading</td>
<td>33.3</td>
<td>39.7</td>
<td>27.0</td>
</tr>
<tr>
<td></td>
<td>Spelling</td>
<td>36.5</td>
<td>28.6</td>
<td>34.9</td>
</tr>
<tr>
<td></td>
<td>Writing</td>
<td>50.8</td>
<td>33.3</td>
<td>15.9</td>
</tr>
<tr>
<td>English</td>
<td>Listening</td>
<td>1.6</td>
<td>28.6</td>
<td>69.8</td>
</tr>
<tr>
<td></td>
<td>Speaking</td>
<td>0.0</td>
<td>23.8</td>
<td>76.2</td>
</tr>
<tr>
<td></td>
<td>Reading</td>
<td>1.6</td>
<td>11.1</td>
<td>87.3</td>
</tr>
<tr>
<td></td>
<td>Spelling*</td>
<td>3.2</td>
<td>12.9</td>
<td>83.9</td>
</tr>
<tr>
<td></td>
<td>Writing*</td>
<td>3.2</td>
<td>25.8</td>
<td>71.0</td>
</tr>
</tbody>
</table>

*Note. All analyses based on \( N = 63 \) unless otherwise indicated.*

*not significant after Bonferroni correction

As indicated in Table 7, chi-square tests were not significant for all HL domains, with the exception of writing in HL. There were about an equal number of children who indicated that they forgot, remained the same, and got better with respect to their HL skills. However, approximately half of children reported having forgotten some of their skills in HL writing, and another third indicated that their writing skills in HL remained the same (i.e., no loss or growth) since they began school. Children’s appraisals of the changes in their English skills showed a markedly different trend. Chi-square tests were significant across all domains, with children tending to report improvements in their English skills since beginning school. The proportion of children who indicated gains in English was greatest in reading and spelling domains. Approximately one-quarter of children reported no change in their skills in listening, speaking, and writing (i.e., 28.6%, 23.8% and 25.8% respectively). In the areas of reading and spelling, a smaller proportion identified no change in their English language skills. In contrast with
children’s appraisals of change in their HL skills, very few children (N ≤ 2) indicated any losses of ability in English in all domains.

Overall, children were equally likely to report loss, no change and growth in HL across 4 of the 5 domains of language and literacy explored. Moreover, children tended to indicate loss or no change in their HL writing skills over time. The reverse result was apparent for English skills. Across all 5 domains, children tended to think that their English skills had improved (i.e., “got better”) since beginning school.

**Demonstrated Proficiency in HL and English**

Children’s demonstrated proficiency in language and literacy domains for their two languages was investigated using various indicators of performance. Although for all other analyses the sample was not divided into HL groups, objective measures of HL proficiency were specific to children’s HL and were analysed separately. Indicators of HL proficiency were measured from kindergarten until grade 2. To explore change over time on these indicators, a series of repeated measures analysis of variance was conducted with HL measures of vocabulary, oral expression, reading, spelling (Cantonese and Mandarin only) and writing fluency. Descriptive statistics for each of the indicators of HL language and literacy and the results of MANOVA tests are presented in Table 8.
Table 8. *Children’s Demonstrated Proficiency in HL by Language and Literacy Domain – Summary Statistics and Grade Effects*

<table>
<thead>
<tr>
<th>Measure</th>
<th>SK M(SD)</th>
<th>G1 M(SD)</th>
<th>G2 M(SD)</th>
<th>Wilk’s Λ</th>
<th>F(df)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cantonese</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vocabulary (0-168)</td>
<td>26.93 (14.05)</td>
<td>30.19 (17.76)</td>
<td>41.33 (24.68)</td>
<td>0.439&lt;sup&gt;a&lt;/sup&gt;</td>
<td>8.315 (2, 13)</td>
<td>0.005</td>
</tr>
<tr>
<td>Oral expression (0-96)</td>
<td>n/a</td>
<td>23.52 (16.30)</td>
<td>35.77 (18.12)</td>
<td>0.561&lt;sup&gt;b&lt;/sup&gt;</td>
<td>21.88 (1, 28)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Reading (0-100)</td>
<td>4.73 (5.08)</td>
<td>9.31 (4.73)</td>
<td>11.73 (10.52)</td>
<td>0.524&lt;sup&gt;a&lt;/sup&gt;</td>
<td>5.347 (2, 13)</td>
<td>0.005</td>
</tr>
<tr>
<td>Spelling (0-16)</td>
<td>n/a</td>
<td>n/a</td>
<td>0.23 (.90)</td>
<td></td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Writing fluency (0-40)</td>
<td>n/a</td>
<td>n/a</td>
<td>1.7 (1.69)</td>
<td></td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Mandarin</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vocabulary (0-168)</td>
<td>n/a</td>
<td>55.67 (16.80)</td>
<td>56.31 (44.23)</td>
<td>0.236&lt;sup&gt;c&lt;/sup&gt;</td>
<td>6.47 (1,2)</td>
<td>.126</td>
</tr>
<tr>
<td>Oral expression (0-96)</td>
<td>n/a</td>
<td>26.50 (20.09)</td>
<td>40.46 (23.44)</td>
<td>0.722&lt;sup&gt;d&lt;/sup&gt;</td>
<td>4.23 (1, 11)</td>
<td>0.064</td>
</tr>
<tr>
<td>Reading (0-100)</td>
<td>n/a</td>
<td>5.76 (5.08)</td>
<td>7.31 (5.36)</td>
<td>0.883&lt;sup&gt;d&lt;/sup&gt;</td>
<td>1.46 (1, 11)</td>
<td>0.252</td>
</tr>
<tr>
<td>Spelling (0-16)</td>
<td>n/a</td>
<td>n/a</td>
<td>0 (0.00)</td>
<td></td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Writing fluency (0-40)</td>
<td>n/a</td>
<td>n/a</td>
<td>1.15 (1.68)</td>
<td></td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Spanish</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vocabulary (0-125)</td>
<td>24.74 (14.93)</td>
<td>35.63 (16.18)</td>
<td>44.11 (14.80)</td>
<td>0.229&lt;sup&gt;e&lt;/sup&gt;</td>
<td>28.68 (2,17)</td>
<td>&lt;.000</td>
</tr>
<tr>
<td>Oral expression (0-96)</td>
<td>n/a</td>
<td>27.32 (22.27)</td>
<td>33.42 (23.35)</td>
<td>0.748&lt;sup&gt;e&lt;/sup&gt;</td>
<td>6.08 (1, 17)</td>
<td>0.024</td>
</tr>
<tr>
<td>Reading (0-58)</td>
<td>7.05 (3.46)</td>
<td>12.16 (8.80)</td>
<td>19.79 (10.52)</td>
<td>0.594&lt;sup&gt;e&lt;/sup&gt;</td>
<td>12.29 (2, 18)</td>
<td>0.003</td>
</tr>
<tr>
<td>Writing fluency (0-40)</td>
<td>n/a</td>
<td>n/a</td>
<td>3.95 (3.91)</td>
<td></td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>

*Note.* All scores are raw scores.

<sup>a</sup> based on N = 15
<sup>b</sup> based on N = 29
<sup>c</sup> based on N = 3
<sup>d</sup> based on N = 12
<sup>e</sup> based on N = 19
As illustrated in Table 8, children’s performance on objective measures of HL oral language indicated very modest levels of proficiency. However, children’s proficiency in listening and speaking in their HLs were found to improve over time. On measures of HL listening skill, results of the MANOVAs revealed a significant main effect for time, from kindergarten to grade 2, on both the Cantonese vocabulary (PPVT) scores (Wilks’ Lambda = .439, F= 8.315 (2, 13), p = .005) and the Spanish vocabulary (TVIP) scores (Wilks’ Lambda = .229, F= 28.686 (2, 17), p < .001). Pair-wise comparisons between time points revealed that significant growth was not found in the Cantonese group between vocabulary scores in kindergarten and grade 1, but significant differences between children’s vocabulary scores in kindergarten and grade 2 and between grades 1 and 2 (see Appendix D1). Spanish vocabulary scores were found to increase from grade to grade (Appendix D2). The sample size for the Mandarin PPVT in grade 1 was low (n= 3), and no significant main effect of time was found through the MANOVA. With respect to spoken language proficiency in HL, in both grades 1 and 2, children’s scores indicated low to moderate levels of proficiency. Despite these low levels of proficiency, MANCOVAs revealed significant main effects for time for both the Cantonese and Spanish groups (p <.001 and p = .024, respectively). Again, although the results of the MANOVA were not statistically significant, mean scores on the Mandarin Oral Expression tasks were notably higher in grade 2 than in grade 1 (i.e., mean of 26.5 versus 40.46).

As for HL literacy areas, children also demonstrated overall low levels of proficiency, and this was true across Cantonese, Mandarin and Spanish measures. The main effect of time was significant for Cantonese reading (p = .005). However, pair-wise comparisons revealed increases between grades SK and 1 and grades 1 and 2 were not significant, though the increase
between SK and grade 2 was significant (see Appendix D3). For Spanish reading, the main effect of time was significant (p = .003). Pair-wise comparisons indicated that children’s proficiency in word level HL reading skills improved from kindergarten to grade 2, between each grade (see Appendix D4 for details). On the Mandarin character reading task, the main effect of time was not significant. Children’s proficiency in HL spelling and writing were assessed only in grade 2, and no growth information is available. However, mean scores in grade 2 neared 0 for both HL written language tasks, suggesting extremely low levels of proficiency in these domains.

Children’s demonstrated proficiency in English was also investigated based on several components of English language and literacy. Indicators of proficiency for English oral proficiency and reading components were measured from kindergarten until grade 4. Indicators of proficiency for English written language (i.e., spelling ability, writing ability) were measured from grade 2 until grade 4. These measures were common across the HL groups, and given the interest in English proficiency of HLLs as a group in the current study, rather than individual HL subgroups, performance on English measures for all HLLs will be analysed and discussed together. A series of repeated measures analysis of variance was conducted to investigate changes in performance over time. Table 9 presents the descriptive statistics for all English measures and summarizes the results of the MANOVAs.
Table 9. *Children’s Demonstrated Proficiency in English by Language and Literacy Components: Summary Statistics and Grade Effects*

<table>
<thead>
<tr>
<th>Measure (theoretical range)</th>
<th>SK</th>
<th>G1</th>
<th>G2</th>
<th>G3</th>
<th>G4</th>
<th>Wilk’s Λ</th>
<th>F(df)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vocabulary (0-168)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.067&lt;sup&gt;a&lt;/sup&gt;</td>
<td>101.86</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>M(SD)</td>
<td>63.4 (16.67)</td>
<td>81.49 (19.10)</td>
<td>101.45 (19.11)</td>
<td>113.66 (19.81)</td>
<td>125.73 (16.89)</td>
<td>60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>35</td>
<td>63</td>
<td>62</td>
<td>61</td>
<td>60</td>
<td>0.067&lt;sup&gt;a&lt;/sup&gt;</td>
<td>101.86</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Oral expression (0-96)</td>
<td>n/a</td>
<td>52.95 (21.22)</td>
<td>54.89 (14.52)</td>
<td>n/a</td>
<td>n/a</td>
<td>0.628&lt;sup&gt;b&lt;/sup&gt;</td>
<td>36.68</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>M(SD)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.628&lt;sup&gt;b&lt;/sup&gt;</td>
<td>36.68</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>63</td>
<td>63</td>
<td>n/a</td>
<td>n/a</td>
<td>0.628&lt;sup&gt;b&lt;/sup&gt;</td>
<td>36.68</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Reading (0-106)</td>
<td>16.14 (19.01)</td>
<td>39.19 (20.46)</td>
<td>67.78 (12.21)</td>
<td>64.42 (14.65)</td>
<td>69.64 (15.55)</td>
<td>59</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M(SD)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>0.122&lt;sup&gt;a&lt;/sup&gt;</td>
<td>52.40</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>N</td>
<td>35</td>
<td>62</td>
<td>63</td>
<td>62</td>
<td>59</td>
<td>0.122&lt;sup&gt;a&lt;/sup&gt;</td>
<td>52.40</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Spelling (0-16)</td>
<td>n/a</td>
<td>n/a</td>
<td>11.92 (4.2)</td>
<td>14 (2.42)</td>
<td>14.98 (1.58)</td>
<td>61</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M(SD)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.536&lt;sup&gt;c&lt;/sup&gt;</td>
<td>25.54</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>63</td>
<td>63</td>
<td>63</td>
<td>61</td>
<td>0.536&lt;sup&gt;c&lt;/sup&gt;</td>
<td>25.54</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Writing fluency (0-40)</td>
<td>n/a</td>
<td>n/a</td>
<td>10.75 (4.80)</td>
<td>15.44 (4.98)</td>
<td>17.89 (5.24)</td>
<td>61</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M(SD)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.381&lt;sup&gt;c&lt;/sup&gt;</td>
<td>63.23</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>63</td>
<td>63</td>
<td>63</td>
<td>61</td>
<td>0.381&lt;sup&gt;c&lt;/sup&gt;</td>
<td>63.23</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

*Note.* All scores are raw scores.

<sup>a</sup> based on N = 33

<sup>b</sup> based on N = 63

<sup>c</sup> based on N = 61
From the results presented in Table 9, it is apparent that children’s English proficiency across all domains of language and literacy improved over time. F-tests for the multivariate effects of time were significant for all objective measures. For example, on English vocabulary, mean scores increased consistently from SK to grade 4, and a significant main effect of time was revealed in the analyses, with significant increases between each grade through pair-wise comparisons (see Appendix D5). The same pattern of growth over time was found for English reading skill, with a significant main effect of time on children’s scores on the Word Identification task. Pair-wise comparisons indicated significant increases between all grades (for means see Appendix D6). Children’s proficiency in speaking English also increased with time, evidenced by the changes in performance from grades 1 and 2. MANOVAs also revealed growth on both measures of English written language, the Real Word Spelling task and Writing Fluency task, indicating that children’s spelling and writing skills in English improved in each grade between grade 2 to 4 (see Appendix D7 for means for each grade).

To summarize, with regard to children’s respective HL listening and speaking skills, two observations can be made: (a) in general, their scores on components of oral language (i.e. vocabulary, oral expression) were in the low to moderate range; (b) the findings of the repeated measures ANOVAs demonstrate growth over time. Consistent growth in vocabulary and oral expression skills was also found. With regard to reading, children’s skills improved both in HL and English over time. Although change over time in HL written language domains was not investigated, when assessed in grade 2, children’s proficiency in HL spelling and writing was extremely low. In contrast, children demonstrated gains over time in their written language proficiency in English.
Comparisons of Perceived and Demonstrated Proficiency

One objective of the study was to explore the awareness of primary level HLLs of their own language and literacy skills in the HL and in English. To investigate the accuracy of children’s perceived skills, self-ratings of proficiency in HL and English in the five domains (i.e., listening, speaking, reading, spelling and writing) were compared to children’s demonstrated skills on objective measures of each domain in both languages. Objective measures of HL proficiency included in the current analyses were administered when the children were in grade 2. Although for several English domains, objective measures were also available in grade 4, to achieve consistency with HL objective measures and to facilitate comparisons across languages, scores on English objective measures in grade 2 were used in the analyses. Moreover, since self-ratings and objective measures were on different scales, to allow comparisons between them, z-scores were generated for each rating and each score on objective measures. For each domain, children’s z-scores on the objective measure were subtracted from their z-scores for the corresponding rating to yield individual discrepancy scores for each child. For example, to generate a discrepancy score for the speaking domain in English, the z-score for each child’s English vocabulary task was subtracted from the z-score corresponding to his/her self-rating of listening in English. Discrepancy scores were plotted against children’s respective scores on the matching objective measures (e.g., plotting discrepancy score for HL listening against HL PPVT performance). The plots for each domain and language were used to classify children into six groups. Boundaries of the “Accurate raters” classification were set conservatively with discrepancy scores within $\frac{1}{2}$ of a standard deviation of 0 considered to be accurate (i.e., $-0.5 \geq z \leq 0.5$).
Six classifications were created according to children’s level of demonstrated proficiency on objective measures (i.e., high or low proficiency) and the accuracy of their self-ratings of proficiency (i.e., accurate raters, overestimators, underestimators). There were two “accurate rater” classifications: “High proficiency accurate raters” and “Low proficiency accurate raters”. Children were assigned to the high proficiency accurate raters classification when they demonstrated strong skills in the target domain and their rating of their ability was concordant with their actual skills. Likewise, children were assigned to the low proficiency accurate raters classification when they demonstrated poor skills in the target domain but provided ratings of proficiency which matched their skill level. The two “overestimator” classifications were assigned to children who provided (subjective) ratings of their proficiency that were higher than their demonstrated level of ability. High proficiency overestimators were children with strong demonstrated proficiency who rated their skills more highly than their actual skills. Low proficiency overestimators were children who had low levels of demonstrated proficiency who also provided ratings which were higher than their demonstrated skill level. Lastly, the two “underestimator” classification referred to children who provided self-ratings of proficiency which were lower than their demonstrated skill level. These children were separated in two classifications “High proficiency underestimators” and “Low proficiency underestimators” by level of demonstrated proficiency. Classifications are illustrated in Figure 2.

Figure 2. *Classifications based on Comparisons of Perceived vs. Demonstrated Proficiency*
Scatterplots for each HL and English domain can be found in Appendix E. Proportions of children for each of the five classifications were calculated and are presented in Table 10, by language and domain.

Table 10. Proportion of Children in Perceived vs. Demonstrated Proficiency Classifications by Language and Domain

<table>
<thead>
<tr>
<th>N</th>
<th>Domain</th>
<th>High underestimators</th>
<th>High overestimators</th>
<th>High Accurate raters</th>
<th>Low Accurate raters</th>
<th>Low underestimators</th>
<th>Low overestimators</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>% of children</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>HL</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>Listening</td>
<td>11.7</td>
<td>21.7</td>
<td>11.7</td>
<td>23.3</td>
<td>23.3</td>
<td>8.3</td>
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<tr>
<td>59</td>
<td>Speaking</td>
<td>23.7</td>
<td>5.1</td>
<td>23.7</td>
<td>13.6</td>
<td>10.2</td>
<td>23.7</td>
</tr>
<tr>
<td>59</td>
<td>Reading</td>
<td>20.3</td>
<td>5.1</td>
<td>16.9</td>
<td>20.3</td>
<td>10.2</td>
<td>27.1</td>
</tr>
<tr>
<td>43*</td>
<td>Spelling</td>
<td>0.0</td>
<td>4.7</td>
<td>0.0</td>
<td>39.5</td>
<td>39.5</td>
<td>16.3</td>
</tr>
<tr>
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<td>Writing</td>
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<td>30.5</td>
<td>8.5</td>
<td>27.1</td>
<td>22.0</td>
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<tr>
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<td>Listening</td>
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<td>26.7</td>
<td>26.7</td>
<td>5.0</td>
<td>35.0</td>
<td>3.3</td>
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<tr>
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<tr>
<td>61</td>
<td>Spelling</td>
<td>16.4</td>
<td>29.5</td>
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<td>Writing</td>
<td>11.5</td>
<td>24.6</td>
<td>11.5</td>
<td>16.4</td>
<td>24.6</td>
<td>11.5</td>
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</tbody>
</table>

*Spelling measure available only for Cantonese and Mandarin HL groups

Findings indicated that for both HL and English and across domains, approximately one-third of children were accurate in their appraisals, another third overestimated their skills, and the final third underestimated their skills. This distribution was observed for all domains, with the exception of slightly smaller proportions of overestimators in HL spelling and underestimators in
English spelling (i.e., 21% and 24.6%, respectively). More specifically, the proportion of children who provided accurate appraisals of their language and literacy skills, as measured by the concordance between demonstrated proficiency on objective measures and their self-ratings of proficiency for each domain, ranged from 27.9 to 39.5 percent of children. The smallest proportion of accurate raters was observed in the writing domain in English (27.9%), whereas the largest proportion (39.5%) occurred when children estimated their spelling skills in HL. For each domain, similarities and differences in the proportion of children in the different classifications for English and HL are highlighted.

In the listening domain, several trends were apparent from the findings in English and HL. Differences were evident in the skill level of accurate raters. In HL, two-thirds of accurate raters had weak listening skills, whereas in English, nearly all accurate raters had strong listening skills. For inaccurate raters, those who possessed strong listening skills tended to overestimate their ability in their self-ratings of listening skill in both languages. In contrast, children who demonstrated low levels of ability tended to underestimate their listening skills.

Unfortunately, in the speaking domain, it was not possible to compare the accuracy of children’s appraisals across languages, as concurrent data regarding children’s demonstrated proficiency in speaking English was not available. However, several observations were noted in the analysis of children’s ratings of the HL speaking skills. A large proportion of accurate raters demonstrated high levels of proficiency in oral expression. Overall, children with high demonstrated proficiency tended to provide ratings that underestimated their level of skill. The opposite was true with among children who demonstrated weaker spoken HL skills: a greater proportion overestimated than underestimated their skill level (23.7% vs. 10.2%).
In the reading domains in both HL and English, more than one-third of children accurately rated their reading proficiency. In this group, there were equal proportions of those with strong and poor reading skills. For reading in HL, among inaccurate raters, the large majority of those with high proficiency were found to have underestimated their skills. Furthermore, children with poor demonstrated HL reading proficiency were more likely to provide excessively high ratings of their reading skills than underestimates. The opposite relationship was found in children’s ratings of their English reading skills. Most children with strong English reading skills appraised their proficiency at higher levels than their demonstrated skill on the objective English reading measure. Children with low demonstrated proficiency in English reading tended to underestimate their level of proficiency.

With respect to the accuracy of children’s appraisals of their spellings skills, nearly 4 out of 10 children provided self-ratings that were congruent with their performance on the objective HL spelling task. All accurate raters demonstrated poor levels of proficiency in HL spelling. This is not surprising given that nearly all children (i.e., 95%) were classified as having poor HL spelling skills based on their performance on the objective measures of HL spelling. However, children who accurately rated their English spelling skills were equally likely to be strong and poor spellers. Among inaccurate raters, the largest proportion of children were classified as high proficiency overestimators, similar to the findings for the English reading domain. By comparison, a relatively small proportion of children were classified as inaccurate raters with low levels of proficiency (16.4%). In other words, the majority of children with poor spelling skills in English appraised their skills accurately.

Children who accurately estimated their writing skills differed in their level of ability for English and HL. In HL, the majority of children who provided accurate ratings of their writing
ability performed at low levels of proficiency on the HL writing measure. In contrast, equal proportions of children who accurately rated their English writing skills had high and low levels of proficiency. A similarity found across both HL and English writing domains was the tendency for children with strong writing skills to overestimate their skills, while children with weak writing skills tended to underestimate their abilities according to their self-ratings.

The current exploration of the accuracy of children’s appraisals of their proficiency in oral language (i.e., listening, speaking) and literacy areas (i.e., reading, spelling, writing) revealed that approximately one-third of children were able to accurately estimate their proficiency level. The remaining two-thirds were divided about equally between those who overestimated and those who underestimated their skills. In HL, proportions of each of the classifications varied considerably across the different domains. There were many contrasts in the proportions of children in each classification in listening and speaking domains. For example, while strong listeners tended to overestimate their abilities, strong speakers underestimated their skills. The opposite association was found for children with low proficiency: most children with weak listening skills underestimated their listening skills and those with weak spoken HL skills tended to overestimate their proficiency. The differences were apparent also in the proficiency level of accurate raters in the two oral language domains. Children who accurately rated their listening skills tended to be low-achieving, whereas those who accurately rated their speaking skills tended to be high-achieving. For HL literacy domains, the majority of accurate raters were low-achieving. Although for all other HL domains, half of children demonstrated high levels of proficiency and the other half had low levels of proficiency, in HL spelling, nearly all children performed poorly on the objective measure of spelling and were classified in the low proficiency groups.
In English, several parallels between different domains were apparent in the analysis. Equal proportions of children with high and low skills rated their skills accurately in literacy areas, but children who accurately rated their listening skills tended to be strong listeners. Across English domains, children with high levels of demonstrated proficiency tended to overestimate their skills. The proportions of children in each of the six classifications were similar in reading and writing areas, with the largest groups being high proficiency overestimators and low proficiency underestimators.

*Children’s Attributions for Proficiency and Change*

As noted previously, children’s responses were coded under all applicable themes. Although the vast majority of responses were coded in a single theme, whenever applicable, separate excerpts of a single response were coded within the appropriate themes. The primary themes, from most frequent to least frequent, were: (1) skill, (2) assistance (3) learning approaches, (4) feedback, and (5) language environment. Frequency counts for each of the themes can be found in Appendix F. To illustrate the diversity and specificity of children’s understandings of language learning, distinct categories are described within each of the themes. These categories and the themes they comprise, are presented using descriptions and key examples. Italics are used in the examples to indicate interviewer’s queries within children’s quotations. Due to the considerable commonalities between children’s attributions for proficiency and change, the discussion incorporates responses from both, to reduce redundancy in the illustrations used and enhance clarity of the main themes.
Skill

Skill was, by far, the most frequently identified theme in children’s responses. This theme emerged in responses across all domains of language and literacy in each language. Responses which broadly referred to ability or knowledge of the language were categorized under this theme. The categories encompassed within this theme can be organized into three levels: general, word-level, and text-level measures of skill.

Analysis of participants’ responses revealed that many children defined their skill in general terms, with references to their knowledge of the language as a whole, and the degree of difficulty or ease they encountered with the language.

Overall Knowledge or Comprehension of the Language

To support their ratings of proficiency, children spoke generally in terms of “knowing” or “understanding” the language as a whole, and also by using quantifiers (e.g., “a lot”, “half”) to describe their overall skill in the language. For example, in the listening domain, for both the HL and English, comprehension of other’s verbalizations were considered evidence of skill level. Children referred to their understanding of others’ language use often in their explanations:

Cause when people talk to me, I understand what they're saying.
People speak to me in Chinese. I know it.
Teachers and Mom speak to me in English and I understand.
Cause I can understand almost everything my family says.

Some children observed the need for others to accommodate to their level of comprehension, and used this as a basis for their proficiency rating. For example, one child stated, “Because sometimes don't understand what Mom? say in Chinese, so she talks to me in English.” Another child, who rated himself as understanding HL “pretty well”, commented on his incomplete understanding, “Don't know some of words, kinda get all. Don't know what Mom
says.” Similarly, a child who appraised his listening skills in HL as low noted, “Cause when some people speak to me in Spanish, I'm like ‘what?’ But sometimes I understand but only a bit.”

Children cited difficulties expressing themselves fully in HL and needing to code-switch to English as support for their ratings of HL proficiency in listening and speaking domains. Children’s reported use of English to supplement their HL skills is illustrated in the following quotes:

Because sometimes I use Chinese to talk my mom, but sometimes I don't know words in Chinese, fill with English.

Because when I visit my cousins I speak some Spanish but sometimes I use some English words cause I don't know them in Spanish like "some".

Um, because, you know like some words, like I don't know how to say in English, but I do in Spanish. There was one time I was talking to (HL-speaking friend) and, I was telling her a sentence but I couldn't say it in English, and I had to say it in Spanish so that she could understand.

In determining whether they have experienced losses, gains or overall stability in their language proficiency over time, children made general references to their knowledge of the language. For example, children who noted gains in their English proficiency reflected on their previous level of understanding:

Mmm...because like, I didn't understand a lot, when I was small.

Because in Grade 1, I can't uh...uh speak any English, and, uh, hear, what they-, what everybody else said.

Other children reported no changes in their language proficiency, and simply described stability in their language knowledge and no further learning since Grade 1:

Because, all the Spanish that I knew in Grade 1, I still know it right now. Cause I never knew that much, and I have-, I haven't started learning more in a while.
Children also commented on the amount of knowledge they possess in the target language to support their self-appraisals of proficiency. Some examples include general comments such as “I know a lot” and those related to specific domains such as “Cause I don't know much about writing Chinese.” Attempts to quantify language knowledge in terms of known words emerged in children’s explanations of their HL skills. For example, as stated by one respondent about his reading skills in HL: “Because reading in Chinese is really hard for me. But I know a little bit of it. (Why do you think that is?) Um, because I only know some of the words and learning words is hard for me.” Children also estimated the proportion of known words:

Because I'm only in Grade 3, and I don't that much words, only know half or less. Cause I know, half of the words….half of all the words.

In a similar manner, some children noted differences in the amount of knowledge they possess currently in comparison with in the past:

Grade 1 - can understand a lot of Chinese. Now - only a little bit. Because when I was little I used to, don't really know English that much. Now I'm in Grade 3 and I know lots more, English.

Because, I didn't know a lot of English when I was in Grade 1. (When you were in Grade 1.) And now, I know a lot.

Like when I was small, in SK and grade 1, I didn't know how to spell anything.

Degree of Ease or Difficulty with Language Learning

Children also made reference to the degree of difficulty they encounter with the language. This was expressed via observations on the fluency or ease of their language use or learning process, but also by noting their frequency of making mistakes in the language.
Some children referred to the ease with which they learned the language:

Usually, um it was pretty easy for me to learn that. Even though Spanish was a little hard for me to learn, at first. But then when I started English, I mostly went like…I learnt it really fast.

A common observation was how quickly children felt they were able to learn new words. For example, in one child’s words: “Um, I know how to…I know how to say most of the words. It doesn't take me, long to pronounce the words.” Another child described his ease of reading in HL simply by stating “words come fast.” In contrast, children also explained their low proficiency levels by describing the difficulty they face when encountering new words, demonstrated in the following quote:

Because sometimes, I understand what they're saying, but um, like I can't, I can't say what they're saying, it takes me a while to learn. (It takes you a while. What do you mean?) It takes me like, uh, it-, a couple of times, to-, for me to learn how to say it.

Because I g-...I get a lot of troubles in books. (Get a lot of trouble in books?) Yeah, reading books. (What type of troubles?) Words.

Furthermore, children described their experience of forgetting words over time, for some, in vivid terms:

Writing Chinese is really hard for me. New words come to me…attacked by new words. I don't like new words.

As illustrated above, children recognized the challenge of language learning, especially in HL literacy domains.

Children also frequently provided support for their proficiency ratings by considering whether they make mistakes in the language. More specifically, not making mistakes was seen as indicative of high level of proficiency. For example, one child explained his high self-rating in spoken English by stating, “Very, very well. Because um, I talk in English all the time. And
most of the time, I don't make a mistake.” Other children reflected on their tendency to make mistakes when using language:

I kind of make mistakes (What kind of mistakes?) Like how to say museum. I tried sounding it out but I made a mistake.

Sometimes I make mistakes. If I say a word, sometimes I say it wrong.

The tendency to “get mixed up” was often referenced by children when providing a rationale for their self-appraisals of proficiency. Many described their experiences unintentionally mixing up their words, while others spoke of mixing up their two languages. One child, who rated himself as being able to read HL “pretty well”, explained his observation about mixing up his words:

When I'm reading Spanish, I get mixed up with some of the words, but most of them I usually don't. I mixed up for some. (Oh ok. So some of the words get you a little bit mixed up?) Yeah, and they're pretty long.

Similarly, another child viewed his tendency to mix up words and letters when reading as support for his low rating of HL proficiency:

Because when I read the words, I read them the wrong way. (What do you mean, the wrong way?) Like I mix the words up. (Can you tell me just a little bit more about what you mean by 'mix the words up'? I um, mix the letters up too.

Not getting ‘mixed-up’ was also viewed by children as support for their appraisals of reading proficiency, for example: “Because um when I read the stories, I don't mix up the letters like Spanish.”

In addition to getting “mixed up” with the letters and words within the target language, children described experiences of confusing their two languages (i.e., code switching). These experiences were described by children as happening spontaneously, while in the midst of using
one language. The following quotes provide a glimpse of how children’s recognition of using HL in place of English relates to their beliefs about their language proficiency:

So um, sometimes I feel pretty good because, um sometimes like um, I can get mixed up. Bunch of numbers. (Mixed up?) Yeah. (What does that mean?) Um maybe instead of saying, um, girl, I say "nina".

Because some words I can pronounce them, but I can't spell them. One time I was writing this um, English word ...in English. (Can you remember what that word was?) Um, I think it was 'some', but by mistake I wrote it "poco", which means Spanish "some", "Poquito" and "Poquita", I wrote "un poquita", and I was like (laughs to herself).

For some children, “mixing up” their languages signalled confusion, which seemed to contribute to their beliefs about their proficiency in the target language and domain. For example, one child explained in her rationale for her self-rating:

Sometimes, I'll get like when I'm talking to my teacher, I'll get mixed up, so I'll like, confuse my brain with, like I'm talking to her in Spanish and then I will get, like, English. And I'll say some things in Spanish, some things in English, and then I'll be like, no what did I just said? So I usually get confused.

On the whole, this study found that children viewed encountering difficulty with words as indicative of changes in their proficiency since beginning school. Children interpreted their ongoing tendency to get confused and mix up words as supporting their perception that their proficiency levels have not changed. For example, in his explanation that his HL proficiency has “stayed the same”, one child noted, “Because uh, I haven't forgotten any words, and like, I still mix up words.” Children cited experiencing fewer difficulties with language as support for their ratings of improved proficiency. In the following quote, the child describes changes in the way he speaks, in order to illustrate his improved language proficiency in English:

In Grade 1, I mumbled, in Grade 4, I don't mumble. (Mumbled, what do you mean?) Like, I didn't really speak the word like … (demonstrates moving mouth without sound) like that. (Like just kind of moved your mouth a little?) Yeah. (How come you did this
when you were in Grade 1?) Uhh...because I couldn't speak English and, plus I was nerv-
uhh new. (You were new). Yeah. And I didn't speak English, which was hard.

Another child expressed his belief of greater English proficiency, which he supported by
describing changes he observed in his fluency: “Grade 1 - had to stop between words. Grade 4 -
still stop but not as frequently.” Children also noticed getting more “mixed-up” over the years
and saw this as evidence of language loss. For example, in his justification for his perception of
having “forgot a lot” in the HL spelling domain, one child recognized: “Because, um, I usually
remember how to spell some words, but now I get the words and lines all mixed up.”

Examples of Known Words

In addition to speaking generally about their language knowledge, children also
described their skills at the word-level. Children explained their ratings of proficiency, in both
HL and English, by describing the words they know and use. Many children supported their low
self-ratings in many domains of HL by describing their knowledge using terms such as “basic”
and “simple”. Children also provided examples of specific words or groups of words with which
they are familiar as a way of defining their level of language proficiency. This was especially
true in their explanations of the HL skills. Children commonly referred to their specific
knowledge of names, numbers, and high frequency words, as illustrated in the following quotes:

Only know my name.

Uh, all my cousins names, I know how to spell them in Spanish.

Cause um, uh, like I can only write simple words. (Such as?) Um, like, one and two.

I don't know. I know basic Chinese. (What's basic Chinese?) Like numbers and like the
weather, and like the five senses, and the parts of the body.

Children also provided examples of words that they know to provide specific support for the language loss, maintenance and gains they reported. Several illustrative quotes from children who perceived their proficiency as having improved with time are presented below:

When I was little, I don't know what does "toy" in English mean when playing. Now I know.

Because when I was in Grade 1, I only knew how to spell my dad's name. But now I know how to spell my mom's name, my cousin's name and my grandma's name.

Because I've learnt more words to write in and, um, for example, “fatigued”.

Among children who reported decreased skills in HL, some shared examples of words that they had previously known but forgotten, or never acquired, in their explanations for the changes they noticed in their proficiency since Grade 1:

Because, um, when I was in Grade 1, I knew more words than now, like, I forgot to say potato in Chinese, I have to ask sister.

Because Chinese, there's lots of words I don't know how to say, like, I don't know how to say “stinky” in Chinese. Like “super”, “sugar”, and I don't know the ones.

In their explanations of changes in proficiency, children expressed a belief that they had acquired more words over time. Many children described their growth in terms of increases in word knowledge (e.g., “When I was in Kindergarten, I only know some words, now I know more”). This finding was noted to a greater degree in responses related to changes in children’s English language proficiency, as demonstrated in the following quotes:

Mmm…maybe when I was in Grade 1, I only knew like ten words, and now that I'm in Grade 4, I know way more.
Because, when I started in Grade 1, um, I didn't know as much words, and um, and I was speaking in Spanish still.

Because when school started, I learnt a lot more English, there would be some words that I didn't even know how to speak.

Children also cited forgotten words as evidence of decreased proficiency. For example, one child looked back on his knowledge of HL spelling in the past: “Now - spell only easy words, grade 1 words. In Grade 1 - can spell Grade 2 and Grade 3 words.” Another example of losses in word knowledge was identified by a child who described decreases in her English spelling skills: “I don't remember some of the words from last year.”

**Ability to Pronounce Words as Indicators of Skill**

Many children described having difficulty with unfamiliar phonology. Children reflected on their ability to pronounce words in when describing their proficiency in English and HL. They seemed to use word pronunciation as a gauge of their skill level in the target language:

Um, well, I didn't choose, very well, 'cause, 'cause sometimes I get mixed up with the words. And how you say-, how you pronounce them. So it's uh, pretty hard when they're, long words. I forgot how to, say them.

In HL, some children were more specific in their descriptions of letter combinations and accents they find challenging to pronounce, represented in the following quotes:

Um, 'cause it's easier to say than to read, so it's harder for me. *(Why is it easier to say than to read?)* Because reading, sometimes, it um, it-, there's um, there's letters that-, we don't have an alphabet, but I can pronounce them, but I don't know how to pronounce them when I actually visualize them. So it's kind of hard. Like the double L, there's um, double 'L', and-, and-, and I know how to pronounce it, but maybe when I see it, I don't know if it's in the word or not. Then I don't know.
Some words I have trouble because they have accents, I have trouble pronouncing the accents.

*Knowledge of Challenging Words as an Indicator of Skill*

Children made frequent reference to their knowledge, or lack of knowledge, of “hard words”, “long words” and “big words” to explain their current ratings of proficiency and support their reported changes in language and literacy domains, in both English and HL. Many children supported their self-appraisals by citing challenges reading “hard words”:

Um, uh, I can tell because when I read books, I can read a lot of the words, but when it comes to long and hardest words, I kinda get stuck on them.

Hard words in English I can't read because sometimes in my Pokémon books, I don't know some of the words.

While children often referred to “hard words” as stumbling blocks in both English and HL, some children were able to define or provide examples “hard words” either spontaneously in their responses, or in response to interviewer queries. For example, as stated by one child regarding hard words in English, “Some hard words I don't know…some hard words I have no idea what the hell like Super-califragilisticexpialidocious.” Another child described a number of academic words as the “hard words” on his Spanish spelling tests:

My teacher, in the, Spanish class, she-, she does tests on us, and she uses hard languages, so, I-, I pretty, I get pretty good marks. *(Now, hard language, can you tell me what does that mean?)* Like, um, like, you know like long words in English, she translates them into Spanish. Yeah, so it'd be pretty hard. *(Can you think of an example of that?)* Um, electricidad…and um, like, tecnologia.

The following response provided a description of “hard words”:

I can't spell hard words. Like the words... hard, like... my friend's last name, it has like, lot of letters. Like more than ten...like hard words, like tricky words with silent letters, like “injury”.


“Long words” were also mentioned frequently in children’s responses. Some children provided definitions of what constitutes a “long” or “big” word and noted their ability to use them (i.e., read or spell them, etc.) as evidence of their level of proficiency:

I can't spell, long words say about 13 and 14 letters in a word, because…like, people, like Indian people, they have really long last names. I can't spell that last names 'cause they're really long.

I read in English a lot, but some big words, like, more than ten words-, letters long, you know, it's really hard for me to say.

Children seemed to reference their ability to manage challenging words presently as well as in the past. Many children reported gains in their knowledge of challenging words, as in the following examples:

I couldn't read difficult words when I was younger, and now I can.

Cause uh, those harder words that I learnt; now I can pronounce them better. (What type of words are they?) Um, “reflecting” uh…uh…“hypnosis”

Because, now when I read um, more complicated words, um, I don't have as much trouble as I did in Grade 1.

Because, um, I didn't know a lot of big words in Spanish. So, I wouldn't put it in, uh, if I were writing. I wouldn't put it in, so I just used small words. Then I started to get what those words meant, so then I just um, put them in what I-, in writing.

In summary, it is evident that children differentiated between different types of words and used their knowledge of these words as indicators of changes in their level of proficiency. They described their knowledge of words by using examples of commonly known words, but also indicated their knowledge of longer, more complex words, including academic vocabulary. Children also referenced their skill with unfamiliar phonology in their explanations of language skill.
Literacy-related Accomplishments

In addition to indicators of skill at the word-level, children referred to past literacy achievements to indicate their level of skill in literacy domains. As evident in the following quotes, children often made reference to the books they read or have read, including naming aspects of books such as thickness, type, as well as specific titles:

Usually read chapter books, science books, non-fiction books.

I choose to read non-fiction books, very thick ones.

Oh I usually read, um my bible in English, so I read like two times, the whole book.

Well, I can read a big book. (What kind of big book?) Like Harry Potter if it was in Chinese.

I don't get like, small, little baby Spanish books. Um, I get like, the really thick books. And I get it pretty well. Yeah. (So you say you get it pretty well?) So, like, I get, I get like what's the story about.

As alluded to in the latter quote, changes in reading comprehension were also identified in children’s explanations of language change. One child explained “Cause like, if I read a Spanish book, then, and, and then like, if I read it, and um, when I finish my book, I'll say, I- I would say that I have-, I would have no idea what it was about...uh it was in Spanish”, to illustrate that he had “forgot a lot” in the area of HL reading. As evidence of her improved proficiency in English reading, another child described her enhanced reading comprehension skills: “Understand the book a little better, know what the book is talking about.”

The quantity of books read was also expressed by several children to demonstrate their reading proficiency. For example, justifications for children’s high ratings of English reading included “Cause I've read most of the Harry Potter books”, and “Cause I read a lot of English books.”
Moreover, children indicated changes in their proficiency by noting differences in the books they are able to read currently as compared with in previous years. This finding emerged often in children’s rationales for reported growth in English proficiency since beginning school:

So when I was in Grade 1, I didn't know how to read. (You didn't know how to read? What about now?) Now, I know, how to read, novels, books, dictionaries.

Because at first, I used to read just picture books, and now I'm reading longer chapter books.

Because I read more sophisticated books, more books, as I grow up.

Yeah, I start to learn those short chapter books, and now I read those really big, thick ones, like those ones on the shelf.

While books were often mentioned as indicators of proficiency level, children also referred to literacy tasks they had accomplished in the past. Children’s experiences of success or failure in these tasks provided support to their appraisals of proficiency, and informed their perceptions of changes in proficiency. In children’s explanations, success with several literacy tasks were mentioned:

Because I tried reading newspapers but I didn't understand a word.

Uhh, ummm, when I was visiting China, when I was like, seven, my mum's brother told me to, like write, um, a paragraph in Chinese is like, “Oh my God, I don't know…Oh my God I don't know how to write paragraphs.” Yeah, 'cause I was only like in Grade 3. I'm in Grade 3 for like Chinese. And... not that good, and I never knew, know how to write anything.

Another child indicated that his HL writing skills had “got a lot better” by writing notes in HL to communicate with his parents:

Sometimes I need to write them a note when I go to my friend's house before I walk there (So you want to let your parents know?) So I have to write them a note so that they understand where I am like, something like "Matthew's house".
To support their appraisals of proficiency and changes in skill, children often cited the academic tasks which they had completed or were unable to complete:

When I write, it's mostly in English. Write short stories, for example, fiction.

Once, for Chine-, for Mandarin homework, I had to write a letter. And I couldn't do it. I wri-wri-, I wrote my journals. (Oh you wrote journals?) Yeah. It's about one page long.

I wrote narrative story, a narrative story about guardians and dragons. So yeah, I could write. And it was four pages long and I wrote a speech. That was also four pages long and I had to present it.

In his description of his perceived decreased proficiency in HL, one child contrasted his previous ability to tell stories orally with his current difficulty, and his beliefs about the interfering role of English:

When I was little, I never used to write stories, but you know, I used to like ‘speak stories’. You know like, say stories in Spanish. And then now, it’s kinda getting hard, ‘cause the English’s taking over.

As apparent in a number of the preceding quotes, some children referred to the length of their written work to indicate their proficiency in writing. This finding was observed in children’s explanations for writing in both HL and English. Children demonstrated their understanding of the structure of written language by indicating that their limited word knowledge prevented them from constructing sentences:

I only know some words and I can't make them into sentences.

I don't know how to write a lot of Chinese, grandma taught me words but they don't make into sentences.

Never write stories in Chinese; not even sentences.
Others highlighted their lack of experience writing stories in HL, in addition their lack of word knowledge:

Because stories are very long, and I only know like, I know um, I know very well, but I don't know enough words to complete a whole story.

I'm just predicting because I never actually wrote a story in Chinese. (So why do you predict that you can write “a little bit”?) Because I can only write a few words.

I hardly do that, I can do a few words. The hardest part is writing.

Gains were reported in children’s English literacy skills, with many children commenting on their enhanced ability to write “more words” and “longer stories.” One child pointed out that while in grade 1 he was unable to write a story in English “at all”, and noted that “now, I could write lots of stories.” Another child described his improvement in English writing by detailing how learning more words contributed to his skill in writing sentences and later, a story: “As I learn more of the words, I got better at using them in a sentence. That's how I got them into a story.” With respect to changes in HL proficiency over time, many children provided accounts of lost or forgotten skills, such as writing sentences, to explain their reports of HL loss:

Well I can't write a sentence anymore. Usually when I was little, teacher gives us work, and I can write a sentence.

Cause now I can't even write a sentence in Chinese, so yeah. I was way better when I was young.

Children’s struggles with writing in HL were highlighted in their differentiation of copying written content from independent writing. The following quotes illustrate children’s perceptions of low levels of proficiency in HL writing:

If I am copying-, very well. (What about if you're not?) Uhh, a little bit…(How do you know that you can only write a little bit?) 'Cause I get like, al-, all, most, like almost all of them wrong.
A little bit. I can only write like um… Actually, um, I think not at all. I can only write like copy down.

**Awareness of Writing Skills**

Children demonstrated an understanding of important writing skills, and related their abilities in these areas to their appraisals of proficiency. In addition, children described changes in several writing skills including grammar, inclusion of detail and ideation in their descriptions of perceived language loss, maintenance or growth over time.

One writing skill identified in children’s responses was grammar. This was noted in children’s attributions for their English writing skills as evidence of their writing skill. One child, whose rating of HL writing proficiency was “not at all”, commented “Most of the grammar, I don't know yet.” Another child, who estimated having “some” proficiency in English writing explained, “My grammar might be wrong.” When explaining his gains in English, children linked the changes to improvements in their grammatical knowledge: “Because I know my grammar. *(So what do you mean by grammar?)* The spelling and mmm...how to start a sentence and know what to end a sentence with.” Additionally, children commented on the importance of grammar in writing quality, as evident in the following quote: “Because my teacher teach me grammar. So I know more grammar, make stories more interesting.”

Children also commented on their use of punctuation in their explanations such as “Some words have swirly thing when my mom ask me to spell something. Sometimes get it wrong” and “I forget to add exclamations marks or periods sometimes.” Knowledge of story structure was also mentioned as a marker of skill. For example, one child remarked “Cause I know how a story is written. And I know lots of grammar. *(So can you tell me a little bit more about that?)*
Mmm…like first the beginning, middle, and the end. Several children spoke of their ability to use details in their writing to demonstrate their level of English writing proficiency:

Sometimes I don't write in a lot of detail.

Because I think of…about my imagination, and I use detailed words in English.

Use of details was mentioned by children when describing the changes in their writing skills over time. For example, several children reflected on their present and past ability to include detail in their stories:

I add more detail, I add more details and I ha-, I put like I put like periods, and I add funny things, and scary, and awesome things.

Because I still don't write in a lot of details. We're still practicing because we're, we're gonna like, write stories and share with the class, so yeah, we have to practice writing in detail.

Another writing skill recognized by children in their responses was generating ideas and effectively communicating them in writing. When asked about his poor self-rating of HL writing, he explained: “Cause when I think of ideas, I can't write them in Chinese.” Another child described his success in writing stories in HL: “I can tell because I usually write some Chinese stories at school, like during vacations and stuff, over the holidays. I get the ideas and my mom sometimes help me write it out.” References to ideation in writing were also noted in reference to English writing, such as the following quotes:

Because I think of a lot of good ideas and write that.

Because I sometimes don't have ideas and sometimes I have trouble with writing. (What kind of trouble?) Things like, verbs, and, like that.

In their accounts of changes in language proficiency, children also made reference to using their imagination to generate ideas that they could express through writing. In the following quotes
children described how their current skills in these areas have improved with time, to lend
support their reports of greater English writing proficiency since beginning school:

Because, um, 'cause I never wrote any stories, in Grade 1. I wrote little stories, um, based
on the pictures, but now I write stories about, like, I have-, I'm, I'm making a story right
now...a story. And I have a great imagination and the story's called "Apes take over the
world."

Because when I was in Grade 1, I didn't exactly like, give out all my imagination to the
stories, I just put, like, a little bit down, so it's less exciting. But now, um, it's more
exciting.

Among children who rated their writing proficiency as low, a common explanation for
their poor self-appraisal was simply stating that he/she is unable to write. The following are
comments from a number of children who when asked how well they could write in HL,
indicated “not at all”:

I don't know how to write. I don't know how to write or read.

Because I can't write anything...I cannot uh, write anything. And, uh...uh...when I see
people's writing, I don't even know what is it mean.

Some children referenced their skills in other domains of language and literacy when describing
their lack of HL writing skills. For example, one child noted: “Cause I speak Mandarin but I
haven't learnt how to write, I don't know.” One child seemed to allude to the connection between
reading and writing in his descriptions of HL words:

Because, they look too funny and hard...I never even learned how to write. And if I don't
know how to read, how can I know how to write it?

To summarize, skill represented the most prominent theme among children’s responses.
General measures of skill included references to overall knowledge or understanding of the
language, amount of language knowledge, and difficulties with the language. At the word-level,
children referred to indicators of skill including challenges with different types of words (e.g.,
easy, hard, long, big). Lastly, at the text-level, children identified success with past literacy tasks and knowledge of various aspects of writing skill (e.g., grammar, punctuation, structure, details, ideation) in their descriptions of proficiency. The categories of this theme illuminate children’s perceptions of their own abilities including their awareness of the complexity of their two languages, the benchmarks they use to assess their skills, and their approaches to assessing their language learning over time.

**Assistance**

Analysis of participants’ responses revealed that many children attributed their language proficiency skills, and changes in their abilities, to receiving assistance from others. This theme emerged in all language and literacy domains and in both languages, and was comprised of several key categories. Children described several forms of assistance including formal schooling extra-curricular instructional efforts, and informal assistance from others.

**Formal schooling**

Receiving formal classroom instruction was a commonly cited category of assistance in children’s explanations of their current levels of proficiency in both languages. This category encompasses children’s attendance in day school programs (both English language instruction and HL class periods) as well as participation in heritage language classes outside of school hours. Children’s responses were coded as reflecting this category when they referred specifically to formal instructional activities which took place in structured educational programs. Instances of this category were noted across both languages, and for all areas of language and literacy.
Many children described their HL proficiency in relation to their participation in HL classes. When asked why he rated himself as able to speak HL “pretty well”, one child simply stated “When people speak Chinese, I do know some of the words because I go to Chinese school.” Some children were more specific about the ways in which their skills were associated with aspects of their HL class. The instructional methods of HL teachers were frequently cited by children as reasons for their level of skill in HL. One child stated “Well, our Spanish teacher, she makes us speak and read.” In reference to spelling in HL, another child noted, “I practiced with my Spanish teacher at school. And then I have to write Spanish stuff and she shows me how to.”

Several children described their lack of proficiency in HL as related to not attending to their HL teachers. This sentiment is demonstrated by one child’s explanation for his low level of self-rated HL proficiency: “I'm not very good at Chinese 'cause I don't really listen to my Chinese teacher.” Children also related their skills to the both quantity and nature of HL instruction. For some children who viewed their HL proficiency as low, skill level was linked to the amount of words taught. For example, as expressed by one respondent, “Umm, 'cause, when I went to Chinese school, they didn't teach me a lot of words, like they taught me one word per week.” Another child claimed “They didn't teach me a lot of words” in reference to his HL class teachers. Other children noted that they received instruction in one language domain and less in others. To explain why he felt he could write in HL “a little bit”, one child stated, “(I) learn that from Chinese school…learned mostly reading.”

Children reported beliefs that they were less skilled in HL due to infrequent attendance at HL classes. One child explained his low self-rating of listening by stating “I go to Chinese school only on Wednesdays. Not so much because I only go on Wednesdays.” A similar belief
was expressed by another child who stated, “A little bit... I don't really learn or write Chinese, 'cause I-, I only have once a day for Chinese.” For a number of respondents, their low levels of proficiency in HL were linked to greater attendance at English language schools. For example, one child asserted, “It's just I went to like more English schools than Chinese.”

Another child explained the role of HL class in her improved HL skills: “Because I learned new words in Chinese school.” Children also reflected on the difficulty of learning HL due to the duration of HL classes: “So um, very little Spanish, and for me to learn Spanish in like 30 minutes, half an hour, is too little.”

Children also credited their teachers with the growth of their language proficiency. As illustrated in the following quotes, children reported that teachers provided instruction they believed to be associated with changes in their proficiency in HL:

Because they taught me new words in Chinese that I didn't learn when I was little.

I can spell Spanish because, my Spanish teacher in this school, she writes words, in Spanish, and like, it helps me so I can say them like at home.

It got a, lot better, since I was in Grade 3 I think. In Grade 3, I think I started to learn, I went to this teacher, the teacher that's in my class. He started to teach me how to write, and read.

When discussing their proficiency in English, attending “English schools” was recognized by many children as the reason for their English language proficiency. Several children shared comments similar to “I go to English school” when explaining their high levels of proficiency in English. One child, who viewed his skills as linked to the number of years at school, indicated “It's just like went to Canada earlier and went to like an English school, since in I was like, before like, kindergarten grade.” Furthermore, children believed that certain instructional experiences were associated with their English skills. Having a “spelling test every
"Friday” was regarded as related to spelling skill according to one child, and another child described a teacher’s piece of advice for spelling: “…when I spell, I don't need help, but like some letters, the teacher will say, ‘we focus on the capital on this.’”

The formal schooling category emerged in children’s attributions for changes in their proficiency as well. Children demonstrated their belief that observed changes, or lack of change, in their language and literacy proficiency, were related to the provision of assistance by other people. In the following quote, a child described his reasoning for perceived growth in English proficiency:

Because when I was in kindergarten, when I first came to Canada, I just like don't understand that much English. I just like... I got a lot better, because I just like went to like, uh like, 3 schools.

Children viewed instruction in English as similarly influential in the development of English proficiency:

Because, when I started in Grade 1, um, I didn't know as much words, and um, and I was speaking in Spanish still, so the teachers had to um, try to communicate with me a lot, so um I got a lot better.

It got better, a little better because, now, uh we have language spelling. Uhhh...and sometimes the teacher helps me if I need help.

In particular, many children spoke of their participation in English-as-a-Second-Language (ESL) programs when explaining the change in their proficiency in English since beginning school:

Well I took a class in ESL when I was in Grade 1 to Grade 3. I learnt how to write sentences, and I learnt, and I learnt new words, and I lear-, I learnt how to pronounce words better. From ESL.

Because I know how to spell in Grade 1 because um, they were speaking English to me and I went to ESL I think. And, so I got a little bit better at spelling. I'm not uh perfect at spelling but I got better.
Extra-curricular Instruction

In addition to instruction received in formal schooling, children described instruction from family members and tutors. Many children attributed their language proficiency and change in proficiency to their parents’ at-home instruction. This explanation was especially common when children were asked about their language and literacy skills in HL. One child, who rated herself very highly in HL reading, noted: “Because my mom and dad only talk to me in Spanish and they are teaching me to read in Spanish.” Parents’ efforts to instruct their children in HL spelling and writing were evident in several children’s responses, as evident in the following quote:

My dad's still teaching me the Spanish alphabet, because, like you have to pronounce it like different, and in Spanish, it's actually (recites alphabet in Spanish).

Children also described regular instructional literacy activities led by parents, and seem to recognize the impact of these activities upon their level of proficiency in the associated skills, as stated by one child: “Every Friday me and my mom, we do this spelling quiz with her, if it's wrong, she tells me what to do, she corrects it.” Similarly, another child described his mother’s assistance in writing in HL: “I take writing with my mom in Spanish. Like "this is my house" but in Spanish and more things.” Many children recounted their parents’ specific instructions. For example, a child recalled her mother’s instruction:

Like sometimes I make mistakes and stuff, and my mom says "Go back and read your story again and correct it…your periods, your spelling and stuff”. Sometimes I am in a hurry and she says, “Go and correct it back.”

Correspondingly, a lack of parental instruction was cited as a reason for perceived low HL proficiency. For example, when asked about his ability to speak in HL, one child explained “Not really cause my dad doesn't really teach me.” Another child attributed her low proficiency in HL
reading to her parents: “Because I only know some...what my parents taught me, they didn't taught me all.” Interestingly, one child speculated on her mother’s motives for not teaching her writing in HL: “My mom doesn't teach me Chinese that much since I'm in Canada so I'm supposed to learn two languages on same day, so, yeah.”

Instruction from parents was also identified by children as related to their perceived change in proficiency since beginning school. Various approaches used by parents to support their children’s language development were described, including demonstrating writing skills, joint reading and encouraging HL practice at home:

Oh 'cause my mom showed me how to write, a story, she told me how to write it, like she give me to read my imagination with detail, and then I started doing stories that my mum helps me, she guides me, with spelling, words.

My mum usually reads some books to me, I read a little book to her, and she reads it back to me.

Because everyday mom, if I have no time, my mum forces me to read chapter books, long ones, I read chapter books in my room.

One child provided a detailed account of her father’s approach to facilitating her improvement in English spelling:

So at home, my dad is always giving me these spelling tests and stuff like that, like twenty words, before I go-, before I go to bed, and in Grade 3, I had this TV in my room, now I don't, uh I saw a bunch of movies right, and every night before I go to bed I would watch a movie, but my dad said that “if you don't finish the spelling, you're not watching the movie”. Or like, “if you don't get them all right”. I really, really have to focus, 'cause I really want to watch, The Little Mermaid, Cinderella and all that, like all the Disney classics. I love those movies, right, so I would really have to work it, work it. And then, at school, I got a lot better.
Apart from instruction from parents, children also attributed their current proficiency and changes in proficiency to instruction by other family members. Grandparents were commonly identified by children as contributing to their language proficiency, particularly in HL:

"Cause my grandma teaches me Chinese now. And, um she always teaches me words in Chinese. (How long has she been teaching you?) Um, like two years. Every day. (For how long?) Half an hour to an hour.

Furthermore, in reference to improvements in HL proficiency since beginning school, several children described the efforts of their grandmothers:

"After school at home, grandma teach Chinese. At school, learn English...balance.

"Every time my grandma comes you know how I told you that she brings books? Well she helps me read them too.

"Didn't read Chinese in Grade 1. Because more people are reading with me, like Grandma.

Cousins were also recognized for their support in HL learning. For example, one child noted her cousin’s role in helping her ability to communicate in writing with HL-speaking grandparents:

"Because when I have to type on the computer to my grandma, we-, I have to know these pronunciations to talk to her. So yeah, so like my cousin comes here every Saturday and teach me some, so I start learning.

Tutors were also mentioned as a source of language instruction in both English and HL. One child explained his understanding of the connection between tutoring and his developed oral English skills:

"Since I started kindergarten, I do, I keep forgetting how to…I started liking it, and I keep learning it, and I go to tutor, every Wednesday with Bryan and Mrs. H. for 3 years. But now I have to go to tutor and then I had to…I had to…and then in the middle I had to go with Bryan and I've been to tutor for like 3 years."
Another child expressed his belief that changes in his English spelling skills were associated with tutoring he received:

That's because every day I have to, at tutor I have to learn-, like... sometimes she reviews all the words with me, and that takes half an hour, and then we have one more half an hour.

Analysis of children’s explanations of changes in their proficiency revealed that children recognized the combined contributions of formal schooling and assistance from family members to their language growth. Although many children identified these categories in isolation in their explanations, several children in the study seemed to reflect on the sources of support they received and their cumulative influence on their language development. As illustrated in the following quotes, children acknowledged the benefits of multiple forms of assistance to language learning:

I got a lot, better by, um, by, like taking Spanish lessons at school and, um, I got-, when-, when I wa-, when I learned Spanish from my mum, and my uncles, and my aunts, and my family and my cousins, and my sisters, and my brothers, everyone in my family.

Mm, I just like, get a little bit better, because now I went to like Chinese school, and then I learnt it from my mother.

I got a lot better 'cause I saw a teacher writing on the chalkboard, so I saw it, and reviewed it to see what it means. I give it to my mum, so she could tell what it means. By teachers helping me, my mum helping me, reading, learning, and learning new words that my teacher teaches me. And yeah, I tell my mum to go ask for help, no, I tell my mum to help me to learn English a little bit. Like for long words, like “international”, “dictionary” she always tells me what it means.

Informal Assistance

In addition planned instruction, children also reported forms of assistance that were less structured and more spontaneous in nature. This category of assistance was more frequently noted in children’s attributions for their skills in HL than in English. Children related their
comprehension of spoken HL with the efforts of family members to communicate using a combination of English and HL. One child shared this observation about his grandmother’s and mother’s language use:

Most of the time I understand, ‘cause they make it more easy, so, a little bit of English and a little bit of Spanish. (So who makes it more easy?) My grandma and my mother.

Children also believed that parents’ rules regarding HL use were associated with HL proficiency. One child explained his proficiency in HL by stating, “cause my mom forces me to speak Spanish at home.

Another child connected her strong HL proficiency to her mother’s persistent attempts to promote HL use: “Very well! I learn it with my family, my mum always yelled at me when I don't speak Chinese. I was trying to read an English book.”

Children also attributed their change in HL proficiency to parents’ attempts to encourage HL use. In the following quote, a child describes his mother’s efforts to promote his Spanish use:

Cause I keep practicing everyday. And since my mom keeps telling me to-, keep talking in Spanish, ‘cause you learn more, but then I feel-, I guess I learn more. She's like, when I talk in English, she's like “What?” She-, she-, she knows what I mean, but she doesn't-, she-, she wants us to speak Spanish.

Children also described siblings as having a role in supporting their language and literacy development. This theme was especially noted in reference to English language skills. Children reported receiving assistance from older siblings in several domains, including listening, speaking, reading and spelling. Several children recalled receiving help from their siblings from an early age. For example, one child recognized her exposure to English via her sister: “Cause my sister when she learnt English, she taught me some of the easy English words.” Children credited their siblings with teaching them English words, as demonstrated in the following quote:
“Because sometimes my brother says a word and I don't get it so he says the words and then explains to me.” In addition to oral language skills, siblings were also credited by some children as contributing to their literacy skills in English. For example, one child recognized his brother’s assistance in encouraging his proficiency in reading: “Because, since I was Grade, like, 1, I had to start reading chapter books. And my brother keep forcing me to read them. Big ones, like Harry Potter.” Children described their siblings as resources for assistance with English literacy tasks. One child described, “Sometimes I like doing my work at home, because I can get help from my big sister.”

Similarly, children viewed increases in proficiency as associated with assistance provided by their siblings. Older siblings were frequently mentioned as sources of knowledge in both HL and English, as illustrated in the following quotes:

Cause when my brother was in Grade 4, and I was in grade 1, he taught me a little bit of words.

Cause my brother taught me most of the words I know now.

Because, each week, yesterday and the day before, and then, um my sister has to write a religion. A religion, so she has to ask my mum, she has to write words in Spanish. So, each week, see all the things she does, and I-, I see them same also. Like, mm, when I need help, um, I usually mostly ask my sister, some of them she knows how to spell. (Oh, is your sister older than you?) Yeah, she's in Grade 9.

Friends were identified as providing assistance in the development of both English and HL proficiency. When asked about his English listening skills, one child shared, “My friends talk to me and I understand and they teach me.” Another child identified receiving assistance from his friends in writing in HL: “in Spanish, I don't know how to write words. So (pauses) I'll ask my friends how to spell 'Ola' and they'll help me.”
Assistance from friends was also recognized by children as contributing to changes in language proficiency. The help provided by friends was often described by children in nonspecific terms such as “my friends help me”, or as noted by another child, “Sometimes one of my, friends or I-, sometimes one of my best friends, help me out things, and do things for me.” Some children provided more information about the assistance provided by friends. For example, in the following quote, a child shares his friend’s role in exposed him to new words:

"Um, I learn, I learn um, every-, new words everyday by my friends. (Oh, so “by my friends”, what do you mean by that?) Um, normally when we go in class, I don't know what to say, and then one of my friends put their hand up and they say new-, a word that I don't understand, and mmm…and then, and then the teacher says the word means."

**Learning Approaches**

Learning approaches, the ways in which children developed their language skills, were described by children both in relation to their proficiency skills and changes in their language skills with time. References to this theme extended across all language and literacy domains, in both languages. The wide range of learning approaches reported will be illustrated through excerpts from children’s responses, and presented as different categories of this theme.

**Use and Practice**

Children recognized frequent (or infrequent) use and repeated practice as having a role in the development of their language proficiency. In children’s explanations for their HL skills, children often associated their proficiency in HL with their frequent use of HL with family members or in the country of origin:

- I talk to my family in Chinese.
- I usually speak Chinese to my mom, dad, family.
- Mostly I speak, um, Spanish at home and Columbia, and sometimes to my cousins.
Mostly at home and in China I speak Mandarin.

One child described the necessity of communicating in HL, when in the presence of her HL-speaking grandmother:

Well, because, my grandma, as I said she comes from Argentina, and I can't talk to her in English, 'cause she doesn't know any English. So, when I-, when she stays for six months, and, all the six months I have to talk to her in Spanish.

Children also described less frequent or no use of the HL in certain domains of language and literacy to justify their low ratings of proficiency:

Spanish families need to read in Spanish. We never read in Spanish. Never. (Never?) Just at school.

I don't speak Chinese always, and sometimes speak English with my friends.

Cause I mostly, I talk in English at home. Like I do speak some Chinese, but not all the times. So that's why I don't really communicate in Chinese.

I don't write stories.

To support their often high ratings of proficiency in English domains, children noted frequent use of English at school and with English-speakers:

At school always speak English.
I speak English to my friends and to my teachers.
Because I alw-, I speak English everyday.

Similar to their beliefs about its contribution to their current proficiency level, children viewed language use as related to changes in their proficiency over time. However, this theme was most prevalent in literacy domains, particularly in writing in English and reading and writing in HL. One child explained his perceived HL loss by commenting on his greater use of English: “When I first learnt English, I spoke English more.” Another child recognized his minimal use of HL in his explanation for his loss in HL proficiency: “I can't search the Internet
in Chinese. I don't read Chinese in books that often. I don't watch TV in Chinese unless I'm bored.” Other children echoed experiences of greater English use, for example:

Because for the past few years I have been reading English books, not in Spanish. Every time I come to school I don't speak any Chinese.

I keep forgetting about Chinese, and keep using English instead of Chinese.

Conversely, a number of children noted changes in language proficiency following periods of using only one language, such as during the summer months or during visits from HL-speaking family members illustrated in the following quote:

Cause for the six months, like three or four months, it was during the holiday and my vacation, so you know, there was no school, and I have to speak no English, so I just speak Spanish. When I went back to school, I talked to my uh, friend, she wasn't Spanish right, and she's like “What are you saying to me?”, and I'm like “Oh my gosh I totally forgot it! English!” I'm like "Okay", then I started to remember... I was really like scared, like, 'cause I had to speak Spanish for so long, that I almost forgot about, English. Every time my grandma comes, I have to speak Spanish all over again. Right, you know like, the twelve months I speak English, and then my grandma comes back another two months later, and then I learn how to speak Spanish again. (So then grandma comes and-) And then I get more, and then I forget a little bit more, and get back to it when my grandma comes.

Similarly, many children explicitly identified practice as related to proficiency, with more practice contributing to increased proficiency. In response to queries about their high self-ratings of proficiency, many children attributed their skills to practice in their reports of “practicing everyday” and noting that they “practice a lot”. One child shared his belief regarding practicing spoken English: “Oh 'cause you practice, um, everyday. So I get used to the words that I'm saying.” Another child who rated himself highly in speaking HL, identified different HL settings where he practices his HL skills: “Practice Chinese in Dragon City, at Chinese school, there's restaurants and stuff.” Children also expressed beliefs that suggested that low levels of
proficiency were associated with less practice. For example, when asked about his moderate self-rating of his writing proficiency in HL, one respondent stated, “I don't practice enough”.

In their attributions for change, children expressed similar beliefs that practicing language tasks is related to language loss, maintenance and growth. Children spoke generally of repetition and practice as facilitating language growth, such as “I learned more, and I review the words” and “Because, um I, I've improved since these years, I have been learning, over and over again.” Children also referred to their frequent study and practice of the language as facilitating improvements in proficiency:

The teacher told me to read something and I read a little bit. I practice, practice, practice. I helped myself. I studied a lot.

I studied words I didn't know.

From writing stories, because I always proofread and if I find mistake, I read it over and over again, and made me changed.

Insufficient practice of language or literacy tasks was also viewed by children as the reason for language loss or lack of improvement in language skills over time. For example, one child stated “I don't practice a lot at home. Mmm...just re-, I don't read all the time.” Another child described, “When the teacher asked me to write a story, I didn't study and I forgot all the words.” Children also contrasted their past and current practice of skills in specific domains: “I don't read a lot of Chinese books anymore. In kindergarten and grade 1, read a lot.” As illustrated in these quotes, similar to their explanations of current proficiency, children viewed practice as directly linked to changes in proficiency.

Interestingly, in their attributions for language change, children asserted that there was a subtractive relationship between greater practice of one language and loss of the other language. This was noted in children’s descriptions of HL loss over the years:
Because as I start to learn more English, I start to practice more English, and that means I uh, forgot all my Chinese.

Uh, because, as I say, I learn more, had- had more, learn more En-, English. So that means the, the Chinese, it-, it decreased, um, decreased, a lot. Like, I uh, forgot-, forgot a lot of them, Chinese.

Reading Books

Reading books was an approach frequently cited in children’s explanations of their proficiency in English and HL. Children identified reading books to be related to skills in oral language as well as in literacy. Many children described books as a way to learn new words:

Well. I could-, I could read lots of books because I went from grade to grade finding like, experiencing new words, in every grade.

In English, I just speak very well because like my dad, I'll know more, and the more books I read, the more English I will learn, and the more hard words I can pronounce in English. So to me like it's more easier.

So, when I read Spanish, I could learn more, then, like, I got this book about Spanish so I could learn more Spanish words.

In reference to his writing skills, one child described his approach to learning more words in English by reading books and writing down unfamiliar words, stating, “Because mostly I read English books and a tape. I keep reading so I know more words. I write down the words I never knew so I can learn them.” Children also identified books providing ideas for writing, as illustrated in the following response: “I read books and I take some ideas from them like paragraphs...stuff like that.” This learning approach was also commonly described in children’s attributions of proficiency change. Children noted that books provided exposure to new words and facilitated learning. This observation was common among children’s descriptions of change in HL:
Mmm...because like, I didn't understand a lot, when I was small. So, um I just got into reading a lot of Spanish books, and I picked up a lot of words.

I got a little better reading Spanish, because I read books of Spanish.

Because, when I was small, I started reading like, the little like, wooden baby books. So then, um, I started reading a lot of those, but then I just got so bored of them, so then I started getting into the bigger books. And that's when I started getting all better.

So, mm, it was the same as English I started reading a lot of books. 'Cause I am, fascinated with books. So, most of them were Spanish, and, I, then I started, figuring out all these, all these Spanish words.

Because, my dad says I say Spanish, and he has this book all about Spanish, I mean Spanish…, soccer, in Spanish right? And it has Spanish players, and I really like that-, I mean soccer too. Right, so, I read the book and it's all about these players, (says Spanish player names) and all those people on the Argentinean team, and I really learnt to spell that book, to read that book, and now, whenever I see words that were in the book, I see them somewhere else in Spanish and I know how to spell them and read them.

Other children described a lack of access to HL materials as the reason for their loss of language skills. For example, as noted by one child who indicated having “forgot a little” HL:

“Because um, I don't really read in Spanish first of all. And I, um, they, they don't sell many Spanish books that I can buy and read. So I guess I just can't um, read because of that.”

Children also viewed reading English books as having contributed to growth in their English proficiency:

When I was reading and then after reading, I usually find the words I don't know, I read it again and I remember those.

Because you know the chapter books, they haa-, they have more words. That's my-, I learn those words from those chapter books.

I just like read like a little more English books and got better…I just like look a lot-, a lot, look at lots of English words in the book.
I got a little better in English because, um, writing stories, there're, I started in small stories, like fiction, and then, I read-, I forgot what book I read, my first non-fiction book, but then I started to get so fascinated. So that's when I started reading a lot of non-fiction books, and, um, then I put it into stories.

**Dictionary Use**

Children identified studying from the dictionary as contributing to their language knowledge. For example, one child described how dictionary use is linked to his listening skills in English: “I know the words but don't know what they mean, that's why I look in the dictionary.” Another child stated, “Sometimes I study from the Spanish dictionary. (How do you do that?) Uh, it has the pictures and then the words, and then it shows how to pronounce it.” To explain changes in HL skills over time, children made similar comments to “Because, when I wa-, I, when I was smaller, I used a dictionary when I didn't know what-, what word, words meant. But now, I know most of them very well.”

One child reported using the dictionary in a unique way, to communicate with his HL-speaking grandmother. He attributed his progress in HL to this approach:

Because over the years, my grandma, you know she keeps coming, but every year she can, stay longer. Right, and, during the six months that she was over here, I still had to go to school, and um, I learnt a lot, so I learnt English at school and then Spanish at home…Well, you know, like she had to talk to me and I didn't understand nothing. Right, so, then, uh, one time, I had to-, like show it to here an English dictionary, right, no a Spanish dictionary and I pointed to the word that I wanted to say to her. So there was this one time I wanted to tell her a sentence, I had to flip like, five pages to find all of the words. (Did she understand?) Yeah, and then after like a few, like after two months, I really started to get a hang of it, and I started speaking to her in Spanish.

**Electronic Media Use**

Children expressed the belief that use of electronic media, such as television viewing and computer use, was a way to learning language, especially English. When asked about her high self-rating in English listening skills, one children shared, “Cause I watch English television.
Mostly music television.” In reference to spoken English, another child asserted, “Because I watch lots of English shows. So I know how to speak it very well.” In their explanations for changes in their proficiency in HL language domains, children often linked television viewing with improvements in spoken HL:

I watched Chinese shows on TV.

Uh, when I go-, when I'm bored, and there's no shows that I don't like, I just flip through the Chinese channels, and watch for a bit.

Children also associated computer use with literacy proficiency according to analyses of children’s responses. Computer tools were viewed by children as facilitating spelling and writing, as noted by one child:

Because, um, it's easy to-, sometimes it's easy to star-, type a story, and on the computer it's easy because it tells you if the word's wrong, just click on the word, and you find the right word. *(It does that in Spanish?)* You have to go on a special, um, thing to do it. You have to download it.

Some children identified typing on the computer as a way of develop proficiency in writing:

On the computer I can type well. In some books, I can write a book, from 1 to 1000 fast - that's how I learned how to write.

Because…I take the book and type it all on the computer. My hands get sore. All the books are from Hannah Montana.

*Requesting Assistance*

Children also identified seeking and receiving assistance as another learning approach. Seeking out assistance from others was considered distinct from the category Assistance from Others within the theme entitled Assistance. Children’s deliberate attempts to access language-related support to advance their learning were coded under this learning approach, while
assistance offered to others, without explicit indication of child request, were categorized within the Assistance theme.

Some children simply noted asking “someone” for assistance, while others identified having asked specific individuals, most commonly family members and friends, as illustrated in the following quotes:

I practice a lot. If I don't understand the words, I ask someone.

Sometimes I ask my mum and then I follow along and then I read it one time, and then I know a little bit.

I tell my mum to go ask for help, no, I tell my mum to help me to learn English a little bit. Like for long words, like “international”, “dictionary” she always tells me what it means.

Since I have English class, and my friends always teaches me new words when I'm like, “what does that mean?”

I heard my brother say to some new words and I ask what it means, and he tells me what it means.

*Feedback*

Children commonly identified external feedback regarding their skills as a means by which they judged their proficiency in language and literacy. Though less common, references to feedback were noted among children’s attributions for changes in proficiency over time. This theme was found to have two categories. One category was feedback from others, which refers to the comments and appraisals provided by teachers, family members and friends regarding children’s skills frequently cited by children as the basis for their ratings of proficiency in both languages. The second category of feedback described by children was indicators of scholastic
achievement including rubric ratings, numerical marks, letter grades and percentages. Each category will be discussed and represented using children’s responses.

*Feedback on Proficiency from Other Individuals*

Analyses of children’s interview revealed feedback received from important people in their lives as an important basis for children’s self-perceptions of English and HL proficiency. Children recalled comments and reactions of teachers, parents, and peers about their skills. As evident in the following quotes, for various domains of language and literacy in both languages, teachers’ appraisals appeared to have influence over children’s perceptions of proficiency:

The teacher tells me.

My teacher told me that I’m a good writer for spelling.

My teacher always says my stories are good.

Because every time I go to Chinese school my teacher appreciates me. And she said that I have good Chinese.

Feedback from HL speakers such as parents and grandparents was also described by many children in relation to their HL proficiency. Children provided comments made by their family members as support for their perceptions of skill. Children commonly based their appraisals on feedback from their mothers. For example, positive comments such as “My mum says that I read good” and “My mom tells me I say very good words” seem to contribute to children’s perceived proficiency in their HL. Moreover, one child connected being able to speak “some” HL to feedback he receives from his mother regarding his utterances in HL: “Because like, whenever I talk, sometimes my mum, like says I said it wrong.”
Children also spoke of feedback from other family members. For example, one child explained that his family compliments his spoken HL: “Mostly whenever, when I, when I speak to my family, they usually say I speak very well with Spanish”. Another child recalled a grandparent’s positive feedback regarding his spoken HL when describing his level of proficiency:

I think when I was little, when I visited Ecuador, uh, my grandparents said um, like, my (pauses) I don't really remember exactly what she said but she said I was a pretty well speaker. Pretty well speaker.

Comments from family members regarding children’s language skills in comparison to those of their siblings were also identified by children as support for their self-ratings in HL proficiency. This is illustrated in the following quote:

But sometimes I get mad at my sister because she knows more, I feel embarrassed, and then, my family keeps on saying “your sister's so smart, she knows more than you”.

In addition, children also recognized appraisals and comments by peers as evidence for their language and literacy skills in English and in HL. For example, one child explained his high self-rating of spoken HL by citing his friend’s words: “Umm, 'cause my friend said, he said that I'm a very good speaker.” Children also cited feedback from friends when describing their literacy skills as represented in the following quote:

I could write stories good in English because I, I know how to make them fast. All my friends read it and they're like “wow, yours is more, your stories more better than mine.” I'm kinda good at writing stories and poems and songs.

While children often referred to verbal feedback from peers in their responses, some children also noted others’ comprehension and interest in their work as evidence of their skill in a given
domain. For example, this quote illustrates one child’s judgment of his writing based on the reactions of others:

But, like, if I can put it in my words, it, um…sometimes, I show it to other people and there are no spelling mistakes, I think. And, they get the story well, and sometimes they like to read more, of it.

Furthermore, the absence of corrective feedback from others was also interpreted by children as an indication of their skill in English and HL. One child observed, “When I answer them back, they don't tell me I'm wrong,” and another noted, “If I'm not correct, they will say something to me like, ‘you're not talking correct.’ I usually talk good Spanish.” Children seemed to equate receiving no negative feedback when carrying out the skill in the presence of others as support for their proficiency in that domain. In reference to his reading in English during class, one child described: “When I'm in class, we have to read math and I keep going and no one ever stops me that much.” Likewise, the lack of feedback from individuals skilled in the target language such as teachers and parents was linked to proficiency in several responses:

When I read, the Spanish teacher doesn't say anything.
My parents never stop me when I'm talking. They never say you're saying something wrong.

Fewer references to feedback from others were noted among children’s understandings of language change. However, some children did make reference to this theme, and described the two categories in their responses. For example, several children described feedback from teachers, family members and friends regarding their change in their skill as informing their perceptions:

Cause my teacher never puts X's beside the words when you get it wrong and stuff.
When I was 6, my mom's like "you got a little better speaking Spanish" and then I got more and more better.

When I was reading, when I was reading out the dictionary to my parents, they said-, they said that I got a lot better from when I was smaller.

My mum told me I write stories better.

So when I was smaller, my friends say I can't pronounce the words that much.

*Feedback from Scholastic Achievement*

Children in this study identified feedback from scholastic achievement such as letter grades, numerical marks, percentages, and awards as indicators of their level of proficiency. This was observed across several domains of language and literacy, and in both languages. In addition, these same external measures of proficiency were reported by children in their rationales for language change. Analysis of the instances of this category found that references to measures of achievement were prevalent when children were asked about their proficiency the literacy domains (i.e., reading, spelling, writing). As exemplified by the following quotes, children viewed having few errors on these evaluative measures demonstrating their current skills in HL:

Got 100 in 2 exams in Chinese school.

In Chinese school test or exam, I always get first place and a trophy I guess. On a spelling test, I would get an A+, 23 out of 23…on my last test, I…last time I got like 22 out of 23.

I never had a low mark on my spelling dictations.

Because when we have tests in Chinese school, I mostly pass, it's like 70 or 80.
Like some wrong some right. Like last week, I got 15 out of 16 on the test, one word wrong.

Well, I like something, like, like we're doing a spelling test, I mostly get like, sometimes, a 19 if it's out of 20. I got like 18 or something like that.

The same finding was revealed in the analyses of children’s responses for English language domains. Children frequently cited results of tests and assignments as evidence of their level of proficiency:

Cause the teacher said, having it in my, report card, I got a B+ in reading.

Mmm, 'cause, you know that um, that there are tests that like have over fifty words? Umm, I, um, the last test that I done on it, um, I got the-, I got um, an excellent mark. I got, fifty out of, I think fifty. And it was pretty hard words. So, um, like, there were words like um, like words like “dehydrate” And all of the stuff, like, hard stuff. (Where do you find those tests?) Like um, in Grade 2-, in Grade 2 and Grade 3, the EQAO. And the CAT, the CAT 2 or something.

Because every Friday we have a spelling test. I mostly get perfect.

I got level 7 on my Halloween story. It also could be a 4 -.

Children also used indicators of scholastic achievement in their determination of proficiency change. Several children mentioned trophies, marks and other achievements in their attributions for perceived improvements in English and HL proficiency:

In my Chinese school, we usually have trophies at the end of the school year, and practically, I got like two.

On tests, my teacher doesn't really put any like…like on tests, if you don't spell it right, she puts like 60 or something. I'm always getting 87, 89, 90 and stuff.

Cause when I started doing spelling tests, I got um-, first I got B and C's but then after, I got A's.
I won a spelling bee. In the regular/hard, for Grade 2.

Other children seemed to view stability in these external measures of achievement as evidence of lack of growth in proficiency. This was observed in children’s attributions for both English and HL, as demonstrated in the following examples:

Because I get the same marks on Chinese.

Because when I write in Spanish, I get the same things...marks.

Language Environment

In both languages, children related their language proficiency to the environments in which they are embedded. Children recognized the potential influence of exposure to language within the environment upon their developing skills. Children highlighted the effects, both facilitative and hindering, of various language environments including Canada, their home environment and the school context, upon their proficiency and changes in proficiency in English and HL.

The Influence of Living in Canada upon English Language Skills

Many identified being born in Canada as a reason for their strong English proficiency ratings:

Cause born here, it's really easy for me.

Because I was born here. When I grew, I knew a lot of English. If I was born in Ecuador, I would know a lot of Spanish and little English like my mum.

Children also expressed beliefs that exposure to English in Canada had an impact on their English language learning:
It's easier because um, I've been, I've been in Canada for 9 years now…I've never been somewhere else, for more than a month.

Because, I hear it a lot, and most people speak English in Canada. So I hear-, um, them speaking, so it's easier for me to learn the words.

Another child used a metaphor to convey his experience of the impact of English upon HL after coming to Canada:

When I was born, I started learning Mandarin but when I get to Canada, I started learning a lot of English, so it's like English is just having war with Mandarin

Another belief illustrated in children’s responses was the necessity of developing English proficiency when living in Canada:

Well, it's the national, uh, it's the official language in Canada, so, pretty much I have to say it pretty well in order to understand most people.

My mum doesn't teach me Chinese that much since, I'm in Canada so I'm supposed to learn two languages, on same day, so yeah.

*The Influence of the Home Environment on HL Proficiency*

Children attributed their proficiency in HL to exposure to HL-speakers including parents and relatives and people in the HL-country:

Because everybody speaks Spanish to me. I grab off my mommy and daddy but not my cousins. Mostly people talk to me, go to my store that I know, speak Chinese. My cousins and aunts.

In their explanations of language change, children made observations regarding the influence of their language environments. Improvements in HL proficiency were attributed to parental HL use by some children: “Got a lot better because...I learned, how to speak with my family, I-, I learned by hearing them speak”, while others connected HL losses to remaining in
Canada, and not being in an HL-speaking country: “Cause, I keep learn-, I keep go-, I keep
staying in, Canada. I need to go to China to learn more Chinese.”

_The Influence of the School Environment upon Language Proficiency in HL and English_

Children also described their experiences and exposure to English and HL within their
school environment. In the following quote, a child describes the prevalence of English at
school:

Cause at school everybody talks to me in English, only my-, my teachers, all of the
teachers talk in English. Some of my teachers talk to me in Spanish, our Spanish teacher,
and one of my-, oh one of our teachers talks in French. And sometimes some kids talk in
Spanish in my class. Just two kids, their names are - and -, they only talk Spanish, and we
have to talk to them in Spanish. They understand.

Another child depicted a similar situation of predominant English use, as context for her
improved spoken English skills:

I got better 'cause, like the, um, it got better because um, they speak a lot of English here.
So um, very little Spanish, and for me to learn Spanish in like 30 minutes, half an hour, is
too little. And they speak English for 6 hours in school.

The automatic and apparently seamless switch to Chinese at home and to English while at school
was noted by one respondent:

When I get home for lunch or anything, my voice automatically changed to Chinese and
when I get to school English.

Exposure to additional languages was suggested by one child as accounting for his
perceived losses of spoken HL: “I’ve forgotten a lot because now, I'm learning, uh a little bit of
Indian from my best friend, uh, French and Italian.”
With respect to their current proficiency in English, children often described being around English-speakers within their school environment, as well as exposure to English use by their peers and siblings:

Because, like English is uh, is mostly like, into me, so like, I know how to speak it a lot, 'cause outside my friends all speak a lot of English at my teacher.

Very well! I go to English school and all my friends and cousins talk to me in English. Friends and teachers speak English, younger brother speaks to me.

Children also seemed to relate their changes in proficiency to exposure to English within their environments and English use among their peers. Many children attributed their perceived improvements in English proficiency to the greater numbers of English speakers in their surroundings:

Cause there's more people around talking in English.
Because I go to school in English, my friends speak English. Most people speak English.

Summary of Study 2

This chapter explored several research questions related to HLLs’ proficiency and changes in proficiency over time. With respect to children’s appraisals of their own language skills, most children viewed themselves as having moderate listening and speaking skills in both languages. As for literacy domains in HL, children viewed themselves as having low levels of proficiency in reading and spelling and very low levels of proficiency in writing. In contrast, most children appraised their literacy skills in English as high. Across all areas, the preponderance of children appraised their English listening and speaking skills as higher than their corresponding skills in HL. Only one in three children rated their HL and English listening and speaking skills at the same level of proficiency. Nearly all children rated their reading, spelling and writing skills in English at a higher level than the same skills in their HL. When
asked which language they considered easier, almost 80% of children identified English as easier than HL at present. A tiny proportion of children identified HL as easier at present (6.3%), as compared with more than 40% who felt that HL was easier when they first began school. It was noted that more than half of children recalled English as easier even at the start of school.

The exploration of children’s awareness of changes in their two languages revealed differences in children’s perceptions of changes in their skills in HL and English. In HL, about equal proportions of children reported forgetting, staying the same or increasing skills across listening, speaking, reading and spelling domains. In writing in HL, children reported either loss or no change in their proficiency. By contrast, for all 5 domains of English language and literacy, children indicated increases in proficiency.

Another objective of the current study was to investigate HLLs’ demonstrated proficiency in their two languages across different domains of language and literacy. In HL, children’s oral language skills ranged from low to moderate at best. In reading, children demonstrated limited reading skills in HL. Regardless of these modest levels of proficiency, children’s listening, speaking and reading skills in HL increased over time. In spelling and writing domains, children’s HL knowledge was very limited and was examined only at one time point, precluding exploration of any changes over time. In English, the language of school, children demonstrated developed skills for all domains, and their skills grew over time from grade to grade.

Additionally, a comparison of children’s perceived and demonstrated proficiency was conducted. Findings revealed that approximately one-third of children were accurate in their ratings for different domains in the two languages. Of those who were inaccurate in their ratings, about half tended to overestimate their skills, while the other half underestimated their skills.
No clear pattern emerged with regard to the skill level of accurate or inaccurate responders. Overall, the proportions of the six classifications varied across domains as well as HL and English.

In addition to examining children’s perceived and demonstrated proficiency and change, this study also examined HLLs’ attributions and understandings of their proficiency in their two languages, as well as their awareness of changes in their proficiency in their early elementary years. The analysis of their responses revealed that children’s attributions extended across five primary themes (1) skill, (2) assistance (3) learning approaches, (4) feedback, and (5) language environment. The five themes were each comprised of distinct categories. These categories represented the range of children’s attributions for their current proficiency and the basis for their conceptions of language change over the years.

The most prominent and frequent theme in children’s attributions was references to indicators of skills to support their ratings of proficiency and change. General level categories included references to overall knowledge or understanding of the language, estimated amount of knowledge, and degree of difficulty encountered with language. Furthermore, children described word-level indicators of skill level such as challenges with different types of words, and text-level indicators including descriptions of books read and written work, experiences with past literacy tasks and knowledge and demonstration of writing skills (e.g., grammar, punctuation, structure, details, ideation).

Children outlined several categories of assistance including formal schooling (i.e., attendance in school programs, participation in heritage language classes outside of school), extra-curricular instructional efforts (e.g., instruction from family members and tutors), and less structured, informal assistance from others.
Another theme in children’s responses identified in the analyses was attributing their language skills to learning approaches they have used. Children illustrated an array of learning strategies in their explanations including repeated practice, reading books, sounding out words, electronic media use and requesting assistance.

Another theme among children’s attributions for proficiency and change was external feedback, which comprised two categories: feedback from others, which refers to the comments and appraisals provided by teachers, family members and friends regarding children’s skills and feedback from scholastic achievement (e.g., marks, letter grades and percentages etc.).

Finally, children also recognized the potential influence of language environments upon their language proficiency. Analyses revealed this theme, environment and exposure, as indicative of children’s understanding of the effects of language exposure upon their developing skills. Children expressed their beliefs regarding the specific influence of their environments (e.g., Canada, home and school contexts).

In summary, these themes and their component categories form a comprehensive depiction of children’s attributions and understandings of their language learning and their resulting proficiency in their two languages.
Chapter 6. Study Three: Children’s Affective Responses, Beliefs and Perceptions about Language and Literacy Domains in their Heritage Language and English

Chapter Overview

Study 1 focused on children’s exposure to HL and English and their use of their two languages in their lives. Study 2 focussed on children’s proficiency in HL and English including their perceptions of proficiency and changes in their skills as they have developed as well as their actual levels of proficiency in both languages. In Study 3, the focus shifted to exploring the ways children feel and think about their languages. The following two questions were addressed in Study 3:

(a) What affective responses do child HLLs associate with HL and English language and literacy (i.e., listening, speaking, reading, spelling and writing)?

(b) To what do child HLLs attribute these affective responses? In other words, what beliefs and perceptions about HL and English domains do they hold?

To elicit children’s affective responses and attributions, a projective approach based on their responses to scenarios was utilized. This chapter presents the findings of the deconstruction and analyses of children’s responses to various language and literacy-related scenarios shown in illustrations. As described in the Methods section, each scenario depicted an activity corresponding to one of the five domains of language and literacy (i.e., listening, speaking, reading, spelling and writing) in each language (i.e., HL and English). Scenarios were divided into activities taking place in public settings (e.g., mall, classroom) and those depicted in a private setting (e.g., at home). Each scenario was presented separately. This allowed for analysis of any differences in children’s affective responses and perceptions of language and
literacy domains when they occur in public versus private contexts, in addition to examining children’s responses to the different domains in each of their languages. The second research question was addressed by describing the five primary themes which emerged in the analysis: (1) skill, (2) interest and preference, (3) assistance, (4) language environment and (5) group membership.

Affective Responses to HL and English

For each of the language and literacy-related scenarios in HL and English, children assigned a facial expression from three alternatives (i.e., positive, neutral or negative) to the protagonist to indicate the protagonist’s affective response to the situation. Children’s spontaneous labels for the stimuli were largely congruent with the facial expressions. For example, all children associated positive feelings with the smiling face and negative emotions with the frowning face. However, the middle face (seen in the centre in Figure 3) was more ambiguous and as a result, it elicited both emotionally neutral labels (e.g., serious, bored) and on occasion, negative labels (e.g., afraid). Figure 3 illustrates the wide range of labels children associated with the facial expression stimuli.

Figure 3. Emotion Labels Assigned by Children to Facial Expression Visual Stimulus
To allow for examination of the influence of context upon perceptions and beliefs, each activity was presented to each child in two scenarios: one involving the private context of the protagonist’s home, and the other in a public setting (e.g., on the street, in a shopping mall). Chi-square goodness of fit tests were used to determine whether children associated positive, neutral or negative affective responses with language and literacy tasks in their two languages in equal proportions. A summary of the frequency of children’s affective responses to each of the scenarios is found in Table 11.

### Table 11. Affective Responses Assigned to Scenarios by Language and Domain

<table>
<thead>
<tr>
<th>Language &amp; Domain</th>
<th>Setting</th>
<th>Affective response reported by children (%)</th>
<th>$\chi^2$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Happy</td>
<td>Sad</td>
<td>Angry</td>
</tr>
<tr>
<td><strong>HL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Listening</td>
<td>Public</td>
<td>41.3</td>
<td>39.7</td>
<td>19.0</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>58.7</td>
<td>36.5</td>
<td>4.8</td>
</tr>
<tr>
<td>Speaking</td>
<td>Public</td>
<td>38.1</td>
<td>20.6</td>
<td>41.3</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>66.7</td>
<td>17.5</td>
<td>15.9</td>
</tr>
<tr>
<td>Reading</td>
<td>Public</td>
<td>30.2</td>
<td>28.6</td>
<td>41.3</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>46.0</td>
<td>30.2</td>
<td>23.8</td>
</tr>
<tr>
<td>Spelling</td>
<td>Public</td>
<td>39.7</td>
<td>19.0</td>
<td>41.3</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>48.4</td>
<td>21.0</td>
<td>30.6</td>
</tr>
<tr>
<td>Writing</td>
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<td>46.0</td>
<td>20.6</td>
<td>33.3</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>50.8</td>
<td>17.5</td>
<td>31.7</td>
</tr>
<tr>
<td><strong>English</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Listening</td>
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<td>49.2</td>
<td>36.5</td>
<td>14.3</td>
</tr>
<tr>
<td></td>
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<td>Private</td>
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<td></td>
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<td>69.4</td>
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<td>Spelling</td>
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<tr>
<td></td>
<td>Private</td>
<td>46.0</td>
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<tr>
<td>Writing</td>
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<td>72.6</td>
<td>14.5</td>
<td>12.9</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>68.3</td>
<td>14.3</td>
<td>17.5</td>
</tr>
</tbody>
</table>

*Note. All analyses based on N = 63 unless otherwise indicated.

'a' based on N = 62

'b' not significant after bonferroni correction
Chi-square goodness of fit tests revealed that children selected the three facial expressions in equal proportions for several HL language and literacy domains. Specifically, the responses were equally distributed among the three facial expressions for language and literacy-related activities in public contexts. However, children were more likely to associate listening and speaking HL in private contexts with the positive facial expression than being neutral of feeling negatively about it. In literacy domains, children’s responses were divided equally across positive, neutral and negative responses, for private and public scenarios.

Overall, as indicated in Table 11 for all scenarios in which the activity depicted involved English, children tended to select the positive facial expression. Across all domains, and in both private and public contexts, the majority of children selected the positive facial expression for the protagonist in the English language situations.

Altogether, these findings indicate that children associated positive, neutral and negative affective responses about equally for HL language activities in public contexts and for all literacy-related activities, regardless of context. However, children tended to associate positive affect with oral language activities that take place at home. Regardless of the type of activity or the context, children tended to associate positive affect with having English oral language and literacy skills.

Children’s Beliefs and Perceptions about Language and Literacy in HL and English

While the first objective of Study 3 was to look at children’s affective responses to the various language and literacy scenarios, qualitative analysis of children’s attributions for their chosen affects provided important information about why children associated certain affects with
specific scenarios in their two languages. From most frequent to least frequent, the five primary themes that emerged among children’s rationales for their chosen affective response could be categorized into as referring to: (1) skill, (2) interest and preference, (3) assistance, (4) group membership and (5) language environment. The identified themes provide information about the beliefs and perceptions children hold about language and literacy learning in HL and English. The presentation of findings consists of a discussion of the categories within the themes, and includes descriptions and examples that illustrate the sentiments expressed by children in this study. A graphical representation of the raw frequency of themes identified can be found in Appendix G.

Skill

The most frequent theme in the analysis of children’s responses was skill. This theme was broadly defined as including any references to knowledge or ability in the language domain or language as a whole. Several categories within this theme were similar to those identified in Study 2 with regard to the examination of children’s attributions concerning their current levels of proficiency and changes in proficiency. These included children’s references to overall knowledge of ability in the target language, specific domain, and their perception of degree of difficulty or ease with the specific domain and language. References to numerous indicators of the protagonist’s ability at the word-level and text level were also identified as categories of this theme. Categories at the word-level included knowledge of challenging vocabulary, and having sufficient command of the language to communicate meaning. A text-level category of skill which emerged from the analysis was awareness of writing (composing) skills (e.g., grammar, providing details, generating ideas). As well, a number of unique categories emerged, including
children’s reflections on their skills in both languages and their descriptions of language confidence and anxiety. Detailed descriptions of these categories, along with illustrative examples, across the language and literacy domains in the two languages are provided. Language-specific trends in the categories will be explored and discussed throughout the following sections.

**Overall Knowledge or Ability in the Target Language and Domain**

Children supported the affective responses they chose for the protagonist by describing general knowledge of the target language. Many described language skill using general statements such as “she knows the language” or “he doesn’t understand”. References to the protagonist’s command of the language as a whole were common across listening, reading and spelling domains in both languages. For example, in her description of the protagonist’s positive affect while listening to HL in public, one child stated “Happy because she knows Cantonese.” Similarly, another child remarked on the protagonist’s happiness about using “a language he's really strong at.” These quotes appear to demonstrate children’s beliefs of a connection between affect and perceived overall skill in a language.

Children also spoke more specifically about the protagonist’s command in the specific target domain and language shown in the scenario. In scenarios involving listening in either language, children again associated positive affect with comprehension of the speaker’s utterances such as “She'd be happy because she understands.” A similar association was shown with negative affect and not being able to understand the speaker, as in the following quotes:

Sad. He feels sad 'cause he doesn't understand Chinese. I think.
A little scared because maybe she doesn't really understand Spanish that much, or she needs a little bit more help in Spanish.

When the protagonist was described as speaking the target language, children linked the protagonist’s feelings to his/her skills in speaking the language. For example, a child who assigned a negative expression to the protagonist explained her feelings by stating “Um, because she- is really bad at speaking Chinese.” In literacy domains, children’s beliefs regarding the relationship between affect and competence in the language was also evident. For example, in a HL reading scenario, one child labelled the protagonist’s feeling as “happy” because “she's reading her book that she read in the last picture. (Why is she happy about that?) Mmmm… because she knows lots of Spanish, just like me.” Children also attributed positive affect in spelling scenarios when they perceived the protagonist as able to spell. Comments made by children that illustrate this finding include “Good. She knows how to spell English.” and “I think he will feel happy because he's good at spelling in English.” Furthermore, a lack of spelling skill was indicated by another child as the basis for the negative affect associated with a scenario involving spelling HL: “I don't know how to write them out. Just like me.” Children made frequent reference to writing ability in their interpretations of the writing scenarios in both languages. Being unable to write or “not good at it” was a common reason for the negative affect identified in children’s responses to writing in HL:

Unhappy because she doesn't know how to write Chinese.

Because he doesn't really understand Chinese and he doesn't know how to write Chinese. He write so bad.

He doesn't really know how to write them out, not strong at it.

He might feel sad because, he doesn't really know how to write Chi-, Chinese, that- very, well and can't think of a story.
In contrast with the preceding quotes, for one child, lack of writing skill was not associated with negative affect. She noted that the protagonist felt “happy” and identified a way of circumventing her poor writing skills: “She might sneak around and copy people. 'Cause she doesn't write good in Chinese.”

The positive association between affect and writing skill was apparent in children’s responses to English writing scenarios as well. Competence in English was a frequently cited rationale for the protagonist’s positive feelings. A key example of this finding is: “I think he'll be happy, because he-, he's good at English. So he can write stories.”

Responses which comprised this category demonstrated the beliefs held by some children about the nature of language knowledge. In their explanations, language was described as either known or not, and individuals can be “good” or “bad” at a language in general or in a given domain.

For some children, however, instead of a binary concept of knowing or not knowing a language, their overall knowledge in the target language was conveyed in terms of ‘how much’ HL or English they know. Children used terms such as “a bit”, “a lot” or “not much” to quantify their language knowledge. For both HL and English scenarios, there was a familiar pattern of more knowledge being related to positive feelings:

Happy. Maybe because she knows a lot of Spanish.

Happy. She knows a lot in English.

Similarly, children also viewed having less knowledge in the target language as associated with negative or neutral affect:
I don't think he feels so good. Don't know much Chinese, only know half of what they're saying.

Like don't…maybe like don't understand much English.

A few children seemed to directly reference the amount of language knowledge they considered themselves to possess as a basis for determining the protagonist’s perceptions. For example, in one child’s words: “I don't know much Chinese, he doesn't know much Chinese either. Just like me.” Additionally, several children highlighted their awareness that the protagonist’s feelings could be related to having incomplete knowledge of the language: “He knows a lot of English but he's nervous he doesn't know everything therefore still nervous.”

Instead of speaking in terms of knowledge of the language, some children defined skill in terms of the protagonist’s familiarity with the meaning of words. Children consistently demonstrated the belief that affect and skill level are related, and associated positive affect with better word knowledge. This way of quantifying command of the language was evident in children’s responses to language and literacy domains in both HL and English. However, skill level was defined in terms of number of known words. This occurred most often in explanations for literacy domains, especially reading and spelling. The following quotes illustrate this way of gauging the protagonist’s level of skill in HL:

A lit-, uh the middle one because, he knows a little, and he can write, most of the words. But he can't write them all.

I think she might be a little bit frustrated because she doesn't know lots of words in Spanish. And maybe, um, let's see, maybe she, knows a lot of the words, but some of the words she does not know, so she feels like skipping them.

Happy because he knows all the Chinese words.
In their interpretations of English language and literacy scenarios, children also described the proportion of words with which the protagonist was familiar. Children reasoned that the protagonist may experience negative affect due to his/her lack of knowledge of words involved in the task:

Cause he might know-, not like a word and, like he might not know what's most of the words.

Uh, he'll feel sad, I mean uh, he'll feel nervous 'cause he doesn't know that much words in English, and he-, and he'll probably have trouble spelling them.

Uh the middle one because, he knows a little, and he can write, most of the words. But he can't write them all.

As was the case with HL, and following along this same line of reasoning, knowing “a lot of words in English” was associated with positive affect for many children. One child’s words simply and effectively capture the beliefs of this group of respondents: “happy ’cause she knows mostly all the words.”

Instead of indicating a single affect, some children offered more elaborated explanations of the protagonist’s emotional response to the situation. In these cases, the feelings described were clearly delineated: positive feelings were linked to competence in some aspect of the task while negative feelings were associated with struggle with other aspects of the task. This is illustrated effectively in one child’s reasoning about the protagonist’s affect while engaged in a reading task in English:

I think she's doing great because, she knows a lot of words and like um, since she's like me, I think since I know a lot of words in English, I think she's doing great. But some of the words, like, like I said, we're not perfect, so some of the words she may not know, so she may become a little frustrated as well.
In this quote, the respondent initially identified positive feelings for the protagonist since she “knows a lot of words”, however, she also recognized that the protagonist may also experience frustration due to her incomplete knowledge of English words. Another child explained the neutral affect she chose for a scenario involving writing a story in English:

I think um, she would be um, enjoying herself. Because she's writing a story but I think she would also be in the middle because, um, she does not know how to spell lots of these words and um, she could be a little frustrated, so I think she's kind of in the middle. (She's frustrated. What is she frustrated about? Tell me a little bit more.) Uh, I think she's frustrated because, she does not know um, some of the words, so, sometimes if you keep trying and trying and you, you just can't get it, maybe you get a little bit frustrated.

Although the protagonist enjoyed composing her own story, she simultaneously felt frustrated about her difficulties with spelling.

Degree of Ease or Difficulty with Language Learning

Another category of skill that emerged in children’s interpretations of presented scenarios was perceived difficulty with learning the target language. Children explained their chosen affect by conveying the ease with which the protagonist could carry out the task in the scenario or by describing his/her tendency to make mistakes. This category was noted across the domains, but was most prevalent in children’s responses to literacy scenarios. Positive affects were related to how quickly the task could be completed, as in the following comments:

He wants to write it quickly, and get it done. Know much of the English, so he can write fast.

Maybe good at writing stories, write fast, progressing.

While ease of engaging in the language task was associated with positive affect, the reverse relationship was also found within children’s responses. Children assigned negative
affect to the protagonist when the task was deemed “hard” or “difficult”. One child reflected on
the negative affect she ascribed to the protagonist listening to someone speaking English:

    Maybe she might find a little difficulties. (Okay. So tell me about that.) ‘Cause maybe,
    they could be that she’s-, they’re saying something that she doesn’t know, and she’s
    having a hard time.

The preceding quote demonstrates the respondent’s belief that the protagonist feels negatively
about experiencing difficulty comprehending what is being said to her in English. Another child
expressed a similar belief when describing the protagonist involved in writing in English:

    “Having a difficult time since it's her second language. So maybe some words she won't know,
    she hadn't learned.” While some children did not explicitly label the protagonist’s feeling and
simply chose to identify the affect displayed in the scenario (on the visual stimulus), many
children described the protagonist’s emotions in their responses. Common emotions associated
with encountering difficulty with the language task were sadness, fear, boredom and worry. The
following examples illustrate the range of feelings associated with having difficulty in HL:

    It's much harder to read, I would be really scared.

    I think she feels, um, sad because maybe I think it's hard and she might think it's hard.

    Worried. She might think that it's a little bit hard. She's still learning English, so she
    might be afraid. So lonely and bored but he has to do his Chinese homework. It's harder
    so he can't write it faster.

    Within this category, skill was also defined by whether the protagonist makes mistakes in
the target language. Children associated making mistakes with negative affect, and conversely,
the absence of mistakes with positive affect. The latter association is illustrated in children’s
descriptions of the protagonist’s happiness about English language activities:

    Happy. Because he can't make mistakes because he is really good in English.
Happy uh, 'cause he, he knows English and then, and, he's, sure that he's not-, he won't make a mistake.

He feels happy that he's not going to get any wrong answers.

Making mistakes was described by several children in reference to the protagonist’s negative feelings towards reading in HL:

Worried. A little bit. Because she thinks she is going to make a mistake.

Nervous reading in front of people, in Chinese, make mistakes.

In addition to feelings of worry, children described the protagonist in the scenario as experiencing sadness, anger, or fear in response to getting things wrong in the depicted task.

This finding is apparent in the following quotes:

Sad. Because if maybe she get all words wrong. She feels sad and she feels sad for herself that she didn't study.

Pretty angry, because he might get all of them wrong, because he doesn't know how to spell that well in Spanish.

He's afraid that, he, he will, uh he will, get all, get some words wrong.

A small minority of children described the types of mistakes they believed the protagonist experienced in the scenarios. Examples of the mistakes identified included ‘mixing up’ words and not being able to follow along with the text, as illustrated in the following quotes:

Because um, maybe, it's not a boy that's talking to her, her, or a girl, doesn't really understand what she's saying. (So, who doesn't understand what she's saying?) The guy... (Child points to other figure in scenario. And how come he doesn't understand?) Maybe because she mix some words up.

Because like, some people, they might know more Chinese than her, and then she, she might not um, follow along. And then she might get mixed up the same if they're reading together.
Another mistake identified by children was the tendency to “mix up” their two languages. Children described getting confused between HL and English in both language and literacy scenarios. In the following examples, it is apparent that children associated using the non-target language with negative affect and negative consequences (e.g., getting things wrong, making mistakes):

I never know, sometimes I get my words mixed up in English, and I talk Spanish. And she felt, a little shy.

She might feel like, a little worried because if she's doing the homework in English, she might do the same thing that I did, I wrote something in Spanish. ... (So you said that she was doing homework, and she's worried that when she does homework, she might write something in Spanish?) Yeah. The same mistake I did.

Well, sad. Because the teacher only speak Chinese. He only wrote in…he speak both languages but he wrote in…he had to wrote in Ch-, he had to write in Chinese. So when he, he handed it in, he will, the teacher wouldn't understand so will just give him a bad mark, for not understanding.

Knowledge of Challenging Words as an Indicator of Skill

While many children defined skill in terms of word knowledge, and several described knowing some words but not others, a subset of children demonstrated an awareness that words vary in their difficulty level in their responses. In their interpretations of language and literacy scenarios, children expressed their understanding that some words are more difficult than others. Children viewed the protagonist as displaying negative affect due to the presence of words described as “complicated”, “difficult” and “hard”. For example, one child indicated that the protagonist showed negative affect when spoken to in HL because “she might not understand some complicated words.” In response to an English listening scenario, another child attributed
nervous feelings to the protagonist (Joseph) due to the speaker’s use of “hard words”: “Uh he'll-, he'll feel nervous 'cause he's probably saying a hard words, the person that's talking at Joseph.”

Language as Communication of Meaning

Children identified comprehension of spoken and written forms of language as an important skill. In listening and speaking domains, children’s responses showed evidence of their recognition that meaning is communicated through words. In scenarios involving these domains, children often recognized the roles of speaker and listener. They seemed to measure skill in language domains both in terms of the speaker’s ability to convey meaning through words, but also by the listener’s receipt of the message being communicated. The following quote illustrates one child’s attempt to gauge language skill by making reference to the effective communication of meaning between the speaker and listener:

Happy. Because, like, maybe the waiter is asking what she wanted, and she under-, and she understood, so she tries to speak Spa-, English. So-, so then he will understand what she's saying. She knows what she's saying and the other person knows what she's saying.

In their responses to scenarios corresponding to literacy domains, children recognized that words in written form communicate meaning. Children not only demonstrated their understanding of the importance of reading comprehension but also identified the important role of vocabulary knowledge (i.e., knowing what words mean) in deriving meaning from written language. For example, for a reading scenario in HL, one child explained the positive affect he ascribed to the protagonist by stating: “Because maybe contain words that he understands…may like the story.” In this quote, the child associated positive affect with comprehension of words in the text and resulting enjoyment of the story. The protagonist’s skill in understanding the words in the reading material was often pointed out in children’s rationales for the affects they
identified in English and HL reading scenarios. The following explanations were provided by children to describe the protagonist’s reading in HL:

Unhappy because she can't understand the Chinese words.

I think she's in the middle because, let’s think, um she, she can understand, a lot of words. But again, um, a few, or a, um, a few or some of the words she does not understand at all. So maybe she's not enjoying the book because she can't like, understand all of the words.

For English reading scenarios, children also connected the emotion with comprehension of the words in the book. For example, the following quote provides one child’s perspective regarding reading in English:

I think she's um, enjoying herself because reading is pretty fun, it's very fun and um, I guess she understands a lot what the book is trying to say, maybe a couple of words she can't understand, but I think she's feeling great.

This child’s explanation illustrates her understanding that the book is “trying to say” something through the words it contains. Furthermore, she points out that despite some unfamiliar vocabulary, she was able to understand the book’s message. In the following examples, the perception that the emotion experienced by the protagonist is the result of their ability to understand the meaning of written language is further demonstrated:

Happy because he speaks Chinese, and he could-, and he's reading something in Chinese so he can understand…everything the book is saying.

Unhappy because she has no clue what she's reading.

Because, if he speak, if he speak only Chinese, he would only understand, he can't, he couldn't understand English, and he couldn't understand it, the book, what the books was saying. What the author wrote in the book.
Taken together, these quotes illustrate that children recognize reading comprehension as both an important skill and a desirable goal.

_Awareness of Writing Skills_

Children’s awareness of the components of written language, including words and sentences, was evident in their descriptions of writing skill as well. In their explanations of what the protagonist was able and unable to do, children made reference to words as the building blocks of text. This is exemplified by the following response to writing scenarios in HL and English:

- Worried. Nervous because she doesn't know how to put the words in sentences.

- Happy. She knows how to put it in sentences and write the words and she's going to get a good mark.

- Happy. Ummm, she might, know more words, to write and make the story, much longer. (Make the story longer too?) Make it interesting.

As was exemplified in the preceding quotes, children seemed to show rudimentary knowledge of what makes up sentences and text: words are put together to make sentences and many words can be combined to make a story.

In addition to the structural components of written language, children also offered their insights into the objectives of writing. One objective articulated by a number of children was emotional expression. For example, one child explained that the protagonist felt positive because of she was able to express her feelings in English:

- Because she can express most of her feelings in English. In Chinese there are hardly any words I know.
In this quote, the child seemed to imply that she possessed sufficient word knowledge in English to adequately express herself, whereas in Chinese, she lacked the word knowledge needed to communicate her feelings effectively in writing. Another objective of writing identified by many children was communication of ideas. Having many ideas or “a lot of imagination” were writing skills associated with positive affect. The following responses illustrate this finding:

She might know to write it. But she doesn't know what to write. Yes, too many ideas in brain, she doesn't know what to pick.

Having few or no ideas was associated with negative affect for some children:

She felt sad because she has no idea what to write that's why she's like, lying down on the paper.

Maybe she doesn't have that much de-, um ideas. And then, um, but then like, she's not, she doesn't really, um, if she doesn't really understand like how to write a longer story.

Conversely, other children described positive affect in relation to having ideas for writing:

Because he might have a lot of imagination so he can write it.

**Reflections on Their Skills in Both Languages**

As noted previously, language and literacy-related scenarios were presented in both HL and English and each scenario focused on one target domain in one language. Despite this method of presentation, children often referred to the protagonist’s skill in the non-target language in their responses. This category captured children’s tendency to spontaneously reflect on their skills in their two languages, something that bilingual learners can uniquely do. Cross-language skill comparisons were common in children’s responses to activities relating to all domains of language and literacy, and in both private and public situations.
Many children perceived the protagonist as having stronger skills in one of his/her languages. Positive affect was ascribed to the protagonist when he/she was engaged in a language or literacy activity in the stronger language. There was no clear pattern with respect to which language was identified as the stronger language in children’s explanations. Equal proportions of children identified greater knowledge in English as in HL. Regardless of which language was deemed stronger, possessing greater knowledge in the language was associated with positive feelings, as illustrated in the following quotes:

Well, she's happy because she has a friend that speaks Spanish and she could understand it better than English and she's very happy.

He knows English more than Chinese probably.

Happy. Because she knows that now she can understand Spanish better than English, and she's very happy.

In a similar manner, when the protagonist was involved in an activity in the weaker language, children perceived the protagonist as unhappy or sad and made reference to his relative lack of skill in the language to explain his/her feelings:

Sad. Because, you know, she can't understand English that good, and maybe she's more good with Spanish, but he doesn't know how to speak Spanish. And she's just a little bit sad.

Negative. He's going to be not very happy because he doesn't understand Chinese but mostly understands English.

Some children made comparisons between the languages that were more specific to the given language and literacy domain. Children provided details about how they defined “knowing more” or “being better” in a language. For example, in a scenario in which the protagonist was shown speaking in HL, one child noted about the protagonist “He'll feel happier
‘cause, then he know…he probably knows more words in Spanish than English.” Another child perceived the protagonist as having enhanced pronunciation and writing skills in the target language: “Happy. He's happy because he can get more stuff (More stuff?) he can like pronounce more…he's ah…he's better in English than Spanish, he knows he can do more and write a lot better.”

Children also compared the difficulty of the target domain in the protagonist’s two languages. For example, in the scenario involving spelling in English, a child explains the protagonist’s ability by contrasting the ease of practicing spelling in English with the challenge of the Spanish language:

Positive. While she spelling the words, she might know how to spell them because they'll be easier to spell in English. Cause Spanish, it's kind of hard. With English, you know how to practice over. Spanish is difficult.

Children shared their “Lay theories” regarding the differences between the languages in their explanations. For example, one child’s reasoning for why the protagonist had difficulty writing in English, focused on the differences in writing demands in the two languages: “He can't write that well in English. There are hard words and easy words. It is really easy in Chinese words, you only write a few words in a story.”

A small number of children indicated that the protagonist’s skills were equal in both languages. As is apparent in the following quotes, children tended to associate positive affect with possessing skills in more than one language:

Good. She knows how to spell English and Chinese the same.

Happy because he could um-, he can, he already knows English a lot. Like most books some Chinese and English he knows. So he could both spell.

Happy. He can write in different languages.
While to most children, knowing both languages was seen in a positive light, one child offered his perspective on the implications of learning a second language. She noted that the protagonist knew both languages, but expressed concern that engaging in “too much English” could result in HL loss:

Worried. She's feels like, she knows how to speak Spanish and English now but she might seem a little bit worried too, because if she reads too much English, she might forget how to spea-, like read, Spanish.

*Language Confidence and Anxiety*

Children’s feelings of confidence and pride in their language skills, as well as their feelings of worry and self-consciousness regarding their performance in their two languages, were revealed in their interpretations of language and literacy scenarios. This category was particularly common in responses to activities depicted in public settings, suggesting an influence of the presence of others upon children’s perceptions of their language skills. Protagonists who were identified by a participant as competent in the target domain, or in the language in general, were described as “proud” or “showing off” their skills. Children expressed these views in response to various domains in both languages:

Happy. Showing off his skills.

I think she feels proud because she can speak both languages and she's speaking English to someone else and, they're understanding her.

Someone is listening, he talks louder in Chinese than English. Louder because he knows more.

In the latter quote, the child conveys the protagonist’s confidence in his HL skills through his use of a louder voice, suggesting that he is willing to be heard by others around him.
Some children perceived the protagonist as simultaneously feeling positive and negative feelings regarding their skills in the target domain. Mixed feelings are illustrated in these quotes related to speaking HL:

I think she feels like, uh, uh happy, but at the same time, in the middle because, she doesn't know as much Spanish, so she can understand a lot of Spanish but only she doesn't know as, as much Spanish, so she probably feels kind of proud that she knows how to speak, but a little bit embarrassed, if, if they don't understand what she's saying.

She might feel, happy and worried. She's happy that she can speak another language, but she's worried that the other people won't understand what she's saying.

In these quotes, children seem pleased to recognize their own skills. However, they also express uncertainty about their language abilities, particularly in contexts involving less familiar interlocutors.

The private atmosphere of the home environment permitted learning and demonstration of skill without fears of evaluation by others. Positive affect was often assigned to the protagonist due to the absence of judgment or ridicule by peers for poor performance:

Happy. Ummm, happy 'cause, if she makes a mistake, no one will laugh at her.

He don't have anybody look at him, if make mistake, not being laughed at. Happy. More comfortable at home so he can study.

So-so. She wouldn't be embarrassed or sad because at home she can practice a lot with her mum or dad.

He won't be really-, he won't be, nervous- he'll be sort of happy, 'cause he-, he might learn some words, by spelling them. And no one's making fun of him.

She gets to practice by herself, she doesn't have to show it to her friends and stuff.

Children also associated positive affect with being able to demonstrate strong language skills in the presence of others. When the protagonists were perceived as skilled, children described no
risk of social consequences such as teasing. This was especially evident in children’s responses to English language activities:

If she's writing something in English, her friends won't laugh at her. English is easier.

Uh, more, more happier. ‘Cause he-, 'cause the people won't make fun of him that, he's speaking a language that he can, uh, understand or like, speak well.

However, negative reactions of others were anticipated in public scenarios in response to weak performance in the target language or domain, most frequently to scenarios involving HL. While children associated feelings of anxiety, apprehension and nervousness with engaging in language activities across all domains of language and literacy in both languages, concerns regarding use of HL were most notable. For example, in the speaking domain, one child described her concern regarding speaking HL in front of others, stating: “Worried. A little bit. Because she only knows a little bit of Spanish. Worried that he has to speak Spanish.” Children appeared to model the protagonist’s response on their own ability and perceptions of the scenario. For example, one child referenced her own poor ability in HL when ascribing negative affect to the protagonist engaging in reading in the presence of peers: “She's just like me and she doesn't know Chinese that well. She doesn't like reading in front of the whole group.” Similarly, another child assigned negative affect to reading aloud in HL and explained: “That might be her Chinese books that she has to read with her whole class and she's thinking, 'Oh my God, how do I remember this?'”

Another sentiment expressed was worry that lack of competence in the domain would become known to others. This concern that poor skills would be revealed is illustrated in the following quote regarding spelling in HL: “He's gonna do something wrong, spell words wrong. Nervous because he doesn't want people to know he doesn't spell Chinese.”
Children also perceived the protagonist as experiencing negative feelings in anticipation of a range of social consequences for poor English use. In the speaking domain, children believed that the protagonist would be teased for not speaking English well or more specifically, due to his/her accent or pronunciation of words:

Not that happy. 'Cause, er, people might make fun of him that he doesn't-, he can't speak English well.

I think they uh-, maybe they're laughing too because they-, they don't really understand her and she can't really speak English, like she has a Spanish accent.

Maybe he says something like a word in a funny way. It sounds funny.

Being teased by peers was also a commonly reported consequence of demonstrating poor language skills in literacy domains. Many children described the protagonist’s worries in scenarios involving reading, spelling and writing tasks. This finding is illustrated in the words of several children:

If he isn't reading that well, may be laughed at.

Worried. Afraid because the word might be wrong and she might get a bad mark. Other kids will make fun of her.

Uh he'll-, he'll feel sad, 'cause people might make fun of him. And uh, make- and, make fun of him because he- he- he-, he can't spell in English.

Furthermore, in the writing domain, children described peers as ridiculing or angered by the protagonist’s errors or overall poor writing skills in HL or English, as noted in the following quotes:

Uh he'll feel, uh, sad 'cause they probably will, will call him names that he can't write uh-write the story.

Someone's laughing at his story 'cause it's boring. Because he doesn't know a lot.
Angry…furious. He might make a mistake, and these people might be mad to him and stuff.

While many children spoke about others’ reactions in the scenarios, some children commented on the skill level of the peers depicted. Some children perceived peers as more skilled in the target domain and language than the protagonist. These unfavourable comparisons were associated with negative feelings including sadness, worry and embarrassment. The influence of perceived inferior skill upon the protagonist’s affect is evident in the following quotes:

Sad. Everyone knows more Chinese than her.

Worried. She can't write it as good as her friends. (Why is that?) 'Cause they practice Chinese more.

Average. Their Chinese better than James, if he doesn't speak that well, James may feel embarrassed.

In summary, children provided ample description of their perception that emotions evoked by language and literacy activities in HL and English are associated with the skill or ability of the protagonist. Children described general categories of skill including references to overall understanding of the language and difficulty or ease with the language and domain, as they had in their attributions for proficiency and change in Study 2. References to knowledge of challenging words were used to convey skill level. Being able to use language to communicate meaning was also described. A text-level category that re-emerged in the current analyses (first discussed in Study 2) was children’s awareness of writing skills. Additionally, several unique text level categories were identified. Children provided their reflections on their bilingualism and biliteracy and described experiences of language confidence and anxiety when confronted with situations requiring use of their HL and English. Furthermore, it was noteworthy that many
children responded differently to scenarios in public and private contexts. For public scenarios, some children associated feelings of embarrassment with demonstrating their poor skills in HL or English in the presence of others. The private context of the home was viewed by many children as a place they could practise and use their languages without any social consequences (e.g., teasing, negative comparisons).

**Interest and Preference**

Children expressed beliefs regarding the protagonist’s interest in the domain-related activity or the language depicted in the scenarios. Categories identified in this theme included degree of interest the target task, interest in the target language, and preference for one language over the other. These categories were frequently associated with the feelings children attributed to the protagonist.

**Interest in the Target Task**

Interest in the task depicted was viewed by children as reason for the protagonist’s emotion. In their comments, some children provided their impressions of the protagonist’s interest or enjoyment of the language or literacy activity, without making reference to the specific language being used. For example, children often made reference to the protagonist’s interest in engaging in reading. This was noted in both public and private contexts and in HL as well as English. This finding is illustrated in the following quotes:

Uh maybe she was a little bit of-, she wanted to read a book. Her favourite book that her sister really was reading to her, or her mum or her dad read to her... ’cause she really wanted to read it in English. And she got the book and she started to read it on her bed, on the floor, she rolled around, she was having really-, she was really excited. And she felt happy.
Um, I think he'll feel happy. Because he likes to read. And, he's reading to other people, so, he feels happy.

Children also explained their chosen affect in the reading scenario by describing the protagonist’s interest in the book being read. For example, one child identified the protagonist as “happy” and provided this explanation for her feelings: “the book she read is nice and she wants…maybe wants to read it again.” In a similar way, other children assigned negative affect to the situation, due to their belief that the protagonist lacked interest in the reading material:

Maybe he's gonna think it's boring.

'Cause the book that she picked she doesn't like.

Children’s degree of interest in the domain activity seemed to have an impact on the emotion they described in the scenarios. Further illustration of this finding was evident in children’s comments related to writing in HL and English:

Happy. Be-, be-, because it's fun making a story.

She's probably enjoying herself 'cause she's just, writing a story and when I write a story, she-, uh I feel enjoyable, 'cause it's very fun. And, I guess, she's feeling great

Happy. 'Cause she's writing a story that-, that she makes up and it's cool and she likes it... It can be anything that she likes to write about.

Furthermore, analyses revealed that several children expressed interest in shared literacy activities. Engaging in the activity with peers was associated with enjoyment. This is captured by one child’s explanation of about reading with peers in English:

I think she feels happy. Because, um, lots of people might like English stories. Like these two people. And, um. (So Jane feels happy too, because she…) She likes to read with other people English stories.
**Interest in the Target Language**

In their descriptions of the presented scenarios, children frequently described the protagonist’s degree of interest in the target language. There was significant variation in the degree of interest children associated with language and literacy activities in the two languages. Children described both positive and negative feelings towards HL domains. Some respondents shared general feelings towards HL as a language, despite being presented with scenarios targeting individual domains. For example, positive attitudes such as “Jane likes Chinese” as well as negative-toned remarks such as “Cause he doesn't like Chinese so much” were expressed. However, many children referred to the specific HL domain presented in their responses.

Children articulated their interest in speaking HL via simple statements such as “She doesn't want to speak Chinese and wants to go somewhere else.” References to use of HL within their families were often mentioned in association with the protagonist’s degree of interest in spoken HL. For example, one child linked enjoyment of talking in HL with being able to communicate with her parents: “Because she likes talking in Chinese. Because then her parents can understand her.” Another child believed that the protagonist did not like speaking HL with her family:

> Ok. And uh, she didn't like the Spanish 'cause of her mum or dad, she wants to talk in English, so she told her sister to talk for her, maybe. And her sister told her dad, and the dad said 'ok'. *(What did she tell her sister to do?)* To tell the dad what, to tell the dad what, she was saying.*

The preceding quote demonstrates the child’s lack of interest in conversing with her parents in HL within the home environment.

In the listening domain, children’s responses also demonstrated their beliefs about the relationship between interest in HL and affect in situations in which the language is involved. In
the following quote, a child attributed negative affect (sadness) to the protagonist and explained his choice as follows:

Sad. He feels sad 'cause he doesn't understand Chinese. I think. (Tell me a bit more.) He doesn't want to listen to Chinese. Like me. (Doesn't want to listen?) Mhm. Like I do. (Why?) Yeah, and I don't like Chinese…it's boring.

In his explanation, this child made reference first to the protagonist’s lack of skill in HL, and then went on to describe his lack of interest in HL. Another child assigned “angry” to the scenario involving listening to HL in the home setting, and described HL as “annoying because he hears it every day.” In literacy domains, children expressed both positive and negative sentiments towards HL, as illustrated in the following quotes:

Happy. 'Cause she likes reading in Spanish.

Not happy. Because he hates reading in Chinese.

Compared to children’s responses to HL situations, fewer children referred to degree of interest in the English as the reason for the protagonist’s affect for both language and literacy domains, in both contexts (i.e., private or public settings). For children who did associate affect with interest in English, their responses tended to be more focused on feelings about the English language, rather than making domain-specific observations:

Happy. He enjoys English.

He has to communicate but doesn't like English too much.

*Preference for One Language Over the Other*

Although children were asked to respond to scenarios involving only one of their languages, references to both English and HL were common occurrences among children’s
responses. In some instances, children reported positive feelings towards use of both of their languages: “Because maybe she likes people talking to her in both languages.” Children’s enjoyment of both languages is further illustrated in the following explanation given by a child regarding speaking HL at home:

That it's cool. *(What is cool?)* English and Spanish. It's like to me it's like cool because, to me it's cool because like Spanish and English, it feels like a nice language, mixed together.

This child’s belief was that the combination of English and HL resulted in a language unto itself, one that he viewed in a positive light.

For many other children, explanations for their chosen affects included identification of preferences for one of their two languages. Children espoused clear language preferences in their responses to language and literacy scenarios. Preference for English over HL was commonly expressed among children’s responses, whereas preference for HL over English was comparatively less frequent in the findings. Children often responded to the scenarios by referencing their own feelings about the target language. This was evident in their use of personal pronouns such as in the following quotes:

I'm also English and Chinese and I get bored when people speak English and Chinese. English is much easier except "antidisestablishmentarianism"!

Because I like more English and he's more happy.

A small minority of children referred to their general preference of English over HL without indication of the protagonist’s feelings towards the specific domain of English language or literacy shown. For example, when presented with a scenario involving reading in English in the school setting, one child reported “He likes English more than other languages.” For the most
part, children described the protagonist’s feelings towards the domain-related task by indicating their language preference. This finding extended across English language and literacy domains. For example, in the reading domain, one child conveyed the protagonist’s preference for English by speaking enthusiastically about her desire to re-read the book depicted:

Happy because uh, maybe sh- the book that she wanted to read, from sister, brother, or aunt, or sister, maybe, was reading to her, and she liked it. And she's like, I want to read this book more, ten times. And maybe a hundred, 'cause maybe she liked it in English, more than Spanish.

A number of children identified greater time spent in English instruction and more opportunities to engage in preferred activities as potential reasons to prefer English. This is demonstrated well in one child’s explanation for why the protagonist is “a little happy”:

She feels a little happy. And, she makes the art, but not as bad as-, 'cause in Spanish you don't get to colour that much. And then in English, you get to do more, since you're with your teacher, instead of with another teacher. You get to do more things, you get more hours to do things. And sometimes maybe you don't wanna end English, you wanna keep going with English, 'cause English is fun, instead of Spanish 'cause you only get a little bit hours.

Similarly, in the writing domain, a preference for writing in English over writing in HL was assigned to the protagonist in the scenarios:

She'll be really happy because she likes English. She loves it so much. She likes to write things in English, instead of Spanish.

Happy because writing stories in English than Chinese, he likes writing stories in English than Chinese.

Although less frequently conveyed, a preference for HL was expressed in several children’s responses. A number of children simply attributed the protagonist’s positive feelings to preference for HL (e.g., “Happy. Because he likes Chinese more than English.”). HL was
described by one child as the protagonist’s “favourite language”, since his peers “probably won't make fun of him anymore.” Comfort with HL was identified as a reason for the reported preference, as in the following quote: “Maybe he's com-, more comfortable in his lang-, own language.”

Enthusiasm for Learning Language

Many of the children believed that the protagonist felt positively when engaged in activities across listening, speaking, reading, spelling and writing domains, and expressed beliefs that involvement in the activities provided opportunities to enhance language learning. Children associated positive sentiments with acquiring “new” or “more” knowledge of a language. In their descriptions of the protagonist’s views, children conveyed enthusiasm for language learning. For example, one child described the protagonist as “very happy” when listening to someone speak HL at home “Cause, he could learn by that.” In the same situation, another child expressed her beliefs about the protagonist’s feelings: “Happy. She learns a new language.” Similarly positive attitudes towards learning English were expressed by children, as revealed in the following quotes:

She gets to learn more English.

Happy. Cause she's learning the language and reading it to other people.

So then, then he'll understand more English maybe.

Some children perceived the protagonist as practicing the target language. These activities were seen as contributing to improvement in language knowledge, and viewed in a favorable light by many children. Examples of this finding were noted in both languages. From their descriptions, it is apparent that these children viewed the protagonist as motivated to further
his language skills in general. The following quotes correspond to scenarios involving various language or literacy activities, but all convey the desire to further overall knowledge of the target language through practice or study:

Happy. He's learning more every time he speaks English.

Happy. Because, uh, uh, because he's learn more about Spanish, practicing by himself while he's reading a book about Spanish.

Happy. 'Cause this-, I think, 'cause he wants to study for a test and he-, to learn more English.

In their interpretations of the scenarios, children also described the protagonist’s reaction to learning a second language. As one child noted, “She might feel happy because she's learning how to read English, because maybe she's known how to spea-, I mean, read Spanish all her life. Now she's knows how to speak English.” This finding indicates that for some children, the opportunity to learn an additional language was welcomed.

When describing the learning taking place in the scenarios, children frequently defined the protagonist’s learning in terms of words acquired. Across the two languages, and in each domain, children viewed engagement in activities involving language and literacy as opportunities to ‘pick up’ new words. In their descriptions, children expressed that enjoyment was associated with involvement in these learning opportunities. The following quotes provide support for this finding:

Happy. Because she can um, learn more English from other people.

Happy he can learn more Spanish from what people are telling to him.

Happy. Because now, I think she was reading, I think she's may be reading books um, now, she's picked up the words and now she's starting to write English.
Other children identified being able to communicate with other people as the motivation of learning language:

Because she learn how to say Chinese and how to communicate with other people.

Learning English therefore can communicate. Other people know English.

To review, interest and preference was the second most frequent theme found in the analysis of children’s responses to language and literacy-based scenarios. Children connected affective responses to their degree of interest in the depicted domain or language, or their overall preference for either HL or English. Interestingly, as reflected in their responses, many children viewed engagement in these activities in a positive light, and believed involvement was associated with enhanced language and literacy development.

**Assistance**

The availability of assistance from others was another prominent theme that emerged in children’s descriptions of the protagonist’s affective responses to the depicted scenarios. Children drew linkages between access to assistance during language and literacy tasks and the feelings they ascribed to the protagonist. The link between assistance and feelings was evident across all five domains and in both languages. Within this theme, children’s perceptions of the five domains in their two languages were found to be related to the context in which the activity was depicted, and fell within two main categories: the availability of assistance in the home setting and assistance from peers.

**Assistance in the Home Setting**

In scenarios based in the home setting, children connected the feelings they identified for the protagonist with efforts initiated by family members to support their language
comprehension. This was observed especially in listening and speaking scenarios in English and HL. A number of children ascribed positive feelings such as happiness or comfort to the protagonist and related these feelings to accommodations made by family members to facilitate their understanding of language. For example, one child described the scenario by detailing how the protagonist’s relative adapted their language to her level of comprehension:

I think she will feel, um, the same, happy...because, um, like I said, they're, they're relatives and, if, if um, if your relatives, the relatives probably knows, the-, the level she's at to understand Spanish. (Oh, what do you mean by “because they know what level she's at”?) Yeah they, they're, like, let's say, you know what I'm-, what level I am, and, and so you're speaking the level I understand, you're not saying words that completely I don't know.

Efforts made by other HL speakers to facilitate the protagonist’s understanding of HL were also described in the following quote:

She's feeling comfortable and great because um, I guess it's her brother or sister and, she understands what they're saying and, what they're saying and I guess she's um, um, and I guess they know um, the way she speaks, because they're her relatives so they're speaking the way she can understand.

In addition to accommodations made spontaneously by others, many children assigned positive feelings to scenarios involving HL language and literacy activities in the home setting because of potential for receiving assistance from parents. The following quote illustrates children’s positive feelings about receiving assistance in learning HL from her parents:

She could feel happy because she could tell her mum everything what someone was telling her in Spanish. So, her, maybe her mum and dad are, they're because Spanish too, they are born in a Spanish country, they can teach her more Spanish, so she could know like if he comes again and tell her, “hola”.

Furthermore, children often described the protagonist as unable to understand the HL or in need of language help, and recognized parents as resources:
Because she doesn’t understand but it's actually somewhere at home so she can kind of, ask them.

Because um, since her mum's there she can just, call her mum and say “I need help on this word” in Spanish.

Happy…Very. Because her parents can help her to spell it in Spanish.

She can ask her parents, grandparents for help.

However, in contrast, for some children, scenarios in which the protagonist was engaged in literacy tasks in private contexts were associated with negative affect. Often children described feelings of sadness due to the lack of support available to the protagonist. This finding was noted in the scenarios for the writing domain, in both English and HL. For example, one child believed that the protagonist was sad because “Cause no one can help him” with his English writing task. Other comments made by children in reference to HL writing also conveyed the perceived need for help included “No one's gonna help her. She might not know what to write in Chinese” and “'cause no one is teach him how to write it so he can write anything he wants. He wants someone to teach him how to write in English.” A number of children ascribed feelings of sadness to the protagonist due to the absence of support in HL literacy tasks:

Sad. No one to help. So lonely and bored but he has to do his Chinese homework.

Pretty sad. Because, some of the words, he don't know. He can't ask anyone.

Children also expressed the belief that the parents of the protagonist would be unable to assist him/her with literacy tasks in English. In response to an English reading scenario in the home setting, one child described parents’ difficulty with comprehending an English book:
She has to like do reading, they're-, they're reading her a book, or something. And maybe their dad or mum is reading her a book, and, the dad, the mum can't understand. Can't underst-, can't understand the book that she wants to read in English.

Another child described the protagonist as “very sad” while involved in English spelling at home. She noted parents’ efforts to use their HL knowledge to provide assistance their child with her homework to little avail:

Because um, like, um, what if, um, like, maybe that was her homework, and, she doesn't get the questions. But her mum tells her in Spanish, but um, she wait um, she, she gets the questions but she puts the answers in English, I mean in Spanish. Um, so, when the teacher gets the homework, she doesn't get it.

**Assistance from Peers**

Children also believed that peers could provide valuable assistance with language learning. The utility of peer support was mentioned in children’s responses to scenarios involving reading, spelling and writing in public settings. It is important to note that for literacy domains for HL and English, the public setting depicted in the scenarios was a school classroom. Children often associated positive feelings with the protagonist’s ability to get help from peers in the situation should he/she encounter difficulty. Assistance from peers was noted in children’s responses to both HL and English literacy scenarios, including the following quotes:

Because if she gets it wrong, people can correct her and she can learn.

I think she's uh, feel a lot better, and not so frustrated because, um, because she's with peers and, maybe her peers are from Spanish countries. So they know a lot about Spanish and they can help her.

Happy. That they can work together…They can help each other to spell the words. Like they get trouble in spelling then their friend can help them. I understand that feeling, because, um, she might be like, “oh-oh, I don't know what this word. I need help.” But then one of the girls might be like “ok, I'll help you.”
Happy. Writing stories with friends, they can help him if he doesn't know the word.

As illustrated in the preceding quotes, children in the study viewed peer support for literacy tasks in a positive light, and ascribed positive feelings to the protagonist when this support was seen as available. Children also associated negative feelings with scenarios involving literacy activities at school due to their perception of the protagonist’s struggles with the tasks. However, in many of these cases, children still noted that peers could be called upon for assistance. This finding is exemplified in the following responses:

She might be having a difficult time 'cause the teacher is saying stuff in English, so she'll just, sometimes she'll mess up and ask her friends to help her.

There are people to ask how to spell it. If you have frightness, you can ask the teacher or students. But sometimes students can be scary. Trust me some are.

Maybe she'll, be really quite nervous, because she might need some help from, from her friends. 'Cause it's her second language, so, she might not be sure of what to write.

Overall, children attributed their chosen affects to the availability of assistance from parents and siblings in the home setting and from peers in public settings, including the school. Children tended to choose positive affect when assistance was available and negative affect in scenarios where assistance was perceived to be absent. Parents were identified as important sources of HL knowledge, and as supporting oral language learning as well as literacy development. The role of siblings and peers in bilingual and biliteracy development was also highlighted in children’s descriptions of assistance.
Group Membership

Children’s perceptions regarding the role of language in facilitating or limiting membership in groups were conveyed in their interpretations of the scenarios. Descriptions of the protagonist’s feelings illustrated children’s recognition of language as a way of defining one’s identity, and also a means by which to connect with others and form social relationships. Children described the implications of using English and HL upon their relationships with friends, family members and with other language users. The four categories that emerged from the analysis include personal identification with the target language, the perspective that HL learning facilitates connections with other language users, HL as limiting connections with non-HL users and English learning as facilitating friendships.

Personal Identification with the Target Language

Children often referred to language in a way that communicated their sense of identification with the target language. Particularly in scenarios involving the HL, children described the protagonist as using “his own language”, illustrating their personal connection with the language. Positive feelings, such as comfort and enjoyment, were often associated with the protagonist’s or others’ use of HL, as demonstrated in the following quotes:

He likes to speak in his own language.

Maybe he's com-, more comfortable in his lan-, own language.

Writing his own country's language.

One noteworthy observation about children’s identification with their HL was that children did not need to perceive themselves as highly proficient in the language in order to describe it as ‘his/her language’. This is exemplified in one child’s interpretation of a situation involving HL
listening: “Someone else also knows his language and is speaking to him, but he might not know how to reply.” In this quote, the child refers to HL as the protagonist’s language but communicates his perceived limited proficiency in spoken HL. The perceived association between identity as a member of the language group and the actual use of the HL by the individual was described as well. A number of children seemed to define themselves or their families as members of the HL group, and described the related responsibility to use their HL. In the following quote, a child explains the protagonist’s sadness when hearing English spoken at home:

Sad. She thinks that why doesn't her dad speak English, I mean Spanish to her? Like, 'cause like they're a Spanish family, and, she may feel, sad again, but just a tiny tiny bit. When describing a HL reading scenario, another child described her identification with her Spanish heritage and explained her desire to visit her parents’ country of origin:

I'm more Spanish cultured but I haven't had the chance to go to Columbia. I'm planning on when I go to Columbia, I'm going to learn about birds because I researched that Columbia has the most birds in the world. I'm going to get a bird book and do descriptions.

**HL Learning as Facilitating Connections with Other Language Users**

Children expressed the belief that language has the ability to create connections or bonds between individuals. This belief emerged in the analyses of children’s interpretations of both English and HL scenarios, across various domains of language and literacy. In HL scenarios, children associated knowing HL and engaging in HL activities with a sense of togetherness with other HL users. For example, one child explained the protagonist’s feelings of happiness regarding listening to HL being spoken, by stating, “Happy. Um, because, maybe like she doesn't
feel like she's not connected to other people, but since he's speaking the same language, maybe she feels, like, umm, attached.”

Children perceived the act of learning language as a marker for membership in a language group. This is illustrated in one child’s explanation for the positive affect experienced by the protagonist while spelling in HL: “Other people are Chinese and he's a Chinese because he's learning his own language even though he's not in his country.” Another child made a similar comment that highlights the sense of membership associated with sharing a common language: “They know Chinese and they're writing Chinese too, these are Chinese people just like him.” Some children perceived the protagonist as wanting to demonstrate HL skills to others, including family members. Additionally, children expressed positive feelings about being able to communicate in HL with native HL speakers. This finding is evident in the following quote:

Happy. Writing a Spanish story so he could show his family about how he knows Spanish, then, some words, that they could see, that, like he could write uh Spanish, uh, to someone from his country or something.

Being able to use HL was perceived as a way to “connect” with HL-speaking peers was also noted in children’s responses to scenarios. For example:

Happy. Maybe because she knows a lot of Spanish. And um, maybe her friends-, some of her friends are Spanish. And, she can just feel like um, happy that she can talk and connect with them.

While for some children, skills in HL were believed to facilitate connections with peers and other HL-speakers, some children described the opposite relationship: inadequate HL skills hindered the development of friendships with other HL speakers. In one child’s interpretation of
HL listening scenario, the protagonist is described as left out because of her limited HL knowledge:

She'll be a little sad, 'cause her, best friend, knows Spanish, more than her, maybe she was teasing her, you don't know that much Spanish than me, and you're not-, and maybe I should not be your friend 'cause you don't know Spanish. My other friends are better than you.

In the company of non-HL speakers, several children described the protagonist in the scenarios as pleased to share their HL with others. Use of HL was perceived by these children as opportunities to serve as representatives and teachers of their heritage language. In the following quotes, children describe these sentiments in their own words:

Happy. She's happy because now she can teach other people how to speak Spanish, and maybe the other people are interested. So she's happy. Very happy.

"Oh can you tell us what does the Spanish meaning mean?" And uh, then, then, uh, uh... (His friends are asking what the Spanish meaning is?) Yeah, the meaning to his story, so we could write a Spanish meaning too, and we could l-, we could, learn Spanish. (How does he feel about that, his friends asking about the Spanish meaning. Which one of these faces is closest to how he's feeling?) Happy 'cause sharing.

One respondent described the opportunity to “represent her culture” as bringing to the protagonist, however, she also noted her trepidation about speaking HL in the front of people who may not understand her language:

A little bit worried. Because, you know, like she's speaking her own language, and she's happy about that, so she can like represent her culture and all that, but she might be worried because the other people, she might think that they're Spanish, but they're not, and they might not understand her.

This child was not alone in her hesitance to use HL around non-HL speakers. Many children expressed concerns regarding the implications of HL use among English speakers.
Children described beliefs that HL use could compromise connections between individuals. One example was the perceived negative impact of HL use on upon the protagonist’s friendship with peers. Children described the social consequences of speaking HL for the protagonist. For example, one child described the protagonist as apologetic about her use of HL in front of friends:

Josephina feels happy, 'cause now she has some friends. She maybe had like, a project, and she had to read with her friends, and do things with her friends. And maybe her friends wanted to be with her, if she-, she'll be able to talk in English, or maybe they're gonna beat her because she was talking Spanish at the mall with the cool people. Oh she's like, I'm really sorry, because I never knew they were gonna be there, and I never know, sometimes I get my words mixed up in English, and I talk Spanish. And she felt, a little shy.

In this quote, the protagonist is described as having used HL when conversing with the “cool people” at the mall. However, it is apparent that her friends had a preference for English use, and thus the protagonist explained her use of Spanish, seemingly to gain acceptance from her friends. Another child indicated a negative reaction to comments by peers regarding HL use in his interpretation of scenario involving spelling in HL:

Embarrassed. Because he-, he might get embarassed about spelling in Spanish, and his friends are like 'what, what are you writing'. And yeah, he will get embarrassed. (Why would they say, 'what are you writing'?) Because they might not understand Spanish.

The social consequences of HL use were also illustrated in a child’s explanation for the protagonist’s sadness about speaking Spanish at home:

She uh got sad because she thought that no one really talks in English in the family (No one talks in English?) Yeah. No one talks in English, so she had to learn Spanish, and just because of that, don’t-, she doesn't have no friends, and everything.
The necessity of learning HL and not using English at home was seen as preventing the protagonist from having friends. Children described a sense of isolation from others and they related this to HL use. In situations depicted in public settings, children often perceived the other individuals in the scenario as unable to understand HL. Protagonists were frequently assigned feelings such as sadness, worry and fear as a result of the negative reactions of the other people in the environment. The protagonist’s isolation from those around him/her when speaking HL was attributed to their inability to understand HL. Others’ suspicion about the content of the protagonist’s speech was often cited as the reason for the protagonist’s negative feelings. This is captured in the words of one child: “they might not understand so they are suspicious.” Children expressed concerns that the non-HL speakers would assume that the protagonist was talking about them. This is demonstrated in the following two quotes:

Embarrassed because other people listened to them or might not understand and keep wondering what they are saying.

Worried. Those two people might make fun of her. 'Cause they don't know what she's talking about. Thinking that she's talking about them.

Feelings of isolation from non-HL speakers in the environment were also evident in many children’s responses. One child attributed sadness to the protagonist in an HL reading scenario due to the cold response of “the other people”, and noted their lack of attempts to read with her:

Sad. Because, you know, like the other people are staring at her, like 'what are you saying? You know like 'we don't understand you.' She might feel like, a little bit sad. (A little bit sad because the other people don't actually understand?) Yeah. I-, see they're not even trying to read along with her, they're just, staring at her...
Similarly, another child described the perceived sense of separateness created by speaking HL among non-HL speakers, by stating:

A little scared. Because her friends, the ones that are at the mall, maybe don't know Spanish. And maybe the guy that's right beside, maybe was a friend, kind of like a, boyfriend or something. Maybe he didn't know Spanish, and uh, he was laughing maybe at her. And with the-, the other friends that maybe he has. And she was all by herself, or something.

*English Learning as Facilitating Friendships*

In contrast to HL, children tended to associate English use with feeling connected to friends. By learning English and developing greater proficiency, children perceived the protagonist as better able to relate with friends. Children described this belief across language as well as literacy domains in English. However, children tended to emphasize proficiency in the speaking domain in their explanations regarding the facilitative effect of English use, as in the following examples:

Happy. Still happy because, just some happy, because she knows how to speak English now, and, she, sh- could actually like blend in with her friends.

Happy. Um, because, maybe she's starting to get the hang of learning English. Umm… so she can, talk with her friends better.

He feels happy. *(Yes, how come?)* Because if he's with a friend that speaks English and he's watching TV that's English, they could both, like, they could both, they could both speak, like the TV speaks…, they both speak English and they're watching TV in English. They could both understand the words that the TV, that the commercial or show is say. Or news.

The latter quote conveys the child’s perception of the shared enjoyment provided by a common language.

Children demonstrated their sophisticated beliefs about the social value of language.
For many children, their affective responses were clearly linked to their beliefs about language’s role in influencing group membership. Identification with their HL language and/or with English was associated with positive emotion for many children. Furthermore, sharing a common language was perceived to facilitate their membership or connection with others, including their family, their peers and even with the larger community. Sharing a common language with others was also related to positive affect. However, as noted earlier, children described negative feelings in relation to their beliefs that using the HL with English speakers may have the potential to limit relationships.

Language Environment

Several children expressed the belief that the language environment can impact language learning. In the current analyses of children’s responses to the scenarios presented, this theme was apparent in children’s interpretations of both English and HL activities primarily for oral language domains (i.e., listening, speaking). Responses which made reference to the influence of the language environments upon affect and language learning were coded within this theme. Although this theme was presented previously in the exploration of children’s understandings of their current proficiency and changes in proficiency in Study 2, in the current analyses, children’s interpretations tended to focus on Canada as a language environment, rather than the influences of other more micro-level language environments (e.g., home, school).

Canada as a Language Learning Context

Children reflected on the major presence of the English language in Canada. In the following quote, a child provided his reasoning behind the protagonist’s lack of emotional response to being spoken to in English:
Well, it's regular because um, because he-, because the national language is English and almost everyone in Canada knows how to speak English. So, I don't think he would be surprised.

Okay because that's the main language in Canada and most people understand.

This quote demonstrates the matter-of-fact tone of children’s observations about the prevalence of English in Canada. Another child expressed her recognition of the value of English within the community, and noted the protagonist’s concerns about being able to learn English by stating:

Worried a little. Maybe because like a lot of people in, the, like, that in the-, that are in her community, they speak a lot of English. And she's worried that, she will never learn English.

Children also expressed their beliefs about the absence of HL in their environment in their interpretations of situations in public settings. When presented with a situation in which the protagonist is speaking HL, one child assigned negative affect to the protagonist and explained “No one understands Chinese at the mall”, and another child described the protagonist as “Sad. Because they don't know Chinese because not that many people know Chinese.” These quotes suggest that children view HL as a minority language in Canada, known to few in the community at large.

In light of their observations on the prominence of English in Canada and the minority presence of their HL, it is not surprising that many children viewed HL learning in Canada as a challenging task. For example, one child expressed that the challenge lies in more frequent exposure to language learning in English:

Because Chinese is, Chinese is very hard to learn in Canada. Because we learn English more than Chinese. Chinese class is not every day.
Furthermore, children also perceived HL materials to be less accessible in Canada as compared with English. For example, in a child’s interpretation of a scenario involving reading in English, she observed the greater access to “English stories”:

> Umm, I think happy. Because, um, um, I think there's more, lots of English stories than Chinese stories here. I think there's more English stories than Chinese stories in Canada.

As evident in the previous two quotes, many children seemed to associate the Canadian context as providing reduced opportunities for HL learning. Furthermore, some children cited living in Canada as the reason for poor HL skill, as in the words of one child who perceived the protagonist as having difficulty understanding HL: “Because since she lives in Canada, since she lives in Canada, she might not know that Spanish for-, that much Spanish that the person's talking about.”

In summary, this theme captures children’s beliefs regarding the influence of language environment upon their acquisition of HL and English. Canada is described by many children as an environment that is heavily English-dominant. The impact of English use by others and the limited availability of HL materials were perceived by children as compromising their HL learning.

**Summary of Study 3**

The objectives of Study 3 were two-fold. One objective was to explore the affects that children associate with listening, speaking reading, spelling and writing in HL and English across both public and private settings. The second objective was to investigate children beliefs and perceptions of their two languages through a qualitative examination of their attributions for their affective responses. Results indicated that children attributed positive, neutral and negative
affective responses equally for HL language and literacy activities. However, children associated positive affect with HL oral language activities that take place in the home context. In contrast, English was associated with positive affect across all scenarios, indicating an overall positive view towards activities in English.

Qualitative analysis revealed five prominent themes in children’s attributions. The theme with the highest frequency of occurrence was Skill. It was comprised of several categories including overall knowledge of the language and difficulty or ease with language use, and knowledge of challenging words. Another category within this theme, language as communication of meaning, included both references to word and text-level indicators of skill, and demonstrated children’s understanding of the function of spoken and written language. A text-level category of the Skill theme was awareness of various aspects of writing skill (e.g., grammar, details, ideation). Lastly, children’s reflections on their skills in both languages and descriptions of language confidence and anxiety were two categories of Skill that uniquely emerged from children’s responses to scenarios involving their two languages.

In addition to skill, children related their attributions of affect to interest and preference in the target language or domain. Categories that emerged included interest in the language or domain, preference for one language over the other and enthusiasm for learning language.

Access to assistance was another frequently mentioned theme. Children attributed the identified affect to the accessibility of assistance with the target language or literacy task. Parents, siblings and peers were identified as important resources in HL and English learning.

Another theme identified in the analysis was the salience of group membership to affective responses towards HL and English. Language was described in terms of its influence upon social relationships. Children indicated connection with the HL, and other HL-speakers
such as family members and the community, but also perceived HL as separating them from non-
HL speakers such as friends. Along the same vein, children saw English as facilitating
friendships with peers. Lastly, children expressed their beliefs that affective responses to
language and literacy activities are associated with the presence of the target language in the
environment. A common sentiment among children’s attributions was that English learning was
supported in linguistic climate of Canada, while HL learning was difficult.
Chapter 7. Discussion

The overall goal of the present study was to examine the language use, proficiency and beliefs about language learning held by HLLs in the middle childhood years. This was explored using both quantitative and qualitative methods of analysis. To date, no other studies have examined the perceptions of Canadian children of immigrants in grades 3 and 4 about their two languages across various domains of language and literacy. Additionally, while the preponderance of past research with this population has measured proficiency solely via self-report, very few studies have examined the actual proficiency levels in HL and L2 (i.e., demonstrated on objective measures) for the same children, and even fewer have looked at the congruence between self-report and objective measures of proficiency.

Study 1 sought to determine patterns of language input and use for this group. Study 2 investigated children’s self-evaluations of proficiency in HL and English, their perceptions of change in their proficiency over time across different language and literacy domains, and their beliefs and theories about learning each of their languages. Lastly, Study 3 explored children’s affective responses to use of HL and English in language and literacy scenarios and their attributions, perceptions and beliefs about HL and English. Considered together, this research may have significant implications both for practice and future research with HLLs.

Study 1: Sources of Language Input and Use Patterns of HLLs

Study 1 sought to determine patterns of language input and use of school-aged HLLs. Pearson (2007) highlighted the importance of quantity of linguistic input in HL maintenance.
Language input and use was investigated by exploring children’s use of English and HL in common language-related activities and in their oral communication with others.

Activities as Sources of Language Input and Use

Children in this study reported using mostly or all English in many of their everyday activities. The majority of children chose English as the language in which their television viewing (similar to Jia & Aaronson, 2003) and reading takes place. As such, television viewing and reading may represent important sources of English language input and exposure for children within their home environment. In light of previous research which has identified HL input sources such as watching TV and reading in HL as predictive of HL competence among HLLs (Cho & Krashen, 2000; Tonami, 2005), it was promising to discover that a small proportion of children did report TV viewing and reading in HL. The results indicate that there is some variation within children’s use and exposure to HL in these activities.

In other language-related activities, including listening to music and when attending church, children were equally likely to use one or both of their languages. Both listening to music and attending church are activities which are receptive in nature, and for which the language used may not be selected by the child. In contrast, when singing songs, an expressive task, children tended to use mostly or all English. Children also overwhelmingly reported their computer use as taking place in English. This could be related to children’s level of HL literacy skill, as computer use often requires at least some degree of proficiency in reading and writing.

Patterns of Language Input and Use with Family Members

Another method of investigating the language use patterns of this group of children was determining the languages they use to communicate with individuals in their lives. Based on the
results of previous research involving bilingual children and adolescents (e.g., Garcia & Diaz, 1992; Lawson & Sachdev, 2004; Nguyen, Shin, Krashen, 2001; Pearson & McGee, 1993) it was expected that children would report using a larger proportion of HL than English in interactions with interlocutors who were older, including their parents, grandparents and relatives. This expectation was confirmed by the results of the study.

Findings revealed that children tended to use mostly or all HL when communicating with their parents. Children did not report greater use of HL with their mothers as compared to their fathers, unlike the results of a previous study by Tannenbaum (2003). Only a small proportion of children reported using all or mostly English to communicate with their parents. In turn, both fathers and mother tended to use mostly or all HL when speaking to their children. This was contrary to the findings of past studies which found a nonreciprocal pattern of language use between children and their parents, with children responding to their parents in English, even when parents speak in HL (e.g., Kuo, 1974; Oller et al., 2010). These findings present a hopeful outlook on the HL maintenance for this group of children since previous research has shown a link between parental use and children’s language use patterns (De Houwer, 2004), as well as children’s HL competence (Hakuta & D’Andrea, 1992; Hinton, 1999; Kondo, 1998; Portes & Hao, 1998).

The predominance of HL use with older relatives, including grandparents and aunts and uncles was also found in the current study. Two-way communication with these family members took place in HL, with only a tiny proportion of grandparents using some English when communicating. Similarly, very few aunts and uncles, like parents, used English when interacting with the children. These findings align with studies which have demonstrated the influence of grandparents upon the HL use of their grandchildren (Ishizawa, 2004; Kondo-
Brown, 2005). According to the findings of Raschka, Wei and Lee (2002), use of HL with elders is an important factor in children’s HL maintenance.

While most children reported a greater tendency to use HL with their parents and elder relatives, it is possible that in line with previous work involving bilingual children (e.g., Jia & Aaronson, 2002), children’s HL use may reflect their interlocutor’s level of proficiency in English, rather than children’s own language choices. For example, with grandparents who are often monolinguals, children must use their HL in order to communicate (Ng & He, 2004). Perceptions that grandparents have poor English proficiency can also promote children’s use of HL (Lawson & Sachdev, 2004). Furthermore, it has been suggested that language use is not arbitrary, but that role relations between children and their relatives may be established and may be a factor in the language used (Fishman, 1972; Winter & Pauwels, 2000). Other than proficiency level or preference of the speaker or interlocutor, other factors can account for language used such as use of deferential speech and perception that code-mixing is viewed in negative light (Lawson & Sachdev, 2004). Regardless of the reasons for language use, there is clear evidence that children in the present study receive language input in HL from older family members, and use HL when interacting with them.

The reverse was found in children’s language use patterns with siblings and cousins. This result provides further confirmation to the much-documented finding that English tends to be the dominant language of interactions between HLLs and their siblings and other individuals in their age-group. Only 20 percent of children used HL and English equally with their siblings, and nearly none use mostly or all HL. Although siblings share the same two languages, it appears that they chose to use English when communicating with one another. This supports the suggestion that once siblings achieve the proficiency needed to communicate in English, English
is chosen as the preferred language used between them (Hakuta & Alvarez, 1994). As described by Garcia and Diaz (1992), the significant use of L2 between children and their siblings may be signalling the beginning of language shift. When communicating with their cousins, children used all or mostly English. However, a small proportion (25%) of children tended to speak all or mostly HL with their cousins. In these cases, children’s comments indicated that the cousins were either new immigrants to Canada or monolingual HL-speakers living outside of Canada and as such, use of HL may be out of necessity, rather than a choice.

**Patterns of Language Input and Use with Peers**

Outside of the family, English was the dominant language of interaction for HLLs in the current research, consistent with other research (e.g., MacPherson & Ghoso, 2008). In line with previous findings (e.g., Nguyen, Shin, & Krashen, 2001; Oller et al., 2010), when speaking with their friends and best friend, children tended to use English. Only a few children indicated using some HL when communicating with bilingual peers. Raschka, Wei and Lee (2002) described friendship as a compelling motivator of English use and noted the use of a combination of HL and English or English only with peers contributes to language shift. Research to date (e.g., Luo & Wiseman, 2000; Oketani, 1997) suggests that peers are an important influence on HL maintenance. The findings of the current study lend strong support to the observation made by others (e.g., Eilers, Pearson, & Cobo-Lewis, 2006) that children tend to use English in the absence of monolingual speakers of HL.

Finally, although not an objective of the present study, no gender differences in children’s patterns of HL and English use were identified, consistent with previous research (e.g., Tseng & Fuligni, 2000). This is contrary to the finding in adult English as a foreign
language learners showing that females are more like to adopt a new language in favour of their language of origin (Hoare, 2000; Milroy & Milroy, 1998).

Overall, these findings suggest that while children are exposed to both HL and English in their surroundings, when given the choice of language to use in their activities, they preferred to use English over HL. The HL was used primarily by parents, grandparents and relatives, and by children in their interactions with these elder family members. However, in the home setting, children received input in English not only via their activities (e.g., TV viewing, reading, computer use) but also through their interactions with siblings and cousins. Outside of the home, English was the primary language of children’s interactions with friends and their best friend. Taken together, these findings support Fishman’s (1972) assertion that “multilingualism often begins in the family and depends upon it for encouragement if not for protection” (p. 82).

Study 2: Children’s Proficiency in HL and English

Children’s Appraisals of Proficiency in HL and English

Study 2 investigated children’s appraisals of their proficiency in HL and English, their perceptions of changes in their language and literacy proficiency over time, and their beliefs and theories about learning each of their languages. One question that was posed to children early in the interview to introduce the items related to language proficiency and changes in skills over time was “Which language did you learn first?” While the majority of children in the study identified themselves as having been exposed to HL before English, an unexpected finding was that more than one-quarter of children indicated that English was their first language. Some may question the rationale for considering this sub-group of participants as HLLs; however, confirmation by participants’ parents and teachers indicated their respective HLs as their first
language. Therefore, this finding may reflect the dominance of English in these children’s lives in Canada and their desire to identify themselves as native English speakers. Another consideration is that children view their HL as the language they have possessed from birth (i.e., were ‘born with’) or simply acquired naturally, rather than a language that they have actively learned.

The present research sought to determine HLLs’ perceptions of their own proficiency in HL and English language and literacy domains. The results revealed that children judged their proficiency in English as significantly higher than their HL proficiency across all domains of language and literacy. The differences were more pronounced for literacy domains (i.e., reading, spelling and writing) than for their ability to communicate in the HL.

Most children in this study viewed themselves as able to listen and speak in both of their languages at least moderately well. However, the majority rated their English oral language proficiency more highly than their HL proficiency. Only one-third of children considered themselves to be equally proficient in both languages. It would be expected that as HLLs, children would begin school with stronger HL language proficiency. However, results of the present research indicate that after a few years in an English-speaking environment, very few children perceived their HL listening and speaking skills to be stronger than their English skills. This is in keeping with previous research which has shown that adolescent HLLs rate their proficiency in English higher than their HL skills (Portes & Rumbaut, 2001; Tse, 2001).

Across literacy areas, children viewed themselves as having better proficiency in English than in HL. This perception of English dominance has been found in previous research involving Canadian HLLs (Chumak-Horbatsch, 1999). Most children indicated low levels of proficiency in reading and spelling in HL, in contrast with their ratings of high proficiency in
these domains of English literacy. The disparity between children’s perceptions of their writing skills in HL and English was vast, with nearly all children perceiving their writing skills in HL to be very low while seeing themselves as possessing strong writing skills in English. One way of interpreting these findings is that children recognize writing as a complex and difficult skill and their low ratings of proficiency reflect their cognizance of their limited writing ability in HL. While children also may view writing in English as challenging, they are aware of their increased experience with English written composition as compared with HL, leading them to rate their abilities at a higher level. An alternate explanation is that when rating their English skills, children may be anchored by their perceptions of low competence in HL. As a result, their perception of English skill may be a relative rating rather than an absolute rating. This may have led them to view their skills in English as considerably stronger than they are in reality.

*Children’s Awareness of Changes in their Proficiency in HL and English*

To explore children’s awareness of language loss, maintenance and growth, children were asked to indicate (via ratings) and describe any changes they have noted in their language and literacy skills after beginning school in English. To introduce children to the idea of reflecting on their past experience of HL and English, children were asked to identify the language they currently find easier and also the language they found easier when they started school. More children identified English as easier at present as compared with the proportion who recalled English as easier in the past. That is, children were aware of a difference in their proficiency in English at the two time points. The opposite pattern was observed in children’s reported ease of HL use, with a substantially greater proportion of children identifying themselves as having been HL-dominant in the past versus at present (i.e., 40.3% versus 6.3%).
These findings highlight children’s awareness of the changes in their relative command of their two languages over time. Interestingly, more than half of children perceived themselves as English-dominant (i.e., English was identified as the easier language) when they first began school. One possible interpretation of this result was that some children viewed English as an easier language to learn than their HL, regardless of their actual level of proficiency in either language. In other terms, children’s less onerous experiences with learning the English language as compared with their experiences with formal instruction in their HL may have led to beliefs that English had always been ‘easier’ than HL.

With respect to children’s awareness of changes in specific language domains, children were equally likely to view their HL proficiency in listening and speaking as having deteriorated, stayed the same and improved from the time they began school. Likewise, children were no more likely to believe that their reading and spelling skills got worse, stayed the same or got better since beginning school. However, most children either considered their HL writing skills to have stayed stable or deteriorated over time. Many children attributed the stability in their writing skills to their lack of proficiency at both time points. An examination of children’s performance on objective measures of HL over the early elementary years revealed that children did, in fact, improve in their HL skills, at least for the domains examined (i.e., listening, speaking and reading). However, approximately two-thirds of the children in the study lacked awareness of the improvements in their HL skills in these domains or did not yet possess the metacognitive skills to be able to accurately self-evaluate and compare their proficiency at present to their previous skills.

Similar to their perceptions of having strong English proficiency in all language and literacy skills at present, children perceived their English skills in both language and literacy to
have improved since they began to attend school on a regular basis in kindergarten. Notable proportions of children indicated gains in their reading and spelling skills. It is possible that children are able to recognize the changes in their abilities in these domains more easily as growth in these skills are more concrete and observable (e.g., reading more words or more challenging books, fewer spelling corrections on tests). Moreover, at this point in development, children rely on feedback from teachers to evaluate their competence (Lipka & Brinthaupt, 1992) and explicit feedback of children’s performance on academic tasks is likely more readily available in the classroom with regard to literacy skills than comments regarding children’s oral language skills in English. While approximately one-third of children indicated that they had “forgot” HL to some degree, virtually no children perceived themselves to have forgotten any English skills. This was true for all domains of language proficiency and literacy in English. On the whole it appears that children viewed their English proficiency and English literacy skills as improving over time. This was clearly not the case with regard to their HL.

*Children’s Actual Proficiency in HL and English*

To achieve a more comprehensive picture of HLLs’ proficiency in HL and English, this study assessed proficiency in language and literacy domains in both languages using objective measures. In HL, among all domains, children demonstrated greatest proficiency in oral language domains. While children’s proficiency in listening and speaking HL were at modest levels across all time points, children demonstrated growth in their oral language skills over time. This is in contrast to Wong-Fillmore’s (1991) belief that for young HLLs, HL skills would deteriorate upon introduction to the dominant school language, and is consistent with Winsler, Diaz, Espinosa, and Rodriguez (1999) who found that for Spanish-American children, HL proficiency did not decrease after beginning preschool. As a group, children’s reading skills in
HL were found to be low. Children’s reading in HL, although at low to moderate levels for all HLLs, improved over the years assessed (i.e., kindergarten to grade 2). These findings seem to indicate that children’s HL skills are not stagnant over time and in fact, continue to develop even after several years of formal instruction in English. Although it is not possible to definitively state that children retained all previously acquired HL knowledge, based on their performance across the grades, children’s listening, speaking and reading skills in HL increased, suggesting enhanced HL ability in these domains. Future exploration of children’s HL skills before and after the initiation of L2 instruction is needed to determine if a true loss of HL skill takes place, if there is stagnation in children’s previously acquired HL skills, or if in fact children build on their HL skills after beginning school. It is note-worthy that a significant proportion of children in this study participated in HL classes, either previously or at present. These classes provide both language and literacy instruction in the HL, and constitute an important source of exposure to HL outside of the home, and for some children, during the school day. Evidence of successful HL maintenance and development in HLLs has been found in situations in which enrichment experiences in HL are systemically supported (Kohnert, Yim, Nett, Kan, & Duran, 2005).

While not the primary focus of the current study, growth was observed in children’s proficiency in English language and literacy domains. Children’s English listening skills (as measured by the PPVT-M) were found to increase at each time point from kindergarten to grade 4. Similarly, children’s proficiency in speaking English grew over time (grade 1 to 2). In literacy domains, children’s English reading proficiency increased over time (from kindergarten to grade 4), as well as their spelling and writing skills (grades 2 to 4). These findings indicate that HLLs experience growth in their English language and literacy proficiency in the early
elementary years. This is consistent with the findings of previous research with this population (e.g., Farnia & Geva, 2010)

Comparisons of Children’s Perceived and Actual Proficiency

In an effort to determine the accuracy of children’s self-ratings, the current study also examined the concordance between children’s self-ratings of proficiency and their actual performance on measures of language and literacy proficiency. In general, about 1 in 3 children accurately rated their abilities in HL and English domains. Actual skill level did not consistently differentiate between accurate and inaccurate raters. That is, children with strong command of the language, regardless of the specific language skill, were not more likely to accurately appraise their skills than those with poor command of the language. This suggests that possessing more developed language proficiency does not necessarily provide enhanced ability to accurately appraise one’s ability in that language skill. Furthermore, the proportion of accurate raters did not differ substantially across listening, speaking, reading, spelling or writing domains (i.e., percentages ranged from 27.9 to 39.5), suggesting that children are not more or less accurate at evaluating their skills in any particular language or domain.

Few similarities existed in the skill level of accurate raters across the two languages. Moreover, different patterns emerged in the skill level of accurate raters for the various language and literacy skills in HL and English such that no clear overall trends were evident in the skill level of accurate raters. For example, while accurate raters of HL listening skills had poor listening skills, accurate raters of English listening skills had strong listening skills. One similarity across HL and English was in the reading domain, in which accurate raters were equally likely to be poor or strong readers in both languages. One noteworthy finding was that children with weak HL spelling and HL writing skills tended to appraise their skills in these
domains accurately. It is possible that in these cases, children’s level of ability in HL was at such a low level that they were aware that they simply could not produce written language in HL. In contrast, children’s actual ability in English spelling and writing was more varied, and as noted previously, children are likely to have received substantial external feedback regarding their English written language skills, which may have informed their appraisals.

Across domains in both languages, two-thirds of children overestimated or underestimated their abilities. This supports Lipka and Brinthaupt’s (1992) caution regarding the validity and reliability of self-evaluations made by children at this developmental level in research. For language and literacy domains in HL, no consistent association between the accuracy of self-ratings and level of demonstrated ability was evident. In fact, several contrasts were found between HL oral language domains. Strong listeners were found to overestimate their proficiency while those relatively strong in their ability to communicate underestimated their skills. Conversely, poor listeners tended to underestimate their skills whereas poor speakers tended to overestimate their proficiency.

Similarly, across HL literacy domains, few commonalities were found in the skill level of inaccurate raters. In reading, strong readers’ appraisals of their skills were too low, while poor readers provided inflated ratings of their reading skill. While most children demonstrated poor spelling skills in HL, those who had relatively stronger skills saw their spelling skills as higher than they demonstrated on spelling tasks. In writing in HL, children with stronger skills overestimated their writing ability, and those with poor writing skills viewed their skills as even weaker than their performance on the objective measure. The comparison of self-evaluations and demonstrated ability in the speaking and reading domains in HL align with the findings of
Krugar and Dunning (1999) who have shown that those with poor skills tend to overestimate their abilities, and those with strong skills tend to underestimate their skills across various areas of competence. It is possible that children with poor HL proficiency are less aware of the complexity of the HL and consequently, see their skills as more developed than in reality. At the opposite end, children with greater command of HL have developed increased awareness of not yet attained language skills, and as a result, appraised their skills at a lower level than their actual ability.

In contrast with Krugar and Dunning’s (1999) findings, in the current study, across English domains, children with high levels of demonstrated proficiency tended to overestimate their skills. These disparate findings suggest that children base their judgments of proficiency in HL on criteria more specific to the language and/or skill being appraised. It is possible that children appraise their skills in a domain relative their skills in the same domain in their other language. For example, children with strong English language skills may have been biased towards excessively high appraisals of their ability by their recognition of the disparity between their more developed skills in English versus HL. Children may have also appraised their current proficiency based on their recollection of their past performance at an earlier age.

Another consideration when interpreting children’s appraisals is whether children estimate or measure their proficiency relative to others. If this were the case, the skill level of the chosen reference group or individual would influence children’s ratings of proficiency. The reference groups used by children may have differed according to the language or language skill being appraised. For example, when estimating their oral language skills in HL, children may have compared their performance to the listening and speaking skills of same-aged referents such as siblings or cousins or alternatively, to those of older (and more skilled) referents such as
parents or relatives. Comparisons to monolingual individuals (e.g., cousins in the native country, people in the HL community) would also result in different perceptions of proficiency. In literacy areas, children who attend HLL classes may have compared their skill in reading to their classmates, while other children may have compared their reading skill to that of (older or younger) siblings. Again, the chosen reference group has the potential to exert influence over children’s appraisals. Since the nature of the reference group was not studied directly in the current research, it warrants further research attention given the considerable influence it may have upon children’s appraisals of proficiency. Future studies may consider investigating children’s reference groups and the degree and extent to which the skill level of those in the reference group has an impact on the accuracy of children’s appraisals.

*Children’s Attributions for Proficiency and Change: Naïve Theories about Language Learning*

One of the main objectives of the present study was to explore children’s theories on learning two languages and the attributions they make for their abilities in HL and English oral language and literacy domains. Another objective was to ascertain to what extent children are aware of changes in their language and literacy skills in the early elementary years. Although these were treated as two separate research questions, investigated through discrete items on the interview protocol, and coded in separate analyses, the same five primary themes emerged from the analysis of children’s responses. Moreover, these themes were evident across children’s attributions for their current proficiency and observations they made about changes in their HL and English language and literacy skills.

The single most frequent and robust theme was Skill. Instances of this theme demonstrated children’s conceptions about language, and ranged from vague descriptions of
language knowledge (e.g., knowing a lot, understanding what other people say) to more specific markers of linguistic knowledge (e.g., able to write long stories, read chapter books). Children’s varying degrees of metalinguistic awareness were apparent in their attempts to describe their level of proficiency. Some children viewed language somewhat simplistically as either known or not known, while others demonstrated their awareness that language could be known or understood to varying degrees (e.g., half of the words). Other children indicated how skilful they are by describing their ease or difficulty with the language domain or task. Interestingly, although previous research by Williams and Burden (1999) involving older HLLs’ judgements of their success in learning French as a L2 noted no references to ‘internal factors’ such as comprehension of spoken language, when asked to explain their proficiency in speaking HL or English, grade 3 and 4 children in the present study made reference to comprehension of others’ utterances.

When describing their proficiency in literacy domains, similar to Martello’s (1999) study of monolingual English children’s understandings of learning of write, HLLs demonstrated their understanding of attending to the structures of the language by referring to their knowledge of words, ability to compose sentences and stories to describe their skill level. Children often referred to the number of words known in a language, much like the qualitative findings of Ro and Cheatham (2009). They also frequently referred to knowing “difficult” or “hard” words or cited specific examples of known words. Many of their examples would be considered academic or formal school-based vocabulary rather than vocabulary used in everyday oral communication, similar to Cummins’ differentiation between CALP and BICS.

Children also spoke of past achievements that related to the target domain (e.g., wrote a 3 page long) to indicate how proficient they felt they were. Furthermore, children illustrated their
knowledge of mechanical aspects of written language such as grammar and punctuation, as well as more abstract and higher-level components of compositions including structure, detailed information and ideation.

Children had different theories regarding what they believed constituted skill in a language. Some theorized that language skill could be measured based on the ease with which the language is used, and how well it is understood by others. Other children illustrated their conception that proficiency in a language is made up of smaller skills by referring to detailed, domain-specific indicators of skill (e.g., knowing words, knowing how to write sentences, reading text in chapter books). Overall, children’s responses suggest that they view language learning as a cumulative process, comprised of ‘building blocks’ of skill that contribute to ‘knowing a language’.

Children also perceived their language learning as being augmented by assistance received from other more proficient individuals in their lives, including teachers, grandparents, and older siblings. Help received from their teachers, including specific teaching methods, were identified. This was especially noted in reference to learning English literacy skills. Formal instruction was cited as contributing to language skills in both languages. In other words, these young children express ideas that are not different from those theorized and demonstrated by social scientists and researchers about the importance of educational support of HL (e.g., Landry & Allard, 1992; Xiao, 1998). Children in this study identified attending HL classes as a key component related to their proficiency levels in the HL. There was quite a bit of nuance in children’s opinions in this regard. While some children attributed their high proficiency to HL instruction or low proficiency to infrequent attendance, others attributed low proficiency in HL to negative aspects of these classes. Furthermore, consistent with previous research on HL home literacy (e.g., Li,
children recognized the role of extra-curricular instructional efforts (e.g., instruction from family members, tutors) in both HL and English proficiency. These young children were able to attribute their skills in both languages to assistance from parents and siblings in the home context, mirroring the findings of a study involving older language learners (Williams & Burden, 1999). Another form of assistance credited by children was encouragement of an HL-only policy in the home, a factor that De Houwer (2007) identified as important in the maintenance of HL.

Another prominent theme that is a component of children’s naïve theories involved their appreciation of the relationship between learning approaches and degree of skill attainment. Children explained the methods by which they achieved their levels of proficiency. Repeated practice was frequently cited as an important factor in enhancing HL and English proficiency (similar to Williams & Burden, 1999). Children demonstrated their awareness that reading books and use of electronic media (e.g., TV viewing, using the computer) contribute to their language learning in HL and English. The theories they have developed regarding language learning were consistent with the findings of the existing literature on HLLs regarding the association between increased reading and HL and L2 proficiency (e.g., Krashen, 1993) and the contribution of HL TV-viewing (e.g., Cho & Krashen, 2000; Hinton, 1999; Li, 2006) and electronic media use (Lee, 2006) to HL proficiency.

Children described feedback from others, including comments and appraisals provided by teachers, family members, and friends regarding their proficiency and feedback from scholastic achievement (e.g., marks, letter grades and percentages etc.) in their explanations of proficiency in HL and English. In line with other studies involving older HLLs (Kondo, 1998) and children learning French as an L2 (Williams & Burden, 1999), children in this study thought that
receiving feedback from others was a key to achieving proficiency. The findings of this research suggest that HLLs in middle childhood draw from those around them for evaluations of ability to inform their judgements. Children cited numerical and letter grades and awards as measures of achievement that would be understood to indicate proficiency in specific domains.

The salience of language environments in fostering language learning was evident in children’s responses. Children perceived their various language environments including home and school contexts as having an impact on their proficiency as well as changes (i.e., both loss and growth) in their HL and English skills. Children described their homes and community as environments that promote HL proficiency through exposure to HL speakers, observations supported in the research literature (e.g., Hakuta & D'Andrea, 1992). Interestingly, children also commented on the benefits and challenges of Canada as a place to learn their two languages. The dominance of English at school and in Canada, as a whole, was mentioned by many children as reasons for the positive affect associated with English domains. In a sense they were expressing their naïve appreciation of the “subtractive” bilingualism notion, expressed by Cummins (1976) and Lambert (1977). This perception of the school setting as English-only is troubling since an English-only policy is associated with lower regard for HL. Children also described limited access to HL literacy materials in their surroundings when describing their limited proficiency in HL, again, in line with results of previous studies (McQuillan, 1998; Pucci, 1994). On the whole, children’s beliefs regarding the status of English and HL, the demographic presence of HL in Canada and in their communities, and the limited support for their HL learning were in line with constructs described in the literature on sociolinguistics such as ethnolinguistic vitality, which refers to the linguistic strength of a group of people within an intergroup context. (Giles, Bourhis & Taylor, 1977). This construct is influenced by structural
characteristics including status factors (e.g., economic, social or sociohistorical status of the language), demographic factors (e.g., number and distributions of members of the language group) and institutional factors variables (e.g., formal or informal representation, educational support in the community). Children’s perceptions regarding the ethnolinguistic vitality of their languages within their environments demonstrated the beginnings of their subjective ethnolinguistic vitality, or the beliefs that members hold regarding the ethnolinguistic vitality of their group (Landry & Allard, 1992). These young language learners demonstrated a surprisingly advanced understanding of the facilitating or limiting influence of language environment upon language acquisition and development (see Krashen, 1994 for a review of this literature).

Study 3: Children’s Affective responses, Beliefs and Perceptions about their Languages

HLLs’ Affective responses to HL and English

Study 3 sought to explore children’s affective responses to language and literacy domains in their two languages, and children’s attributions for their chosen emotions. The findings of the current study revealed that children’s affective responses are different for language and literacy domains in HL and English. In their HL, children’s affective responses varied with the context in which the language or literacy task was depicted. More specifically, children tended to associate positive affect with oral language activities that take place at home context. These results suggest that most children viewed communicating in HL within the private, and perhaps protected setting of the home in a positive light. In contrast, children appeared to hold disparate views towards listening and speaking HL in public. This may be due to greater variability their individual perceptions of how HL would be received by interlocutors in the community.
Whereas in the scenarios at home, children often assumed that the interlocutors were family members with HL knowledge who reacted positively to HL use, in public settings, the language backgrounds and attitudes of the interlocutors in the scenarios were inferred or assumed by each child. Children’s affective responses often appeared to be linked to the interlocutor’s anticipated reaction to the HL. That is, if the interlocutor was viewed as HL-speaking or as having positive attitudes towards HL (e.g., interesting in learning HL), children tended to associate a positive affect with the scenario. However, if the interlocutor was believed to be an English monolingual or as having negative attitudes towards HL, children seemed to ascribe negative affect to the protagonist.

Children’s views towards literacy activities in HL were also varied, with no clear trend in the affects they chose for these domains, across public and private contexts. These findings could be interpreted as indicative of the lack of influence that context has upon children’s affect towards HL literacy activities. Although the same proportions of children chose each of the three affects for activities in public and in private, it was not clear if in fact individual children chose the same affect for HL literacy activities in different contexts (e.g., positive affect towards both scenarios involving reading in public and reading in private). Instead, these results seemed to suggest that as a group, children hold a greater range of affects towards reading, spelling and writing in their HL. It could be speculated that the selection of the neutral affect for the protagonist (approximately one-third of children) may reflect some degree of ambivalence towards the literacy in the HL. In Tse’s (1998) stage model of ethnic identity development, children go through a period of ambivalence or avoidance of the HL. Children may be in the process of developing their views towards the HL, based on their learning experiences to date, not having yet arrived at either a positive or negative affect. Another consideration is that unlike
oral language activities in HL, children’s experiences of HL literacy activities may be originating primarily from formal instruction (e.g., HL class, tutoring). In other words, while children may associate listening and speaking in HL with experiences within their family, given that the majority of children have limited literacy knowledge (as indicated in Study 2’s results), it is less probable that these children have had the opportunity to access pleasurable and meaningful experiences involving HL literacy (e.g., reading a funny book, writing a letter to a friend). Therefore, their access to enjoyment via HL literacy may have been limited. Interestingly, the variability observed in children’s affects towards HL literacy activities was similar to the variability in children’s reports of changes in their HL literacy skills found in Study 2. These parallels suggest a potential connection between their perceptions of progress and their affect towards the literacy domain.

At the same time, children’s affective responses to English language and literacy scenarios were more uniform. Irrespective of the language or literacy activity or the context in which it was shown, children tended to associate positive affect with English scenarios. As indicated in Study 2, the majority of children observed progress in their development of English language and literacy skills over time. Taken together, as noted with children’s HL literacy skills, it could be speculated that a relationship may exist between children’s perceptions of growth in their skills and they affect towards related language and literacy activities. Overall, a comparison of children’s primarily positive responses to English language scenarios to the more varied affects they associate with HL activities suggested that children differentiate between their two languages.
Analysis of children’s explanations for the affects chosen revealed five main themes. Similar to the findings of Study 2, Skill was the most frequently noted theme. Affective responses, whether positive, neutral or negative, were explained in relation to the skills attained in a given area. Children’s descriptions of their skill level seemed to reflect different levels of awareness of the complexity of language. General indicators of skill included comments about comprehension of the target language, or comments related to how easy or difficult learning the language has been. As was observed in children’s attributions for their self-judgments of proficiency and change, children often referred to knowing difficult words that were longer or less frequent as an index of their sophistication. While some children viewed writing as simply handwriting or copying text, other children demonstrated noteworthy conceptions of what is involved in composing stories. Again, variation in children’s linguistic knowledge was evident in their intuitive theories on language development. Greater awareness of language components and structures contributed to increased sophistication of their lay theories regarding the process of becoming proficient in a language.

Several unique categories were found in children’s explanations for their affective responses to scenarios. For example, some children demonstrated their understanding that language, in spoken or written form, conveys meaning. Children referred to their ability or difficulty to communicate their ideas, particularly in their responses to HL domains. Children also recognized the roles of both people involved in a language interaction, and noted their ability to not only understand what was said (as a listener), but also communicate their intentions (in the role of speaker). These insights were not found by Williams and Burden (1999) in their study of children learning French as a L2. In that study the researchers did not find reference to
the importance of effective communication and language comprehension, in children’s
descriptions of their ability in the L2. Although most of the children in Williams and Burden’s
(1999) study were older than the participants in the present research, the projective format of the
pictorial measure in the current study may have facilitated these younger children’s imagination
or visualization of the linguistic scenario or evoked their memories of similar experiences. The
inclusion of the interlocutor (i.e., either the listener or the speaker) in the picture stimuli may
have also drawn children’s attention to the viewpoint of the other person in the exchange as well
as the goals of the interaction. Another unique aspect of children’s naive theory involved their
reflections and spontaneous comparisons of their skills in both languages. Unlike monolinguals,
HLLs have substantial exposure to two languages. HLLs in the present research seemed to step
back and comment upon which language they had achieved greater proficiency, even when
presented with scenarios involving only one of their languages. This lends some support to the
possibility that experience with language input from two languages may encourage children’s
analysis of the relative strength of their abilities in HL versus English. Many of these HLLs
seemed to have developed the ability to compare and judge their skills in HL and English. In
rationalizing their affective responses, many children shared information about their level of skill
in the language. However, some children emphasized the emotional impact of having or lacking
confidence in their command of the language in their responses. Children described pride or
confidence about their well-developed skills in HL and English. However, contrary to the
notion that young children may not be self-conscious about their proficiency and performance in
their languages and will use them uninhibitedly, many children in this study expressed worries
regarding others’ reactions to their language competence due to their perceived lack of skill. As
stated by Snow and Hakuta (1992) regarding the “costs” of monolingualism: “Young children, as
much as older ones, feel the ‘cost’ of personal discomfort, social isolation, and lowered self esteem associated with speaking the language of their interactants poorly” (p. 389). The worries expressed by the young HLLs in this study exemplify the “language shyness” of HLLs described by Krashen (1998), and the heavily-documented concept of language anxiety among adult foreign language learners (e.g., Horowitz, Horowitz, & Cope, 1986). Unlike adult foreign language learners who face anxiety when faced with situations involving L2 use, young HLLs faced performance fears when attempting to communicate in HL as well as their L2, English. It is possible that these insecurities regarding their skills in one or both languages and the resulting anxiety in performance situations may interfere with engagement and investment in language learning and the subsequent development of bilingualism or biliteracy in these children.

Another theme among children’s responses to language and literacy domains was Interest and Preference. Children associated their affective response with degree of interest in the target activity (e.g. “I like reading”) without reference to their perceptions of the target language. Another category within this theme was interest or lack of interest in the HL or English. Children also attributed their affective response to their preference for one language over the other (e.g., “I like English better than Chinese”).

Expressions of lack of interest or specific preference for one language among HLLs have been reported in other studies as well (e.g., Ro & Cheatham, 2009). Children’s enthusiasm for learning the target language and viewing scenarios as opportunities to increase language knowledge were other categories of the Interest and Preference theme. As observed by Comanaru and Noels (2009) among adult HLLs, viewing HL learning as fun was associated with greater engagement in the learning process.
Assistance was a common theme among children’s attributions for their affective responses. Unlike the recognition of formal instruction and extra-curricular assistance described in children’s attributions for proficiency and change (see Study 2), in the current analysis, children often explained their emotional reactions to the scenarios by citing the availability of more informal forms of assistance. The home setting was valued by children as a place that they could access support with HL from their family members, including parents, grandparents and siblings. However, the perceived absence of support with English literacy within the home, particularly from older family members, seemed to be one reason for children’s negative responses to English literacy activities in the home setting. The positive affective valence children connected to being able to access assistance from their peers for both HL and English linguistic tasks reflects the significant influence that peer-to-peer language support can have upon children’s engagement in language learning. This finding underscores Oller and associates’ (2010) description of the critical role that peers play in HL maintenance.

Language environment is a theme that has surfaced across several analyses in the present research. Evidence from Study 2 indicates that children are cognizant of the influence of exposure to language in the environment in enhancing the development of proficiency in HL and English, and cite it as a factor that influences their ease of learning the two languages. In the current analysis, children attributed the affective response they chose to aspects of the language environment. That is, the language environment is perceived as having an impact on children’s emotional reactions to the process of language learning. Children described the prevalence of English in Canada and attributed their feelings towards HL and English to the amount of time they spent in Canada (if born abroad), and to being born in an “English country” (if born in Canada). These attributions demonstrate children’s apparent intuitive sense of the influence of
these demographic factors upon HL maintenance and L2 learning, echoing research which has shown an association between length of residence in the majority language environment and tendency toward English dominance (Portes & Schauffler, 1994) and degree of exposure to the L2 and HL maintenance (Harrison, 2000). Some children associated negative affect with the lack of HL literacy materials in their surroundings, and demonstrated their perception of the presence of HL in Canada. Children communicated the connection between their sentiments about HL and English and their previous language experiences within their environments.

One last theme that emerged in the analysis of children’s responses to the language and literacy scenarios was Group Membership. This theme included several categories including children’s personal identification with the target language and group, and their recognition of the influence of language upon social relationships with HL and English speakers. Children described their sense of ownership of the target language, particularly in response to HL scenarios. Their comments conveyed their sense of self as members of a language group, and their identities as HL-speakers. Language has been described by Tsunoda (2005) as conveyor of culture, determiner of identity, source of pride and self-esteem, and source of solidarity. Children demonstrated their understanding of these concepts when describing the ways in which HL connected them to other HL-speakers and their pride in sharing their language culture with non-HL speakers. Instances of this theme were consistent with Pearson’s (2006) description of strong affective value of the language (e.g., pride in culture, strong family identity), a factor posited to contribute to HL maintenance. Children’s recognition of the HL’s ability to promote cultural and community affiliation also mirrors the findings of previous research with HLLs (e.g., Mills, 2001).
Side by side with children’s beliefs regarding the facilitative effect of HL with HL-speakers, children also believed that HL separated them from non-HL speakers. Some children indicated negative affect when they perceived other children in the scenarios as non-HL speakers with negative attitudes towards the HL. As speculated in previous research with young HLLs (e.g. Chumak-Horbatsch, 1999), children’s negative responses to HL use in the scenarios appears to be associated with concerns about isolation from peers that results from HL use. On the contrary, children viewed English use as promoting the formation of friendships with English speakers, a finding also demonstrated by Pagett’s (2006) case studies of child HLLs. Children’s perception of the importance of English in forming friendships lends support to Wong-Fillmore’s (1991) claim that for HLLs “the only way to gain access to social world of the school is to learn English” (p. 207). Taken together, these findings provide confirmation for Oller and associates’ assertion that children take into account peers’ reactions to HL or L2 use in order to develop and/or maintain friendships.

Implications and Recommendations of the Current Research Studies

Implications for HLLs and Their Families

Several of the current study’s findings are relevant to the lives of HLLs and their families. One finding, the predominant use of HL at home between HLLs and their parents and elder relatives is promising, given the known importance of language input and use to HL maintenance. Although as parents’ proficiency in English may increase with greater time in Canada, families continued use of HL will not only provide needed linguistic input, but also convey the value of the HL (Saville-Troike, 2003). Children demonstrated their understanding that “HLs function as emotive and emotional ties” that connect them to their heritage, family and
community (Mills, 2001, p. 399). These connections can be emphasized by engaging in positive interactions in the HL, particularly in the home setting, but also within the large HL community. As many children use performance indicators to gauge their language proficiency, parents can provide the message that language learning develops over time, and can recognize children’s ability to communicate effectively in their languages as desirable goals. The findings suggest that children are sensitive to the reactions and appraisals of others regarding their language proficiency, and may be discouraged by criticism or teasing. As negative reactions may have a compromising effect on children’s motivation to use and practice HL, providing encouraging feedback regarding their language and literacy skills is important, since children seem to draw from feedback from others (e.g., family members) when making self-evaluations of their proficiency and change. Furthermore, opportunities to interact with HL users such as HL-speaking cousins, friends in the HL community or through visits to the parents’ country of origin can help promote children’s HL use, and enhance children’s awareness of the social value of knowing the HL.

Many children cited the influence of an HL-only policy in the home upon HL proficiency. Since children’s interactions outside the home are almost entirely in English, parents may wish to preserve the HL by promoting its use at home, even amongst siblings. As children identified the influence of language within their environments upon their HL proficiency and their experience of learning HL, greater exposure to HL via enjoyable home literacy practices and the availability of literacy materials may facilitate children’s interest and use of HL (Guardado, 2002; Pearson, 2006). Children also cited help from parents, relatives and siblings as facilitating their language and literacy development in both languages. Outside of the home, children also identified formal instruction in their two languages as the reason for their
proficiency. In addition to the potential to acquire and develop language and literacy proficiency, HL education may provide additional opportunities for HL exposure, contribute to children’s sense of identity and enable children to meet other HL-speaking peers.

Although parents may be concerned that children’s English proficiency will not progress if HL use is encouraged, the current results indicate that the English language and literacy skills of HLLs grow over time for these children, despite significant parental use of HL. There is no shortage of English exposure for this group in their everyday activities and interactions. While children view their HL skills as quite poor, parents can be assured that while attending English-only schools, children make gains in HL listening, speaking and reading domains.

**Implications for Educators**

A consistent finding of the current research is children’s ability to describe their own language and literacy proficiency in terms of indicators of skill. Additionally, there is a relationship between their perceived skill level and their emotional reactions to language and literacy activities in their two languages. Since recognizing competence in a language was found to be associated with positive affect, educators may affect children’s ongoing motivation to learn a language by helping them to recognize their achievements and increasing children’s awareness of their improvements over time.

In light of children’s perception of the school environment as English only, educators can facilitate children’s awareness of the benefits of being bilingual or multilingual. This can be illustrated through learning units with global, travel or multi-cultural themes or by encouraging children to share aspects of their culture or language with their classmates (Cheatham, Santos, & Ro, 2007). Educators can model the importance of HL maintenance by sharing with their students their pride in knowing more than one language. If educators themselves are
monolinguals or HLLs with limited proficiency, they can express interest in children’s HLs and communicate their belief in the utility of HLs. Providing access to literacy materials in various HLs can show that the school welcomes language diversity, despite instruction taking place primarily in English. Inviting individuals who use more than one language in their employment to speak about the usefulness of other languages may teach children potential economic benefits of bilingualism.

Children identified the use of electronic media in developing their language and literacy skills. Heritage language programs could consider incorporating more interactive forms of instruction such as connecting children with monolingual HL-speakers via an international penpal or classroom partnership (e.g., Skourtou, 2002) or encouraging children to explore appropriate children’s websites in their HL. Furthermore, connecting children to the HL youth culture (e.g., pop music, online videos, comprehensible TV shows or movies) might enhance children’s motivation to maintain their HL (Hayashi, 2006). The current findings suggest that peers have a substantial influence upon children’s affective responses and use of HL, arranging mentoring, tutoring or reading buddy programs between children with different levels of proficiency students may contribute towards positive attitudes towards developing HL proficiency. Children recognized the complexity of language learning and are cognizant of the indicators of skill. Awareness of this complexity can be daunting to young learners and as such children may encouraged by the successes of older and more proficient children. Educators can stress the cumulative nature of learning and encourage children to reflect on the skills they have already attained, instead of focusing on the challenging aspects of the HL. In addition, since children valued assistance from their teachers in both HL and English and also relied on them for
feedback on their performance, it is important for educators to realize the significant impact they have on children’s process of language learning.

**Implications for School Administrators and Policy Makers**

School administrators have a role in promoting children’s bilingualism by providing professional development opportunities to educators which promote language diversity and understanding of bilingual language acquisition. They may also facilitate the creation of school environments that welcome HLLs and their families to communicate in their HL and encourages multiculturalism. Policy makers make decisions regarding funding. As such, it will be critical for them to understanding the benefits of bilingualism for children as individuals, but also to Canadian society. Funding will provide access to interesting learning materials and technology to make HL classes more appealing to child HLLs. Allotting sufficient preparation and instructional time to HL educators will likely contribute to the quality of their instruction.

**Future Research Directions**

The research reported in this dissertation made significant contributions to the literature on the languages HLLs are exposed to and use in their everyday lives, their perceptions and actual levels of proficiency at present and over time, and their emotional reactions to using their two languages. Additionally, this research provided greater understanding of children’s theories and beliefs about language learning by examining the attributions they make regarding their proficiency, changes in proficiency in different domains of language and literacy, and the affective responses they associate with activities in these domains. Although this study makes significant contributions to our knowledge of HLLs’ experiences learning two languages, it is not without limitations.
For the preponderance of the present research, HLLs of different HL backgrounds were regarded as a single group. However, future studies may consider examining HL groups separately to explore any differences in children’s input and use patterns, proficiency and perceptions of their HL and English. This is particularly important since in past research, Spanish HL groups in the United States have been shown to have higher levels of HL maintenance than other language groups (e.g., Lopez, 1996). Furthermore, given increases in the Chinese and Spanish speaking population of Canada (Statistics Canada, 2006), additional research is needed to examine the influence of changes in HL prestige, status, representation, and institutional support upon children’s experiences of learning their respective HLLs. It would also be of interest to examine if differences exist on the variables of interest in the current study between children who attend HL classes over an extended time and those with limited or no exposure to formal HL instruction.

Children in grades 3 and 4 were chosen as the target population of the current study due to the "ongoing interaction between two languages in younger bilinguals " (Hakuta & D'Andrea, 1992, p. 73), their developing ability to make self-judgments, their exposure to several years of formal schooling in the L2. Although it is thought that language attitudes gain stability approximately at age 10 years (Baker, 1992), longitudinal exploration of children’s bilingualism and biliteracy from early childhood through adolescence will provide insight into the evolution of children’s patterns of use, proficiency across domains and perceptions over the course of development. Longitudinal investigation of children’s beliefs is needed to discover children’s developmental trajectories in their perceptions of both languages. In particular, one area in need of further inquiry relates to changes in children’s perceptions of others’ reactions to their HL and L2 as they grow and are exposed to various settings, including diverse community, school and
peer contexts in addition to the family milieu. It would also be interesting to study HLLs during adolescence since it is a period characterized by increased separation from family life, greater emphasis on peer social relationships and ethnic identity development (Tse, 2001).

In contrast with Portes and Hao (1998) who found greater likelihood of HL maintenance among female adolescent HLLs, no gender differences were evident in the current study. Further replication with HLLs in middle childhood is needed to confirm or clarify if gender differences exist in children’s patterns of use, proficiency and beliefs about HL and English language learning.

Language use patterns were assessed by self-report in the current study. Consistent with recommendation of Oller and associates (2010), direct observation of individual language use in various settings including home and school will provide needed information on the interaction patterns between children and significant interlocutors. Furthermore, children’s reports can be validated by reports from teachers or parents (Hakuta & Alvarez 1994). In combination with data from direct observation, ratings from other informants will also help to assess the accuracy of children’s self-reports on their language use. Another consideration for future research is the frequency of usage with different interlocutors and the status or power differential in the relationship, in addition to investigating to whom and what language the learner speaks, as these factors may impact language proficiency and attitudes (Baker & Hinde, 1984). Usage will also vary with environment. Different languages could be used with the same interlocutor depending on the context. For example, a child may choose to speak to his parent in English when at school in the presence of peers, but speak HL when at home. The inclusion of various language situations in measures of language use would help to clarify the interaction between use, interlocutors and context. Another avenue for future study could be children’s reasons for their
language use patterns with interlocutors and during activities. It would be important to understand the basis for children’s languages choice in different situations.

The current research did not directly evaluate children’s language preferences. It could be interesting to explore HLLs’ language preferences as well as use patterns using a measure similar to Tannenbaum’s Language Maintenance Questionnaire (as cited in Tannenbaum & Howie, 2002, p. 414) which separates use and preference by asking children to indicate both if they use HL or English in a specific interaction (e.g., “I don’t feel very well and I am asking my mum for a drink”) and whether they would prefer to use HL or English. Electronic media were relevant sources of language input referred to by children in their qualitative responses. Future studies could examine children’s daily language use in activities such as messaging or texting, surfing the internet or playing video games.

One of the aims of the current research was to study children’s self-assessments of proficiency using general questions about their skills in various domains of language and literacy. However, a potential limitation of asking “how well” interviewees can listen, speak, read, spell or write in a language is that terminology may be difficult to interpret, and also vague with respect to what is meant by “well” or to which type of ‘speaking’ the question refers. Using specific activities to assess skill level may help to circumvent the issue of misinterpretation of more open-ended questions. Measures such as MacIntyre, Noel and Clement’s (1997) Can-do task (e.g., make out a shopping list, count to 10, leave a note for someone saying where you will be) could provide children with more concrete examples of language skill applied to everyday life. Additionally, this would address the likelihood that proficiency in a domain is dependent on the context (e.g., in a store vs. at the bank), as contexts may require domain-specific language or knowledge that the child would know if he/she had been exposed to the language in that context.
Another consideration is that children may use surface fluency or conversational competence (e.g., the ability to hold a simple conversation or understand programs on television) as the basis for their ratings, rather than attend to fluency with more demanding language and literacy tasks (Skutnabb-Kangas, 2000). This may be problematic since surface fluency differs from proficiency with formal or academic language required in the school context.

The issue of comparison group is also relevant to the accuracy of children’s self-ratings of proficiency. While self-evaluations become more accurate as children begin to use social comparison as a basis for estimates of competence (Lipka & Brinthaupt, 1992), no comparison group was specified. As such, the findings may reflect children’s comparisons between their own skills and those of their friends, neighbours or HL classmates, monolingual cousins from an HL-speaking country. These groups may vary considerably in their proficiency levels. Additional research is needed to further investigate what factors account for children’s accuracy in self-judgments (i.e., how are accurate raters different than inaccurate raters?).

With regard to children’s self-ratings of changes in proficiency over the years, it is possible that children in this age group may have difficulty with retrospectively reporting on past beliefs. Future studies can investigate children’s perceptions about which language is easier to learn longitudinally so as children may be better able to report on their perceptions at the concurrent time rather than retrieving (or reconstructing) their impressions from long-term memory.

Finally, self-report measures are susceptible to social desirability bias (Baker, 2006). Therefore, it is possible that children’s ratings may been skewed to match a favourable identity (e.g., as a good student,a bilingual child). Another possibility is that children’s ratings may have been influenced by their desire to identify with a particular language group due to their
perceptions about language status or prestige. This may have led to an underestimation of their
skills for the less preferred language and inflated ratings for the language with which they
identify most. Whether consciously or subconsciously, children’s ratings may be influenced by
these factors. To address this potential limitation, the current study also examined the
demonstrated levels of proficiency in these learners.

Although objective measures assessed oral language and literacy skills of HL in both
languages, HLLs’ experiences with language are distributed across different circumstances of
usage in HL and English. Therefore, one potential limitation of this study was that measures in
both languages may not target language that is used in domains to which HLLs have been
exposed (e.g., related to home or family), and therefore may not fully represent their language
knowledge. A second consideration is that HL measures used in the current study were either
translated versions of standardized English tasks for the domain or experimental literacy
measures (e.g., reading, spelling), and thus comparisons with HL skills of HL monolinguals were
not possible. Future studies may consider exploring the use of instruments standardized with
monolinguals of the same HL, in order to provide estimates of the level of HL proficiency
achieved by HLLs in different domains. However, the meaningfulness of comparing the
proficiency of HLLs to monolinguals of the same HL is questionable given the substantial
differences in quantity and type of linguistic input to which the two groups are exposed.

For HL domains, particularly in oral language domains and reading, children’s
proficiency levels ranged substantially. These differences in proficiency warrant further study.
An important future direction would be to investigate what factors (i.e., demographic, linguist,
cognitive, socio-cultural, affective, instructional) account for the differences in levels of
proficiency attained by HLLs at this age. It has been suggested that HL losses occur quickly at
the initiation of schooling in the L2. While the current study included assessment of a number of aspects of oral language beginning in senior kindergarten, some children in the study were first exposed to formal schooling in English beginning in junior kindergarten. Further investigation of children’s demonstrated proficiency upon school entry (e.g., the initial weeks or months of junior or senior kindergarten) would provide needed information about any HL changes that occur immediately following daily exposure to the L2. Furthermore, on measures of HL written language, a floor effect was observed. Using these measures, children’s low levels of HL proficiency in written language are evident. However, a potential limitation of this study was that the difficulty level of the tasks exceeded children’s proficiency level, and as a result, lacked the sensitivity needed to provide accurate estimates of children’s spelling and writing skills. Additionally, spelling and writing in HL was assessed only at one time point, in grade 2, due to financial limitations of the current study. Assessment at multiple time points would provide a more comprehensive picture of children’s facility with writing in their HL in the early elementary years. This would be particularly informative since among all five domains studied, children tended to perceive no changes or losses in their writing skills over time.

The comparisons between self-evaluations and demonstrated proficiency are highly relevant to the study of HL maintenance and development due to frequent reliance on self-assessment measures of language proficiency in research with this population. The findings shed light on the possibility that self-ratings may not directly reflect actual skill level, at least for the majority of children in this age group. It lends support to suggestions by other researchers (e.g., Gibbons & Ramirez, 2004) that the study of second-generation bilingual learners’ language proficiency should measure demonstrated proficiency using objective measures of proficiency, as was conducted in the present research. A limitation of the current study was the comparison
of measures of demonstrated proficiency and self-ratings which were administered at different
time points. Future studies should consider evaluating the accuracy of self-ratings using
concurrent objective measures of proficiency.

Another potential consideration for further study is HLL’s awareness of their language
proficiency, including difference between their skills in HL and English. While bilingual
learners have been shown to perform better than monolinguals on specific measures of
metalinguistic awareness (Bialystok & Cummins, 1991), the connection between these specific
areas of strength and children’s accuracy in appraising their language proficiency requires further
investigation. The current findings suggest that there is significant variation in HLLs’ abilities to
accurately assess their linguistic skill. However, since little is known about monolingual
children’s ability to estimate their language proficiency skills, future research should include
monolingual children in order to explore whether bilinguals demonstrate enhanced awareness of
their language proficiency that could be related to experience with two languages.

One of the central objectives of Study 3 was to explore the range of children’s beliefs and
perceptions about using and learning HL and English in general, rather than determine the
specific beliefs of individual children. A projective approach was used but some may argue that
in fact children’s responses may not reflect their affective responses to a similar scenario or their
personal beliefs but rather their beliefs about the experiences of fellow HLLs about different
domains of HL and English. It is interesting to note in this respect that in the current study,
many children confused pronouns and shifted to the first person when explaining their reactions
to the scenarios suggesting that their attributions may align with their own perceptions. Future
research is needed to explore how closely children’s responses to scenarios posed in the third
person align with self-report measures of children’s attitudes towards HL and English.
Alternatively, similar picture items could be used and children asked to comment directly on how their own feelings and reactions to the scenarios. This might provide information regarding children’s own attitudes towards their two languages and allow the investigation of any relationships between children’s individual attitudes towards each language and/or domain and their corresponding patterns of use and proficiency in these areas.

A noted benefit of the interview format used in the current study was that its semi-structured nature allowed for follow-up queries for open-ended questions. These questions yielded richer information about children’s beliefs and perceptions about their two languages. Future studies may consider using an interview format in combination with visual stimuli, perhaps in combination with other data generation procedures (e.g., observation, focus groups), to permit triangulation of data to optimally represent HLLs’ perceptions of language and literacy learning. There remains a dearth of knowledge about the experiences of this population of Canadian children and as such, the potential for further research is near limitless.
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Appendix A.  Structured Interview Protocol, Visual Stimuli and Picture Items

Appendix A1.  Structured Interview Protocol

INTRODUCTION
*Please substitute child's heritage language (Spanish or Chinese) for every instance of “HL”**
“I understand you know more than one language.  Today, I'd like to find out what it's like for you to know (HL) and English.  There aren’t any right answers. I am just interested in what you think and feel. What you say here doesn’t count on your report card and I won’t be telling your friends, teachers or parents about your thoughts and feelings.  I will be taping this so that I do not miss anything.  Would that be alright with you?”

LANGUAGE BACKGROUND

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are you taking HL language classes?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If no, have you ever before?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Where are you learning/did you learn HL? (circle all that apply)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Saturday school</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Church</td>
<td></td>
<td></td>
</tr>
<tr>
<td>After school program</td>
<td></td>
<td></td>
</tr>
<tr>
<td>When did you start these classes? (and finish if answered no*)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have you ever visited your/your parent’s home country? If Y, when?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>HL</th>
<th>HL &gt; English</th>
<th>HL = English</th>
<th>English &gt; HL</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>Watching TV</td>
<td>N/A</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Listening to music</td>
<td>N/A</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
Language used to speak with specific individuals
I’d like to find out what languages you use when you are talking to different people in your life.
(For each of the items say) When **you are speaking** to your ______ do you speak (while pointing to options) “always in HL, more in HL than English, in HL and English equally, more in English and than HL or always in English”.

<table>
<thead>
<tr>
<th></th>
<th>HL</th>
<th>HL &gt; English</th>
<th>HL = English</th>
<th>English &gt; HL</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>father</td>
<td>N/A</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>mother</td>
<td>N/A</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>brother or sisters</td>
<td>N/A</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Older brother</td>
<td>N/A</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Older sister</td>
<td>N/A</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Younger brother</td>
<td>N/A</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Younger Sister</td>
<td>N/A</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Do your grandparents live with you?  Y  N  Speak English?  Y  N

cousins

<table>
<thead>
<tr>
<th></th>
<th>HL</th>
<th>HL &gt; English</th>
<th>HL = English</th>
<th>English &gt; HL</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>aunts/uncles</td>
<td>N/A</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>friends</td>
<td>N/A</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>best friend</td>
<td>N/A</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Does your best friend speak :  HL  English  Both

Language used by specific individuals to speak to the child
I’d like to talk about what languages other people in your life use when they are talking to you.
(For each of the items say) When **your ____ is/are speaking to you**, does he/she/they speak (while pointing to options) “always in HL, more HL than English, in HL and English equally, more English than HL or always in English”.

<table>
<thead>
<tr>
<th></th>
<th>HL</th>
<th>HL &gt; English</th>
<th>HL = English</th>
<th>English &gt; HL</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>father</td>
<td>N/A</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>mother</td>
<td>N/A</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>brother or sisters</td>
<td>N/A</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>grandparents</td>
<td>N/A</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>cousins</td>
<td>N/A</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>aunts/uncles</td>
<td>N/A</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
(While showing pictures of the demo kids)

This is Kenneth/Karen. When other people talk to Kenneth/Karen in HL, he/she can’t understand any of the words they are saying. When I asked him/her how well he/she can understand HL, he/she said “not at all”. Martin/Mary can understand a few of the HL words people use but he/she doesn’t usually understand what they are trying to say. So when I asked him/her how well he/she understands HL, he/she said “a little bit”. William/Winnie is another kid I know, when he/she hears HL, he/she understands some of the words and sometimes gets what the person is saying to him/her. When I asked him how well he/she understands HL, he/she answered “some”. Richard/Rita understands most of the HL words that he/she hears and he/she understands most of the time what people say to him/her in HL. He/she answered “pretty well” to this question. Daniel/Denise can almost always understand what people are saying to him/her in HL. When I asked him/her how well he understands HL, he/she said “very well”.

I’d like to find out how much HL you know. I’m going to ask you some questions and I’d like you to show me which one of these choices is true for you.

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>A little bit</th>
<th>Some</th>
<th>Pretty well</th>
<th>Very well</th>
</tr>
</thead>
<tbody>
<tr>
<td>How well can you understand HL</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>What tells you this? How can you tell?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How well can you speak HL</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>How can you tell?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How well can you read HL</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>How can you tell?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How well can you spell in HL?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>How can you tell?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How well can you write HL?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>How can you tell?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>A little bit</th>
<th>Some</th>
<th>Pretty well</th>
<th>Very well</th>
</tr>
</thead>
<tbody>
<tr>
<td>How well can you understand English</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>How can you tell?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
How well can you speak English?  
1 2 3 4 5

How can you tell?

How well can you read English?  
1 2 3 4 5

How can you tell?

How well can you spell in English?  
1 2 3 4 5

How can you tell?

How well can you write English?  
1 2 3 4 5

How can you tell?

AWARENESS OF CHANGE IN LANGUAGE PROFICIENCY

Which language is easier?  Neither  HL  English

So for you, (insert other language) is harder? Why do think that is?

I’d like to talk a bit about how your HL was when you were small. Think back to when you were started school.

Which language was easier?  Neither  HL  English

So for you,(insert other language) was harder? Why do think that is?

For some people who know two languages, they forget things, learn more things over the years or stay about the same. This is George/Gloria. When he/she started school, he/she could speak HL pretty well and now in Grade 3/4, he/she has forgotten a lot. So when I asked him/her if he/she has forgotten or gotten better at understanding HL, he/she said "I forgot a lot" (say while pointing at option 1). Arthur/Angela has gotten a bit better at understanding HL since he/she started school so he/she answered "I got a little better" (say while pointing to option 4).

I’d like to hear from you how what you know in HL and English has changed or stayed the same since you were in Grade 1. Remember, there aren’t any right answers, so just point or say the one you think is true for you.
**Listening**

<table>
<thead>
<tr>
<th>understand HL</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

What tells you this? How can you tell you ______

<table>
<thead>
<tr>
<th>understand ENGLISH</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

What tells you this? How can you tell you ______

**Speaking**

<table>
<thead>
<tr>
<th>speak HL</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

How can you tell you ______

<table>
<thead>
<tr>
<th>speak ENGLISH</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

How can you tell you ______

Now I’d like to hear how what you know in HL and English has changed or stayed the same in reading, spelling and writing stories since you were in Grade 1.

<table>
<thead>
<tr>
<th>forgot alot</th>
<th>forgot a little bit</th>
<th>stayed the same</th>
<th>got a little better</th>
<th>got a lot better</th>
</tr>
</thead>
</table>

**Reading**

<table>
<thead>
<tr>
<th>Read in HL</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

How can you tell you ______

<table>
<thead>
<tr>
<th>Read in ENGLISH?</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

How can you tell you ______

**Spelling**

<table>
<thead>
<tr>
<th>Spell in HL</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

How can you tell you ______

<table>
<thead>
<tr>
<th>Spell in ENGLISH</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

How can you tell you ______

**Writing stories**

<table>
<thead>
<tr>
<th>Writing stories in HL</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

How can you tell you ______
**LANGUAGE BELIEFS & PERCEPTIONS – Picture Items**

We’re going to look at some pictures together. This is James/Jane. He/She knows two languages just like you. These pictures show James/Jane doing different activities. I’d like you to tell me how you think he/she feels doing each of these activities.

**Demo items**

We’re going to do a few together. Here is a picture of James/Jane playing at the park. Which picture here (gesture to feeling cards) shows how he/she feels (reading and pointing to all the options). You can pick by saying or pointing. After child responds, say why does he/she feel (chosen emotion)?

*No corrections are needed unless the child seems confused. Examiner can model a possible response (park = happy, doctor’s office = sad/angry/fearful) and provide possible reasons.)*

<table>
<thead>
<tr>
<th>Demo Situation</th>
<th>Feeling</th>
<th>Neutral</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Playing at the park</td>
<td></td>
<td>Neutral</td>
<td>+</td>
</tr>
<tr>
<td>Why does s/he feel (chosen emotion)?</td>
<td>Likes to go on the slide, she likes to run around</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doctor’s office</td>
<td></td>
<td>Neutral</td>
<td>+</td>
</tr>
<tr>
<td>Why does s/he feel (chosen emotion)?</td>
<td>doesn’t want to get a needle, missing his favourite TV show</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Okay, now that you’ve got the hang of it, let’s go on to some more. And remember, there are no right or wrong answers, just what you think James/Jane feels in these situations/activities.

(For each item, say) James/Jane is __________. Point to or say which of these pictures shows how she feels.

**Listening**

<table>
<thead>
<tr>
<th>Listening</th>
<th>Feeling</th>
<th>Neutral</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Listening to s/o speak ENGLISH on the street</td>
<td></td>
<td>Neutral</td>
<td>+</td>
</tr>
<tr>
<td>Why does s/he feel (chosen emotion)? OR What makes her feel that way?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Listening to s/o HL</th>
<th>Feeling</th>
<th>Neutral</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Why does s/he feel (chosen emotion)?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Listening to s/o speak ENGLISH at home</th>
<th>Feeling</th>
<th>Neutral</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Why does s/he feel (chosen emotion)?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Listening to s/o speak HL at home</th>
<th>Feeling</th>
<th>Neutral</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Why does feels (chosen emotion)?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Speaking**

<table>
<thead>
<tr>
<th>Speaking</th>
<th>Feeling</th>
<th>Neutral</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Speaking in ENGLISH at the mall</td>
<td></td>
<td>Neutral</td>
<td>+</td>
</tr>
<tr>
<td>Why does s/he feel (chosen emotion)?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activity</td>
<td>Language</td>
<td>Emotion</td>
<td>Why does s/he feel (chosen emotion)?</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>----------</td>
<td>----------</td>
<td>-------------------------------------</td>
</tr>
<tr>
<td>Speaking in HL at the mall</td>
<td>Neutral</td>
<td>Neutral</td>
<td>+</td>
</tr>
<tr>
<td>Speaking ENGLISH at home</td>
<td>Neutral</td>
<td>Neutral</td>
<td>+</td>
</tr>
<tr>
<td>Speaking HL at home</td>
<td>Neutral</td>
<td>Neutral</td>
<td>+</td>
</tr>
<tr>
<td>Reading</td>
<td>Neutral</td>
<td>Neutral</td>
<td>+</td>
</tr>
<tr>
<td>Reading in ENGLISH in a group</td>
<td>Neutral</td>
<td>Neutral</td>
<td>+</td>
</tr>
<tr>
<td>Reading in HL in a group</td>
<td>Neutral</td>
<td>Neutral</td>
<td>+</td>
</tr>
<tr>
<td>Reading in ENGLISH at home</td>
<td>Neutral</td>
<td>Neutral</td>
<td>+</td>
</tr>
<tr>
<td>Reading in HL at home</td>
<td>Neutral</td>
<td>Neutral</td>
<td>+</td>
</tr>
<tr>
<td>Spelling</td>
<td>Neutral</td>
<td>Neutral</td>
<td>+</td>
</tr>
<tr>
<td>Spelling in ENGLISH in a group</td>
<td>Neutral</td>
<td>Neutral</td>
<td>+</td>
</tr>
<tr>
<td>Spelling in HL in a group</td>
<td>Neutral</td>
<td>Neutral</td>
<td>+</td>
</tr>
<tr>
<td>Spell in ENGLISH at home</td>
<td>Neutral</td>
<td>Neutral</td>
<td>+</td>
</tr>
<tr>
<td>Spell in HL at home</td>
<td>Neutral</td>
<td>Neutral</td>
<td>+</td>
</tr>
<tr>
<td>Writing</td>
<td>Neutral</td>
<td>Neutral</td>
<td>+</td>
</tr>
<tr>
<td>Writing stories in ENGLISH in a group</td>
<td>Neutral</td>
<td>Neutral</td>
<td>+</td>
</tr>
</tbody>
</table>
**Writing stories in HL in a group**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Neutral</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Why does s/he feel <em>(chosen emotion)</em>?</td>
<td></td>
<td>+</td>
<td></td>
</tr>
</tbody>
</table>

**Writing stories in ENGLISH at home**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Neutral</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Why does s/he feel <em>(chosen emotion)</em>?</td>
<td></td>
<td>+</td>
<td></td>
</tr>
</tbody>
</table>

**Writing stories in HL at home**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Neutral</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Why does s/he feel <em>(chosen emotion)</em>?</td>
<td></td>
<td>+</td>
<td></td>
</tr>
</tbody>
</table>

**NOTES or OBSERVATIONS:**
**Appendix A2. Visual Stimulus for Language Input and Use Items**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Always in Chinese</td>
<td>More Chinese than English</td>
<td>Chinese &amp; English about the same</td>
<td>More English than Chinese</td>
<td>Always in English</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Always in Spanish</td>
<td>More Spanish than English</td>
<td>Spanish &amp; English about the same</td>
<td>More English than Spanish</td>
<td>Always in English</td>
</tr>
</tbody>
</table>

**Appendix A3. Visual Stimulus for Self-ratings of Proficiency Items**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not at all</td>
<td>A little bit</td>
<td>Some</td>
<td>Pretty well</td>
<td>Very well</td>
</tr>
</tbody>
</table>

**Appendix A4. Visual Stimulus for Change in Proficiency Items**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I forgot a lot</td>
<td>I forgot a little bit</td>
<td>I stayed the same</td>
<td>I got a little better</td>
<td>I got a lot better</td>
</tr>
</tbody>
</table>

**Appendix A5. Facial Expression Visual Stimulus**

![Facial Expression Visual Stimulus](image)
Appendix A6. Picture Items for Language and Literacy Scenarios

Private Listening Picture Item for Male Participants

Private Listening Picture Item for Female Participants

Public Listening Picture Item for Male Participants

Public Listening Picture Item for Female Participants
Private Reading Picture Item for Male Participants

Private Reading Picture Item for Female Participants

Public Reading Picture Item for Male Participants

Public Reading Picture Item for Female Participants
Private Writing Picture Item for Male Participants

Private Writing Picture Item for Female Participants

Public Writing Picture Item for Male Participants

Public Writing Picture Item for Female Participants
Appendix B. Family Language Questionnaire

In order to be able to better understand the factors that influence a child’s ability to learn languages, we would like to obtain some information about language knowledge and language use in the home. We would greatly appreciate it if you would complete the following questions concerning your family and your child who is in the study.

1. My child in the study is __________________, born on ___________________
   full name                year / month /day
   Name of current school ___________________
   Is your child currently enrolled in (Senior) Kindergarten? YES  NO
   Is your child currently enrolled in Grade 1? YES NO
   Is your child currently attending a heritage language class? YES NO
   If YES, approximately how many hours per week does your child attend? ____ hours
   Does this class teacher:  ___ spoken language ___written language
   (check one or both)

2. Circle who is completing this questionnaire:  Mother       Father    Other:_________

3. To what language was your child first exposed?
   Heritage language English Other(s):_______________

4. In what language or languages does your child speak to others at home?
   Heritage language English Other(s):_______________
   a) If more than one language is spoken by your child, please list them in the order from one
      spoken the most often by your child to the one spoken least often.
      __________________________________________________
   b) If your child speaks to the adults in your household in different languages, please indicate
      to whom your child speaks in each language (for example, speak to mother in English,
      speaks to grandmother in heritage language)
      __________________________________________________

5. What language or languages are spoken at home to your child?
   Heritage language English Other(s):_______________
   a) If more than one language is spoken to your child, please list them in the order from the
      one spoken the most often to the one spoken least often to your child
      __________________________________________________
   b) If adults in the household speak to your child in different languages, please indicate who
      speaks to your child in each language (for example, spoken to in English by mother,
      spoken to in heritage language by father).
      __________________________________________________
c) Who looks after your child at home the most? _____________________

d) What language(s) do they speak? _________________________________

6. How many other children live in the same home as child who is currently participating in this study?____

7. What are their ages?______________

8. Have any of the other children living your home every attended school in English? YES   NO

9. What is your native language?______________

10. What is your native country?______________
    If you were not born in Canada, at what age did you move to Canada?________

11. Please indicate your level of proficiency the Heritage Language in the following areas from 1 to 10 (1 = Low Ability; 10 = Fluent):

<table>
<thead>
<tr>
<th>Understanding</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speaking</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Reading</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Writing</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
</tbody>
</table>

Please indicate your level of proficiency the English in the following areas from 1 to 10 (1 = Low Ability; 10 = Fluent):

<table>
<thead>
<tr>
<th>Understanding</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speaking</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Reading</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Writing</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
</tbody>
</table>

12. What is your partner’s native language(s)? __________

13. What is his/her native country? __________
    If he/she was not born in Canada, at what age did he/she move to Canada?_______

14. Your highest education level (completed):
    □ Some school: ___ # of grades completed
    □ Completed high school diploma
    □ Completed high school diploma and a professional qualification not from college or university
    □ Completed a college diploma
    □ Completed an undergraduate university degree
    □ Completed two or more university degrees
☐ Other: (please specify) _________________

Thank You!
### Appendix C. Comparison of Matched Pairs for All Variables of Interest

<table>
<thead>
<tr>
<th>Measure</th>
<th>$\chi^2$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Use: Activities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Watching TV</td>
<td>-2.814</td>
<td>.005</td>
</tr>
<tr>
<td>Listening to music</td>
<td>-1.908</td>
<td>.056</td>
</tr>
<tr>
<td>Reading books</td>
<td>-1.633</td>
<td>.102</td>
</tr>
<tr>
<td>Singing songs</td>
<td>-2.388</td>
<td>.017</td>
</tr>
<tr>
<td>In church activities</td>
<td>-1.732</td>
<td>.083</td>
</tr>
<tr>
<td>Using the computer</td>
<td>-0.520</td>
<td>.603</td>
</tr>
<tr>
<td><strong>Use: Language spoken by child to</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Father</td>
<td>-1.889</td>
<td>.059</td>
</tr>
<tr>
<td>Mother</td>
<td>-1.600</td>
<td>.110</td>
</tr>
<tr>
<td>Siblings</td>
<td>-1.710</td>
<td>.087</td>
</tr>
<tr>
<td>Grandparents</td>
<td>-1.414</td>
<td>.157</td>
</tr>
<tr>
<td>Cousins</td>
<td>-0.990</td>
<td>.322</td>
</tr>
<tr>
<td>Aunts &amp; Uncles</td>
<td>-0.366</td>
<td>.714</td>
</tr>
<tr>
<td>Friends</td>
<td>-1.134</td>
<td>.257</td>
</tr>
<tr>
<td>Best friend</td>
<td>-0.106</td>
<td>.915</td>
</tr>
<tr>
<td><strong>Use: Interlocutor speak to child</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Father</td>
<td>-1.950</td>
<td>.051</td>
</tr>
<tr>
<td>Mother</td>
<td>-1.420</td>
<td>.887</td>
</tr>
<tr>
<td>Siblings</td>
<td>-1.571</td>
<td>.116</td>
</tr>
<tr>
<td>Grandparents</td>
<td>-1.552</td>
<td>.121</td>
</tr>
<tr>
<td>Cousins</td>
<td>-0.675</td>
<td>.500</td>
</tr>
<tr>
<td>Aunts &amp; Uncles</td>
<td>-1.820</td>
<td>.069</td>
</tr>
<tr>
<td>Friends</td>
<td>-0.722</td>
<td>.470</td>
</tr>
<tr>
<td>Best friend</td>
<td>-0.750</td>
<td>.453</td>
</tr>
<tr>
<td><strong>Self-rated Proficiency</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HL Listening</td>
<td>-0.171</td>
<td>.864</td>
</tr>
<tr>
<td>HL Speaking</td>
<td>-0.660</td>
<td>.660</td>
</tr>
<tr>
<td>HL Reading</td>
<td>-1.632</td>
<td>.103</td>
</tr>
<tr>
<td>HL Spelling</td>
<td>-1.165</td>
<td>.244</td>
</tr>
<tr>
<td>HL Writing</td>
<td>-0.958</td>
<td>.338</td>
</tr>
<tr>
<td>English Listening</td>
<td>-1.732</td>
<td>.083</td>
</tr>
<tr>
<td>English Speaking</td>
<td>-1.732</td>
<td>.083</td>
</tr>
<tr>
<td>English Reading</td>
<td>-0.676</td>
<td>.499</td>
</tr>
<tr>
<td>English Spelling</td>
<td>-1.667</td>
<td>.096</td>
</tr>
<tr>
<td>English Writing</td>
<td>-1.510</td>
<td>.131</td>
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<tr>
<td>Change in Proficiency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>HL Listening</strong></td>
<td>-1.399</td>
<td>.162</td>
</tr>
<tr>
<td><strong>HL Speaking</strong></td>
<td>-.517</td>
<td>.605</td>
</tr>
<tr>
<td><strong>HL Reading</strong></td>
<td>-.578</td>
<td>.563</td>
</tr>
<tr>
<td><strong>HL Spelling</strong></td>
<td>-.605</td>
<td>.545</td>
</tr>
<tr>
<td><strong>HL Writing</strong></td>
<td>-1.122</td>
<td>.262</td>
</tr>
<tr>
<td><strong>English Listening</strong></td>
<td>-.411</td>
<td>.681</td>
</tr>
<tr>
<td><strong>English Speaking</strong></td>
<td>-.282</td>
<td>.778</td>
</tr>
<tr>
<td><strong>English Reading</strong></td>
<td>-.087</td>
<td>.931</td>
</tr>
<tr>
<td><strong>English Spelling</strong></td>
<td>-.511</td>
<td>.609</td>
</tr>
<tr>
<td><strong>English Writing</strong></td>
<td>-1.112</td>
<td>.266</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Which language is easier</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Easier language now</strong></td>
</tr>
<tr>
<td><strong>Easier language in G1</strong></td>
</tr>
</tbody>
</table>

*Not significant after bonferroni correction
Appendix D. Means for Objective Measures in HL and English by Grade

**Appendix D1. Means for Cantonese Listening (PPVT) from Kindergarten to Grade 2**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Mean</th>
<th>Std. Error</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>SK</td>
<td>26.93</td>
<td>3.63</td>
<td>19.15</td>
<td>34.72</td>
</tr>
<tr>
<td>1</td>
<td>29.00</td>
<td>4.57</td>
<td>19.19</td>
<td>38.81</td>
</tr>
<tr>
<td>2</td>
<td>43.27</td>
<td>6.29</td>
<td>29.77</td>
<td>56.76</td>
</tr>
</tbody>
</table>

**Appendix D2. Means for Spanish Listening (TVIP) from Kindergarten to Grade 2**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Mean</th>
<th>Std. Error</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>SK</td>
<td>24.74</td>
<td>3.43</td>
<td>17.54</td>
<td>31.93</td>
</tr>
<tr>
<td>1</td>
<td>35.63</td>
<td>3.71</td>
<td>27.83</td>
<td>43.43</td>
</tr>
<tr>
<td>2</td>
<td>44.11</td>
<td>3.40</td>
<td>36.97</td>
<td>51.24</td>
</tr>
</tbody>
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**Appendix D3. Means for Cantonese Reading from Kindergarten to Grade 2**

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**Appendix D4. Means for Spanish word reading from Kindergarten to Grade 2**

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### Appendix D5. Means for English Listening (PPVT) from Kindergarten to Grade 4

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### Appendix D6. Means for English Reading (Word Identification) from Kindergarten to Grade 4

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### Appendix D7. Means for English Spelling (Real Word) from Grade 2 to Grade 4

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### Appendix D8. Means for English Writing (Writing Fluency) from Grade 2 to Grade 4

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Appendix E. Scatterplots of Discrepancy between Perceived and Demonstrated Proficiency

Discrepancy between Perceived and Demonstrated Proficiency in HL Listening by Demonstrated Proficiency

Discrepancy between Perceived and Demonstrated Proficiency in HL Speaking by Demonstrated Proficiency

*Translated PPVT-III for Cantonese and Mandarin HL groups, TVIP for Spanish HL groups

*Translated versions of TLC Oral Expression Task
Discrepancy between Perceived and Demonstrated Proficiency in HL Reading by Demonstrated Proficiency

Discrepancy between Perceived and Demonstrated Proficiency in HL Spelling by Demonstrated Proficiency

*Experimental Character Reading Task for Cantonese and Mandarin HL groups
WLPB-R Word Identification Task for Spanish group

*Experimental Spelling Task for Cantonese and Mandarin HL groups only
Discrepancy between Perceived and Demonstrated Proficiency in HL Writing by Demonstrated Proficiency

Discrepancy between Perceived and Demonstrated Proficiency in English Listening by Demonstrated Proficiency

*Translated versions of WJ-III ACH Writing Fluency Task

*PPVT M
Discrepancy between Perceived and Demonstrated Proficiency in English Reading by Demonstrated Proficiency

Discrepancy between z-scores of English reading self-rating and performance on measure of English reading proficiency*

Discrepancy between Perceived and Demonstrated Proficiency in English Spelling by Demonstrated Proficiency

Discrepancy between z-scores of English spelling self-rating and performance on measure of English spelling proficiency*

*WRMT-R Word Identification Task

*Experimental Real Word Spelling Task
Discrepancy between Perceived and Demonstrated Proficiency in English Writing by Demonstrated Proficiency

*WJ-III ACH Writing Fluency Task
### Appendix F. Frequencies for Proficiency and Change Themes

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