

## Early childhood bilingualism: Perils and possibilities

by Dr. Fred H. Genesee

Notwithstanding the evident professional, personal, and social advantages of bilingualism in Canada and internationally, fear and pessimism are often expressed about raising or educating children bilingually. These fears are often founded on four myths: (1) the myth of the monolingual brain; (2) the myth of time-on-task; (3) the myth of bilingualism and language impairment; and (4) the myth of minority language children. These myths are important because they provide a basis for decision making about raising and educating children bilingually and, thus, it is important to validate them empirically. This article will explore each of these myths and review research findings relevant to each. Research on three populations of dual language learners will be considered: preschool children who acquire two languages simultaneously; majority language students attending second language immersion programs; and children who acquire a minority language at home but are schooled in a majority language.

### INTRODUCTION

Competence in two, or more, languages has taken on increased value in recent years in Canada. The reasons for this are local, national, and global in nature. In some communities in Canada, such as Montreal, Ottawa, and Edmonton, competence in English and French serve immediate personal and practical needs because of the co-existence of communities that speak both official languages. The same is true for some indigenous language communities, such as Kahnawake and Kuujuuaq in Quebec, where indigenous groups seek to revitalize or maintain use of a heritage language along with English and/or French (Jacobs & Cross, 2001). Aside from the practical value of knowing two languages in these communities, acquisition of an indigenous language along with French or English is also a matter of cultural maintenance and survival. Canada's formal recognition of French and English as official languages along with its policy of multiculturalism have also spurred interest in dual language learning nationally, as speakers of each of Canada's official languages seek to acquire competence in the other official language. This, in turn, has encouraged members of ethno-linguistic minority groups (e.g., Jewish, Ukrainian, Chinese, for example) to regain or maintain competence in their heritage languages along with English and/or French. Federal legislation on official languages and the Quiet Revolution in Quebec in the 1960s both provided major impetus for the development of French immersion programs, as English-speaking Canadians across the country recognized the value of learning French as an additional language for purposes of national unity, cross-cultural understanding, and employment opportunities in Canada that were linked to bilingual competence.

The value of learning additional languages has grown during the past 20 years as a result of globalization in many spheres of our lives. For example, the development of the Internet and electronic communication devices have made global communication easy and commonplace. Those who know multiple languages are rewarded by enhanced access to the enormous resources offered by the Internet. Globalization of the world's economies and businesses has called attention to interdependencies and interconnectedness among the world's nations and enhanced opportunities for international travel, work, and interaction (among scientists and professionals for example). English is undoubtedly the dominant global language of business, science, and tourism (Crystal, 2003) and, as a result, those who speak English can benefit from globalization. However, English is not alone. Other languages are emerging as global languages along with English (e.g., Chinese, Russian, Arabic, and Spanish), and it is estimated that there are more second language speakers of English than native speakers (Crystal, 2003). This means that while monolingual native speakers of English are advantaged, they are not as advantaged as those who speak other languages along with English. Arguably, responsible and responsive education in Canada, and other English-speaking regions of the world, should include early, sustained, and high quality opportunities for students to acquire competence in other languages if graduates in these countries are to be competitive in the global market place and benefit personally from other opportunities afforded by globalization.

There are yet other advantages to learning and knowing other languages. In particular, research has shown that highly proficient bilingual children enjoy certain cognitive advantages in comparison to monolinguals. A bilingual advantage has been demonstrated during the performance of tasks that call for selective attention (Bialystok, 2001). The advantages that bilinguals demonstrate during such tasks include cognitive abilities related to attention, inhibition, monitoring, and switching focus of attention. Collectively, these cognitive skills comprise "executive control processes" that are located in the frontal lobe regions of the brain. Executive control processes permit the problem solver to focus attention when there is potentially conflicting information to be considered, to select relevant over irrelevant information, and to switch strategies when a solution is not forthcoming. Bialystok and Martin (2004) have argued that it is the experience of controlling attention to two languages in order to keep them separate and use them appropriately that enhances the development of executive control processes in bilinguals. These advantages in executive control functions are evident in childhood and in later adulthood as well (Bialystok, Craik, Klein, & Viswanathan, 2004). The bilingual advantage found by Bialystok is most evident in bilinguals who acquire relatively advanced levels of proficiency in two languages and who use their two languages actively on a regular basis. A bilingual advantage is unlikely to occur in individuals who have only taken a foreign language course and have little competence in the target language or who use it infrequently.

Notwithstanding the evident professional, personal, and social advantages of bilingualism in the long run, fear and pessimism are often expressed about raising or educating children bilingually (Beardmore, 2003). These fears are often founded on four myths: (1) the myth of the monolingual

brain; (2) the myth of time-on-task; (3) the myth of bilingualism and language impairment; and (4) the myth of minority language children. These myths are important because they provide a basis for decision making about raising and educating children bilingually and, thus, it is important to validate these views empirically. This article will explicate each of these myths and review research findings relevant to each. The findings under review will be drawn from research on three populations of dual language learners: preschool children who acquire two languages simultaneously, usually in the home; majority language students attending second language immersion programs; and children who acquire a minority language at home but are schooled in a majority language, such as English in Canada. While most of the research reviewed here has been carried out in Canada, research from the U.S. and other countries will also be considered where appropriate.

### THE MYTH OF THE MONOLINGUAL BRAIN

Parents who raise their children bilingually or think about raising them bilingually are often concerned that children exposed to parents who use both languages will be confused and be unable to separate the two languages. The underlying concern is that this could, in turn, entail delays in development and possibly even incomplete development. Underlying these concerns is the belief that dual language learning in infancy places additional burdens on language development in comparison to the acquisition of a single language. Indeed, the one-parent/one-language rule which advocates that each parent should use only their native language with the child is predicated on the belief that this will provide the child with explicit markers of separate languages, thereby reducing the burden of dual language learning and the possibility of confusion. Viewed from a neuro-cognitive point of view, these fears can be interpreted to reflect a belief that infants' brains are essentially monolingual and that they treat early input in two languages as if it were a single language. In fact, parents often cite code-mixing by their children as evidence that they may be confused. Bilingual code-mixing is the use of features of both languages in the same utterance or stretch of conversation. The mixed features could be phonological (sounds), lexical (words), morpho-syntactic (word endings, word order, or function words), or pragmatic (conversational). Under the assumption that the brain is monolingual, it follows that children will mix up their languages when they talk.

Parents are not alone in these fears and beliefs about the monolingual brain. It is not uncommon for professionals who work with bilingual children who are experiencing language or school-related problems to express similar concerns, as illustrated in the following quotation from a school psychologist:

**SCHOOL PSYCHOLOGIST (APRIL 2002)**

*...I am a psychologist working in English schools in a very French environment. We are sometimes challenged with children who have been diagnosed with SLI and that come from unilingual French homes. My knowledge of the problematic was leading me to believe that adding yet another language on a child having difficulty mastering his mother tongue could be putting too much pressure and setting the child up for failure.*

A long prevalent view among researchers of simultaneous bilingual acquisition was that children exposed to two languages from birth went through an initial stage when their two languages were fused. The most widely cited theory of bilingual first language acquisition, that of Volterra and Taeschner (1978), argued that children initially had fused lexical and morpho-syntactic systems; that this was followed in development by separate lexicons but fused grammars; and, only by the third year of life, it was argued, did dual language learners possess separate lexical and morpho-syntactic systems. In short, it was only by 3 years of age that dual language learners were truly bilingual. This point of view was reflected also in the work of Werner Leopold (1949), one of the pioneers of research on simultaneous bilingual acquisition, when he wrote, “[t]he free mixing of English and German vocabulary in many of her sentences was a conspicuous feature of her speech. But the very fact that she mixed lexical items proves that there was no real bilingualism as yet. Words from the two languages did not belong to two different speech systems but to one...” Researchers such as Volterra and Taeschner, and Leopold, among others (e.g., see Swain, 1972), used bilingual code-mixing by young children as evidence in support of this point of view (see Genesee, 1989, for a review).

Recent research on simultaneous bilingual acquisition paints quite a different picture. There is evidence from three distinct lines of research to indicate that bilingual acquisition is as natural as monolingual acquisition and that it is not an additional burden for children in comparison to the challenges that children learning one language face. The evidence comes from research on developmental milestones and patterns of bilingual first language acquisition, differential use of two languages in conversations, and grammatical constraints on child bilingual code-mixing.

### **Language Development Milestones**

Evidence that simultaneous bilinguals follow the same developmental patterns and exhibit the same rate of language development as monolingual children would argue against the myth of the monolingual brain. Indeed, for the most part, evidence from research on developmental milestones in bilingual first language acquisition refutes this myth.

Researchers have examined bilingual first language learners’ language development with respect to the acquisition of phonology, vocabulary, and grammar. Children learning a variety of language combinations have been studied, including, among others, French and English (Paradis & Genesee, 1996); Inuktitut and English (Zwanziger, Allen, Genesee, 2006); German and French (Meisel, 1990); Norwegian and English (Lanza, 1997); and Estonian and English (Vihman, 1998). Findings from this research indicate that, contrary to the myth of the monolingual brain, young bilingual children acquire language-specific properties of each language early in development and that these correspond, for the most part, to those exhibited by same-age monolingual children. Findings also generally indicate that bilingual children exhibit the same rates of lexical and morpho-syntactic development as monolingual children, at least in their dominant language (see reviews in De Houwer, 2005; Nicoladis & Genesee, 1996; Paradis & Genesee, 1996). In contrast, the phonological development of simultaneous bilinguals

and, in particular, their early speech perception has been found to exhibit more variable patterns, sometimes like that of monolinguals and sometimes different (see Genesee & Nicoladis, 2006; and Werker & Byers-Heinlein, 2008). The precise nature and implications of these findings is not clear yet because this line of research is relatively new. However, evidence of very early differences in phonological development in bilingual versus monolingual children is unlikely to have perceptible consequences on their phonological skills in the long run since it is generally agreed that the earlier the acquisition of two languages begins, the more likely learners will acquire native-like phonological skills.

Most, if not all, young simultaneous bilinguals are more proficient in one language than the other, and this is probably related to each child's relative exposure to each language; for example, many bilingual children are more proficient in the mother's than the father's language, arguably because their mothers assume most childcare responsibilities and/or simply spend more time with their children. In a study of 25 Spanish-English bilingual children in Miami, Pearson and her colleagues found a correlation of .68 between amount of exposure to Spanish and vocabulary size in Spanish (Pearson & Fernandez, 1994; Pearson, Fernández, Lewedag, & Oller, 1997). Aside from this study, however, there is little systematic research on the precise relationship between amount of input and level of competence in other aspects of bilingual acquisition. Clearly, exposure to a language below some relatively low level would be expected to impair a child's ability to acquire working knowledge of the language. However, we have no scientific evidence of what that lower limit is. Research by Paradis and her colleagues on French-English bilinguals suggests that the effect of reduced input on grammatical development might be quite complex (Paradis, Nicoladis & Crago, 2007). In a study of the acquisition of past-tense verbs by 4;0 to 5;5-year-old French-English bilinguals (some simultaneous, some successive), they found that the bilingual children scored better in their dominant than their non-dominant language on regular past tense forms, but not necessarily on irregular past tense forms. The role of input is discussed further in the Time-on-Task and Conclusions sections of this article.

### **Differentiated Use of Two Languages**

If simultaneous bilingual children go through an initial stage when both languages are represented neuro-cognitively as a single language, then one would expect to see them having difficulty using their languages appropriately. In other words, they would be expected to use each language indiscriminately with conversational partners regardless of their partners' language competence or preferences. However, systematic studies on this topic have revealed how communicatively competent young bilingual children are. Numerous researchers have found that even bilingual children in the one- and early two-word stages of development are able to use their languages differentially and appropriately with others; for example, with parents who habitually speak different languages with them (Nicoladis & Genesee, 1996) and with strangers with whom they have had no prior experience (Genesee, Boivin, & Nicoladis, 1996). It has also been found that they can adjust their rates of code-mixing to match

those of unfamiliar interlocutors who change rates of mixing from one occasion to another (Comeau, Genesee, & Lapaquette, 2003). Additional evidence of young bilingual children's capacity to manage the use of their two languages effectively comes from Comeau, Genesee, & Mendelson (2007) who found that 2;6 year old French-English bilingual children were able to modify their choice of language (switched from French to English, or vice versa) when their interlocutor expressed lack of comprehension and requested clarification when the child used the language the interlocutor did not prefer. In short, the additional challenges of bilingual communication are well within the competence of typically developing children. All of this evidence is difficult to reconcile with the myth of the monolingual brain.

### **Grammatical Constraints on Bilingual Code-Mixing**

Researchers have examined grammatical constraints on intra-utterance code-mixing by preschool dual language learners learning a variety of language pairs: French and German (Köppe, in press; Meisel, 1994); French and English (Paradis, Nicoladis, & Genesee, 2000; Sauve & Genesee, 2000); English and Norwegian (Lanza, 1997); English and Estonian (Vihman, 1998), and Inuktitut and English (Allen, Genesee, Fish, & Crago, 2002). There is consistent evidence that child code-mixing is grammatically constrained. Most researchers also report that the constraints that operate in children are essentially the same as those that have been reported in adults (except see Köppe, in press; and Meisel, 1994). There does not appear to be a stage in bilingual first language acquisition when grammatical constraints do not operate, albeit the nature of the constraints may change as children's grammars change. These findings reinforce results reviewed earlier indicating that bilingual children acquire separate languages early in development. They also indicate that bilingual children can access the grammatical constraints of both languages at the same time in order to code-mix grammatically.

### **THE MYTH OF TIME-ON-TASK**

Another common belief about learning in general, and language learning is particular, is that the more time spent learning something, the greater one's competence. This belief is fundamental to much of our educational system. The amount of time devoted to teaching specific subjects is a reflection of how important we think they are under the belief that more time spent teaching those subjects will result in higher levels of achievement. Starting early is another manifestation of the importance we attach to time-on-task. We start teaching mathematics and science early in children's schooling because we want to devote as much time as we can to these very important subjects. We even assign additional study time to these subjects in the form of homework. Typically foreign languages are not taught until later and we devote less instructional time to them because they are regarded as less important than reading, writing, and arithmetic.

An examination of research findings with respect to first and second language learning reveals that the relationship between time and learning outcomes is quite complex. We have already seen an example

of this in the previous section on milestones in bilingual first language learners. It will be recalled that research shows that simultaneous bilinguals, despite the fact that they have approximately half as much exposure to each language as monolinguals, exhibit the same basic developmental patterns and at approximately the same age as monolingual children. However, it has also been argued on logical grounds that bilingual first language learners will not acquire full functional competence in both languages if their exposure to one of them is below some as-yet-unknown lower limit. The importance of exposure was evident in Pearson's research on vocabulary development in Spanish-English bilingual children in Miami. Research on monolingual children also attests to the influence that input can have on vocabulary development, but in a different way. Children growing up in socio-economically advantaged families are exposed to more different words than children raised in less advantaged families and the former also acquire more extensive vocabulary skills than the latter (Hart & Risley, 1995; Hoff, 2006). These results are important because they indicate that it is not simply amount of exposure but also quality of exposure that can influence children's language development.

Research on language outcomes of students participating in French immersion programs similarly illustrates that the influence of time-on-task is more complex than we might have imagined. On the one hand, researchers in Canada who have evaluated the effectiveness of various forms of French immersion have found that, overall, students who participate in immersion programs that devote more time to French outperform students in immersion programs that devote less time to French. In particular, Genesee (2004) reports that students in early total immersion programs usually attain higher levels of proficiency in French than students in early partial immersion, delayed immersion, and late immersion.

However, and at the same time, researchers have found little or no relationship between amount of exposure to English in immersion programs and participating students' levels of achievement in all aspects of English in the long run (Genesee, 2004). To be specific, although English-speaking students in early total immersion programs in Montreal often score lower than comparable English-speaking students in all-English programs during those grades when all instruction is in English, immersion students perform as well as comparison students in English within one or two years of having English language arts instruction, usually by grades 3 or 4. To illustrate this point more concretely, Montreal early total immersion programs that were evaluated by Genesee did not provide any English instruction until grade 3, at which time approximately one hour a day of English language arts was taught. Students in the Montreal early total immersion program scored as well as students in early partial, delayed, and late immersion even though all of these latter groups had had some instruction in English from kindergarten. These results have been found for reading, writing, spelling, and oral language skills. The immersion and comparison students participating in these evaluations were comparable with respect to overall academic ability and socio-economic status and they often attended the same schools, with immersion being a strand within a larger school. Major factors that might have favored the immersion students were largely eliminated and, thus, cannot account for these findings.

The question therefore arises of how this can be. How can students who get less instruction in English in school score as well as students who get all their instruction in English? There are at least two possible explanations. First, the reduced exposure to English that immersion students experience as a result of immersion is offset by their total immersion in English outside school. Moreover, the exposure to English that immersion students get outside school includes exposure to written forms of the language, in the home and community. Exposure to literacy in the home language outside school supports their acquisition of literacy skills in English as they are being taught to read and write in French. Since immersion students and their families speak a high status, majority language, opportunities to hear, speak and use written English outside school are sustained, enriched, and valued. In short, they have an additive bilingual learning environment that supports acquisition of English. We shall see later that this is not the case for all students and, in particular, immigrant students who speak a minority language at home.

Second, there is growing research evidence that certain kinds of language skills are transferable from one language to the other in second language learners (e.g., Riches & Genesee, 2006; see also Cummins, 1981, for an early discussion of this issue). The best examples of this are skills related to reading and reading itself. A great deal of recent research on the acquisition of reading skills in a second language has shown that students who have well developed decoding skills in one language can transfer those skills to the other language (see August & Shanahan, 2006, and Riches & Genesee, 2006 for more details). Similarly, students with well developed skills for reading longer material, like stories and academic textbooks, can transfer those skills to another language, provided they know the oral form of that language. Even pre-literacy skills, like phonological awareness or knowledge of letter-sound correspondences, can transfer across languages. Thus, as immersion students acquire pre-literacy, word decoding, and reading comprehension skills in French in school, they are also acquiring skills that can be applied to reading English. As Cummins (1981) argued some time ago, there is developmental interdependence in the acquisition of skills related to academic uses of language.

Findings from evaluations of immersion programs point to an additional factor that complicates the notion that there is a simple relationship between time-on-task and language outcomes, one that was alluded to earlier: the quality of the learning environment. Genesee (1981) found that students in a two-year late immersion programs (grades 7 and 8) in Montreal performed as well as or almost as well as early total immersion students on a battery of French language tests despite the fact that these late immersion students had had significantly less exposure to French. Clearly, amount of exposure to French cannot account for these findings. Research by Stevens (1983) points to the importance of pedagogical factors and quality of instruction. Stevens evaluated the French second language outcomes of two groups of students in two different one-year (grade 7) late immersion programs in Montreal. Students in these programs had had French-as-a-second-language instruction for about 45 minutes per day since kindergarten. One group spent 80% of their school day immersed in French: all academic subjects, except English language arts, were taught through the medium of French. The

other group, in contrast, spent only half as much time: approximately 40% of their school day was spent in French, with mathematics, science, and language arts taught in French. Despite the time advantage of the first group, they did not score consistently higher than the second group on a variety of French language tests. Stevens attributed the impressive performance of the half-day immersion students to the pedagogical approach of that program. The half-day immersion students participated in an individualized, activity-based program that gave them choices about what they would study and how they would meet curricular objectives. Language use was embedded in interesting and engaging activities. In contrast, the full-day program was characterized by a group-centered approach where all students studied the same topics according to the same timeline. Arguably, the lack of difference between the early and late immersion students evaluated by Genesee (1981) can be attributed to a failure of the early immersion program to take pedagogical advantage of the additional time that the early immersion students had had.

### **THE MYTH OF BILINGUALISM AND LANGUAGE IMPAIRMENT**

Children with language learning difficulties are often thought to be poor candidates for dual language learning on the assumption that learning two languages at the same time will put them at greater risk of language impairment than learning one. Children with specific language impairment (SLI), estimated to account for between 5 to 10% of children (Leonard, 1998), exhibit language that is delayed and below that of age-matched peers, but they are typical in other aspects of their development. They have no known perceptuo-motor, neuro-cognitive, or socio-emotional problems that could account for their language learning difficulty. Children with SLI can exhibit difficulties with lexical, morpho-syntactic, and pragmatic aspects of language (see Leonard, 1998, for a review of research on monolingual children, and Goldstein, 2004, for research on Spanish-English children); but difficulty learning specific morpho-syntactic features of language is an especially robust indicator of SLI and one that has received the lion's share of research attention. It is thought that there is a genetic component to SLI because affected children are much more likely to have a close family relative who is also language impaired than unaffected children (Leonard, 1998).

The available evidence concerning simultaneous dual language acquisition by children with language impairment indicates that they exhibit the same language-specific morpho-syntactic difficulties in each of their two languages as monolinguals and, as well, that their language impairment is of the same magnitude as that exhibited by monolingual children with SLI learning the same languages. That is to say, the language learning difficulties of bilingual children do not appear to put them at greater risk of impairment than children with SLI who learn only one language. At the same time, these SLI bilingual children are bilingual within the limits of their learning ability. Two studies have examined such learners, namely Paradis, Crago, Genesee, and Rice (2003), who studied French-English bilingual children (mean age of 6;11) in Canada; and Gutierrez-Clellen and her colleagues (2008), who examined

Spanish-English bilingual children (4;5 to 6;5 years of age) in the U.S. While the young subjects in the former study were clearly simultaneous bilinguals, it appears that Gutierrez-Clellen's Spanish-English sample included some simultaneous and some very successive bilinguals. Although there are only two studies of such learners, it is important to point out that they found the same results for children acquiring different language combinations and in quite different socio-cultural settings, thereby providing cross-validation of their respective results. Clearly, however, more research is called for.

A similar myth concerning children with language learning difficulties surrounds the inclusion of children with SLI in immersion programs. In this case, the myth is associated with the expectation that the language abilities that children acquire prior to coming to school are important foundations for success in school. This follows from the fact that much learning in school is mediated through language, and much of schooling focuses on language learning. Thus, students with well-developed first language skills, especially those related to literacy, are expected to be advantaged while students with poor first language skills are expected to face challenges that will result in their experiencing even more impoverished language skills than they would were they in a monolingual English program. While strong first language skills are usually an advantage when it comes to schooling (e.g. Cummins, 2000), the issue in immersion programs is whether students with low levels of first language ability should be excluded from such programs because they will be differentially handicapped in comparison to what they would achieve in an all-English program.

The inclusion in immersion programs of students who are at-risk for academic difficulty in school owing to language impairment, or other challenges to learning, raises practical, ethical, and even legal issues. Practically speaking, including at-risk students in immersion requires appropriate assessment procedures for identifying language and reading impairment in second language learners, the professional preparation of teachers and other educational professionals so that they can work appropriately and effectively with at-risk students and students with impairment, and the provision of appropriate curricular and instructional accommodations for such students. Ethically speaking, it could be considered unethical to include at-risk or impaired students if they are not likely to benefit from immersion or, worse, if their learning difficulties are likely to be exacerbated. Conversely, it could be considered unethical to exclude at-risk or impaired students since to do so would, arguably, deprive them of the opportunity to acquire valuable language and cultural skills that could be of benefit in their future personal and professional lives. There are also legal and professional obligations associated with the inclusion in immersion programs of students who would be considered clinically impaired in language or reading; these vary from province to province and are not dealt with in this review.

Despite the significance of this issue, there is remarkably little systematic investigation of the suitability of immersion for children with language impairment, one exception being work by Bruck in Montreal. In order to examine this question, Bruck (1978, 1982) identified sub-groups of grade 3 immersion and non-immersion students who were deemed impaired or normal in their first language

development. When Bruck tested the students on literacy and academic achievement measures, she found that immersion students with low levels of first language ability demonstrated the same levels of English and academic achievement as similarly impaired students in the English program; in other words, the immersion students were not performing worse than similar students in an English program. At the same time, participation in the immersion program had benefited the impaired students with significantly superior French language proficiency in comparison to students receiving conventional French-as-a-second language instruction. While these findings are important and useful, it would be necessary to examine the progress of students with more specifically defined forms of language impairment since, arguably, the operational definitions used by Bruck do not reflect current thinking about language impairment; nor do they capture the full range of language impairment that might cause problems for school children (Leonard, 1998).

The myth about learners with language learning impairment raises questions concerning the suitability of immersion more broadly to encompass students who are at-risk for poor academic achievement for other reasons. Three learner characteristics that put students at risk for academic difficulty in school have been examined: low levels of academic ability, disadvantaged socio-economic backgrounds, and ethnic minority group status (see Genesee, 2004, 2007, for more detailed reviews of this research). Research by Genesee (2007) on immersion students in Montreal who are at-risk in school due to below average levels of academic ability indicates that such students are not differentially handicapped in their native language and academic development in comparison to groups of similar students in English-only programs. Research by Bruck found that students who were experiencing academic difficulty in immersion were not precluded from staying in the program and progressing at a rate commensurate with their level of ability. At the same time, both studies found that students with academic difficulties could benefit from immersion in the form of increased levels of functional proficiency in French. There is evidence from a number of research studies that immersion students with academic difficulties who are transferred to an English program as a consequence of academic difficulty show improvements in performance and self-esteem (Mannavarayan, 2002; Waterson, 1990; Wiss, 1989). Bruck's research, in contrast, found less positive outcomes following transfer (Bruck, 1985). However, since none of these studies, except Bruck's, included comparison groups of immersion students who remained in immersion, it remains to be seen if the improvements reported in these studies can also be realized if students who are experiencing difficulty in immersion remain in the program and receive additional and appropriate support.

Evidence from studies of immersion students from low socio-economic backgrounds indicates that participation in early immersion programs does not put them at greater risk for poor language, literacy, and academic development than that experienced by similar students in all English programs (e.g., Bruck, Tucker & Jakimik, 1975; Holobow, Genesee & Lambert, 1991) As one would predict from their low socio-economic status, disadvantaged students in immersion usually score significantly lower

than their middle class peers in the same program, as is true for low socio-economic students in L1 programs; but, they do not perform more poorly than similarly disadvantaged students in an English program. With respect to French language proficiency, it has been found that immersion students from economically disadvantaged backgrounds generally perform better than comparable students in conventional French-as-a-second language programs on all measures of proficiency. Of particular note, they also sometimes perform as well as middle class immersion students on tests of listening comprehension and speaking, although significantly lower on tests of reading.

Another risk factor in school is ethnic minority group status. Students from ethnic minority groups, although not all, traditionally have disproportionately high rates of failure in North American schools (e.g., Capps et al., 2005). Evaluations of immersion programs in the U.S. are included here to broaden the research base. Relevant studies have been done on Mohawk immersion programs for English-speaking children of Mohawk descent in Montreal (Jacobs & Cross, 2001); French immersion programs in Cincinnati, Ohio (Holobow, Genesee, Lambert, Met, & Gastright, 1987) and Louisiana (Caldas & Boudreaux, 1999) that included African-American students; and immersion for English-speaking children of Hawaiian descent in the U.S. (Slaughter, 1997). The students in these programs are of interest here because although they come to school speaking English, they are at-risk for academic failure because they are members of minority ethnic groups. Moreover, like African-Americans, some speak a non-standard variety of the dominant societal language and, thus, could be said to be learning Standard English as a third language in addition to a heritage language. Research in all of these settings indicates that the ethnic minority students participating in these programs, even those who spoke a non-standard variety of English, demonstrated the same levels of English language development and academic achievement as comparable students in English programs and, in addition, they had developed advanced levels of functional proficiency in the target languages.

### **THE MYTH OF MINORITY LANGUAGE STUDENTS**

It is widely believed that children who speak a minority language at home should begin to learn and use the majority language as quickly as possible in order to succeed in school and to integrate into mainstream culture. For the sake of simplification, I will refer to English as the majority language; clearly, in Quebec, parts of New Brunswick, and other regions of Canada, it would be French. This belief is linked, in part, to the time-on-task myth, discussed earlier, which would argue that the sooner minority language children begin learning English, the better their English language skills will be and, it follows, the better prepared they will be for schooling in English. This belief is also linked to the notion that younger is better when it comes to learning second languages, or the critical period hypothesis. This point of view is often widely held not only by speakers of the majority language, but also by minority language parents who, as a result, feel compelled to discontinue or restrict use of the heritage language in the home in favor of English, even though they may lack full competence in the majority language (see Cummins, 2000, for an extended discussion of this and related issues).

Like the myth of time-on-task, the link between success in majority language schools and minority language students' knowledge of a minority language is more complex than commonly realized. On the one hand, competence in English upon school entry is likely to be an advantage for students who grow up in minority language homes, especially if they acquire advanced levels of competence in English, since they will have already acquired some proficiency in the language of instruction (Reese, Garnier, Gallimore, & Goldenberg, 2000). On the other hand, many minority language parents, especially recent immigrants, do not know English well and certainly are probably not able to read and write in English easily. This raises the possibility that the levels and kinds of English language skills that minority language children can acquire from parents who are not proficient speakers of English may not be sufficient to really prepare them for in school. At the same time, they will have not acquired the heritage language. As Wong Fillmore (1991) has noted, minority language parents may not be able to form close affective attachments with their children or to exercise full parental responsibilities if they are struggling to use a language they have not mastered.

In fact, there is growing evidence that competence in a minority language is not necessarily a drag on minority language students' acquisition of academic language and literacy skills in English as a second language. Two extensive reviews of research on the acquisition of literacy skills by minority language students were recently published and provide compelling evidence for cross-linguistic interactions between minority language students' home language and English that facilitate the acquisition of literacy skills, and especially reading, in English (August & Shanahan, 2006; Genesee, Lindholm-Leary, Saunders, & Christian, 2006). More specifically, the Center for Research on Education, Diversity and Excellence (Genesee et al., 2006) and the National Literacy Panel report on *Developing Literacy in a Second Language* (August & Shanahan, 2006) report that numerous studies have found that there are positive correlations between certain components and aspects of reading English as a second language and minority language students' competence in the home language: phonological processing (and especially phonological awareness), word and pseudo-word decoding, higher order vocabulary, reading comprehension, and certain oral language skills. The clearest evidence for cross-linguistic facilitation in the acquisition of reading skills in English comes from research that has shown that minority language students with emergent or well developed literacy skills in the home language learn to read English more easily than students who lack such skills. Research indicates further that minority language students often draw on skills and knowledge linked to the home language to perform literacy tasks in English, arguably as a way to fill in gaps in their English competence prior to full mastery of the language (Riches & Genesee, 2006). In short, minority language students use the home language to "bootstrap" into English literacy. This is particularly evident during the early stages of English acquisition, but is evident even at advanced stages when task demands are complex and challenging (Langer, Barolome, & Vasquez, 1990). Not all minority language students capitalize on the home language in the service of reading and writing in English, however. Jimenez, Garcia and Pearson (1996) found that good ELL readers apply the same skills and strategies when reading the home language and

English and they see the home language as a tool for reading and writing in English, whereas poor ELL readers see the home language as a source of interference when reading and writing in English. By implication, instruction that draws minority language students' attention to links between the home language and English could benefit all second language learners.

Additional evidence that the home language can be a resource for minority language students comes from comparative evaluations of bilingual and English-only forms of education for these students. Most of this research has been conducted in the U.S. as part of the ongoing discussion about the best ways to educate minority language students in order to close the gap in educational outcomes that characterize these students in comparison to English-speaking mainstream students. A variety of alternative forms of education have been developed in the U.S. that provide instruction in the home language along with English. These programs differ with respect to the portion of the school day spent in the minority language, ranging from 90% to 50%, and the grade levels during which the minority language is used for instructional purposes (see Genesee, 1999, for a description of the main alternative). In effect, these programs are the mirror image of immersion programs for majority language English-speaking Canadian students. There have been extensive and ongoing evaluations of these programs in comparison to English-only programs. Overall, the findings of these reviews are reflected in Lindholm-Leary and Borsato's conclusion that "most long-term studies report the longer the students stayed in the program (bilingual), the more positive were the (academic) outcomes. These results hold true whether one examines outcomes in reading or mathematics achievement, GPA, attendance, high school completion, or attitudes toward school or self" (2006, pp. 201-202).

While explanation for these findings are undoubtedly numerous and complex, there is one that seems plausible and straightforward. Minority language students who receive initial instruction in school, in part at least, in the home language are more easily able to acquire literacy skills and academic knowledge than similar students in all-English programs because they are being instructed in a language they know. Students in all-English programs have the triple challenge of mastering English, acquiring new literacy and academic skills, and integrating socially into a new environment. Arguably, as well, instruction in minority language students' home language is able to capitalize on the cross-linguistic transfer effects noted previously to expedite the acquisition of critical literacy skills in English.

## CONCLUSIONS

These findings have significant implications for parents, educators, and other professionals, such as speech and language pathologists, who work with dual language learners. The now considerable body of research on simultaneous dual language acquisition indicates that learning two languages is as natural as learning one and that, given the right learning environment, most children can acquire two languages simultaneously at the same rate and in the same way as monolingual children. Evidence on children with specific language impairment, admittedly rather limited at this time, suggests that even these children can acquire functional competence in two languages at the same time, within the limits

of their impairment. Therefore, children with specific language impairment living in families where knowing two, or more, languages is useful and important should be given every opportunity to acquire two languages. This would include children of immigrant parents, children in families that speak an indigenous language, and children in families with French-speaking members who live outside bilingual regions of the country. Whether or not parents decide to raise a child bilingually, whether the child has typical abilities for learning language or has impaired capacity for language learning, even though there is no immediate context for using one of the languages is a matter of personal choice. Professionals, including speech and language pathologists, educators, and doctors, who care for children should resist the temptation to counsel parents whose child has or might have a language learning impairment to restrict the child's exposure to only one language since, at present, there is no evidence to justify this advice.

At the same time, parents and others who care for children who are being raised bilingually should take active responsibility to ensure that they get adequate exposure to both languages to ensure that both are fully acquired. At present, there is relatively little research on the precise impact of different learning environments on simultaneous dual language learning, including how much exposure is required to ensure full acquisition. Although the research evidence indicates quite clearly that the reduced input that results from exposure to two languages during the preschool years does not impact certain aspects of language development in simultaneous bilinguals, the learning environment is critical. First, despite the lack of empirical evidence, it is necessarily the case that exposure below some minimum level will result in incomplete acquisition and, thus, incomplete functional competence. It also seems likely, although evidence on this is anecdotal, that bilingual children need continuous and regular exposure to both languages to ensure their complete acquisition. Discontinues, abrupt changes, and/or irregular exposure should probably be avoided.

When it comes to planning children's language learning environment, special consideration should be given to minority languages. It is advisable to provide more exposure to minority than majority languages in the home to offset the lack of exposure to these languages in the community in large. For example, parents raising children in English and French or English and Spanish in communities where French and Spanish are not spoken widely outside the home should bias exposure toward these languages in the home during the preschool years to ensure adequate exposure for these languages to be acquired completely. It is highly unlikely that favoring Spanish and French in these ways will seriously jeopardize children's acquisition of English since the majority, if not all, of their language experiences outside the home will be in English. The same is certainly also true of children in homes where an indigenous language is used.

The research evidence indicates quite clearly that child bilingual code-mixing is not a sign of confusion or difficulty learning two languages. Code-mixing is a resource that children use to fill gaps in their developing languages and, moreover, when young bilinguals code-mix they exhibit grammatical competence rather than confusion, as was initially hypothesized. Parents, educators, and other

professionals, therefore, need not worry when children code mix and they need not attempt to stop bilingual children from code-mixing. Bilingual children growing up in communities where their two languages tend to be used separately will learn to use their two languages separately or to code-mix when socially appropriate. It should be expected that bilingual children, like bilingual adults, will code-mix when conversing with other bilinguals.

When it comes to educating children bilingually, the evidence consistently indicates that most anglophone children participating in all forms of French immersion exhibit typical levels of native language and academic development in the long run and, at the same time, acquire advanced levels of functional competence in French. More specifically, while anglophone students in early total immersion programs exhibit delays in the development of literacy-related skills in English during the primary grades when instruction is in French, they attain parity with English control students within one year of having English language arts instruction; this has been demonstrated with respect to reading, writing, spelling, and vocabulary. In fact, there is evidence that students in enriched immersion outperform students in all-English programs on English language tests even when the two groups are equated for intellectual and socio-economic factors. Research on immersion indicates further that immersion is suitable and effective for learners with a wide variety of learner characteristics, including students who often struggle in school— namely students with low levels of academic and native language ability, children from disadvantaged socio-economic backgrounds, and English-speaking children from minority ethnic groups. We lack evidence, at present, on children with severe perceptuo-motor, social, and cognitive problems; and evidence on children with language learning impairments is limited.

At present, there is no evidence to preclude most students from participation in immersion, including students who otherwise might be at-risk for academic difficulties. At the same time, and as was found in research on simultaneous bilingual acquisition, second language learning in school settings and the benefits of learning two languages take time; on average, some four to six years. Parents are advised to make a long term commitment to immersion and to avoid switching students out of immersion unless there is strong evidence that individual children will perform better in an all-English program. Research in many different centres in Canada has shown that immersion students achieve advanced levels of functional proficiency in French. At the same time, their competence is not native like and they use of French is restricted, inaccurate and non-native in certain ways. Parents who seek to maximize their children's competence in French should also seriously considering extending their French language learning outside school to include holidays to regions where French is spoken, exchange visits for their children, or other activities that will give their children exposure to native French-speaking children of the same age.

Finally, research on children who speak a minority language at home and are schooled in a majority language, such as English in Canada, indicates that they are not at a disadvantage if they maintain and continue to learn their home language, as the myth about minority language students argues. To the contrary, there is growing evidence that high levels of competence in the home language, especially in

domains related to literacy and schooling, put these learners at an advantage in school in comparison to similar children who have not developed their home languages in these ways. Parents who do not speak the majority language should be encouraged to continue to use the home language with their children and, in particular, they should be encouraged to use the home language to help their children develop foundation skills related to literacy and academic language competence. In some cases, parents may require direct and detailed guidance on how to do this. Educators and other professionals who work with minority language students in majority language schools should be encouraged and shown how to help these students draw on competencies and knowledge linked to the home language to acquire literacy and academic language skills in school. It could even be argued that public schools should provide bilingual education for students from large ethnolinguistic minority groups in order to enhance their bilingual competence. These programs would not only benefit minority language students personally and professionally but the country itself by preparing bilingual, bicultural students who can compete in the global marketplace on Canada's behalf.

There are still many unanswered questions concerning early childhood bilingualism. However, we have sufficient research evidence to dispel fears based on extreme versions of the four myths identified at the beginning of this article. Moreover, we have sufficient evidence to expand efforts to create opportunities for many more young children to become bilingual. We have nothing to lose and much to gain.

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## ..... About the author .....

**Fred Genesee** is a Professor in the Department of Psychology at McGill University, Montreal, where he has worked since 1978. He has carried out research on some of the first immersion programs implemented in Canada and has helped educators around the world develop their own immersion programs. His work has sought to debunk persistent myths surrounding bilingualism and second language acquisition in early childhood.

Dr. Genesee's current research interests include language acquisition in preschool bilingual children, internationally adopted children, and the language and academic development of at-risk students attending bilingual programs. He is the author of numerous professional and scientific research reports and books, including *Learning Through Two Languages: Studies of Immersion and Bilingual Education* (1987), *Educating Second Language Children* (1994), *Classroom Based Evaluation in Second Language Education* (1996), *Beyond Bilingualism: Multilingualism and Multilingual Education* (1998), *Dual Language Instruction: A Handbook for Enriched Education* (2000), *Trends in Bilingual Acquisition* (2000), and *Dual Language Development and Disorders* (2004).

He has served as a consultant on second/foreign language and bilingual education in countries around the world, including Japan, Spain, Germany, Estonia, Hong Kong, Latvia, Switzerland, Italy, Russia, and Italy.

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