

WHAT DO WE KNOW ABOUT BILINGUAL EDUCATION FOR MAJORITY LANGUAGE STUDENTS?¹

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In many communities around the world, competence in two, or more, languages is an issue of considerable personal, socio-cultural, economic, and political significance. For some, the issues surrounding bilingualism are viewed as “problems” to be overcome; for others, they are viewed as “challenges” that, once mastered, benefit the individual, the community, and even the nation in which they live. The need to know two or more languages is not new. Historical documents indicate that individuals and whole communities around the world have been compelled to learn other languages for centuries and they have done so for a variety of reasons -- language contact, colonization, trade, education through a colonial language (e.g., Latin, Greek), and intermarriage (Lewis, 1977). Notwithstanding historical patterns, changes in the modern world are presenting new incentives for learning additional languages.

- There is growing globalization of business and commerce. During the last 10-15 years we have witnessed unprecedented internationalization of industry and white collar businesses -- for example, in the automotive industry, head offices are located in one country (e.g., Japan), manufacture of automobiles takes place in another country (e.g., Brazil), and clients are in a third country (e.g., Canada). Even in North America, a relatively homogeneous linguistic community and trade zone, we are challenged to learn other languages to remain competitive -- for example, in response to the Spanish-speaking markets in Mexico and the French-speaking market in Quebec. While globalization of the market place often provokes images of English domination, it also increases the demand to do business in local or regional languages (Walraff, 2000).
- A revolution in electronic communications has also created a need for proficiency in multiple languages. The Internet makes global communication available and easy, whether it be for

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personal, professional, commercial, or other reasons. On the one hand, this has created a particular need for proficiency in English as a lingua franca on the internet. On the other hand, as with economic globalization, global communication via the internet has also created the possibility of much greater communication in regional languages. Indeed, domination of the internet by English is giving way to a much stronger presence of regional and local languages as e-commerce takes hold and begins to commit resources to communicating with local and regional markets. In fact, there are presently more internet sites in languages other than English than English (Global Reach, 2000).

- Voluntary immigration of people from country to country is taking place on an unprecedented scale – we have already mentioned economic reasons for this; but, there are also political, educational, cultural, and strictly personal reasons for this.
- At the same time, we are moving into a socio-political era when linguistic domination by “big” languages of “little” languages is becoming more difficult. In particular, indigenous people in a number of regions of the world are organizing to preserve and promote their languages at the same time as they acquire other important national and regional languages -- for example, Basque in the Basque Country; Mohawk in Canada; and Hawaiian in the U.S.

Schools have an important role to play in providing the bi- and multilingual skills that are becoming increasingly necessary in the modern world. The educational programs that have been developed to provide such language competence are varied. This chapter focuses on one; namely bilingual education. For purposes of this chapter, bilingual education is defined with respect to three features: linguistic goals, pedagogical approaches, and levels of schooling. More specifically, bilingual education is defined as education that aims to promote bilingual (or multilingual) competence by using both (or all) languages as media of instruction for significant portions of the academic curriculum. While programs that fit this description exist at the tertiary or post-secondary level (e.g., Burger, Wesche, & Migneron, 1997), this chapter limits itself to programs at the elementary and secondary levels (for students from approximately 5 to 17 years of age). Integrating language and academic instruction is the hallmark of bilingual education (see Genesee, 1987, and Met, 1998, for more detailed explications of this approach). As Met (1998) points out, there currently exist a variety of L2 instructional approaches that integrate language and content instruction and these can be characterized as falling along a continuum from

language-driven to content-driven. In language-driven approaches, content is used simply as a vehicle for teaching target language structures and skills. The primary goal of these programs is language learning. For example, non-academic content, such as holidays or imaginary situations (such as life in a family or visiting the supermarket) is often used in foreign language classrooms to support language teaching and learning. At the other end of the continuum are approaches where the content and language are equally important so that mastery of academic objectives is considered as important as the development of proficiency in the target language.

Bilingual/immersion education are examples of content-driven approaches.

In order to clarify the focus of the chapter further, it is useful to provide elaborations of “bilingual competence” and “using both languages for significant portions of the academic curriculum” used in the above definition. *Bilingual competence* is defined as “the ability to use the target languages effectively and appropriately for authentic personal, educational, social, and/or work-related purposes”. The criterion for defining *significant portions of the academic curriculum* is “at least 50% of the prescribed non-language-related curriculum of studies for one or more years”. These should be considered minimal definitions and while they serve to constrain the programs that were considered for inclusion in this review, they raise a host of questions that cannot be resolved in the limited space of this chapter.

The generic definition of bilingual education that has been adopted here includes programs for students who come to school speaking a majority societal language (e.g., English in Canada, or Japanese in Japan) as well as programs for students who come to school speaking a minority language (e.g., Spanish in the U.S., or Hungarian in Slovakia). The first type of bilingual education is often referred to as “immersion” after the Canadian French immersion programs (Lambert & Tucker, 1972; see Johnson & Swain, 1997, for a detailed discussion of core features of prototypical immersion). The second type of bilingual education can be found in regions of the world where there are large numbers of immigrants (e.g., U.S.A., Holland) or speakers of indigenous languages (e.g., New Zealand, Peru). Since the combined literature on both forms of bilingual education is extensive and the issues surrounding each are complex and often very different, both cannot be encompassed in one short chapter. As a result, this chapter focuses on bilingual education for majority language students; the reader is referred to August & Hakuta (1997), Baker, 2001; Cummins (2000), and Skutnabb-Kangas (2000), for recent and detailed discussions of bilingual education for minority language students.

ISSUES IN BILINGUAL EDUCATION for MAJORITY LANGUAGE STUDENTS

Bilingual education for majority language students is varied and complex as each community adopts different programmatic models and pedagogical strategies to suit its unique needs, resources, and goals. A number of useful volumes that describe specific programs are available -- see Johnson & Swain, 1997, for models of immersion; Cenoz & Genesee (1998) for cases of trilingual education that involve majority language students; and Christian and Genesee (2001) for yet other forms of bilingual education for majority (and minority) students. While bilingual education programs in different communities share the general goal of bilingual proficiency along with grade-appropriate L1 development and academic achievement, their specific goals with respect to the L2 differ; the following is one way of characterizing their alternative linguistic goals:

- To promote national policies of bilingualism (e.g., French immersion in Canada)
- To promote national languages in countries with one official language but students who speak a variety of other languages (e.g., Estonian immersion for Russian-speaking students in Estonia)
- To promote proficiency in important regional and/or world languages (e.g., English immersion in Japan)
- To promote proficiency in heritage languages (e.g., Hungarian immersion in Slovakia)
- To promote indigenous languages that are at-risk (e.g., Mohawk immersion in Canada)
- To promote foreign language learning for educational enrichment (e.g., French immersion in the U.S.)

The following sections address both **theoretical** and **pedagogical** issues concerning bilingual education for majority language students since we are dealing, on the one hand, with a fundamental human ability – to learn language, and, on the other hand, with practical educational factors that can influence the implementation and outcomes of bilingual education. The emphasis is on issues that have received some empirical investigation (see Baker, 2000, and Cloud, Genesee & Hamayan, 2000, for practical guides to implementing some forms of bilingual education). Since bilingual education is distinctive in its aim of promoting proficiency in two, or more, languages, much, although not all, of the following discussion focuses on research related to second language (L2) acquisition. There will also be some discussion of first language (L1) development, academic achievement, and other issues, when empirical evidence is available.

A number of caveats are warranted before proceeding. Virtually all bilingual programs reviewed here are based on voluntary participation and, thus, a host of self-selection factors are implicated as one would expect when choice is operative. As a result, the results reviewed here cannot be generalized to programs where participation is not voluntary, and consideration must be given to a variety of self-selection factors that may be operating if these results are being used to plan or implement a new program. In a related vein, there is a bias to report the results of successful programs and, consequently, the published results cannot be construed as evidence that bilingual education for majority language students is successful to the same extent in all settings. The success of bilingual education, like general education, depends on the day-to-day quality of instruction (including materials), continuity in program delivery, competence of instructional personnel, class size and composition, etc.

The following topics will be considered in this chapter: (1) language development and academic achievement, (2) focus on form or meaning, (3) age, (4) time, (5) students at-risk, (6) language typology, and (7) multilingual education. These issues are considered separately as if they are single-factor issues. Like many aspects of general education, some of the topics reviewed in this chapter are multidimensional and encompass a host of related factors. Take for example, the issue of age and L2 acquisition. It implicates, among others: student-related factors, such as motivational and ability differentials that might distinguish younger from older second language learners; and classroom-related factors, such as differences in the composition of classrooms in elementary versus secondary level bilingual programs that result from attrition in the case of elementary programs and self-selection in secondary level programs. When relevant research findings that clarify the role of these additional factors exist, they will be presented; unfortunately, there is little such research. Reference will be made to some of the complexities that these seemingly single-factor issues raise in order to illustrate that careful consideration must be given to a host of factors when educational decisions implicating these issues are made.

Language Development and Academic Achievement

There has been extensive research on the language development and academic achievement of majority language students in bilingual education programs since this has been a prominent issue in the minds of theoreticians, educators, policy-makers, and parents alike. By far the most extensive body of research with these foci has been conducted in Canada on French immersion programs for English-speaking students in different regions of the country, starting in

1965 with Lambert and Tucker's pioneering evaluation of the St. Lambert French immersion program (Lambert & Tucker, 1972; see also Genesee, 1987, and Swain & Lapkin, 1982). The general findings from the Canadian research have been replicated, for the most part, in other regions of the world where similar programs with majority language students have been implemented (see Christian & Genesee, 2001, and Johnson & Swain, 1997, for other examples).

Research in diverse settings has consistently shown that students in bilingual programs who speak a dominant societal language acquire significantly more advanced levels of functional proficiency in the L2 than students who receive conventional L2 instruction – that is, instruction that focuses primarily on language learning and is restricted to separate, limited periods of time. Proficiency has been assessed with respect to speaking, listening, reading, and writing, although the specific ways in which these skills have been assessed varies from setting to setting. While it is difficult to make direct statistical comparisons, impressionistically, many researchers have reported that immersion students' comprehension skills (in reading and listening) seem to be more advanced than their production skills (in speaking and writing). There will be more discussion of the quality of students' L2 production skills and factors that influence them in a later section.

At the same time, students in bilingual programs who speak a dominant societal language usually develop the same levels of proficiency in all aspects of the L1 as comparable students in programs where the L1 is the exclusive medium of instruction. It should be recalled that these are students who are exposed to the L1 on a daily basis outside school – at home, in the community, in the media, etc. There can be a lag in the development of L1 literacy skills (reading, writing, and spelling) among students in the initial years of bilingual programs in which all academic instruction is presented in the L2 -- sometimes referred to as “early total immersion”. Parity with control students who have been instructed entirely through the L1 is usually achieved after one year of receiving L1 language arts instruction; for example, at the end of grade 3 in the case of students whose first exposure to instruction in the L1 begins in grade 3. The L1 development of students who begin bilingual education beyond the primary grades of school -- in the middle elementary school grades or the initial secondary school grades, usually shows no such lags (Genesee, 1987). Students in the latter programs exhibit age-appropriate L1 skills at all grade levels. In short, reduced exposure to instruction in the L1 as a result of

participation in a bilingual program in the elementary or secondary grades does not usually impede the normal L1 development of majority language students.

With respect to achievement in academic domains, such as mathematics, science, and social studies, evaluations of the progress of majority language students in bilingual programs indicate that they generally achieve the same levels of competence as comparable students in L1 programs. Parity with L1 controls is often exhibited even when the bilingual students are receiving all academic instruction through the medium of the L2, provided the assessment is conducted in the L2 and modifications are made to take into account that full competence in the L2 has not been acquired. For example, bilingual program students who receive math instruction in French (their L2), but are tested in English (their L1), may exhibit deficiencies in mathematics due to incomplete mastery of the language of testing. Once students receive academic instruction in the L1, these disparities usually disappear. Notwithstanding these qualifications, academic parity with control L1 students is usually exhibited by students in bilingual programs at both the elementary and secondary levels and has been demonstrated using a variety of assessment instruments, including standardized norm-referenced tests, official government tests, and locally-devised tests. In sum, instruction in academic subjects through the medium of an L2 does not usually impede acquisition of new academic skills and knowledge in comparison to that acquired by students receiving the same academic instruction through the medium of their L1.

Collectively, these findings make a strong case for the integrated approach to language instruction that defines bilingual education; that is, the use of the L2 to teach significant portions of the school curriculum. Indeed, alternative forms of content-based L2 instruction have proliferated since the first immersion programs were introduced in order to take advantage of this innovative method of L2 instruction (see Met, 1998, for an overview).

Focus on Form or Meaning

As noted at the outset, a defining characteristic of bilingual education is the use of the target languages to teach prescribed academic subjects. One example of this approach is the well-documented French immersion programs that were introduced in Montreal in the mid-1960s (Lambert & Tucker, 1972; Genesee, 1987). More generally speaking, this approach can be characterized as pedagogy with a “focus on meaning” in contrast to pedagogical approaches which “focus on forms”, to use Long’s term (Long & Robinson, 1998; see also Lyster, 1994). In the former, students are expected to learn the target language by using it for academic or other

authentic communicative purposes; whereas in the latter, mastery of the formal structures and properties (rules) of the language are taught as pre-requisites to functional use of the language. The rationale behind integrating language and academic instruction in the first bilingual (immersion) programs was to take advantage of children's natural ability to learn language which occurs during authentic, meaningful, and significant communication with others (Genesee, 1984; see Snow, Met, & Genesee, 1989, for an extended discussion of the rationale of this approach).

The overall effectiveness of an integrated approach has been documented in a number of studies, as noted in the preceding section. Notwithstanding this evidence, there are signs that an exclusive focus on meaning, or language use, is not optimal when it comes to developing students' linguistic competence. For example, research on immersion programs in Canada has revealed that despite participation in immersion programs for many years, immersion students often fail to master important aspects of the target language, such as verb tense, pronouns, and prepositions (Adiv, 1980; Harley & Swain, 1984). In addition, there is evidence that students in bilingual programs with more exposure to the target language do not always outperform students with less exposure (findings that will be discussed later), suggesting that simply extending exposure to and functional use of the target language do not necessarily lead to increased linguistic competence (Genesee, 1987). Genesee (1987) has argued that students in bilingual/immersion programs that emphasize functional use may fail to exhibit continuous growth in both their repertoire of communicative skills and their formal linguistic competence because they are able to get by in school using a limited set of functional and structural skills and they are not compelled by teachers' instructional strategies to extend their linguistic competencies (see also, Swain, 1998). Arguably, more systematic language instruction that is linked to students' communicative needs in the classroom along with more explicit focus on the linguistic forms required by classroom communication than has been the case in many bilingual programs to date would advance students' linguistic competence. Some researchers refer to instruction that highlights specific linguistic structures and forms within the context of communicative instruction as instruction with a "focus on form"; this should be distinguished from what Long refers to as "focus on forms" – that is, isolated instruction of linguistic forms. In any case, similar concerns about the linguistic competence of immersion students have been voiced by Lyster (1987, 1990), Swain (1985, 1998), Day and Shapson (1991), and others. Lyster

has raised related questions about the role of corrective feedback in promoting linguistic competence in immersion-type bilingual programs (Lyster & Ranta, 1997). These are questions of considerable theoretical and practical significance, even beyond discussions of bilingual education, since they are at the heart of the debate on communicative versus grammar-based approaches to L2 instruction, and they are integral to designing effective L2 pedagogy.

Norris and Ortega (2000) conducted a meta-analysis of studies that have examined alternative types of L2 pedagogy. While bilingual/immersion programs were not treated separately in their analyses, they were part of a broader set of classifications, including instruction that emphasized only or primarily meaning and use of the target language for non-linguistic tasks versus instruction that provided some focus (explicit or implicit) on linguistic forms. Norris and Ortega drew a number of conclusions that are relevant to the present discussion. First, L2 instruction that focused on linguistic forms, either in the context of meaningful communication or otherwise, had significant positive effects on the acquisition of target forms, whether this was assessed by comparing pre- to post-test scores of students or by comparing the scores of students in “treatment conditions” to those in “control conditions” (i.e., in programs with a focus on form(s) versus those in programs with a focus on meaning). Second, instruction with a focus on form was effective in enhancing linguistic competence whether or not there was integration of form and meaning. Third, instruction with an explicit focus on form was more effective than instruction with an implicit focus on form. Finally, the positive effects of form-focused instruction on acquisition were reliable over time, although there was some tendency for positive effects to diminish as time between instruction and testing increased.

A number of studies included in the Norris and Ortega meta-analysis were, in fact, conducted in bilingual/immersion classrooms and warrant consideration here because of their specific relevance to the present discussion (Day & Shapson, 1991; Harley, 1989; Lyster, 1994). These three Canadian studies examined the effectiveness of instruction on immersion students’ acquisition and use of specific linguistic features of French, features that English-speaking students typically have difficulty with: past tense verb forms and grammatical gender (Harley 1989, 1998, respectively), sociolinguistically-appropriate use of “*tu*” and “*vous*” and other conditional forms to express politeness (Lyster, 1994), and conditional verb forms used to describe hypothetical situations (Day & Shapson, 1991). Instruction of these features was

integrated with their use during academic activities. All three studies found that instruction that heightened students' awareness of these forms and gave them opportunities to acquire them had a positive influence on students' competence with these forms. Lyster noted that improvement was more evident in the case of forms that received explicit focus (i.e., the use of *tu/vous*) and less evident in the case of forms that received an implicit or incidental focus (i.e., conditionals as politeness markers). While immediate post-test improvement was noted by all researchers for virtually all forms, long term improvement (over several months) was evidenced in only some studies, suggesting that it is easier to get short term than long term improvement from instruction with a focus on form.

In sum, meta-analysis of the effectiveness of L2 instruction, along with results from individual studies conducted in bilingual/immersion classrooms, have demonstrated the potential benefits of instruction that explicitly teaches forms relevant to students' communicative needs or that draws their attention to linguistic forms by making these forms salient during communicative classroom activities (see also Spada, 1997, for similar conclusions). While these results are encouraging, more investigation in this domain is called for in order to identify techniques that produce clear and reliable long-term effects.

Age

One of the most controversial issues in the field of L2 acquisition is the question of age. It is widely hypothesized that "younger is better" when it comes to learning a second language (Birdsong, 1999; Genesee, 1978; Harley & Wang, 1997; Long, 1990). This is a theoretical issue of great significance to researchers since it concerns the biological capacity of humans to acquire language effectively and completely at certain stages of development, but not at others. Notwithstanding some compelling arguments (e.g., Long, 1990; Scovel, 1988), empirical evidence in favor of a critical period for L2 acquisition has been equivocal, with some studies claiming evidence for the critical period and others evidence against it (White & Genesee, 1996). The situation is complicated further by the fact that critical period effects may be more significant for L1 than L2 development (Mayberry, 1993). Strictly speaking, findings concerning age and L2 acquisition in non-school settings do not apply readily to school settings since language acquisition in school can be influenced by a host of pedagogical and student factors that are not operative in non-school settings and that have nothing to do with the putative biological predispositions of humans to acquire language (Marinova-Todd, Marshall & Snow,

2000). Thus, it is important to examine the educational research on age and L2 acquisition carefully.

Evaluations of bilingual programs for majority language students with different starting grades has produced two patterns of results. On the one hand, there is research that shows that, when it comes to learning second languages in school, older students can make impressive progress (see Krashen, Scarcella & Long, 1982, and Genesee, 1988, for reviews). In support of this conclusion, it has been found by researchers in Canada that students participating in late French immersion programs beginning in secondary school significantly outperform students at the same grade level in core French programs, as one would expect given the considerably difference in L2 exposure enjoyed by the late immersion students (Genesee, 1988; Wesche, Toews-Janzen, & MacFarlane, 1996). As well, evaluations of two-year late immersion programs (i.e., grades 7 and 8) in Montreal have indicated that late immersion students can achieve the same or almost the same levels of L2 proficiency as students in early immersion programs (beginning in kindergarten). Students in the Montreal late immersion programs had had core French instruction throughout elementary school and, thus, did not come to late immersion with no exposure to French at all. Despite their elementary school exposure to French, the late immersion students had nevertheless had only half as much total exposure to French as the early immersion students by the end of grade 9, the final grade of the evaluation (Genesee, 1981; see Figure 1 for schematic representations of early and late immersion programs in Canada). Genesee (1987, p. 56) found that two-year late immersion students outperformed early immersion students on a standardized, norm-referenced test of French when length of exposure to the L2 was equated, again attesting to the learning effectiveness of older students. Evaluations of more conventional L2 programs with different starting-grades have reported similar success for older versus younger learners in school settings (see Burstall, 1974, Fathman, 1975, and Krashen, Scarcella & Long, 1982, for examples).

On the other hand, other evaluations have reported that students in bilingual programs with an early starting point (i.e., kindergarten or grade 1) achieve significantly higher levels of L2 proficiency than students in programs with a delayed (middle elementary grades) or late (beginning of secondary school) starting point. For example, Genesee (1981) found that early immersion students who started in kindergarten performed significantly better than one-year late immersion students (grade 7) on tests of listening, speaking, reading, and writing. These

findings indicate that the advantage of late immersion students in two-year programs is linked to the amount of L2 exposure as well as age of exposure. As well, in a synopsis of evaluations of early, middle, and late French immersion programs in Canada, Wesche, Toews-Janzen and MacFarlane (1996; p. ii Executive Summary) conclude that “EFI (early French immersion) students consistently out-perform MFI (middle French immersion) and LFI (late French immersion) students overall ...”. Genesee’s Montreal evaluations of early versus late immersion were not included in this synopsis. Wesche et al. also note that differences between EFI and LFI students tend to diminish as the students approach the end of secondary school, attesting to the rapid progress that late immersion students can make if they stay in the program.

Insert Figure 1 about here

The success that has been reported for early-entry bilingual/immersion programs has been attributed to a variety of factors, including: (a) the students’ innate or natural language learning ability; (b) their attitudinal openness to new languages and cultures; (c) the opportunity for extended exposure afforded by an early starting grade; and (d) an optimal fit between learning styles of young learners and effective L2 pedagogy. The success that has been reported for students in bilingual programs with a later starting grade can, likewise, be attributed to a variety of factors. First, older students have the benefit of a well-developed L1 and, in particular, fully or well-developed L1 literacy skills that can facilitate acquisition of L2 literacy skills (Cummins, 2000). Parenthetically, the reverse transfer -- from L2 to L1 literacy -- is probably one explanation for the rapid progress that early immersion students make in L1 literacy development, as discussed earlier. Self-selection may also play an important role in accounting for the success of late L2 learners. Students who voluntarily opt for bilingual education at the secondary level are, arguably, highly self-motivated. There may also be a bias for academically advantaged students to self-select for bilingual education that begins in the late elementary or early secondary grades. The net effect of these selection biases may be to create classrooms in late-entry bilingual/immersion programs that are composed of highly motivated and academically capable students; a combination which in turn can result in a particularly advantageous instructional context.

Notwithstanding the documented success of bilingual programs with a late starting grade, educators and parents are often concerned that students' academic performance will suffer if they begin to receive academic instruction through the medium of a new language in the higher grades. An argument in favor of early introduction of the L2 for purposes of academic instruction is that the academic objectives for primary school students lend themselves well to concrete, experiential, hands-on learning activities. These kinds of activities also lend themselves well to promoting L2 acquisition among young learners. In contrast, teaching academic objectives in the higher grades often calls for the use of sophisticated, advanced language skills, and this can pose challenges if students who are in the beginning stages of L2 acquisition. Research in Canada has shown that achievement in subjects such as mathematics, chemistry, and history is not compromised in late immersion programs (beginning when students are about 11 years of age) if students have had prior L2 instruction during the elementary grades. In contrast, Marsh et al. (2000) report that late immersion students in Hong Kong have academic difficulties. In particular, they found that Chinese-speaking students in late English immersion programs in Hong Kong scored significantly lower in science, history, and geography than students in Chinese-medium programs. The authors of this report do not mention the Canadian results and, thus, offer no explanation for the discrepancy between their findings and those from Canada. A number of factors might explain the discrepancy, including differences between the Hong Kong and Canadian students and/or teachers, the preparation that the respective student group received during the elementary grades, and typological and orthographic differences between the respective pairs of languages -- Chinese and English in comparison to French and English.

In summary, the available evidence concerning age and effectiveness of L2 acquisition in educational settings suggests that bilingual education can be effective with both elementary and secondary level students, provided effective and appropriate pedagogy is implemented. Practically speaking, the question of when to begin bilingual education cannot be answered by theoretical arguments and empirical evidence alone. Socio-cultural and political factors must also be considered. The "best" starting grade for bilingual education can depend on the goals, needs, and resources of the community. In communities such as Quebec, Belgium, or Northern Italy where two or more languages are commonly used in everyday life, it may be best to begin bilingual education early so that children become accustomed to both (all) languages early on

and, also, so that they can take advantage of language learning opportunities that are afforded outside school. In contrast, in communities such as Germany, Japan, or many communities in the U.S. where monolingualism is the norm and other languages have no official status and/or are only used in restricted settings, introduction of bilingual education in higher grades may be sufficient. Indeed, delaying introduction of bilingual education until higher grades may be “best” in certain communities if parents are concerned about students’ L1 development -- members of monolingual communities are often hesitant about early bilingualism because they fear that it will impact negatively on students’ L1 development. In communities that seek trilingual competence (to be discussed later), the success of students in bilingual programs with a late starting grade is a definite advantage because it affords the possibility of introducing a third language after the first two have been established. Early versus late starting points demand different resources and commitment and these must also be considered in any discussion of whether it is “better” to start early or later. For example, to optimize the benefits of early bilingual education, there must be sufficient personnel, instructional materials, and administrative resources to extend the program into the secondary grades; otherwise, there is the risk that gains made in the elementary grades will be lost. Conversely, a late-entry program requires teachers with certification in particular subject matter who are also fluent in the target language and qualified to teach their speciality subject(s) through that language. In short, the notion that there is “an optimal starting grade” for bilingual education is misguided since what might be “optimal” in one community may not be in another.

Time

There has been considerable controversy in the field of bilingual education, and in L2 education more generally, concerning the link between amount of L2 exposure and level of L2 achievement. On the one hand, it is often assumed that there is a direct correlation between the amount of L2 exposure in school and L2 achievement – the notion of “time on task”. Indeed, one of the reasons schools begin instruction early (be it in second languages, mathematics, or other subjects) is to provide more time for students to learn. Time is clearly important for L2 learning, and it is often the case, although not always, that students learn more when they have more exposure. For example, Canadian research has shown that students in *total* immersion programs generally acquire higher levels of proficiency in the L2 than students in *partial* immersion programs (Genesee, 1987; see also Cenoz, 1998). On the other hand, the link

between time and L2 acquisition is not invariably linear. There appear to be upper and lower limits to the importance of time. At the lower limits, variations in exposure to a second language in school probably make little difference – 20 versus 30 minutes per day, for example, is probably an unimportant difference, although systematic evidence of the impact of such variation is not available. Likewise, at the upper limits, there may be diminishing returns of extended L2 exposure in bilingual education. Evidence of these limits comes from Canadian research again -- Canadian students in two-year late immersion programs (grades 7 and 8) perform as well as or almost as well as early total immersion students despite the fact that the former have significantly less exposure to the L2 (Genesee, 1981). Another case that illustrates this point comes from research in Montreal that compared two groups of students, both in late immersion (Stevens, 1983). In one case, English-speaking students 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 ½ as much time – approx. 40% of their school day was spent in French -- math, science, and language arts were 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 L2 measures.

Intensity of exposure rather than accumulated amount of exposure is also a factor. Lapkin, Swain, Kamin & Hanna (1982) found that a group of grade 8 late immersion students had acquired less L2 proficiency than another group of grade 8 late immersion students who had received more concentrated L2 exposure, but they were more proficient than students in an extended conventional L2 program which, by the time of the evaluation, had amounted to twice as many hours.

Stevens' findings point to the importance of pedagogical considerations. Stevens (1983) attributed the impressive performance of her half-day immersion students to the pedagogical approach of their program. The half-day immersion students participated in an individualized, activity-based program that gave students certain choices about what they would study and how they would meet curricular objectives. Moreover, 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. Thus, clearly, time alone is not always the most significant predictor of L2 proficiency -- the intensity of exposure and, most importantly, the nature and quality of classroom instruction are very

important. The earlier discussion of focus on form(s) versus focus on meaning reinforces the importance of instruction as an important factor in L2 achievement in bilingual education.

Students At-Risk

A practical and ethical concern of educators and parents is whether bilingual education is suitable for students who are otherwise disadvantaged in school owing to home background, cognitive, linguistic, or other factors. The issue behind these concerns is the ability of students who struggle in school to cope with mastery of academic subjects taught through an unfamiliar language. On the one hand, since bilingual programs are usually optional and run counter to the commonsense notion that children should be educated initially through the medium of their L1, it could be considered unethical to admit students who are at-risk to bilingual programs if they are not likely to benefit from them or if the bilingual experience is likely to exacerbate their educational difficulties. On the other hand, it could be considered unethical to exclude such students since to do so would, arguably, deprive them of the opportunity to acquire valuable language and cultural skills that would benefit them in their future personal and professional lives. The latter perspective takes on particular relevance in communities where the additional languages are used and, indeed, are necessary for economic success (e.g., French in Quebec). With increased globalization, it could be argued that, indeed, bilingual or even multilingual competence is important for all students.

This section will review extant research on the performance of students with personal or background characteristics that put them at a disadvantage in school. The following learner characteristics, which are generally associated with underachievement in school, have been examined: (1) low academic ability (or intelligence), (2) low socio-economic background, (3) poor first language ability, and (4) minority ethnic group status (see Genesee, 1992, for more details). It is important to point out that there is a noticeable gap in the extant research -- there is no published research on the performance of students with severe sensory-perceptual, cognitive, or socio-affective disorders. This limits our understanding of the suitability of bilingual education for all students considerably and poses real practical difficulties for school authorities who seek to integrate special-needs students in the same classrooms. This is clearly an issue that requires much more investigation.

Academic ability. With respect to academic (or intellectual) ability, Genesee (1976, 1987) systematically examined the performance of both elementary and secondary level English-

speaking students in French immersion programs in Canada in relation to their intellectual ability. Students were classified as average, below average, or above average based on their scores on a standardized IQ test. Their school performance was assessed with respect to L1 (English) and L2 (French) development and academic achievement. With respect to L1 development and academic achievement, the below average students in immersion scored at the same level as the below average students in the L1 program on both L1 and academic achievement measures. In other words, the below average students in immersion were not further disadvantaged in their L1 development or academic achievement as a result of participation in immersion. In keeping with their at-risk status, the below average students in both programs scored significantly lower than their average and above average peers in their respective programs on the same measures. With respect to L2 acquisition, the below average students in immersion scored significantly higher on all L2 measures than the below average students in the L1 program who were receiving conventional L2 instruction. In other words, the below average students were benefiting from immersion in the form of enhanced L2 proficiency.

Comparisons between the elementary and secondary students revealed interesting and differential effects of academic ability on L2 achievement. Specifically, below average students in both early and late immersion scored lower on measures of French language development related to literacy (reading and writing) than average and above average students in the same programs; similarly the average students in both program types scored lower than the above average students. Differential effects of ability were found, however, on measures of speaking and listening. Whereas the late immersion students exhibited the same stratification on measures of speaking and listening as they had demonstrated on the measures of L2 literacy, there were no differences among the ability sub-groups in the early immersion program on measures of L2 speaking and listening. In other words, academic ability influenced the development of proficiency in all aspects of L2 acquisition among secondary school students, but had little differential effect on the speaking and listening comprehension skills of immersion students in the elementary school program. Speculatively, acquisition of an L2 when it is integrated with academic instruction is more cognitively demanding at the secondary than elementary school level and, as a result, calls on the kinds of cognitive skills that are differentially available to older students. In contrast, acquisition of L2 skills that are integrated with academic instruction at the elementary level calls on the natural language learning ability that all students possess during

their formative years. In any case, these findings argue that early immersion is more egalitarian than late immersion since it appears to be equally effective for students with different levels of general academic ability. Overall, these results indicate that low academic/intellectual ability is no more of a handicap in bilingual education than it is in L1 programs and, to the contrary, low performing students can experience a net benefit from immersion in the form of bilingual proficiency.

In a related vein, Bruck (1985 a, b) examined the role of academic ability in decisions to switch some students out of early immersion. At issue was whether academic ability, or something else, was the primary cause of the students' inability to stay in immersion. More specifically, Bruck compared the academic, familial, and socio-affective characteristics of early immersion students who switched to an L1 program with those of students who remained in the immersion program. She found, as expected, that the students who switched scored lower on a number of achievement measures than most of the students who remained in immersion; but, the academic difficulties of the students who switched were no worse than those of a sub-group of students who remained in immersion despite low academic performance. What distinguished the students who switched from those who remained in the program despite their difficulty was the former expressed significantly more negative attitudes toward schooling (and immersion in particular) and exhibited more behavioral problems than the latter. Bruck conjectured that it was the behavioral problems that were engendered by academic difficulties that ultimately led to the decision to switch some students out of immersion, in the hope that they would adjust more satisfactorily in an L1 program. In a follow-up investigation, Bruck noted that the students who switched continued to have academic difficulties and to exhibit attitudinal and behavioral problems. Bruck's results suggest that the ability to cope with poor academic performance may be a more serious problem for some immersion students than poor academic performance alone. Her results also support the argument that academic ability alone does not distinguish students who can benefit from bilingual/immersion education and those who cannot. In other words, other things being equal, students with low levels of academic ability should be eligible for bilingual education.

L1 ability. It is generally thought that the level and kind of L1 ability that children acquire prior to coming to school are important predictors of 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 L1 skills, especially those related to literacy, are expected to have a head start. While there is much evidence to support this general prediction (Cummins, 2000), the issue in question in bilingual programs is whether students with low levels of L1 ability should be excluded from such programs because they will be differentially handicapped in comparison to what they would achieve in an L1 program. Despite the significance of this issue, there is remarkably little systematic investigation of it, 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 “impaired” or “normal” in their L1 development. Classification was based on teachers’ judgements, an oral interview, and a battery of diagnostic tests. When Bruck tested the students on literacy and academic achievement measures, she found that the impaired immersion students scored at the same level as similarly impaired students in the L1 program, and both groups scored lower than their normally developing peers in the same programs, as would be expected from the language status of the impaired students. At the same time, the impaired immersion students had developed significantly higher levels of L2 proficiency than both sub-groups of non-immersion students (impaired and non-impaired) who were receiving conventional L2 instruction. In sum, and as was found in the case of students with low levels of academic ability, students with low levels of L1 ability demonstrated the same levels of L1 literacy development and academic achievement in immersion as similarly impaired students in L1 programs. At the same time, participation in the immersion program had benefited the impaired students with significantly superior L2 proficiency in comparison to students receiving conventional L2 instruction. While these findings are important and useful, it would be important to examine the progress of students with more specifically defined forms of L1 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).

Socio-economic status. Studies in the U.S. and Canada have examined the performance of students from low socio-economic backgrounds in elementary level bilingual/immersion programs (Bruck et al., 1975; Cziko, 1975; Tucker, et al., 1972; Holobow, Genesee & Lambert, 1991). It has been found that socio-economically disadvantaged students usually demonstrate the same level of L1 development in immersion programs as comparable students in L1

programs. At the same time, and 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. The same pattern has been found for achievement in mathematics and science. Thus, even though the disadvantaged immersion students had received all science instruction in their L2, they scored as well as disadvantaged students who had received academic instruction through the medium of the L1. With respect to L2 development, it has been found that economically disadvantaged immersion students generally perform better than comparable students in conventional L2 programs on all measures of L2 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. These patterns are virtually identical to those found for academic ability, a finding that is not altogether surprising given the significant intercorrelation between these learner characteristics.

Caldas & Boudreaux (1999) have similarly reported that socio-economic disadvantage is not an obstacle to successful performance in immersion programs in the case of English-speaking American students attending French immersion programs in Louisiana. Since these researchers did not have access to information concerning the socio-economic status of individual students, they compared entire groups of students in immersion classes with high concentrations of poor students (determined by the number of students who participated in a free/reduced lunch program) with that of groups of students in classes with similarly high concentrations of poor students where the L1 was used as the medium of instruction. They found that the immersion students (both White and African American) tended to score higher than non-immersion students in the same school district on standardized state-mandated tests of English and mathematics achievement administered in grades 3, 5 and 7. As the authors themselves point out, the operational definition of socio-economic status they used calls for caution when generalizing these results to individual students.

Ethnic Group Status. Yet 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., Sue & Padilla, 1986). Of interest in this section is the performance of students from ethnic minority groups who speak the societally dominant language -- for example, African-American students in French immersion programs in

Cincinnati, Ohio (Holobow, Genesee, Lambert, Met, & Gastright, 1987) or Louisiana (Caldas & Boudreaux, 1999). Bilingual programs that have been developed by indigenous language communities in order to revive their heritage languages fall into this category as well -- for example, Hawaiian immersion for English-speaking children of Hawaiian descent in the U.S. (Slaughter, 1997) and Mohawk immersion programs for English-speaking children of Mohawk descent in Canada (Jacobs & Cross, 2001; see Christian & Genesee, 2001, for other examples). Although beyond the scope of this chapter, indigenous language immersion programs are of additional interest because of the practical educational challenges they face in creating instructional materials and strategies in indigenous languages that are compatible with the unique cultural traditions of their communities (see Jacobs & Cross, 2001, and Yamauchi & Wilhelm, 2001, for further discussion of these issues). 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, many 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 L1 development and academic achievement as comparable students in L1 programs and, in addition, they had developed advanced levels of functional proficiency in the target languages.

Summary. The research reviewed in this section indicates that students who speak a societally dominant language (or a non-standard variety of such a language) and have learner or background characteristics that put them at-risk for academic difficulty or failure can achieve the same levels of L1 development and academic achievement in bilingual programs as comparable at-risk students in L1 programs. At-risk students in bilingual education generally perform less well than students in the same program who are not at-risk, but their progress is not differentially impeded in comparison to comparable at-risk students in L1 programs. At the same time, research has shown that at-risk students can benefit from bilingual education by acquiring advanced levels of functional L2 proficiency. Practically speaking, the available evidence does not justify arbitrary exclusion of students who are at-risk from bilingual programs on the assumption that they are incapable of benefiting from academic instruction through the medium

of an L2 or that they will be held back in L1 development as a result of such instruction (see also Sparks, et al., 1998, for a similar position with respect to foreign language education). At this time, decisions to exclude individual students or groups of students can only be justified by well-documented difficulties and a sound rationale for why and how these difficulties are likely to be remedied or avoided if they participate in L1 programs. This is not to say that bilingual education is recommended for all at-risk students since, as was pointed out earlier, the effectiveness of bilingual education for students with severe sensory-perceptual, cognitive, or socio-affective problems has not been investigated systematically.

However, even in the case of students with at-risk characteristics that have been examined by researchers, parents and educators should carefully consider the importance of the L2 for the child, his/her family, and his/her future career and personal goals when making decisions about placing individual students in bilingual education. It is much easier to justify placing at-risk students in bilingual programs if there are real benefits to learning two languages – e.g., the community is bilingual, parents or grandparents are bilingual, etc. A further consideration is the availability and effectiveness of intervention options for students with diagnosed difficulties. Placement of a student with a diagnosed difficulty in a bilingual program that lacks relevant services is, other things being equal, probably ill-advised, especially if the student could receive appropriate and effective intervention in the L1 program.

Language Typology.

Bilingual education has come to encompass a variety of languages, including languages that are typologically different. Such programs have already been mentioned in this review: Mohawk-English, Hawaiian-English, and Japanese-English; others are Hebrew-French-English (Genesee & Lambert, 1983), Chinese-English (Johnson, 1997), Estonian-Russian (Asser, Kolk & Küppar, 2001), and Swedish-Finnish (Björkland, 1997). In addition to typological linguistic differences, some of these language combinations entail different types of orthographies -- as is the case for Japanese-English and Chinese-English, which entail logographic and alphabetic scripts, respectively, and Hebrew-French-English and Estonian-Russian which entail different alphabetic scripts. Intuitively and pedagogically-speaking, typological similarity has important acquisitional and pedagogical implications. The closer the typology and scripts of the two languages, the more transfer is likely to occur (Cenoz, 1998) and, thus, the more acquisition of

the two languages will be facilitated. Typological distance might be expected to influence not only the acquisition of literacy skills but also the development of oral communication skills.

Fortunately, evaluations of all of the above programs have been carried out and can be reviewed here. With respect to programs with typologically different languages but the same types of orthography, there is no evidence that typological differences influence student outcomes significantly. More specifically, evaluations of students in: Hebrew-French-English immersion in Montreal (Genesee & Lambert, 1983), Hawaiian-English immersion in Hawaii (Slaughter, 1997), Mohawk-English immersion in Montreal (Jacobs & Cross, 2001), Estonian-Russian immersion in Estonia (Asser, Kolk & Küppar, 2001), and Swedish-Finnish immersion in Finland (Björkland, 1997) indicate that the overall pattern of outcomes is the same as in programs with typologically similar languages, such as French-English or Spanish-English, as was summarized earlier. In other words, immersion students demonstrate the same L1 development and academic achievement and, at the same time, acquire advanced levels of functional proficiency in the L2 (and L3 in the case of the Hebrew-French-English program).

When it comes to programs with languages that are both typologically and orthographically different, there is less data. In an evaluation of a English-immersion program for Japanese-speaking students in Japan, Bostwick has reported that the participating students demonstrated the same levels of L1 development and academic achievement as comparable Japanese students following the regular Japanese-medium curriculum within the same school (Bostwick, 2001). The students had also acquired functional proficiency in English. These findings indicate that despite evident differences between written Japanese and English, Japanese students who received only half (or less) of their instruction through the medium of Japanese achieved the same level of proficiency in written forms of Japanese as students whose entire curriculum had been taught through Japanese. Although the immersion students in this school had reduced exposure to academic instruction through Japanese, their Japanese language arts curriculum was the same and had the same amount of time devoted to it as that of students in the regular Japanese-medium stream. Arguably, the reduction in exposure to Japanese in school that English immersion entailed in this case was off-set by students' exposure to both written and oral forms of Japanese outside school (and indeed, elsewhere in the school itself).

An even greater concern may arise when the language with the more complex orthography, such as Japanese or Chinese, is not the ambient language in the school and

community. Such programs exist -- Japanese immersion for English-speaking students in Oregon, U.S.A. (Kanagy, 2001) and Australia (Chapman & Hartley, 1999) and Chinese immersion for English-speaking students in the U.S. (Met, personal communication). However, research in these programs provides no information about the students' level of achievement in the written forms of the target languages. The challenges posed by orthographic differences may extend beyond acquisition of reading and writing to implicate academic achievement since students with limited literacy skills may also be limited in their ability to assimilate academic skills and knowledge in the higher grades when written language becomes increasingly important as a vehicle for academic development. This is true even in L1 programs, but is likely to be exacerbated in programs that teach in languages such as Japanese whose written forms require extensive practice. Met (personal communication) suggests that whereas distinct academic content can be taught in each language in immersion programs that use cognate languages, it may be necessary in programs that use languages with distinct orthographies to teach those aspects of the academic curriculum that call for advanced literacy skills in the L1 and limit academic instruction in the L2 to content that is not literacy-dependent. There is a need for more research concerning academic achievement and how content can best be taught in immersion programs that use orthographically distinct languages.

Multilingual Education

Multilingual forms of education have been implemented in communities where more than two languages are used or useful. For example, Scandinavian countries often teach three or more languages in school so that students are able to communicate in other Scandinavian languages and in a world language, such as German or English. Parents in the Basque Country see trilingual education as important in order to foster competence in (a) Basque, the indigenous language, which is at-risk, (b) Spanish, the language of broader communication in Spain, and (c) English, a language of economic and scientific communication worldwide (Cenoz, 1998). There is a number of ways in which a third language can be added to the school curriculum (see Cenoz & Genesee, 1998, for examples). In some cases, trilingual education consists of instruction in academic subjects through two languages along with instruction in a third language as a separate subject -- for example, for daily 30 to 60 minute sessions. In these cases, the third language is not used to teach academic subjects. In the Basque Country, for example, Spanish and Basque are taught as subjects and are also used for academic instruction during the elementary grades; English, the third language, is taught as a subject

beginning in kindergarten, when the students are 4 years of age (Cenoz, 1998; see Egger & Lardschneider-McLean, 2001, for an example from Italy). English is not used to teach academic subjects at the elementary school level in Basque schools, although there are plans to teach academic subjects through the medium of English at the secondary level. In other cases, all three languages may be used as media of academic instruction, as in prototypical bilingual education programs. For example, in a trilingual program in Montreal, English-speaking students are taught different academic subjects through the medium of French and Hebrew in kindergarten to grade 4; English is introduced as a third language in grade 4 and is used to teach both English language arts and some academic subjects (Genesee, 1998). The *European Schools* in Luxembourg are trilingual in French, German and Luxembourgish (Hoffman, 1998; Housen, 2002). Luxembourgish is both taught as a subject and used as a medium of academic instruction from the pre-school years onward. German is introduced as a subject in grade 1 and later used as a medium of academic instruction. Similarly, French is introduced initially as a subject in grade 2 and subsequently used as a medium of instruction. There is considerable programmatic and pedagogical variation among multilingual programs as might be expected from the distinct and complex socio-cultural-political circumstances of the communities in which they are situated. A review such as this cannot begin to do justice to the actual complexities of such programs (see Cenoz & Genesee, 1998, for more detailed descriptions of trilingual programs).

Trilingual education raises a number of interesting and important issues -- some are the same as those that have been addressed in the preceding review of bilingual education: How effective are they? Are they effective for students with diverse learner characteristics? Other issues that are particular to trilingual education arise: What is the developmental relationship among the languages? Does the sequencing of languages for literacy or academic instruction matter? What are the limits to acquisition of three languages when there is no or little support for the non-native languages outside school? Unfortunately, there is scant empirical evidence to answer these questions and the extant evidence is highly variable in nature. Programs for which reports have been published appear to be working satisfactorily. Evidence of effectiveness of the Basque and Canadian trilingual programs comes from assessments of student performance on standardized and school-based tests and includes comparisons with the performance of students in non-trilingual schools in the same communities. Reports of the effectiveness of the European Schools are based on participants' impressions and on the success that program graduates have in gaining admission to tertiary level education (see Cenoz, 1998; Genesee, 1998; and Hoffmann, 1998, and Housen, 2002, for more details). None of the

published cases report evidence of interference or impediments to language development as a result of exposure to three languages during the course of elementary education, the level of schooling for such programs. To the contrary, Cenoz and Valencia (1994) provide some evidence that bilingualism favors the acquisition of a third language (see also Bild & Swain, 1989; Swain, Lapkin, Rowen, & Hart, 1991, for specific studies and Cenoz & Genesee, 1998, and Cenoz, Hufeisen & Jessner, 2001, for reviews). The same caveats that apply to the interpretation of evaluations of bilingual education apply here; namely, there is a bias to report successful programs and self-selection factors are operating. The evidence to date concerning trilingual education is encouraging; but we currently lack detailed understanding of the effectiveness of these programs. Clearly, we could benefit from additional research attention to these programs.

NEXT STEPS and CONCLUSIONS

While this review indicates that much has been learned about bilingual education for majority language students, there is much more that we need to learn. Here are some research questions that need attention:

1. What pedagogical approaches are most effective in promoting acquisition of the L2? In particular, are there particular instructional strategies that enhance students' mastery of the formal features of the L2 (or L3) while maintaining their fluency in the language? What forms of corrective feedback produce significant, long-term gains in student competence?
2. Are there students for whom bilingual education is not effective? In particular, are bilingual programs suitable for students with severe cognitive, perceptuo-motor, or affective disorders?
3. What intervention strategies are effective for students who are at-risk in immersion programs? Should services for immersion students with special needs be provided in the target language or can they be provided with good effect in the student's L1 without switching the student to the L1 program?
4. What effect does classroom composition (defined in terms of the distribution of students with average, above average and below average academic ability) have on instruction and learning, especially L2 learning?
5. Are there specific instructional strategies that are particularly effective for teaching typologically distinct languages? In a related vein, how can literacy best be taught in languages with orthographically distinct writing systems? Is simultaneous or successive introduction of literacy instruction in two languages with different typologies and/or orthographies preferable?

6. How does the teacher's level of target language proficiency influence instruction and learning?
7. Is there a role for bilingual usage -- that is, the use of both languages in the same lessons, in bilingual education? In other words, should the languages always be kept separate and, if not, how can they be used co-extensively to promote language learning?

Notwithstanding gaps in our understanding, research has yielded considerable insights about bilingual education. The following generalizations are compatible with the findings that have been reviewed here:

1. Bilingual education for majority language students is effective in promoting functional proficiency in a second, and even third, language at no cost to the participating students' native language development or academic achievement.
2. There is often a positive correlation between amount of exposure to the L2 in bilingual programs and level of L2 proficiency, but not always.
3. Bilingual programs that provide appropriate and continuous instruction can be effective with younger or older students; in other words, advanced levels of functional L2 proficiency can be acquired by students who begin bilingual education in the primary grades and by those who begin in higher grades.
4. Bilingual education is effective for majority language students with a variety of learner characteristics, even those that put them at-risk for poor performance in school.
5. Pedagogy and, in particular, the way the L2 is used and taught is important. More specifically, it appears that L2 acquisition is enhanced when students are given extended opportunities to use the language interactively. It also appears that while functional use of the target languages is generally effective at promoting L2 proficiency, instructional strategies that systematically raise awareness of and create opportunities for students to learn specific linguistic forms that serve their communicative needs and goals can extend L2 learning.
6. Bilingual education in languages with distinct typologies and orthographic conventions can be effective in achieving a school's linguistic and academic objectives, although there may be limits on how far both languages can be used for academic instruction.

These generalizations cannot be taken as universal, invariant truths that pertain to any and all bilingual education programs--present and future. They indicate what can happen when bilingual education is implemented effectively. In any case, the extant findings are reassuring for those interested in bilingual education for majority language students.

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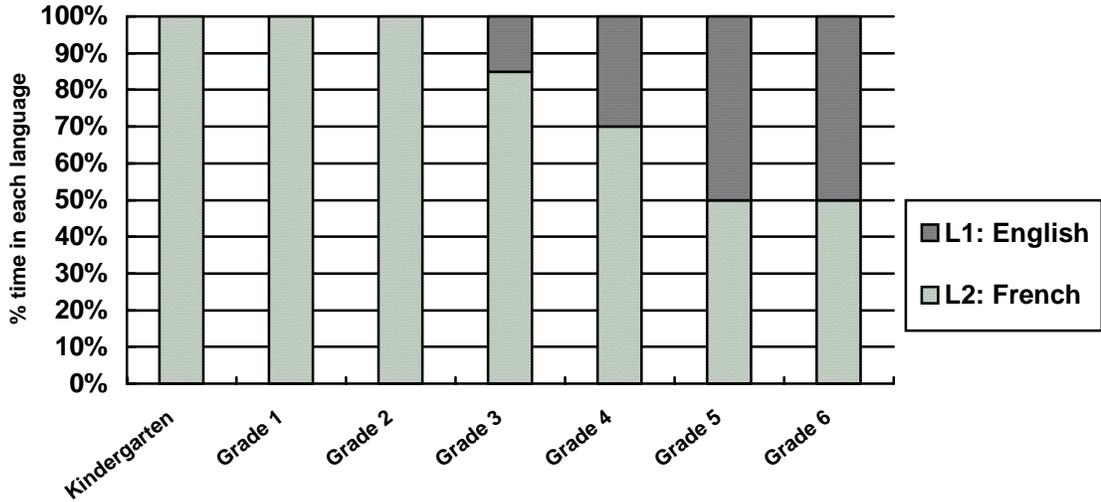
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FIGURE 1

(A)
EARLY TOTAL IMMERSION:
TIME in EACH LANGUAGE PER WEEK



(B)
TWO-YEAR LATE IMMERSION PROGRAM:
TIME IN EACH LANGUAGE PER WEEK

