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Bilingual and Immersion Programs

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Introduction

The term *bilingual education* refers to an organized and planned program that uses two (or more) languages of instruction. The central defining feature of bilingual programs is that the languages are used to teach subject matter content rather than just the languages themselves. Bilingual instruction can be implemented at any grade or age level, ranging from pre-school through university or college. Bilingual education can be traced back to Greek and Roman times and currently a large majority of countries throughout the world offer some form of bilingual education either in public or private school settings (Cummins & Hornberger, 2008).

The goals of bilingual programs vary widely across contexts. Some programs aim to develop proficiency in two languages; others do not. For example, the most common form of bilingual education for linguistic minority students in the United States during the past 40 years, *transitional bilingual education*, aims only to promote students' proficiency in English. When it is assumed that students have attained sufficient

proficiency in the school language to follow instruction in that language, home language instruction is discontinued and students are transitioned into mainstream classes taught exclusively in English.

The term “immersion” is used in two very different ways in educational discourse. In the first sense, immersion programs are organized and planned forms of bilingual education in which students are “immersed” in a second language instructional environment with the goal of developing proficiency in two languages. First language instruction is typically introduced within a year or two of the start of the program and forms an integral part of the overall plan. In its second sense, the term “immersion” refers to the immersion of immigrant or minority language children in a classroom environment where instruction is conducted exclusively through their second (or third) language (frequently the dominant language of the society or a global language of wider communication). The intent is to develop proficiency in the language of instruction. Such programs vary in the amount of support they provide to enable students to acquire proficiency in the language of instruction—in some cases extensive support is provided by specialist language teachers but in other cases students are left to “sink or swim.” This second sense of the term “immersion” reflects popular usage but, as described below, is diametrically opposed to the conceptualization of immersion education within the educational research community. In the remainder of this paper, “immersion education” will be used to describe the first sense of the term—a planned program aimed at bilingual development—while “immersion” or “submersion” will be used to refer to the exclusive

use of students' second language (L2) as a medium of instruction with the goal of developing proficiency only in the language of instruction.

The term "immersion education" came to prominence in Canada during the 1960s to describe innovative programs in which the French language was used as an initial medium of instruction for elementary school students whose home language was English. Immersion programs explicitly aim to promote fluency and literacy in students' first and second languages (L1 and L2). These programs were originally implemented at the Kindergarten level (age 5--termed *early immersion*) but were later also implemented in Grades 4 or 5 (termed *middle immersion*) and Grades 7 or 8 (termed *late immersion*). About 300,000 Canadian students currently participate in immersion programs. This represents about 6% of the national school population. In early immersion programs, students whose L1 is English are initially "immersed" in a French language school environment for 2 to 3 years prior to the introduction of formal teaching of English. Instruction through French is designed specifically to enable students to gain access to academic content despite their initially low levels of French proficiency. English language arts are typically introduced in Grade 2 and English is used as a medium for teaching other subject matter (e.g., science, math, social studies) by Grades 3 or 4. Generally, by grade 4, 50% of the instructional time is spent through each language. Johnson and Swain (1997) point out that there is nothing new in the phenomenon of teaching students through the medium of a second language. In fact, throughout the history of formal education, the use of an L2 as a medium of instruction has been the rule rather than the exception. The Canadian French immersion programs, however, were the

first to articulate a set of pedagogical principles underlying immersion education (Lambert & Tucker, 1972). They were also the first to be subjected to intensive long-term research evaluation, although some large-scale research had been undertaken in other contexts prior to the Canadian experience (e.g., Macnamara, 1966 in Ireland, and Malherbe, 1946 in South Africa).

Johnson and Swain (1997) summarize eight core features of immersion programs:

- The L2 is a medium of instruction;
- The immersion curriculum parallels the local L1 curriculum;
- Overt support exists for the L1;
- The program aims for additive bilingualism where students "add" L2 proficiency while continuing to develop their L1;
- Exposure to the L2 is largely confined to the classroom;
- Students enter with similar (and limited) levels of L2 proficiency;
- The teachers are bilingual;
- The classroom culture is that of the local L1 community.

It is clear that immersion education represents a carefully planned program that goes far beyond simply instructing students through a second language. In practice, however, when applied to immigrant and minority language students, the term "immersion" is frequently used to refer to programs that fall far short of the conditions specified by Johnson and Swain.

The Sociopolitical Context of Bilingual Education

There are an estimated 5,000 languages spoken in the world's 200 or so sovereign states. Thus, the majority of states encompass multiple languages within their boundaries. About two-thirds of all children in the world grow up in a bilingual or multilingual environment. To illustrate, 90 million of China's more than one billion population belong to a national minority and most of these minority groups speak languages other than Mandarin, the official language of the country. Linguistic diversity also exists among the Han majority group as a result of multiple "dialects" that represent mutually unintelligible spoken languages, even though all share the same writing system. Singapore, Switzerland, India, and most African countries are just a few other examples of countries that recognize multiple national languages and which regulate the status and use of these languages in education, government, and other social arenas.

In the current era of globalization with unprecedented human mobility and social interchange across cultural and linguistic boundaries, processes of language learning (and language loss) are apparent in societies around the world. Government policies attempt to influence these processes by supporting the teaching of certain languages in schools and, in some cases, by actively discouraging the maintenance of other languages, usually the languages of subordinated groups within the society. Bilingual programs have emerged in recent years as a viable option for governments and communities interested in promoting more effective learning of socially valued languages and/or maintaining languages that are endangered, such as many indigenous languages in North America.

Despite their utility as a tool for language planning, bilingual programs have also aroused considerable controversy in some countries. Opposition to bilingual education tends to be highly selective. It focuses only on the provision of first language L1 instruction to students from minority or socially subordinated groups (e.g., Spanish-speakers in the United States, Turkish-speakers in Germany, etc.). There is virtually no controversy about the provision of bilingual programs or second language immersion programs to children of the dominant group(s) in society. For example, French immersion programs for anglophone students in Canada have been minimally controversial during the past 40 years because they serve the interests of the dominant group. Similarly in Europe and the United States, when the target students are from the dominant group, instruction through the medium of a second language is seen as educational enrichment—a more efficient way of teaching additional languages and adding to the cultural capital of the student.

Thus, opposition to bilingual education is fueled primarily by ideological concerns relating to diversity and power. Use of a language as a medium of instruction confers recognition, status, and often economic benefits (e.g., teaching positions) on speakers of that language. Consequently, bilingual education is not simply a politically-neutral instructional innovation. It is also a sociopolitical phenomenon that is implicated in the ongoing competition between social groups for material and symbolic resources.

Types, Goals, and Participants

Typologies of bilingual education focus on characteristics of students in the program, the goals of the program, and organizational structures. The more important distinctions are outlined below:

- *Majority/minority languages or students.* These terms refer to whether a language is the language of the numerically dominant group in a society or that of a numerically non-dominant group.
- *Dominant/subordinated students or groups.* These terms are often used interchangeably with *majority/minority* but they refer explicitly to power and status relations between societal groups rather than to the numerical size of the groups. *Minoritized* is sometimes used interchangeably with *subordinated* (Skutnabb-Kangas & McCarty, 2008).
- *Enrichment/remedial programs.* The term *enrichment bilingual education* refers to programs that aim to enrich students' educational experience by strongly promoting bilingualism and biliteracy. French immersion programs in Canada and dual language programs involving both majority and minority language students in the United States are examples of enrichment programs. Dual language programs are also termed *two-way immersion* programs. *Remedial programs*, by contrast, aim to remediate or compensate for presumed linguistic deficits that bilingual children bring to school.
- *Maintenance/transitional programs. Maintenance programs* aim to help language minority students maintain and develop their proficiency in their home language while *transitional programs* are designed as a temporary bridge to instruction exclusively through the dominant language of the school and society.

- *Late-exit/Early-exit programs.* Transitional bilingual programs are often distinguished according to the grade level at which students transition from the bilingual program into mainstream monolingual classes. Early-exit programs are typically motivated by the assumption that students will benefit by transitioning from the bilingual program into the mainstream program as rapidly as possible. The transition usually occurs by grade 2 or 3. By contrast, late-exit programs, also known as *developmental programs* in the United States, transition students close to the end of elementary school (grade 5 or 6). The assumption is that academic outcomes in both the majority language and students' L1 will benefit from strong promotion of both languages.
- *Immersion/submersion programs.* Immersion programs, as conceptualized within the educational research community, are a form of bilingual education that immerse students in a second language instructional environment for between 50% and 100% of instructional time with the goal of developing fluency and literacy in both languages. Students may be either from the dominant linguistic group or members of an ethnocultural or indigenous community whose heritage language is one of the languages of instruction. In this latter case, the goal is usually to maintain or revitalize an endangered language. Submersion programs, by contrast, provide 100% of instruction through the dominant language (students' L2); teachers typically do not understand students' L1, and few instructional supports are available to help students understand instruction or express themselves through either L1 or L2. These programs are also termed *sink-or-swim* programs. The term "structured immersion" has been used in the United

States (e.g., by Rossell and Baker, 1996) to refer to English instructional programs that provide comprehension supports (including the possibility of some very limited use of students' L1) to enable English language learners to understand instruction. These programs are dismissed by advocates of bilingual education as simply another form of submersion (e.g., Skutnabb-Kangas & McCarty, 2008).

Bilingual programs can also be categorized according to who participates in the program. Four broad overlapping categories can be distinguished. The first category involves programs intended for indigenous students (e.g., Maori students in New Zealand) and those from nationally-recognized minority groups (e.g., students of Breton heritage in France or of Basque heritage in the Basque Autonomous Community in Spain). Typically these programs are intended to either maintain or revitalize the minority language.

The second category involves students from the dominant or majority group. The goal is to develop bilingual and biliteracy skills among these students. Examples are the Canadian French immersion programs and dual language programs in the United States that enroll both majority and minority language students.

The third category involves students who come from immigrant communities. Most of these programs are transitional and remedial in nature with the primary goal of supporting students' academic development in the majority language.

The final category of bilingual education programs involves children who are deaf or hard-of-hearing. These programs use a natural sign language, such as American Sign Language (ASL), as a medium of instruction together with the dominant language of the society, frequently with a focus on the written form of this language. Bilingual-bicultural programs are common and well-accepted in Scandinavian countries such as Sweden and Denmark (Mahshie, 1995) but are still struggling to gain acceptance in North America and many other parts of the world (Small & Mason, 2008).

General Outcomes of Bilingual Education Programs

Formal academic research has been conducted on bilingualism and bilingual education since the 1920s and a voluminous literature has accumulated on these topics (e.g., August & Shanahan, 2006; García & Baker, 2007; Cummins, 2001; Genesee, Lindholm-Leary, Saunders, & Christian, 2006; May, 2008). At this point, considerable confidence can be placed in some general conclusions about the outcomes of bilingual education; specifically, the research evidence is clear that for both minority and majority language students, well-implemented bilingual programs are an effective way of promoting proficiency in two languages (e.g., August & Shanahan, 2006).

A finding common to all forms of bilingual education is that spending instructional time through two languages entails no long-term adverse effects on students' academic development in the majority language. This pattern emerges among both majority and minority language students, across widely varying sociolinguistic and sociopolitical

contexts, and in programs with very different organizational structures. Three additional outcomes of bilingual programs can be highlighted.

1. Significant positive relationships exist between the development of academic skills in first and second languages. In order to account for these findings and the fact that instruction through a minority language entailed no adverse consequences for students' academic development in the majority language, Cummins (1979, 1981) proposed the "interdependence hypothesis." This hypothesis was formally expressed in the following way:

> To the extent that instruction in Lx is effective in promoting proficiency in Lx, transfer of this proficiency to Ly will occur provided there is adequate exposure to Ly (either in school or environment) and adequate motivation to learn Ly. (1981, p. 29)

In concrete terms, what this hypothesis means is that in, for example, a Basque-Spanish bilingual program in the Basque Country in Spain, Basque instruction that develops Basque reading and writing skills is not just developing Basque skills, it is also developing a deeper conceptual and linguistic proficiency that is strongly related to the development of literacy in the majority language (Spanish). In other words, although the surface aspects (e.g., pronunciation, fluency, etc.) of different languages are clearly separate, there is an underlying conceptual proficiency, or knowledge base, that is common across languages. This common underlying proficiency (or what Genesee, Lindholm-Leary, Saunders, and Christian [2006] call a cross-linguistic *reservoir of abilities*) makes possible the transfer of concepts, literacy skills, and learning strategies

from one language to another. This is true even for languages that are dissimilar (e.g., American Sign Language and English, Spanish and Basque; Dutch and Turkish). The transfer of skills, strategies, and knowledge explains why spending instructional time through a minority language entails no adverse consequences for the development of the majority language.

There is extensive empirical research that supports the interdependence hypothesis (see reviews by Dressler & Kamil, 2006; Baker, 2001; Cummins, 2001; Genesee, Lindholm-Leary, Saunders, & Christian, 2006). The most comprehensive review was conducted by Dressler and Kamil as part of the Report of the National Literacy Panel on Language-Minority Children and Youth (August & Shanahan, 2006). They conclude:

> In summary, all these studies provide evidence for the cross-language transfer of reading comprehension ability in bilinguals. This relationship holds (a) across typologically different languages ...; (b) for children in elementary, middle, and high school; (c) for learners of English as a foreign language and English as a second language; (d) over time; (e) from both first to second language and second to first language; (p. 222)

Cummins (2008) has suggested that, depending on the sociolinguistic situation, five types of cross-linguistic transfer are possible:

- Transfer of conceptual elements (e.g., understanding the concept of photosynthesis);

- Transfer of metacognitive and metalinguistic strategies (e.g., strategies of visualizing, use of visuals or graphic organizers, mnemonic devices, vocabulary acquisition strategies, etc.);
- Transfer of pragmatic aspects of language use (willingness to take risks in communication through L2, ability to use paralinguistic features such as gestures to aid communication, etc.);
- Transfer of specific linguistic elements (knowledge of the meaning of *photo* in *photosynthesis*);
- Transfer of phonological awareness—the knowledge that words are composed of distinct sounds.

The documentation of multiple forms of cross-linguistic transfer (e.g., Dressler & Kamil, 2006) raises the pedagogical issue (to be considered in more detail in a later section) of whether teachers should actively aim to promote transfer across languages among bilingual or emergent bilingual students. A number of researchers have argued for the adoption of bilingual instructional strategies (e.g., Cummins, 2008; Jessner, 2006) but this orientation contravenes the long-term assumption that bilingualism is best developed within bilingual program through the implementation of monolingual instructional strategies (e.g., Lambert 1984).

2. The most successful bilingual programs are those that aim to develop bilingualism and biliteracy. Short-term transitional programs are less successful in developing both L2 and L1 literacy than programs such as dual language or maintenance programs that

continue to promote both L1 and L2 literacy throughout elementary school. Lindholm-Leary and Borsato (2006) express this pattern of findings as follows:

> [T]here is strong convergent evidence that the educational success of ELLs [English language learners] is positively related to sustained instruction through the student's first language. ... most long-term studies report that the longer the students stayed in the program, the more positive were the outcomes. (p. 201)

This pattern of results refutes the assumption underlying many transitional bilingual programs that students should be transferred out of the bilingual program as rapidly as possible.

3. Bilingual education for minority students is, in many situations, more effective in developing L2 literacy skills than monolingual education in the dominant language but it is not, by itself, a panacea for underachievement. The National Literacy Panel on Language-Minority Children and Youth (August & Shanahan, 2006) concluded that bilingual instruction exerts a moderate but significant effect on minority students' English academic achievement.

> In summary, there is no indication that bilingual instruction impedes academic achievement in either the native language or English, whether for language-minority students, students receiving heritage language instruction, or those enrolled in French immersion programs. Where differences were observed, on average they favored the students in a bilingual program. The meta-analytic results clearly suggest a positive effect for bilingual instruction that is moderate in size. This conclusion held up across the entire collection of studies and within the

> subset of studies that used random assignment of students to conditions. (Francis, Lesaux, & August 2006, p. 397)

This finding concurs with the results of other recent comprehensive reviews (e.g., Genesee et al., 2006; Rolstad, Mahoney, & Glass, 2005). However, it is important to emphasize that underachievement among subordinated group students derives from many sources (e.g., socioeconomic status, inferior schools, low teacher expectations, etc.) and simply providing some L1 instruction will not, by itself, transform students' educational experience nor reverse the effects of social discrimination and poverty.

Dissenting Perspectives

As noted in a previous section, opposition to bilingual education for linguistic minority students derives primarily from ideological concerns related to immigration and national identity in societies that are increasingly diverse. However, two groups of researchers in the United States and Germany respectively have disputed the general pattern of findings presented above regarding the outcomes of bilingual education (Esser, 2006; Rossell & Baker, 1996; Rossell & Kuder, 2005). Rossell and Baker carried out a literature review of studies, which (they claimed) compared bilingual education with "structured immersion" in the dominant language of the school. In a detailed review, Cummins (1999) argued that the Rossell and Baker review is "characterized by inaccurate and arbitrary labeling of programs, inconsistent application of criteria for 'methodological acceptability,' and highly inaccurate interpretation of the results of early French immersion programs" (p. 30). The credibility of their review can be gauged from the fact that 90% of the studies they claimed as support for "structured immersion" (English-medium programs) are

interpreted by the authors of these studies as supporting the effectiveness of bilingual and even trilingual education. Similar problems characterize the more recent review written by Rossell and Kuder (2005).

Esser's (2006) arguments against bilingual education for immigrant and minority students in the German context are based on an uncritical acceptance of the claims made by Rossell and her colleagues (Rossell & Baker, 2006; Rossell & Kuder, 2005) together with inferences drawn from analysis of large-scale international studies such as the Programme for International Student Assessment (PISA) conducted by the Organisation for Economic Cooperation and Development (OECD) (Stanat & Christensen, 2006). His general argument against bilingual education is based on the claim that lack of proficiency in the school language is a major cause of academic difficulties among immigrant students and, consequently, language assimilation through immersion in the school language is a necessary condition for both academic success and social integration. Esser's analysis of the PISA data suggests that knowledge and use of the school language in the home is strongly related to academic success whereas knowledge of the home language either makes no contribution or is negatively related to school success (depending on whether L1 knowledge is accompanied by strong L2 knowledge). He finds no evidence that bilingual education promotes academic development for minority students and suggests that "retention of the first language usually takes place at the cost of second language acquisition (and vice-versa)" (pp. 97-98).

Esser's (2006) argument is unconvincing because he interprets correlational data as causal and fails to take account of the fact that the relationship within PISA between home language and achievement disappeared for a large majority (10 out of 14) of OECD-member countries when socioeconomic status and other background variables were controlled (Stanat & Christensen, 2006, Table 3.5, pp. 200-202). The disappearance of the relationship in a large majority of countries suggests that language spoken at home does not exert any independent effect on achievement but is rather a proxy for variables such as socioeconomic status and length of residence in the host country. Furthermore, any relationship between home language use and achievement is tangential to the issue of whether bilingual education is a legitimate and potentially useful policy option for teaching immigrant and linguistic minority students. The research data (summarized above) overwhelmingly demonstrate the legitimacy of bilingual education and neither Esser nor Rossell and her colleagues provide any credible evidence to the contrary.

Outcomes of Immersion Programs

The outcomes of second language immersion programs are consistent with the more general findings from bilingual education. The immersion data derive primarily from the Canadian French immersion programs, which have been researched extensively, but also from studies in countries such as Spain (Huguet, Lasagabaster, & Vila, 2008), Japan (Bostwick, 1999), Ireland (Harris, 2007), Singapore (Pakir, 2008), South America (de Mejia, 2008), Sweden (Buss & Laurén, (1995), and the United States (Genesee & Lindholm-Leary, 2008). Note that "immersion" in these contexts is a form of bilingual

education that aims to develop fluency and literacy in two languages. The Canadian findings are summarized below as illustrative of the more general trends.

In early immersion programs, students gain fluency and literacy in French at no apparent cost to their English academic skills. Within a year of the introduction of formal English language arts, students catch up in most aspects of English standardized test performance. Usually students require additional time to catch up in English spelling but by Grade 5 there are normally no differences in English test performance between immersion students and comparison groups whose instruction has been totally through English. One potential limitation of these findings is that standardized tests do not assess all aspects of English academic skills; in particular, writing development is usually not assessed in such tests. However, the few studies that have examined English writing development specifically show no evidence of problems among immersion students in this regard (e.g., Swain, 1975). There is also no evidence of any long-term lag in mastery of subject matter taught through French in early, middle or late immersion programs.

With respect to French skills, students' receptive skills in French are better developed (in relation to native speaker norms) than are their expressive skills. By the end of elementary school (Grade 6) students are close to the level of native speakers in understanding and reading of French but there are significant gaps between them and native speakers in spoken and written French. The gap is particularly evident with respect to accuracy of grammar and range of vocabulary knowledge and use.

These gaps are clearly related to the restricted input that students receive in French. There is typically minimal contact or interaction with French speakers outside the school context and very few students read for pleasure in French. After the initial grades, reading in French tends to be primarily textbook reading, which is typically not particularly engaging for students. Thus, there are few opportunities for students to extend their exposure to French and expand their knowledge of vocabulary and grammar.
Writing also tends to be carried out only within the school context and applied to academic tasks that are often not highly engaging for students. Students seldom write for authentic purposes where they are encouraged to invest their identities in creative writing projects. As discussed in a later section, a change in pedagogical approach that would emphasize extensive reading and writing across a wide range of genres might significantly improve students' range of vocabulary and grammatical accuracy in their expressive French.

The overall outcomes of French immersion programs can be summarized as follows:

- Students acquire good receptive skills (listening and reading) in French but their productive skills (speaking and writing) are limited with respect to grammatical accuracy and range of vocabulary;
- Teaching through L2 entails no adverse effects on L1 literacy development;
- In early immersion programs, students are able to develop decoding skills in French despite the fact that their French proficiency in the early grades is very limited;

- A large majority of students spontaneously develop English decoding skills in Grades 1 and 2 with no formal instruction in English reading;
- Immersion appears appropriate for a wide variety of students—not just an academic elite. Students with special needs as well as those who speak a language other than English or French at home can succeed in immersion programs.

In short, while immersion programs by themselves typically do not result in native-like French proficiency, they do provide an excellent foundation for students to later "re-immerse" themselves in a genuine French language context, if they so desire, and develop their L2 skills closer to native speaker norms.

In the next section, I briefly sketch bilingual and immersion programs in different parts of the world in order to illustrate the range of sociolinguistic and sociopolitical contexts within which these programs have been implemented.

Illustrative Sketches of Bilingual and Immersion Programs

Malawi. Williams (1996) examined the impact of language of instruction on reading ability in L1 and L2 in Malawi and Zambia. In Malawi, Chichewa is the language of instruction for years 1-4 of primary school with English taught as a subject. In Zambia, English is the medium of instruction with one of seven local languages taught as a subject. Williams administered an English reading test and a local language reading test (Chichewa in Malawi and the almost identical Nyanja in Zambia) to year 5 learners in six schools in each country. He reported no significant difference in English reading ability

between students in each country, despite the huge difference in amount of English instruction. However, there were large differences in favor of Malawi in local language reading ability. Williams concluded that these results "are consistent with research on minority groups suggesting that instruction in L1 reading leads to improved results in L1 with no retardation in L2 reading" (p. 183).

Singapore. Pakir (2008) points out that the complexity of the language situation in Singapore does not fit neatly into dichotomous majority/minority language categorizations. English is one of the four official languages of Singapore together with Mandarin, Malay and Tamil. English, the language of the former colonial power, was initially seen as a "neutral" language and was adopted as the major medium of instruction in school and the "first school language." The other languages were labeled "ethnic mother tongues" and given status as "second school languages." Thus, the bilingual education policy privileges English but also places strong emphasis on the Asian languages of the population. These languages are taught as subjects within the English-medium system. The Singapore educational system appears to be working effectively, as judged by international comparisons. Students from the major language backgrounds have performed well in international comparisons, not only in mathematics and science but also on measures of English literacy where their scores are at similar levels to several countries where English is the first language of students (e.g., New Zealand, Scotland).

Mexico. Hamel (2008) notes that in 2005, approximately 55,000 indigenous teachers instructed over 1.2 million primary school students who were speakers of one of the 62

indigenous languages still spoken in Mexico. About half of the total indigenous primary school population are now taught by indigenous teachers. Unfortunately, however, the predominant focus in schools serving indigenous students has been on assimilation. Hamel points out that reading primers in indigenous languages funded and produced by the Mexican state are not extensively or effectively used. Reading is typically taught in Spanish from Grade 1. According to Hamel, "[t]he attempt to teach literacy in a second language without sufficient acquisition of the necessary oral skills leads the teachers to under-exploit the communicative potential of the primers, and to return to traditional practices of synthetic methods and structural pattern drill" (p. 317).

However, in recent years, new experimental projects have been implemented based on a pluralist conception of the state and full respect for indigenous peoples and their ethnic rights. These projects aim to maintain or revitalize indigenous cultures and languages. As one example, Hamel described how, in 1995, the P'urhepecha (Tarascan) teachers from two bilingual elementary schools in Michoacán, in the central Highlands of Mexico, changed the curriculum so that all subject matter including literacy and mathematics was taught in P'urhepecha, the children's L1. Teachers had to create their own materials and develop a writing system. Comparative research several years later reported that students who had acquired literacy in their L1 achieved significantly higher scores in both languages than those who were taught reading and writing in Spanish.

Pedagogical Issues within Bilingual and Immersion Programs

A number of pedagogical and organizational issues have been debated in the context of bilingual and immersion programs. One of these concerns the allocation of languages

with respect to both instructional time and academic content to be taught through each language. A related issue concerns the appropriate language for initial reading instruction—should students be introduced to reading in their L1, the L2, or both languages more or less simultaneously? A third issue concerns the extent to which the two languages within a bilingual or immersion program should be kept separate or, alternatively, brought into contact with the goal of encouraging transfer across languages and developing awareness of language.

Language allocation. It is generally accepted that within bilingual and immersion programs strong emphasis should be put on development of conversational and academic skills in the minority language. For dominant group students (e.g., in a second language immersion program), exposure to the minority language is usually minimal outside of the school context; therefore, the development of proficiency in that language depends almost exclusively on input within the school. Students from language minority groups, on the other hand, are typically exposed to the minority language within the home. However, the status of this language is often low in comparison to the status of the dominant language. Students frequently internalize the status differential between the languages and, in the absence of L1 instruction, adopt the majority language as their language of choice with consequent loss of their L1 proficiency. Thus, within bilingual programs for minority students, strong emphasis on the minority language is intended to counteract the status imbalance between the languages and enable students to feel proud of their bilingual skills and develop literacy in both languages.

These considerations have led some policy-makers and researchers to recommend maximizing instructional time through the minority language, particularly in the early stages of bilingual and immersion programs. However, reinforcement of the minority language is not just a matter of quantity of instruction. Some of the most successful bilingual and dual language programs in the United States have divided instructional time equally between Spanish and English (e.g., Freeman, 1998). Programs that have initially emphasized the minority language over the majority language (e.g., 90% Spanish, 10% English in the early grades) have also demonstrated a high level of success (e.g., Lindholm-Leary, 2001). Thus, a variety of options are possible and the research does not point to the superiority of any particular model of language allocation. There is consensus however that at least 50 percent of the instructional time should be spent through the minority language for as long as possible throughout the elementary school years.

In the context of language revitalization efforts, immersion programs often maximize instruction through the minority language as a means of extending the domains in which the language is used and the functions served by the language. Most Maori immersion programs in Aoteroa/New Zealand, for example, use Maori exclusively from pre-school through Grade 4 (and sometimes longer), with English introduced only at Grade 5. Typically, English is taught in a classroom separate from the rest of the school so that the school functions essentially as an "English-free zone." The rationale for this policy is that the school is one of the very few places where Maori is normalized as a legitimate language of communication, and academic skills developed through Maori will transfer to English, which is the home language of most of the students. Although debate

continues in the Aoteroa/New Zealand context about when and how English should be introduced (e.g., May, Hill, & Tiakiwai, 2003), the decision is essentially a local one since the broader research suggests that a range of options are feasible and consistent with successful bilingual development.

Similar considerations apply to the issue of which subjects should be taught through each language. This is essentially a decision that should be taken at the local level taking account of issues such as parent preferences, textbook availability, teacher expertise in particular subject matter, and assessment regime in the wider educational context. For example, in the United States, high-stakes tests are typically administered in Grade 3 through the majority language (English). This reality may lead some policy-makers to adopt a 50/50 rather than a 90/10 model and ensure that subjects that will be tested (e.g., reading and mathematics) are taught through English for a sufficient period of time to ensure that students will be successful on the tests.

Language of initial reading instruction. Most immersion programs provide initial reading instruction through students' L2 (e.g., French immersion programs). However, this practice is not based on any research suggesting that introducing reading in L2 is superior to teaching children to read in their L1. It is simply consistent with the philosophy of immersion and the fact that countless evaluations have demonstrated that students can acquire decoding skills through a language that is still inadequately developed. Immersion and dual language programs that teach reading through students' L1 have also demonstrated success. Similarly, teaching literacy in both languages

simultaneously or in quick succession appears to be quite feasible (e.g., Freeman, 1998). As in the case of language allocation, the decision regarding initial language of reading instruction is best viewed as a local option.

There is considerable consensus among researchers, however, that for minority students in bilingual programs reading should normally be introduced in L1. In some cases, the home language has a more regular sound-symbol relationship than is the case with the dominant language (e.g., Spanish and English in the United States). There is also the consideration that many minority students from low-income backgrounds may come to school with relatively little exposure to literacy in the home; under these circumstances, it makes sense to introduce reading through the language the student already knows. Literacy instruction through minority students' L1 also facilitates the involvement of parents in their children's literacy development and reinforces the status of students' L1.

However, there is also extensive research that demonstrates that many language minority students acquire L2 decoding skills under conditions of initial L2 literacy instruction (Geva, 2006). Thus, the issue of initial literacy instruction remains a local option even though most bilingual programs serving language minority students introduce reading to students through their L1 for the reasons outlined above.

Monolingual or bilingual instructional strategies? Lambert (1984) clearly expressed the monolingual instructional philosophy underlying French immersion programs:

> No bilingual skills are required of the teacher, who plays the role of a monolingual in the target language ... and who never switches languages, reviews materials in the other language, or otherwise uses the child's native language in teacher-pupil interactions. In immersion programs, therefore, bilingualism is developed through two separate monolingual instructional routes. (p. 13)

Adoption of monolingual instructional strategies within immersion programs reflects what Howatt (1984), in his history of English language teaching, referred to as the "monolingual principle". This principle emphasizes instructional use of the target language (TL) to the exclusion of students' L1, with the goal of enabling students to think in the TL with minimal interference from L1. This principle initially gained widespread acceptance more than 100 years ago in the context of the *direct method* and has continued to exert a strong influence on various language teaching approaches since that time (Howatt, 1984). According to Yu (2001), "[t]he direct method imitated the way that children learn their first language, emphasizing the avoidance of translation and the direct use of the foreign language as the medium of instruction in all situations" (p. 176). Consistent with direct method principles, translation across languages is seen as unacceptable within immersion (and many bilingual) programs.

There is certainly a rationale for creating largely separate spaces for each language within a bilingual or immersion program. However, there are also compelling arguments to be made for teaching for transfer across languages. The reality is that students are making cross-linguistic connections throughout the course of their learning in a bilingual or

immersion program (Jessner, 2006), so why not nurture this learning strategy and help students to apply it more efficiently?

Teaching for cross-linguistic transfer is consistent with both the interdependence hypothesis and the extensive research supporting the crucial role that prior knowledge plays in all learning (e.g., Bransford, Brown, & Cocking, 2000). The interdependence hypothesis has drawn attention to the reality of cross-linguistic transfer in virtually all second language learning situations. It is reasonable to argue that learning efficiencies can be achieved if teachers explicitly draw students' attention to similarities and differences between their languages and reinforce effective learning strategies in a coordinated way across languages. For example, if the teacher is explaining the meaning of the term *predict* in science (taught in English) within a French immersion program, it makes sense to explain the meaning of the root (from the Latin *dicere* meaning "to say") and the prefix (meaning "before") as well as drawing students' attention to the fact that the root and prefix operate in exactly the same way in the French word *prédire.* Similarly, the centrality of prior knowledge in the learning process implies that instruction should explicitly attempt to activate students' prior knowledge and build relevant background knowledge as necessary. This holds true regardless of whether students are being instructed through L1 or L2. However, monolingual instructional approaches appear at variance with this fundamental principle of learning because they regard students' L1 (and, by implication, the knowledge encoded therein) as potentially an impediment to the learning of L2. As a result, these approaches are unlikely to focus on activation of students' prior knowledge. In cases where monolingual approaches do

acknowledge the role of prior knowledge, they are likely to limit its expression to what students can articulate through their L2.

Among the bilingual instructional strategies that can be employed to promote literacy engagement in both L1 and L2 are the following (Cummins, 2008):

- Focus on cognates in contexts where the languages share common linguistic origins;
- Creation and web-publication of dual language multimedia books and projects (see, for example, www.multiliteracies.ca and http://thornwood.peelschools.org/Dual/); the creation of dual language books clearly involves translation across languages, a practice that has hitherto been viewed as pedagogically unacceptable in immersion and bilingual programs;
- Sister class exchanges in which students use the Internet to connect with other bilingual students and use both L1 and L2 to create literature and art and/or to explore issues of social relevance to them and their communities.

Immersion researchers are beginning to acknowledge that students' use of their L1 serves some legitimate and useful learning functions within the L2-medium classroom (Swain & Lapkin, 2000, 2005). According to Swain and Lapkin (2005), students' use of the L1 enables them to develop strategies to carry out tasks in the target language and to work through complex problems more efficiently than they might be able to do through their L2. They also point to the changing demographic realities of immersion education in Canada and in other contexts—an increasing number of students from language backgrounds other then English and French are now in immersion programs. They argue

that it is important to support the home language development of these students within the immersion program in addition to the teaching of French and English.

In short, although most bilingual and immersion programs continue to rely almost exclusively on monolingual instructional strategies, there is emerging recognition that students' L1 *can* function as a cognitive and linguistic resource to scaffold more accomplished performance in the L2.

Conclusion

Research during the past 40 years has clearly established bilingual and immersion programs as a legitimate educational option for both majority and minority language students. For majority language students, bilingual/immersion education provides an effective means of developing proficiency in a target language at no cost to students' fluency or literacy in their L1. For minority students, bilingual education similarly promotes development of fluency and literacy in two languages; furthermore, in the case of minority students who are at risk of school failure, bilingual education has demonstrated its potential to support students' overall academic development more effectively than programs conducted exclusively through the majority language.

In the current era of unprecedented population mobility, the economic and personal utility of bilingual and multilingual skills has become increasingly obvious and this phenomenon has propelled awareness of and interest in bilingual and immersion education. Population mobility also increases the number of children from linguistically diverse groups in countries around the world. Although bilingual programs are clearly not

feasible to implement on a large-scale in school situations that are highly multilingual, there is increasing recognition among educators in many contexts that minority students' home languages represent (a) a significant intellectual and personal resource for the students themselves, (b) an important communicative tool within families, and, (c) in an interdependent world, an economic and diplomatic resource for the nation as a whole. In Ontario, Canada, for example, Ministry of Education documents now highlight the importance of students' home languages and provide concrete strategies to enable educators to support students' languages within the mainstream (English-medium) classroom (Ontario Ministry of Education, 2006).

Although there is no longer serious debate about the scientific legitimacy of bilingual education for linguistic minorities, the ideological debate is likely to continue for the foreseeable future, partly because it has very little directly to do with education. The issues concern the extent to which societies should adopt a pluralist approach that encourages children and communities to maintain and develop their languages and culture in addition to acquiring the majority language, or alternatively, should schools promote the assimilation of immigrants and encourage minority students to abandon their home languages and cultures? In contexts where this debate is raging, bilingual programs are frequently seen as valuable and worthy of public funding when they are directed towards the acquisition of additional languages by dominant group students but highly problematic when the beneficiary of bilingual education is a minority or subordinated group.

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