Bilingual Education: What the Research Tells Us

Stephen May

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Abstract

This chapter explores key research findings about bilingual education and the related efficacy of various approaches to teaching bilingual students. Its principal focus is on the research to date on the most common forms of bilingual education. This research consistently supports the efficacy of bilingual education, particularly when it is predicated on additive bilingual principles. Even so, ongoing public opposition to bilingual education, often highly misinformed, remains strong. The chapter also examines recent research around the notions of "dynamic bilingualism" and "translanguaging," along with their pedagogical implications for existing bilingual programs.

S. May (✉)
Faculty of Education and Social Work, The University of Auckland, Auckland, New Zealand
e-mail: s.may@auckland.ac.nz

Introduction

This chapter explores key research findings about bilingual education and the related
efficacy of various approaches to teaching bilingual students. Its principal focus is on
the research to date on the most common forms of bilingual education. When this
research is examined, and taken seriously, a picture of what constitutes an effective
educational approach for bilingual students can be clearly ascertained. However, this
clarity is still not yet reflected in wider public and policy debates where strongly
polarized positions both for and (more often) against bilingual education remain
commonplace.

A key reason as to why wider public and policy debates on bilingual education
continue to be so contested rests with the widely different understandings among
commentators of what such an education actually comprises. At one end of the
continuum are those who would classify as bilingual *any* educational approach
adopted for, or directed at, bilingual students, *irrespective* of their educational
aims (fostering bilingualism or monolingualism) or the role (if any) of first language
(L1) and second language (L2) as languages of instruction. In other words, simply
the presence of bilingual students in the classroom is deemed sufficient to classify a
program as bilingual (see, e.g., Baker and de Kanter 1981). At the other end of the
continuum are those who distinguish clearly between nonbilingual, weak, and
strong bilingual programs (e.g., Baker 2011; Cummins 2010; May 2010;
Skutnabb-Kangas 1981, 2000). It is the latter approach that I will adopt in this
analysis.

Early Developments

Philosophy/Aims of Bilingual Education

There are a plethora of existing bilingual education typologies in the research
literature, although, as one might expect, they do not always correspond or overlap,
depending on the initial starting point and position of the researcher. Some of the
most accessible and informed can be found in Cummins (2010), Genesee
et al. (2006), Hornberger (1991), May (2010), May et al. (2004), and Skutnabb-
Kangas (2000). For the most recent comprehensive overviews, see Baker (2011),
García (2009a), and May and Dam (2014).

Before unpacking the characteristics of bilingual education further in light of these typologies, however, it is useful to begin with a classic definition of bilingual education, first posited by Andersson and Boyer:

> Bilingual education is instruction in *two languages* [emphasis in original] and the use of those two languages as mediums of instruction for any part or, or all, of the school curriculum. (1970, p. 12)

Put simply, bilingual education involves instruction *in* two languages (see also Baker and Prys Jones 1998; Cummins 2010; Freeman 1998; Hamers and Blanc 2000). This immediately excludes programs that include bilingual students but which do not involve bilingual instruction, most notably submersion majority language programs, where students are taught only in the majority language, irrespective of their language background. It also excludes programs where an L2 is taught as a subject only. English as a second language (ESL) classes, which include the sheltered instruction approach increasingly popular in the USA, are examples of this, as are foreign language classes. Along with submersion programs, they can also clearly be described as nonbilingual programs.

For a program to be deemed to be bilingual, the key is that both languages must be used as media of instruction and thus to deliver curriculum content. As Baker and Prys-Jones (1998, p. 466) conclude: "If there is a useful demarcation, then bilingual education may be said to start when more than one language is used to teach content (e.g., Science, Mathematics, Social Sciences, or Humanities) rather than just being taught as a subject by itself." On this basis, immersion models that teach majority language students predominantly through a minority or "target" language, such as French-immersion programs in Canada or Māori-immersion programs in New Zealand, are also clearly bilingual programs. This is because some curricular instruction in the majority language (English, in both cases) almost always occurs at some point prior to the end of the program, even in those programs with very high levels of immersion in the minority or target language.

An additional key point addressed by many commentators in defining bilingual education relates to the constituency of students each program serves, along with the *philosophy* and related educational *goals* of any given program. Within the literature on bilingual education, these have most often been described in terms of dichotomies, most notably those between "elective bilinguals" and "circumstantial bilinguals" on the one hand and between "additive bilingualism" and "subtractive bilingualism" on the other. Elective bilinguals are those who *choose* to learn an additional language, usually as a means of social and educational advancement. The context of such acquisition is also often described as additive bilingualism in that the process of bilingual acquisition and learning is seen as socially, cognitively, and educationally beneficial, both by the learners themselves and in the wider society. An example of this might be the English-speaking student who decides to undertake French-immersion education in Canada, with the end result that they will be bilingual in English and French. In contrast, circumstantial bilinguals are those who are *required* to learn another language, most often because their first language

(L1) is not the language of the wider society in which they currently live. These circumstantial bilinguals, the majority of whom are immigrants or speakers of minority languages, often subsequently experience "subtractive bilingualism." Subtractive bilingualism occurs when the ongoing use of a person's L1 is seen as "harmful" to the "successful" acquisition and use of the dominant or majority second language (L2) at the individual level, while the maintenance of the L1 is seen as problematic at the wider societal level. In both instances, a majority L2, or the language of the wider society, is seen as being in competition with, and eventually replacing, the L1 of minority language speakers. In the process, their bilingualism is problematized, even pathologized, both individually and societally. An example would be Latino students in the USA whose ongoing bilingualism is often viewed negatively, with Spanish seen as "interfering" with the acquisition of English, while ongoing use of Spanish is seen as a failure to integrate sufficiently into US society (see, e.g., Crawford 2008; González 2012).

The additive–subtractive distinction, first postulated by Lambert in Canada in 1974, is also useful for another reason. Research over the last 40 years has consistently demonstrated that those programs which are most likely to achieve bilingualism and biliteracy for their students – i.e., additive bilingual programs – are also the most likely to see those students succeed educationally. In contrast, subtractive programs not only atrophy their students' existing bilingualism but also exhibit far lower levels of educational success for these students, particularly over time (see Baker 2011; Cummins 2000; Genesee et al. 2006; May et al. 2004; Thomas and Collier 2002; see also below).

To this additive–subtractive dyadic, however, we need to add García's (2009a) important additional notion of "dynamic bilingualism." Dynamic bilingualism highlights the complex and evolving language use of bilinguals in the increasingly globalized world of the twenty-first century. This allows for the possibility of moving beyond the somewhat arbitrary L1/L2 distinction (itself, increasingly questioned as a monolingual conception of language learning; see May 2014a). Instead, bilingual learners/learning are conceived in terms of a bilingual continuum, ranging from emergent bilinguals through to highly proficient bilinguals (García 2009a). A key aspect of this dynamic bilingualism is what García, following Cen Williams, terms "translanguaging" (see García 2009a, b), which refers to the multiple and complex discourse practices in which bilinguals engage every day in order to facilitate communication with others and to comprehend their bilingual worlds. It is thus increasingly accepted that, while additive bilingualism remains useful in foregrounding the positive potential of bilingualism and bilingual education (along with its wider societal implications), dynamic bilingualism better describes the actual complexities of ongoing bilingual language use. Nancy Hornberger's important notion of "continua of biliteracy" (see Hornberger 2003) similarly highlights the complex interface between bilingualism and biliteracy in any given bilingual learner.

In what follows, I continue to discuss the additive–subtractive bilingual distinction as a central explanatory framework for evaluating the aims and philosophy of bilingual education and related attitudes towards bilingualism and bilingual learners. That said, the notions of dynamic bilingualism and translanguaging necessarily

complexify the phenomenon of bilingualism itself, along with its development in bilingual learners, and related learning approaches, an issue I will return to in the final section on future directions in this field.

Models of Bilingual Education

The next level of classification of bilingual programs can now be made in terms of the specific linguistic and/or educational aims of particular bilingual education *models*. According to Freeman (1998, p. 3), models are defined in terms of "their language-planning goals and ideological orientations toward linguistic and cultural diversity in society." They can be understood as broad categories that help us to understand on a very general level what bilingual education means, although there is inevitably a degree of arbitrariness in distinguishing among them.

Despite the welter of different classifications of bilingual education in the research literature, there are three broad models that are consistently included in these various typologies. These are: *transitional* models, *maintenance* models, and *enrichment* models of bilingual education. In addition to these three broad models, there are also what have come to be known as *heritage* language models, which fall somewhere in-between maintenance and enrichment approaches (May and Hill 2005; see below).

A *transitional* model of bilingual education uses the L1 of minority language students in the early stages of schooling but aims to shift students away from the use of their L1 as quickly as possible towards the greater use of the majority (L2) language, in order to "cope" academically in "mainstream" or general education (Freeman 1998; de Mejia 2002). In other words, the L1 is used only to the extent that it facilitates the transition of the minority language (L1) speaker to the majority language (L2). Accordingly, most transitional programs are also early-exit programs, where the L1 is used for only 1–2 years before being replaced by the L2, and can thus be regarded as both a subtractive and a weak bilingual model. In assuming that the (minority) L1 will eventually be replaced by a (majority) L2, bilingualism is not in itself regarded as necessarily beneficial, either to the individual or to society as a whole. This in turn suggests that the eventual atrophy of minority languages, or the aim of moving eventually *from* bilingualism *to* monolingualism in the majority language, remains a central objective of transitional bilingual programs. For example, transitional bilingual programs were developed widely in the USA for Spanish (L1) speakers from the 1970s and, while in decline since the 1990s, still remain common in some states (e.g., Texas) (Crawford 2008; Cummins 2010).

A *maintenance* approach to bilingual education, on the other hand, differs fundamentally from a transitional approach because it aims to *maintain* the minority language of the student, *strengthen* the student's sense of cultural and linguistic identity, and *affirm* their individual and collective ethnolinguistic rights. As such, it is clearly an additive and strong bilingual model. There are many types of bilingual program that can be said to fit into this model and these will be discussed more fully below. However, the typical participant in a maintenance bilingual program will be a national minority group member (e.g., Welsh in Britain, Catalan in Spain, French

Canadian in Canada, Latinos in the USA) whose L1 is already developed to an age-appropriate level (although they do not need to be literate yet in the language). The language of instruction of the program will either be predominantly in the L1 or, if both L1 and L2 are used as mediums of instruction, at least 50 % in the L1. This is because the aim of such programs, as their designation suggests, is to maintain the L1 for a sufficient amount of time for academic language proficiency in the L1 to be achieved. This, in turn, facilitates the acquisition of literacy in an L2, on the basis of what Cummins (1979, 2000; see also Koda 2007) has termed the "linguistic interdependence" principle. Consequently, the most common programs in a maintenance bilingual model are late-exit programs – that is the use of L1 as an instructional language continues *for at least* 4–6 years, often longer.

Closely related to maintenance bilingual programs are *enrichment* programs, a term first coined by Fishman (1976). If the former are geared towards maintaining the L1 of minority language students, the latter are generally (but not exclusively) associated with teaching majority language students (such as L1 English speakers) *through* a minority target language. French immersion in Canada, where many of the students come from middle-class, L1 English-speaking homes, is perhaps the most often cited example of an enrichment bilingual program. Welsh-medium schools, which also include many middle-class L1 English speakers, are another example. Elite bilingual programs such as the European schools movement are also widely regarded as enrichment programs (see Baetens Beardsmore 1993; de Mejia 2002).

As with maintenance programs, the emphasis in enrichment programs is not just on achieving bilingualism and biliteracy for individual students but also on the ongoing maintenance of the minority language(s) in the wider community. As Hornberger argues, the enrichment model "encompasses all those bilingual education program types which aim toward, not only maintenance, but development and extension of the minority languages, cultural pluralism, and an integrated national society based on autonomy of cultural groups" (1991, p. 222). Accordingly, Hornberger asserts that this type of program has the greatest potential to educate students successfully, given its strong additive bilingual basis. It is also the program most likely to reduce the educational and wider social and linguistic inequalities experienced by minority language speakers.

This broad L1/L2 distinction between maintenance and enrichment approaches is a useful form of shorthand in the research literature but it also clearly has its limits – not least, because of the limitations of the L1/L2 distinction itself, signaled earlier. With respect to bilingual education programs, for example, it does not necessarily help us to identify clearly where a *heritage* language model of bilingual education might fit in. Heritage programs are most often associated with two distinct constituencies. The first comprise Indigenous language revitalization efforts, along with a wide range of related Indigenous language education initiatives. These include Māori-medium education in New Zealand; Navajo language education in the USA; Quechua/Quichua language education programs in Bolivia, Ecuador, and Peru; and Sámi language education in Norway, among many others (Baker 2011; Hinton and Hale 2001; Hornberger 2008; May and Hill 2005). Some of these Indigenous language programs are aimed at students who still speak the Indigenous

language as an L1 (e.g., Navajo; Hualapai in the USA; Inuit in Nunavut, Canada; Sámi in Finnmark, Norway) and may therefore be regarded as L1 maintenance bilingual programs. But many also cater for students with a mix of L1/L2 speakers of the language (Māori in New Zealand, Hawaiian), and some have only L2 speakers (or, rather, learners) of the language (the Master/Apprentice program developed for the now largely moribund Indigenous languages of California) and are therefore closer to the enrichment end of the continuum.[1]

The second constituency comprises other established and immigrant groups (Valdés et al. 2006; Wiley 2001; Wiley et al. 2014). These latter programs tend to focus solely on the *reclamation* of a heritage language no longer spoken as an L1 – i.e., the students are L2 learners of the heritage language. In both cases, however, heritage programs can clearly be regarded as an additive and strong bilingual approach, albeit situated somewhere in between maintenance and enrichment models in terms of the L1/L2 status of their students (May 2010; May and Hill 2005). Even so, increasingly, the majority of students in such programs tend to be L2 speakers of the target language, the result, in turn, of previous patterns of language shift and loss of the heritage/Indigenous language. For example, McCarty (2002, 2012) notes that in the Navajo heritage language program at Rough Rock in Arizona – one of the strongest and longest established in the USA – less than 50 % of Navajo now speak their own language and their numbers are declining each year. And in Māori-medium education in New Zealand, the overwhelming majority of students are now L1 English speakers (Hill and May 2011, 2013; May and Hill 2005).

Bilingual Education Programs

The final level at which bilingual education can be examined is the *program* level, which is also, necessarily, the most complex and diffuse. According to Hornberger (1991), bilingual programs are more concrete categorizations than models and can be differentiated from one another by an analysis of specific contextual and structural characteristics. For Hornberger, contextual characteristics include: characteristics of the student population (numbers, stability/mobility in the school, SES, minority status, language background) and characteristics of the teacher population (ethnic background, degree of bilingualism, training, roles). Structural characteristics include: "program in school" (whether school-wide or targeted); "languages in curriculum" (sequencing, oral/literate development, and subject allocation of the languages); and "classroom language use" (patterns and functions).

There is not space in this chapter to discuss the complexity of programs involved here (for an exemplary extended analysis, see Baker 2011), except to highlight – in

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[1]Not all Indigenous communities accept heritage bilingual programs as an appropriate overarching term – as evident, most clearly, in the rejection of the term by many First Nations peoples in Canada (Cummins, personal communication).

light of the preceding discussion – the most common types of program. Nonbilingual programs include submersion, ESL, and sheltered instruction programs (all subtractive programs). Bilingual programs include weak (and subtractive) bilingual programs, such as transitional bilingual education, where use of the students' L1 is limited usually only to the first years of schooling. Strong (and additive) bilingual programs include L1 maintenance bilingual programs, immersion, and heritage programs. These programs have also been termed "one-way" programs (Thomas and Collier 2002) because they tend to have a preponderance of either L1 or L2 students within them, depending on the context. They may vary in terms of both their level of immersion in the minority or target language and the related timing and balance of instruction in the majority language. However, most of these programs will use the minority or target language as the medium of instruction between 50 % and 90 % of the time. For example, the program may begin as a 90:10 program in the early years (with 90 % in the minority or target language) and change gradually to a 50:50 program by year four of a student's schooling.

Increasingly popular in the USA with respect most often to Spanish–English bilingual instruction is "two-way immersion" or two-way dual language immersion. The aims of two-way immersion are the same as other strong, additive programs – bilingualism and biliteracy for their students. However, unlike other forms of immersion, two-way programs include L1 speakers as well as L2 speakers of the target or minority language in the same classroom, wherever possible, in roughly equal proportion. These programs specifically integrate L1 and L2 students in the target language (e.g., Spanish) so that the L1 target language students scaffold/ support the L2 target learners, while the latter, in turn, scaffold/support the L1 target language learners in the majority language (e.g., English). The aim is thus to develop the bilingual and biliterate skills of both groups, drawing not only on the teacher's but also the students' language learning knowledge (Cloud et al. 2000; Howard et al. 2007; Lindholm-Leary 2001; Pérez 2003). Because of this, and the prominence of the mixed student groups, these programs are often associated by parents with the attributes of enrichment programs and the associated advantages of elective bilinguals. This perhaps explains their growing popularity, despite a wider political climate in the USA that is increasingly hostile to bilingual education (see below).

The discussion thus far can be summarized, albeit somewhat simplistically, via Diagram 1,[2] where the left-hand side can be equated with subtractive approaches and the right-hand side with additive approaches to bilingual students. As we shall see, addressing these various dimensions of bilingual education is a necessary but not sufficient prerequisite for understanding what research has subsequently found in relation to the relative efficacy of the various approaches just described. It is to this research that I now turn.

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[2]This diagram was developed in conjunction with my colleague, Richard Hill and is loosely based on an earlier diagram by Hornberger (1991). It was previously published in May (2010).
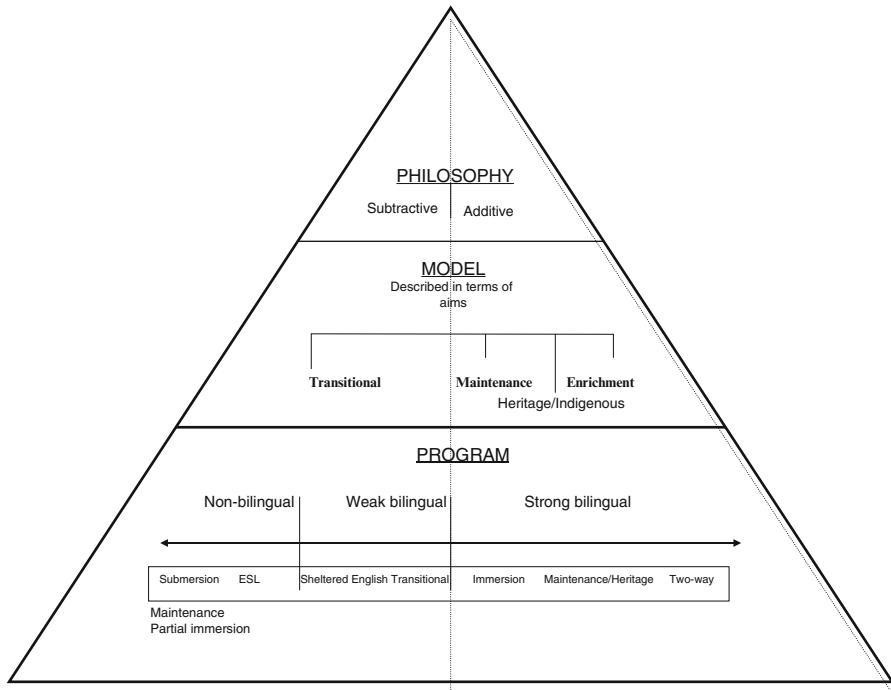
Diagram 1   Principal axes of bilingual/immersion education

Major Contributions

The complexity of the types of bilingual programs available, along with the widely different understandings of bilingual education adopted in the research literature, have significant implications for how one might proceed to assess fairly and accurately the effectiveness of such programs. This is crucial because the veracity of the research evidence gathered will, in turn, determine how informed subsequent educational policy and practice is likely to be on bilingual education. Accordingly, even where research is drawn upon as a basis for policy and practice it needs to be carefully examined and evaluated. For example, the recent dismantling of many bilingual education programs in the USA (see Crawford 2000, 2008; Cummins 2000; Dicker 2003; May 2014b, c) has largely been based on a highly effective antibilingual education campaign that promoted a combination of popular misunderstandings about bilingualism and highly selective, often directly misleading, "research evidence" to support its (erroneous) claims. The latter can be most clearly seen in the effective political mobilization by bilingual education opponents of two deeply flawed US government sponsored research studies which cast (some) doubt on the effectiveness of bilingual education.

The first of these, the American Institutes for Research's (AIR) evaluation of bilingual education programs, was commissioned in the 1970s by the United States Office of Education (Danoff et al. 1978). It provided an overview of US federally funded bilingual programs operating at the time and found that such programs had no significant impact on educational achievement in English, although they did enhance native-like proficiency. It furthermore suggested that pupils were being kept in bilingual programs longer than necessary, thus contributing to the segregation of such students from mainstream classes.

Despite concerns about its methodology (see below), the conclusions of the AIR study were seemingly replicated by a second piece of US federally commissioned research by Baker and de Kanter (1981, 1983; see also Rossell and Baker 1996). They reviewed the literature and likewise concluded that bilingual education was not advancing the English language skills and academic achievements of minority language students, predominantly Spanish-speaking L1 students. In short, Baker and de Kanter argued that students in bilingual programs demonstrated no clear educational advantages over those in English-only programs.

Given the increasingly skeptical political climate of the time, this research generated enormous publicity and exerted even more influence on subsequent federal US policy. However, as Crawford (1989) observes, while the Baker and de Kanter (1983) report is easily the most quoted US federal pronouncement on bilingual education, it is probably the most criticized as well. As with its predecessor, much of this criticism had to do with the methodology that was employed. For example, as with the AIR study, Baker and de Kanter specifically rejected the use of data gathered through students' L1. They also failed to account for the fact that two thirds of the comparison group in English-only education programs *had previously been in bilingual programs* where, presumably, they had benefited from first language instruction.

Moreover, neither report distinguished between the wide variety of educational approaches to bilingual education, particularly in relation to the degree to which the first language (L1) was used as the medium of instruction, and whether the programs were based on an additive or subtractive bilingual approach. By simply aggregating all results, these reports thus singularly failed to differentiate meaningfully between different bilingual education programs. We can see this, for example, in the related failure of both reports to differentiate between early- and late-exit bilingual programs in their analysis, the former being largely subtractive, the latter largely additive. Consequently, the somewhat lesser educational effectiveness of early-exit bilingual programs, which constituted the majority of the programs under review, inevitably subsumed the better educational results of the late-exit programs (Cummins 1996).

Overall, the inadequacy of Baker and de Kanter's findings has been confirmed by subsequent meta-analyses of their data. Willig (1985, 1987), for example, controlled for 183 variables that they had failed to take into account. She found, as a result, small to moderate differences in favor of bilingual education, even when these were predominantly early-exit programs. Willig's conclusions are also replicated in two subsequent major longitudinal bilingual education research studies in the USA, those of Ramírez et al. (1991) and Thomas and Collier (2002; see also 1997). By

specifically differentiating among the widely different approaches to bilingual education, and controlling for their variable effectiveness, the findings of each of these major studies (see also Hakuta et al. 2000) clearly and consistently support the efficacy of bilingual education in *additive bilingual* contexts.

Ramírez et al. (1991) compared English-only programs with early-exit (1–2 years) and late-exit (4–6 years) bilingual programs, following 2,352 Spanish-speaking students over 4 years. Their findings clearly demonstrated that the greatest growth in mathematics, English language skills, and English reading was among students in late-exit bilingual programs where students had been taught predominantly in Spanish (the students' L1) – equivalent to one-way maintenance bilingual programs. For example, students in two late-exit sites that continued L1 instruction through to grade 6 made significantly better academic progress than those who were transferred early into all-English instruction. Ramírez et al. conclude that:

> Students who were provided with a substantial and consistent primary language development program learned mathematics, English language, and English reading skills as fast or faster than the norming population in this study. As their growth in these academic skills is atypical of disadvantaged youth, it provides support for the efficacy of primary language development facilitating the acquisition on English language skills. (1991, pp. 38–39)

In contrast, the Ramírez study also highlighted that minority language students who receive most of their education in English rather than their L1 are *more* likely to fall behind and drop out of school. In fact, it is important to note here that the English-only programs used for comparison in the Ramírez study were not typical to the extent that, while the teachers taught in English, they nonetheless understood Spanish. This suggests that, in the far more common situation where the teacher does not understand the students' L1, the trends described here are likely to be further accentuated.

In the largest longitudinal study conducted to date, Thomas and Collier (2002) came to broadly the same conclusions. Thomas and Collier analyzed the education services provided for over 210,000 language minority students in US public schools and the resulting long-term academic achievement of these students. They did so by examining in depth five urban and rural sites from throughout the USA over 5 years, from 1996 to 2001. The school bilingual program types examined within these contexts varied widely – they included full immersion programs in a minority language, dual-medium or two-way programs, where both a minority and a majority language (usually, Spanish and English) were used as mediums of instruction, transitional bilingual education programs, ESL (English as a second language) programs, and mainstream submersion (English-only) programs.

As with the Ramírez study, one of Thomas and Collier's principal research findings was that the most effective programs – "feature rich" programs as they called them – resulted in achievement gains for bilingual students that were above the level of their monolingual peers in mainstream classes. Another key conclusion was that these gains, in both L1 *and* L2, were most evident in those programs where the child's L1 was a language of instruction for an extended period of time. In other

words, Thomas and Collier found that *the strongest predictor of student achievement in L2 was the amount of formal L1 schooling they experienced*. As they state, "the strongest predictor of L2 student achievement is the amount of formal L1 schooling. The more L1 grade-level schooling, the higher L2 achievement" (2002, p. 7). Only one-way and two-way or dual immersion programs – strong bilingual programs in effect – achieved these results. As Thomas and Collier conclude:

> [These] are the only programs we have found to date that assist students to fully reach the 50th percentile in both L1 and L2 in all subjects and to maintain that level of high achievement, or reach even higher levels through the end of schooling. The fewest dropouts come from these programs. (2002, p. 7)

As with Ramírez et al., Thomas and Collier also found that students in English submersion classes performed far less well than their peers in strong bilingual programs, as well as dropping out of school in greater numbers. Students in transitional bilingual programs demonstrated better academic performance over time but not to the same extent as strong bilingual programs. In both these major large-scale studies, then, length of L1 education turned out to be more influential than *any* other factor in predicting the educational success of bilingual students, *including* socioeconomic status.

These findings have been corroborated by more recent related research. August and Shanahan (2006), for example, in their major review of the literature on developing literacy for L2 learners, acknowledge directly the benefits of L1 oral proficiency and literacy as a basis for successfully achieving literacy in English for language minority students. A meta-analysis undertaken by McField and McField (2014) further confirms the consistent achievement advantages found for students in additive bilingual programs. Callahan and Gándara (2014) provide in-depth quantitative analyses in support of the positive links between bilingualism and subsequent social and economic mobility in the USA.

I have concentrated on the US-based research findings – at the risk of underemphasizing research in other contexts (although see below) – because they provide us with such a clear demonstration of research supporting the effectiveness of additive forms of bilingual education. The major longitudinal studies discussed here are particularly important in this regard. These findings are also significant, however, because they highlight the wider social and political forces often arraigned against the ongoing development of bilingual education and the willful manipulation, or ignoring, of related research that supports its clearly attested efficacy.

Of course, there are a wide range of studies from other national contexts that also broadly corroborate these findings in support of bilingual education – not least, the contributions in this volume. Of the wider, book-length, research-based literature, Baker (2011) and García (2009a) provide magisterial overviews of the field of bilingual education. Cummins (2000), May et al. (2004), and Genesee et al. (2006) provide useful overviews of the key research findings with respect to the academic success of students in bilingual programs. Baetens Beardsmore (1993) and de Mejia (2002) discuss various European models of bilingual education, while

more recent research examines and supports the efficacy of content and language integrated learning (CLIL) programs in Europe (see Cenoz et al. 2014), where particular content areas are taught through the medium of another language. Barnard and Glynn (2003) explore developments in bilingual education in New Zealand (see also May and Hill 2005). García et al. (2012), Johnson and Swain (1997), Jones and Ghuman (1995), and Tollefson and Tsui (2004) provide a wide range of international examples of effective bilingual and immersion education programs, while the *International Journal of Bilingual Education and Bilingualism*, *13*(2), 2010 explores the interconnections between deafness and bilingual education. All these contributions add to the burgeoning international research literature confirming the efficacy of strong forms of bilingual education.

Work in Progress

The chapters in this volume clearly demonstrate the breadth of work currently being undertaken internationally in bilingual education. There are also a number of key journals where research findings on bilingual education are regularly published. These include, most prominently, the leading *International Journal of Bilingual Education and Bilingualism,* the *Journal of Multilingual and Multicultural Development*, the *International Multilingual Research Journal*, the primarily US-focused *Bilingual Research Journal* and, the most recent addition, the *Journal of Immersion and Content-based Education.*

Key websites that are worth exploring in relation to the bilingual education research discussed in this chapter include the websites of Wayne Thomas and Virginia Collier http://www.thomasandcollier.com/and James Crawford http://www.languagepolicy.net/. Also useful is the first comprehensive web-based resource specifically for teachers working with bilingual students, *Language Enhancing the Achievement of Pasifika* (LEAP). This was developed in New Zealand between 2004 and 2006 by a team led by the author in relation to working with Pasifika bilingual students in mainstream (English-medium) contexts. However, it draws extensively on best practice in bilingual/immersion education and the general principles can be applied to all bilingual students. It can be found at http://leap.tki.org.nz/. For website access to research on the links between bilingual education and deaf students, see also http://www.fbarnes.camden.sch.uk/Resources/Bilingual-Education-Research-Resources/.

Problems and Difficulties

The problems and difficulties associated with this area have already largely been discussed. They include the plethora of, sometimes conflicting, definitions of bilingual education, along with the often-markedly different positions taken upon the educational effectiveness of bilingual education. In this chapter, I have tried to

untangle this often-bewildering complex range of positions – highlighting, first, the clear educational differences among programs for bilingual students and, from that, providing a means by which those programs can be accurately assessed. When this is achieved, the research on the efficacy of bilingual education becomes much clearer – starkly clear in fact – with strong additive bilingual programs consistently outperforming other program options.

Conveying these research results to educational policy makers and the wider public – particularly in monolingual (often English-dominant) countries – remains, however, a significant challenge, particularly given ongoing misperceptions about, and often-vociferous opposition to, bilingual education. In this respect, an observation made by Thomas Ricento on the US context, made two decades ago, still largely applies: "the public debate (to the extent that there is one) [on bilingual education still] tends to focus on perceptions and not on facts" (1996, p. 142). Or as Fishman despairingly asks of the same context, "why are facts so useless in this discussion?" (1992, p. 167). This reminds us that in *any* discussion of bilingual education, we must not only address seriously the educational research underpinning it but also the ways in which this research is at times ignored, deployed, and misrepresented in wider debates, particularly by opponents of bilingual education. The examples from the USA discussed in this chapter highlight this clearly enough.

This raises in turn the question of the degree to which those who research and teach in the fields of bilingualism and bilingual education should also engage in wider public debate on these issues. While positions on the role of advocacy will inevitably vary, there is a growing consensus that those who research and teach in these fields should, where possible, act as public intellectuals on bilingualism and bilingual education as well. As McGroarty (2006) observes of this, for example, "[i]t is the job of [those] interested in policies that include attention to bilingualism to keep the value of bilingualism in the public consciousness, to continue to demonstrate that bilingual approaches to education are not only feasible but, in fact, actually exist." (p. 5). Similarly, Dubetz and de Jong (2011) highlight the role and implications of advocacy for teachers in bilingual programs.

Future Directions

As well as making the educational efficacy of bilingual programs clearer to a wider policy and public audience, current research on bilingual education is increasingly turning to the implications of the "multilingual turn" (May 2014a) for the pedagogy and practice of approaches to bilingual education. For example, a key pedagogical consensus in the various approaches to bilingual education discussed in this chapter has been that languages of instruction should be kept separate, to the degree possible. However, the growing awareness of "translanguaging" among bilingual students and the potential linguistic resource that this might provide in, and for, the teaching and learning process has led researchers to increasingly question this maxim. Angel Lin (2013) highlights the implications of translanguaging in her recent review of three decades of research on the use of L1 in L2 classrooms (see also Lin 2006).

Cammarata and Tedick (2012) discuss how to balance the focus on content delivery alongside L2 language scaffolding in immersion contexts, particularly given the (more) fluid language use of bilingual students. García and Sylvan (2011) argue that rather than enforcing the need to use a particular language in a defined setting, teachers must allow students to develop their own awareness of language practices, in addition to that of their peers, as they are engaged in learning. Creese and Blackledge (2010) have also identified flexible pedagogies as an important and productive instructional strategy in teaching practices in bilingual education contexts in England.

Meanwhile, research on the most appropriate and effective forms of assessment in bilingual education remains largely nascent. This is a product, in turn, of the ongoing monolingual orientation of research in language testing worldwide, along with the agencies that administer such testing. The consequences of this are almost always deleterious for bilingual students, who are regularly assessed as if they were monolinguals in their L2 or target language (see, e.g., Extra et al. 2009; Menken 2008; Safford and Drury 2012; Shohamy 2006). Accordingly, González (2012) has recently proposed that assessment measures incorporate students' L1s for the purpose of coupling evaluation with academic ability across various subject matters, as well as ensuring that the cultural backgrounds of students are represented in classroom-based evaluations. Abedi (2004) likewise contends that the languages utilized in assessment must correspond with learners' principal language of instruction. Soltero-González et al. (2011) support the adoption of a "holistic bilingual view" (p. 72) by teachers in reviewing the writing of bilingual children. García (2009a) proposes a "translanguaging mode" to bilingual assessment, with this flexible assessment evaluating student proficiency in both (see also García and Flores 2014; Leung 2014).

It is clear, then, that assessment in bilingual education remains an area of ongoing development. Assessment measures must take into account the bilingual and biliterate "continua" of bilingual students/learners, as well as the integrated characteristics of their linguistic and content proficiency, if they are ever to reach their full linguistic and academic potential. Addressing these issues remains a challenge for a still predominantly monolingual assessment regime, although important recent work by Virginia Gathercole (2013a, b) provides an initial basis for a more holistic approach to the assessment of bilingual students going forward.

Finally, there is also a growing awareness among researchers in bilingual education of the need for more ethnographically based research studies of bilingual education – thus providing a basis of thick description for the more comparative and evaluative studies discussed here. To date, there have been surprisingly few extended ethnographic accounts along these lines. Hornberger (1988), exploring Quechua language education programs in Peru, was one of the first and is still one of the most influential. King (2001) has explored Quichua programs in the Ecuadorian Andes, while McCarty (2002) provides a fascinating ethnographic account of Navajo language education. May (1994) provides a critical ethnographic account of Richmond Road School in Auckland, New Zealand, which became internationally renowned for its critical approach to bilingualism and multiculturalism, while

Freeman ([1998](#)) provides a comparable ethnographic account of Oyster Adams Bilingual School in Washington DC. Both May and Freeman concentrate, in particular, on the program characteristics of these two schools. Heller ([1999](#)), in her ethnographic account of a bilingual francophone school in Canada, focuses more on students and their use of language as does, more recently, Paris's ([2011](#)) critical ethnographic account of students' language identities and use in an urban US school. There have also been a few accounts of bilingual/immersion schooling at the local or regional level, including de Courcy ([2002](#)) in relation to French/Chinese programs in Australia, Pérez ([2003](#)) in relation to two-way bilingual programs in San Antonio, Texas, and Freeman ([2004](#)) in relation to a range of community-based programs in Philadelphia.

These ethnographic accounts provide us with a useful starting point, but there is still much that can be done in unpacking, not only the characteristics and efficacy of particular bilingual education programs, as discussed in this chapter, but also the complex, lived experiences of all those involved in them.

Related Articles in the Encyclopedia of Language and Education

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References

Abedi, J. (2004). The no child left behind act and english language learners: Assessment and accountability issues. *Educational Researcher, 33*(4), 4–14.

Andersson, T., & Boyer, M. (1970). *Bilingual schooling in the United States: Vol. 1*. Austin: Southwest Educational Development Laboratory.

August, D., & Shanahan, T. (Eds.). (2006). *Developing literacy in second-language learners*. Mahwah: Lawrence Erlbaum.

Baetens Beardsmore, H. (Ed.). (1993). *European typologies of bilingual education*. Clevedon: Multilingual Matters.

Baker, C. (2011). *Foundations of bilingual education and bilingualism* (5th ed.). Clevedon: Multilingual Matters.

Baker, K., & de Kanter, A. (1981). *Effectiveness of bilingual education: A review of the literature*. Washington, DC: US Department of Education.

Baker, K., & de Kanter, A. (Eds.). (1983). *Bilingual education: A reappraisal of federal policy*. Lexington: Lexington Books.

Baker, C., & Prys Jones, S. (1998). *Encyclopedia of bilingualism and bilingual education*. Clevedon: Multilingual Matters.

Barnard, R., & Glynn, T. (2003). *Bilingual children's language and literacy development: New Zealand case studies*. Clevedon: Multilingual Matters.

Callahan, R., & Gándara, P. (Eds.). (2014). *The bilingual advantage: Language, literacy and the US labor market*. Bristol: Multilingual Matters.

Cammarata, L., & Tedick, D. (2012). Balancing content and language in instruction: The experience of immersion teachers. *Modern Language Journal, 96*(2), 251–269.

Cenoz, J., Genesee, F., & Gorter, D. (2014). Critical analysis of CLIL: Taking stock and looking forward. *Applied Linguistics, 35*, 243–262. doi:10.1093/applin/amt011.

Cloud, N., Genesee, F., & Hamayan, E. (2000). *Dual language instruction: A handbook for enriched education*. Boston: Thomson Heine.

Crawford, J. (1989). *Bilingual education: History, politics, theory and practice*. Trenton: Crane Publishing.

Crawford, J. (2000). *At war with diversity: US language policy in an age of anxiety*. Clevedon: Multilingual Matters.

Crawford, J. (2008). *Advocating for English learners: Selected essays*. Clevedon: Multilingual Matters.

Creese, A., & Blackledge, A. (2010). Translanguaging in the bilingual classroom: A pedagogy for learning and teaching? *Modern Language Journal, 94*, 103–115.

Cummins, J. (1979). Linguistic interdependence and the educational development of bilingual children. *Review of Educational Research, 49*(2), 222–259.

Cummins, J. (1996). *Negotiating identities: Education for empowerment in a diverse society*. Toronto: California Association for Bilingual Education.

Cummins, J. (2000). *Language, power and pedagogy: Bilingual children in the crossfire*. Clevedon: Multilingual Matters.

Cummins, J. (2010). Bilingual and immersion programs. In M. Long & C. Doughty (Eds.), *The handbook of language teaching* (pp. 161–181). Malden: Wiley Blackwell.

Danoff, M., Coles, G., McLaughlin, D., & Reynolds, D. (1978). *Evaluation of the impact of ESEA title VII Spanish/English bilingual education program*. Palo Alto: American Institutes for Research.

de Courcy, M. (2002). *Learners' experiences of immersion education: Case studies in French and Chinese*. Clevedon: Multilingual Matters.

de Mejia, A. (2002). *Power, prestige and bilingualism: International perspectives on elite bilingual education*. Clevedon: Multilingual Matters.

Dicker, S. (2003). *Languages in America* (2nd ed.). Clevedon: Multilingual Matters.

Dubetz, N., & de Jong, E. (2011). Teacher advocacy in bilingual programs. *Bilingual Research Journal, 34*(3), 248–262.

Extra, G., Spotti, M., & Avermaet, P. (Eds.). (2009). *Language testing, migration and citizenship: Cross-national perspectives on integration regimes*. London: Continuum.

Fishman, J. (1976). *Bilingual education: An international sociological perspective*. Rowley: Newbury House.

Fishman, J. (1992). The displaced anxieties of Anglo-Americans. In J. Crawford (Ed.), *Language loyalties: A source book on the Official English controversy* (pp. 165–170). Chicago: University of Chicago Press.

Freeman, R. (1998). *Bilingual education and social change*. Clevedon: Multilingual Matters.

Freeman, R. (2004). *Building on community bilingualism*. Clevedon: Multilingual Matters.

García, O. (2009a). *Bilingual education in the 21st century: A global perspective*. Malden: Wiley-Blackwell.

García, O. (2009b). Education, multilingualism and translanguaging in the 21st century. In T. Skutnabb-Kangas, R. Phillipson, A. Mohanty, & M. Panda (Eds.), *Social justice through multilingual education* (pp. 140–158). Clevedon: Multilingual Matters.

García, O., & Flores, N. (2014). Multilingualism and common core standards in the United States. In S. May (Ed.), *The multilingual turn: Implications for SLA, TESOL and bilingual education* (pp. 147–166). New York: Routledge.

García, O., & Sylvan, C. (2011). Pedagogies and practices in multilingual classrooms: Singularities in pluralities. *Modern Language Journal, 95*(3), 385–400.

García, O., Skutnabb-Kangas, T., & Torres-Guzman, M. (Eds.). (2012). *Imagining multilingual schools: Languages in education and globalization*. Clevedon: Multilingual Matters.

Gathercole, V. (2013a). *Issues in the assessment of bilingual students*. Bristol: Multilingual Matters.

Gathercole, V. (2013b). *Solutions for the assessment of bilingual students*. Bristol: Multilingual Matters.

Genesee, F., Lindholm-Leary, K., Saunders, B., & Christian, D. (2006). *Educating English Language learners: A synthesis of research evidence*. New York: Cambridge University Press.

González, V. (2012). Assessment of bilingual/multilingual pre-K-Grade 12 students: A critical discussion of past, present, and future issues. *Theory Into Practice, 51*(4), 290–296.

Hakuta, K., Butler, G., & Witt, D. (2000). *How long does it take learners to attain English proficiency?* Santa Barbara: University of California Linguistic Minority Research Institute.

Hamers, J., & Blanc, M. (2000). *Bilinguality and bilingualism*. Cambridge, UK: Cambridge University Press.

Heller, M. (1999). *Linguistic minorities and modernity: A sociolinguistic ethnography*. London: Longman.

Hill, R., & May, S. (2011). Exploring biliteracy in Māori-medium education: An ethnographic perspective. In T. McCarty (Ed.), *Ethnography in language policy* (pp. 161–184). New York: Routledge.

Hill, R., & May, S. (2013). Balancing the languages in Māori-medium education in Aotearoa/New Zealand. In V. Zenotz, D. Gorter, & J. Cenoz (Eds.), *Minority languages and multilingual education* (pp. 171–189). New York: Springer.

Hinton, L., & Hale, K. (2001). *The green book of language revitalization in practice*. San Diego: Academic.

Hornberger, N. (1988). *Bilingual education and language maintenance: A southern Peruvian Quechua case*. Berlin: Mouton.

Hornberger, N. (1991). Extending enrichment bilingual education: Revisiting typologies and redirecting policy. In O. García (Ed.), *Bilingual education: Focusschrift in honor of Joshua A. Fishman*. Amsterdam: John Benjamins.

Hornberger, N. (2003). Continua of biliteracy. In N. Hornberger (Ed.), *Continua of biliteracy: An ecological framework for educational policy, research and practice in multilingual settings* (pp. 1–34). Clevedon: Multilingual Matters.

Hornberger, N. (2008). Can Schools Save Indigenous Languages?. London: Palgrave Macmillan.

Howard, E., Sugarman, J., Christian, D., Lindholm-Leary, K., & Rogers, D. (2007). *Guiding principles for dual language education* (2nd ed.). Washington, DC: Center for Applied Linguistics.

Johnson, R., & Swain, M. (Eds.). (1997). *Immersion education: International perspectives*. Cambridge, UK: Cambridge Applied Linguistics.

Jones, B., & Ghuman, P. (1995). *Bilingualism, education and identity*. Cardiff: University of Wales Press.

King, K. (2001). *Language revitalization processes and prospects: Quichua in the Ecuadorian Andes*. Clevedon: Multilingual Matters.

Koda, K. (2007). Reading and language learning: Crosslinguistic constraints on second language reading development. *Language Learning, 57*(1), 1–44.

Leung, C. (2014). Communication and participatory involvement in linguistically diverse classrooms. In *The multilingual turn: Implications for SLA, TESOL and bilingual education* (pp. 123–146). New York: Routledge.

Lin, A. (2006). Beyond linguistic purism in language-in-education policy and practice: Exploring bilingual pedagogies in a Hong Kong science classroom. *Language and Education, 20*(4), 287–305.

Lin, A. (2013). Classroom code-switching: Three decades of research. *Applied Linguistics Review, 4*(1), 195–218. doi:10.1515/applirev-2013-0009.

Lindholm-Leary, K. (2001). *Dual language education*. Clevedon: Multilingual Matters.

May, S. (1994). *Making multicultural education work*. Clevedon: Multilingual Matters.

May, S. (2010). Curriculum and the education of cultural and linguistic minorities. In B. McGraw, E. Baker, & P. Peterson (Eds.), *International encyclopedia of education* (3rd ed., Vol. 1, pp. 293–298). Oxford: Elsevier.

May, S. (Ed.). (2014a). *The multilingual turn: Implications for SLA, TESOL and bilingual education*. New York: Routledge.

May, S. (2014b). Justifying educational language rights. *Review of Research in Education, 38*(1), 215–241.

May, S. (2014c). Overcoming disciplinary boundaries: Connecting language, education and (anti) racism. In R. Race & V. Lander (Eds.), *Advancing race and ethnicity in education* (pp. 128–144). London: Palgrave Macmillan.

May, S., & Dam, L. (2014). *Bilingual education and bilingualism. Oxford bibliographies*. New York: Oxford University Press. Retrieved from http://www.oxfordbibliographies.com/ view/document/obo-9780199756810/obo-9780199756810-0109.xml.

May, S., & Hill, R. (2005). Māori-medium education: Current issues and challenges. *International Journal of Bilingual Education and Bilingualism, 8*(5), 377–403.

May, S., Hill, R., & Tiakiwai, S. (2004). *Bilingual/immersion education: Indicators of good practice. Final Report to the Ministry of Education*. Wellington: Ministry of Education. Retrieved from http://www.educationcounts.govt.nz/publications/pasifika/5079.

McCarty, T. (2002). *A place to be Navajo: Rough Rock and the struggle for self-determination in indigenous schooling*. Mahwah: Lawrence Erlbaum Associates.

McCarty, T. (2012). *Language planning and policy in Native America*. Bristol: Multilingual Matters.

McField, G., & McField, D. (2014). The consistent outcome of bilingual education programs: A meta-analysis of meta-analyses. In G. McField (Ed.), *The miseducation of English learners* (pp. 267–299). Charlotte: Information Age Publishing.

McGroarty, M. (2006). Neoliberal collusion or strategic simultaneity? On multiple rationales for language-in-education policies. *Language Policy, 5*, 3–13.

Menken, K. (2008). *English language learners left behind: Standardized testing as language policy*. Clevedon: Multilingual Matters.

Paris, D. (2011). *Language across difference: Ethnicity, communication and youth identities in changing urban schools*. New York: Cambridge University Press.

Pérez, B. (2003). *Becoming biliterate: A study of two-way bilingual immersion education*. Mahwah: Lawrence Erlbaum Associates.

Ramírez, J., Yuen, S., & Ramey, D. (1991). *Final report: Longitudinal study of structured English immersion strategy, early-exit and late-exit transitional bilingual education programs for language-minority children*. San Mateo: Aguirre International.

Ricento, T. (1996). Language policy in the United States. In M. Herriman & B. Burnaby (Eds.), *Language policies in English-dominant countries* (pp. 122–158). Clevedon: Multilingual Matters.

Rossell, C., & Baker, K. (1996). The effectiveness of bilingual education. *Research in the Teaching of English, 30*, 7–74.

Safford, K., & Drury, R. (2012). The 'problem' of bilingual children in educational settings: Policy and research in England. *Language and Education, 27*(1), 70–81.

Shohamy, E. (2006). *Language policy: Hidden agendas and new approaches*. New York: Routledge.

Skutnabb-Kangas, T. (1981). *Bilingualism or not: The education of minorities*. Clevedon: Multilingual Matters.

Skutnabb-Kangas, T. (2000). *Linguistic genocide in education-or worldwide diversity and human rights?* Mahwah: Lawrence Erlbaum Associates.

Soltero-González, L., Escamilla, K., & Hopewell, S. (2011). Challenging teachers' perceptions about the writing abilities of emerging bilingual students: Towards a holistic bilingual

perspective on writing assessment. *International Journal of Bilingual Education and Bilingualism, 15*(1), 71–94.

Thomas, W., & Collier, V. (1997). *School effectiveness for language minority students*. Washington, DC: National Clearinghouse for Bilingual Education.

Thomas, W., & Collier, V. (2002). *A national study of school effectiveness for language minority students' long-term academic achievement*. Santa Cruz: Center for Research on Education, Diversity and Excellence (CREDE).

Tollefson, J., & Tsui, A. (Eds.). (2004). *Medium of instruction policies: Which agenda? Whose agenda?* Mahwah: Lawrence Erlbaum Associates.

Valdés, G., Fishman, J., Chávez, R., & Pérez, W. (2006). *Towards the development of minority language resources*. Clevedon: Multilingual Matters.

Wiley, T. (2001). On defining heritage language education and their speakers. In J. Peyton, D. Ranard, & S. McGinnis (Eds.), *Heritage languages in America: Preserving a national resource*. McHenry: Delta Systems.

Wiley, T., Peyton, J., Christian, D., Moore, S., & Liu, N. (2014). *Handbook of heritage, community and Native American languages in the United States: Research, policy and educational practice*. New York: Routledge.

Willig, A. (1985). A meta-analysis of selected studies on the effectiveness of bilingual education. *Review of Educational Research, 55*, 269–317.

Willig, A. (1987). Examining bilingual education research through meta-analysis and narrative review: A response to Baker. *Review of Educational Research, 57*, 363–376.