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The importance of mother tongue-based schooling for educational quality

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Part A: Overview

While there are many factors involved in delivering quality basic education, language is clearly the key to communication and understanding in the classroom. Many developing countries are characterized by individual as well as societal multilingualism, yet continue to allow a single foreign language to dominate the education sector. Instruction through a language that learners do not speak has been called “submersion” (Skutnabb-Kangas 2000) because it is analogous to holding learners under water without teaching them how to swim. Compounded by chronic difficulties such as low levels of teacher education, poorly designed, inappropriate curricula and lack of adequate school facilities, submersion makes both learning and teaching extremely difficult, particularly when the language of instruction is also foreign to the teacher.

Mother tongue-based bilingual programs use the learner’s first language, known as the L1, to teach beginning reading and writing skills along with academic content.¹ The second or foreign language, known as the L2, should be taught systematically so that learners can gradually transfer skills from the familiar language to the unfamiliar one.² Bilingual models and practices vary as do their results, but what they have in common is their use of the mother tongue at least in the early years so that students can acquire and develop literacy skills in addition to understanding and participating in the classroom.

Bilingual as opposed to monolingual schooling offers significant pedagogical advantages which have been reported consistently in the academic literature (see reviews in Baker 2001; Cummins 2000; CAL 2001):

¹ In cases where two or more languages are spoken in the home or locality, schooling may be provided in one of the learner’s home languages, in another local language, or in a lingua franca; for lack of a better term for these contexts, this paper uses “mother tongue” or L1 to refer to any language in which school-aged children are competent.

² In North American and European contexts, languages are considered “second” or “foreign” depending on whether or not learners are exposed to them in the outer community. While the school language is often foreign to children and adults in developing countries, the blanket term L2 is used since it is still appropriate in terms of the sequence in which languages are learned.

- ◆ Use of a familiar language to teach beginning literacy facilitates an understanding of sound-symbol or meaning-symbol correspondence. Learning to read is most efficient when students know the language and can employ psycholinguistic guessing strategies; likewise, students can communicate through writing as soon as they understand the rules of the orthographic (or other written) system of their language. In contrast, submersion programs may succeed in teaching students to decode words in the L2, but it can take years before they discover meaning in what they are “reading.”
- ◆ Since content area instruction is provided in the L1, the learning of new concepts is not postponed until children become competent in the L2. Unlike submersion teaching, which is often characterised by lecture and rote response, bilingual instruction allows teachers and students to interact naturally and negotiate meanings together, creating participatory learning environments that are conducive to cognitive as well as linguistic development.
- ◆ Explicit teaching of the L2 beginning with oral skills allows students to learn the new language through communication rather than memorization. In submersion schooling teachers are often forced to translate or code-switch³ to convey meaning, making concept learning inefficient and even impeding language learning, while bilingual programs allow for systematic teaching of the L2.
- ◆ Transfer of linguistic and cognitive skills is facilitated in bilingual programs. Once students have basic literacy skills in the L1 and communicative skills in the L2, they can begin reading and writing in the L2, efficiently transferring the literacy skills they have acquired in the familiar language. The pedagogical principles behind this positive transfer of skills are Cummins’ (1991, 1999) *interdependence theory* and the concept of *common underlying proficiency*, whereby the knowledge of language, literacy and concepts learned in the L1 can be accessed and used in the second language once oral L2 skills are developed, and no re-learning is required.⁴ Consistent with these principles, it is possible for children schooled only in the L2 to transfer their knowledge and skills to the L1, but the process is highly inefficient as well as being unnecessarily difficult.

³ Code-switching and code-mixing involve alternation between languages, and are common communication strategies in bi- and multilingual contexts. Code alternation functions best when all parties are competent speakers of the languages involved, but in submersion classrooms it is more of a coping strategy for dealing with a foreign instructional medium and does not necessarily contribute to second language learning.

⁴ As specialists Lanauze & Snow explain, transfer means that “language skills acquired in a first language can, at least if developed beyond a certain point in L1, be recruited at relatively early stages of L2 acquisition for relatively skilled performance in L2, thus shortcutting the normal developmental progression in L2” (1989: 337).

- ◆ Student learning can be accurately assessed in bilingual classrooms. When students can express themselves, teachers can diagnose what has been learned, what remains to be taught and which students need further assistance. In submersion schooling cognitive learning and language learning are confounded, making it difficult for teachers to determine whether students have difficulty understanding the concept itself, the language of instruction, or the language of the test.
- ◆ The affective domain, involving confidence, self-esteem and identity, is strengthened by use of the L1, increasing motivation and initiative as well as creativity. L1 classrooms allow children to be themselves and develop their personalities as well as their intellects, unlike submersion classrooms where they are forced to sit silently or repeat mechanically, leading to frustration and ultimately repetition, failure and dropout.
- ◆ Students become bilingual and biliterate. Bilingual programs encourage learners to understand, speak, read and write in more than one language. In contrast, submersion programs attempt to promote skills in a new language by eliminating them from a known language, which may actually limit learner competence in both.

All of these advantages are based on two assumptions: one, that basic human needs are being met so that schooling can take place; and two, that mother tongue-based bilingual schooling can be properly implemented. Simply changing the language of instruction without resolving other pressing social and political issues is not likely to result in significant improvement in educational services. However, because language cross-cuts race, ethnicity, gender, and poverty, even minimally implemented bilingual programs have the potential to reach those who have traditionally been left behind by L2 submersion schooling. This paper will discuss how choosing an appropriate language of instruction has positive implications for education in terms of both increasing access and improving quality.

Part B: Policy development and implementation of bilingual programs

1. Why bilingual policies have been introduced

The introduction of mother tongue-based policies and programs normally goes beyond pedagogical motivations to address social and political aims. While it should be remembered that any one program represents a combination of aims, the following illustrate a sampling:

Historical precedents. There have been a few historical precedents for use of the L1 in developing countries, with both positive and negative implications for current practice. For example many ex-British colonies inherited mother tongue schooling as part of separate and unequal development. In the case of India this meant marginalization of Indian languages with regard to power, yet “contact with English triggered renaissance in the major Indian languages and set in process their modernization” (Annamalai 1995:

216); in the case of South Africa unequal development evolved into Bantu education during apartheid, which furthered racist goals yet developed methods and materials for mother tongue instruction that can be applied today to more equitable schooling (Heugh 2003). Another historical precedent is missionary use of local languages throughout the world which, while focusing on communication of religious messages, has contributed to the development of orthographies, grammars and basic literacy materials and skills in many of the world's languages (see e.g. Grimes 2000). Some initiatives have come more recently as reactions to colonial systems, with results such as the growth of Kiswahili in Tanzania under Nyerere's *Education for Self-Reliance* campaign. There have been more abrupt impositions of bilingual schooling as part of political ideologies, for example by Touré in Guinea and later Banda in Malawi, promoting indigenous language development but provoking resentment. Finally, countries like China, Vietnam, and the former Soviet Union have practiced the communist ideal of providing local language instruction to promote comradeship and equality between groups, and while this has not necessarily resulted in equal distribution of educational resources it has supported a great deal of enabling legislation (Kosonen 2004).

Compensatory motivations. New, more inclusionary policies are being directed toward traditionally marginalized groups, particularly in Latin American contexts. For example, Guatemala initiated mother tongue-based schooling to remedy the situation where only about 40 percent of its rural Maya language-speaking population enrolled in school and half of them dropped out by the end of first grade (Dutcher, 1995). Bolivia, whose indigenous population is two to three times that of the monolingual Spanish-speaking elite, is in the process of implementing a comprehensive education reform that promises bilingual intercultural schooling for all, while complementary decentralization and popular participation measures set up structures for more democratic decision-making about schooling and other social issues (Albó & Anaya, 2003).

New ideologies. More recent efforts in mother tongue schooling bring some new dimensions to the practice. Perhaps the most dramatic and challenging is implementation of South Africa's post-apartheid policy of 11 official languages; this can be seen in the context of a continent-wide movement for revalorization of indigenous knowledge now known as the African Renaissance (Alexander 2003), which holds that "cultural freedom and African emancipation...cannot be cultivated, expanded or developed" where the languages in which people are "most creative and innovative" are not languages of instruction (Prah 2003: 17). In Latin America there have been corresponding demands—perhaps less united but increasingly active—by original peoples for appropriate cultural and educational policies (von Gleich, 2003). Some Asian countries have explicitly valued linguistic and cultural pluralism, as demonstrated in the constitutions of Myanmar, Thailand and Vietnam, and the Indonesian constitution goes further to guarantee the use and development of local languages in education, though in most cases implementation is far from meeting stated goals (Kosonen 2004).

Educational development objectives. There are bilingual schooling programs with clear development goals; for example, experimentation in Mozambique began following a conference on how to reduce the high repetition, failure and dropout rates plaguing basic

education. This was also a principal motivation in the well-documented Six-Year Primary Project in Nigeria (Fafunwa et al. 1989) whose results clearly supported long-term mother tongue development. Some countries have followed up on the successes of mother tongue use in nonformal education and in community schools by adapting their models and materials for use in formal schooling, which Cambodia has just begun doing in several languages of the eastern highlands (Thomas 2003, cited in Kosonen 2004) and which Papua New Guinea has been doing for some years in about 400 languages (Klaus 2003; Kosonen 2004). Such initiatives have received more attention and support in recent years from donor agencies interested in improving educational quality and equity while promoting democracy (see e.g. Sida 2001).

2. How programs have been introduced

2.1 Forms of introduction

Small-scale to large-scale introduction through experimentation. Experimentation is a common means for introducing mother tongue-based schooling. Such piloting is useful for determining how a bilingual model can be implemented given local conditions, and what types of technical and material input are required to make the program successful before going to scale. Experimentation has led to wider-scale implementation in countries like Bolivia, Guatemala and Nigeria, but it has also been associated with stagnation and deterioration of models in countries like Niger and Guinea-Bissau (Hovens 2003) despite having met with relative success. The gap between experimentation and implementation is often deepened due to unreasonable expectations for pilot studies to prove or disprove the effectiveness of bilingual schooling, and this based solely on test scores (Benson 2004a); as Fishman (1991) notes, this misguided recourse to “scientific proof” is simply a delay tactic for authorities who wish to seem sympathetic to language issues without committing themselves to establishing policies or allocating resources. In more supportive political climates, experimentation has paved the way for official decision-making.

Top-down introduction through legislation. In some contexts mother tongue-based programs have been introduced on a national scale by top-down methods, where government has legislated change and expected the education sector to implement it, whether or not piloting has been done and whether or not adequate resources have been mobilized. Such was the case of the original imposition of Chichewa-English bilingual schooling on all Malawians, which favored Chichewa speakers over speakers of other languages, and again in 1996 when the policy changed to include all mother tongues without regard for teacher training and posting or materials development (Mtenje & Mchazime 2001). Tanzania’s implementation of Kiswahili-English schooling was more successful because it reached both first- and second-language speakers of Kiswahili and was part of an ideological movement under a respected leader, yet the policy appears to be deteriorating from both ends—failure to use mother tongues and the pressure of global English—as well as from the middle, because Kiswahili has not been used as planned at the secondary or tertiary levels (Abdulaziz 2003; Rubagumya 1991; Ouane 2003). In the

case of Bolivia, legislation was passed and implementation begun before the support of all the actors had been secured, so the early years were marred by resistance on the part of teachers' unions and communities, requiring vigorous local indigenous group efforts as well as national public relations campaigns to eventually convince those concerned (Albó & Anaya 2003).

Bottom-up introduction through nonformal education practices. Introducing mother tongue schooling from the grassroots level is not easy from a large-scale organizational standpoint, yet it is the most promising in terms of community commitment and sustainability. Because communities and NGOs may already be using local languages for community development, literacy, informal and nonformal education and other participatory knowledge-sharing mechanisms, they are empowered to make decisions about which languages are used and for what purposes. One example of this is a primary improvement project in Vietnam that has begun to use the mother tongue for 15 percent of the school day as part of a "local curriculum" component (CAL 2001: 98). In addition, locally-produced materials raise the status of home languages and may contribute to development of these languages by establishing orthographies, grammars and dictionaries along with publishing stories and materials covering relevant themes; such is the case in Mauritius, where an NGO known as LPT has been publishing creative literature along with basic reading materials in Kreol and Bhojpuri for over 25 years, contributing to their standardization and diffusion in anticipation of a future when they will be allowed into formal schooling (Ah-Vee 2001).

Alexander (1989) suggests that bottom-up practices are a good foundation for strong programs because they allow all stakeholders to contribute to raising the status of the mother tongue in the community and classroom, but their efforts must be enabled by legislation at the official level, so that they meet somewhere in the middle. To this end, Alexander and others have formed a consortium called the Multilingualism Action Group (Heugh 2003) that helps grassroots organizations lobby for more coherent language policy and practice in South African schools. Hornberger would agree: "No matter what the goal, language/literacy development proceeds best if goals are pursued along several dimensions at once" (1994: 82). Hornberger adds that increasing numbers of mother tongue readers and writers will inevitably lead to fuller social participation as well as facilitating progress in implementation of mother tongue schooling, especially in terms of available teachers and written materials.

2.2 Challenges and how they have been confronted

Mother tongue-based bilingual schooling is seldom disputed on the basis of its pedagogical reasoning, and if decision-making were to be based solely on how to provide the highest quality education for the learner many more of the world's languages would be used in education today. The structural challenges to implementation related to political decision-making have just been discussed; this section begins with some widely believed myths, then takes up more practical aspects of implementation.

The following myths and attitudes are regularly used to challenge use of mother tongues in education, yet their false arguments are easily revealed:

- ◆ *The one nation—one language myth.* The colonial concept that a nation-state requires a single unifying language has influenced policy-makers in many parts of the world, yet imposition of a so-called “neutral” foreign language has not necessarily resulted in unity, nor have relatively monolingual countries like Somalia, Burundi or Rwanda been guaranteed stability. In fact, government failure to accept ethnolinguistic diversity has been a major destabilizing force in countries like Bangladesh, Pakistan, Myanmar and Sri Lanka (Ouane 2003).
- ◆ *The myth that local languages cannot express modern concepts.* Another colonial concept is the supposed inherent worth of European languages in contrast to others, but all human languages are equally able to express their speakers’ thoughts and can develop new terms and structures as needed. Léopold Senghor once illustrated this by translating Einstein’s Theory of Relativity into Wolof, a lingua franca of Senegal. The difference lies in which languages have historically been chosen for “intellectualization,” or development, through writing and publishing (Alexander 2003).
- ◆ *The either-or myth.* This myth holds that bilingualism causes confusion and that the first language must be pushed aside so that the second language can be learned. The research evidence to date shows the opposite to be true: the more highly developed the first language skills, the better the results in the second language, because language and cognition in the second build on the first (Cummins 1999, 2000; Ramirez et al. 1991; Thomas & Collier 2002). Further, there is no evidence that the L2 must be a medium of instruction to be learned well; countries like Sweden achieve high levels of L2 competence by teaching it as a subject and preserving the L1 for instruction.
- ◆ *The L2 as global language myth.* The foreign L2 is often seen as necessary for further education, work and other opportunities, yet as Phillipson (1992) points out this has not happened in a political vacuum but is the result of deliberate promotion by powerful countries or groups of their respective languages. Meanwhile, employment in the informal sector of low-income countries involves 50 percent or more of the population and is increasing, and primary schooling is still terminal for most. The vast majority will not be integrated into the global marketplace and will have little use for the L2 (Bruthiaux 2002).
- ◆ *The myth that parents want L2-only schooling.* The poorest and most marginalized are acutely aware that their access both to education and to the high-status language has been limited, and they have a right to expect the school to teach their children the same language that has benefited the elite. Undoubtedly parents will choose the L2 when presented with an either-or proposition; however, studies (see e.g. Heugh 2002) have shown that when parents are allowed to make an educated choice from appropriate options, they overwhelmingly opt for bilingual rather than all-L2

programs, and most bilingual program evaluations report high levels of community support (CAL 2001).

The attitudes reflected by these myths provide a background for understanding other more practical challenges of implementing mother tongue-based bilingual schooling. The logistics of school reform in economically disadvantaged countries are admittedly daunting no matter which innovations are being considered, and the use of previously underdeveloped languages raises special issues. While these issues continue to challenge use of the mother tongue in school, as Hornberger points out, “Nearly all...objections and limitations have met with creative and effective solutions in one case or another over the past forty years” (1994: 77). The following are the most challenging logistical aspects:

Poverty and the meeting of basic needs. Mother tongue-based schooling is often directed at the most marginalized of populations who have suffered from lack of services of all kinds, not only of schooling. Failure to meet basic human needs for food, shelter and health is the single greatest obstacle to providing quality primary schooling for all, and when bilingual schools are characterized by chronic illness among students and teachers, inadequate nutrition, and lack of basic facilities just as non-bilingual schools are, it is unlikely there will be dramatic differences in school performance. While more wide-ranging services are recommended, the following are attempts to deal with human needs along with linguistic ones:

- ◆ In Bolivia, preschools and bilingual primaries for remote indigenous populations are also served by school feeding programs, which have significantly raised both school attendance and levels of nutrition (UNICEF 1998).
- ◆ Experimental bilingual programs such as those in Guinea-Bissau and Niger (Hovens 2003) included curricular adaptations, adding more relevant subjects like preventive health.

Human resource development. Teacher training must be addressed no matter what the innovation, and bilingual schooling should not be undertaken without serious consideration for inservice (especially in the short run) and preservice training (in the long run). Provision of short inservice trainings during school vacations often leaves bilingual teachers with limited language skills⁵ and inadequate understanding of the bilingual teaching methodologies required by the adopted model. An added challenge is to find or train teachers proficient in the L2. The challenge grows exponentially when policy dictates nationwide implementation before there has been adequate investment of time and resources in teacher training. This taxes systems beyond their capability, resulting in even less training, the hiring of unqualified teachers, inappropriate linguistic placement of teachers, and so on, undermining implementation of the model and limiting the degree to which it can demonstrate results. The following measures have been taken to remedy this situation:

- ◆ Bilingual intercultural education in Bolivia was implemented in stages, where schools were considered “traditional,” “in transformation” or “under the reform” depending

⁵ Even trained teachers have traditionally had few opportunities to become proficient in the L1 in written form or the L2 in spoken form, so these skills require further development through instruction and practice.

on the degree to which teacher training had been done and materials had been distributed (ETARE 1993).

- ◆ Designed to meet acute personnel needs, Bolivia has a *bachillerato pedagógico* program that provides indigenous youth (currently all female) with secondary schooling along with L2 skills and pedagogical training, preparing them to be bilingual teachers in their own communities. Another measure instituted in 2001 was to pay financial incentives for teachers working in bilingual classrooms, in remote areas, and in multi-grade classrooms, all of which benefited bilingual teachers as intended⁶ (Albó & Anaya 2003).
- ◆ Inservice training for Namibian teachers in the Basic Education Strengthening project (reported in CAL 2001) was done completely in Namibian languages, which has been found to facilitate both communication and development of pedagogical vocabulary in the L1 (Stroud 2002).
- ◆ High-quality academic and practical training preparing bilingual education specialists at a post-graduate diploma or M.A. level is currently being offered for indigenous language speakers of the Andean region through the PROEIB Andes program in Cochabamba, Bolivia (Albó & Anaya 2003) and for professionals from southern African countries through the TOTSA program in Cape Town, South Africa (ref. PRAESA). CIESAS in Mexico City offers an M.A. program in applied linguistics and anthropology in Indoamerican languages, and plans to extend its academic training to the doctoral level while preserving applied elements so that graduates can meet the technical needs of bilingual programs (see CIESAS 2002 for curriculum).

Linguistic and materials development. A serious investment of time and resources, along with a commitment to collaboration between linguists, educators and community members is required to prepare materials for bilingual programs, particularly if the L1 is to be used over a period of many years (as would be suggested for the gradual transitional or maintenance models described below) and particularly if the languages in question have not traditionally been used in written form. Corpus planning, which expands the functions of a language, has three main elements (Cooper 1989): harmonization, which determines the degree to which a range of varieties can be considered one language; standardization, which selects a norm and determines its orthography and grammar; and elaboration or intellectualization, which adapts the language for more abstract forms of expression like those needed for school learning.⁷ Implementation is often challenged by decision-makers' failure to allocate resources to these efforts, but other obstacles are created by failure of linguists to reach agreement, or imposition of decisions on the linguistic community without having involved them in the process. To meet the demands for educational materials, most programs do not wait for all of the linguistic decisions to be made but become part of the process by involving communities:

⁶ Even though this policy helped keep bilingual teachers in remote areas, it was opposed by non-bilingual teachers and had to be abandoned two years later (Albó & Anaya 2003).

⁷ In the case of less developed languages, all of these corpus planning efforts must be undertaken in a relatively short period of time, whereas more privileged languages like Mandarin, Arabic or English have had centuries to develop in different domains of usage.

- ◆ Locally-produced materials are inexpensive and can be done in many languages, as demonstrated by efforts in Papua New Guinea (Klaus 2003), the Rivers Readers project in Nigeria (Williamson 1985), and other community-based programs supported by NGOs such as work with minority languages in China (Malone 2003). In Papua New Guinea the communities themselves decide which languages will be used in their schools (Kosonen 2004).
- ◆ Flores Farfán (1999) in Mexico and Bloch (2002) in South Africa argue that producing visually appealing, high-quality materials in the L1 and/or L1 plus other languages is motivational and raises the status of the L1, so they convince donors to fund publication of poetry, riddles, big books, little books, and other literature for new readers.
- ◆ The NGO promoting mother tongue literacy in Mauritius has story writing contests and publishes a wide variety of literature in Kreol and Bhojpuri; they also play a leading role in efforts to reach agreement on orthographies (Ah-Vee 2001).
- ◆ A GTZ-supported field test in Ghana published textbooks, teacher's guides and readers in two national languages and documented positive results in terms of synergy among donors, improved educational practices, complementary policy decisions and economic benefits to the local publishing industry (Komarek 2001).

Educational decision-making in countries with linguistically diverse regions. Centralized decision-making creates conflict if it contemplates only one language-in-education model for all without considering variation in language use. While rural areas are often relatively homogeneous with only one L1 to deal with in a bilingual program, urban or suburban areas may require more creative classroom organization models.⁸ The educational language policy needs to be flexible enough to allow for decentralized decision-making. This way, implementation of mother tongue-based bilingual schooling in linguistically homogeneous areas—where it is most urgently needed and most easily operationalized—will not be postponed indefinitely because the same model might not work elsewhere. Some ways that have been found to address this issue are:

- ◆ PRAESA, an NGO specializing in academic research and based at the University of Cape Town, aims to help operationalize South Africa's new language policy by doing school- and community-based research. One project has involved linguistic mapping in the Western Cape province to determine the languages spoken and degree of heterogeneity of homes and schools; other projects support individual schools in adopting their own language policies, work with teachers to implement bilingual methodologies, and develop Xhosa terminology in the sciences (ref. PRAESA).
- ◆ Specialization of L2 teachers in the Six-Year Yoruba Medium project, while never generalized, achieved positive results (Fafunwa et al. 1989) and has been suggested by Benson (2004b) as one way to deal with mixed classes and limited teacher skills, among other options such as team teaching, trading classes and using paraprofessionals from the community.

⁸ It should not be assumed that urban areas are so diverse as to render mother tongue programs unmanageable; for example, many African cities have remarkably homogeneous neighborhoods with their own schools.

Allocation of material resources. Education ministries often object to the perceived cost of changing the language of instruction, contemplating the large investments needed particularly in teacher preparation and materials development. This may prevent decision-makers from considering large-scale implementation, allowing them to maintain submersion programs or minimal use of the mother tongue (in preschool programs or only oral use in early primary), or it may limit the effects of otherwise well designed policies. Resource allocation is essential to any educational innovation, but bilingual programs are initially more costly than others, due primarily to the need for intellectualization of previously undeveloped languages and production of instructional and supplemental materials in those languages. In places characterized by extreme linguistic diversity, this may mean small print runs for minority languages, making them less attractive to commercial publishers.⁹ Some of the strategies for producing materials cheaply have already been mentioned; the following are strategies for balancing the costs with the benefits of implementing bilingual education:

- ◆ Some World Bank scholars (Chiswick et al. 1996; Vawda & Patrinos 1998) have been working on cost-benefit analyses that relate the costs of status quo schooling (repetition and dropout as converted into per-pupil expenditure) to the costs of implementing bilingual schooling (teacher training and materials development), given that bilingual schooling greatly reduces student wastage. Applied to bilingual education in Guatemala, they have found that the initially higher costs of implementing mother tongue programs are outweighed by the savings due to more efficient schooling after only two years (Patrinos & Velez 1996).

2.3 Effects/impact on quality of schooling

Well-documented empirical studies of mother tongue-based bilingual programs in developing countries began appearing in the 1970s and still form the basis of what is done in the field today. Some of the benchmark studies are these:

- ◆ Modiano's (1973) study in the Chiapas highlands of Mexico found that indigenous children efficiently transferred literacy skills from the L1 to the L2 and out-performed monolingual Spanish speakers. Modiano also qualitatively explored how teachers from the same linguistic and cultural communities as their students were uniquely suited for their work.
- ◆ The Six-Year Yoruba Medium Primary Project (Fafunwa et al. 1975; Akinnaso 1993; see Adegbiya 2003 for other references) demonstrated unequivocally that a full six-year primary education in the mother tongue with the L2 taught as a subject was not only viable but gave better results than all-English schooling. It also suggested that teachers should be allowed to specialize in L2 instruction.

⁹ It should nevertheless be remembered that "minority" groups can number in the hundreds of thousands, so linguistic surveying is important to this effort.

- ◆ The Rivers Readers Project, also in Nigeria, showed how mother tongue materials of reasonable quality could be developed even where resources were scarce and even for previously undeveloped languages with small numbers of speakers (Williamson, 1976). Communities themselves provided competent native speakers and funds for language development, producing over forty publications in fifteen languages.
- ◆ Large-scale research on Filipino-English bilingual schooling in the Philippines (Gonzalez & Sibayan, 1988) found a positive relationship between achievement in the two languages, and found that low student performance overall was not an effect of bilingual education but of other factors, especially the low quality of teacher training (see also Dutcher 1995).

More recent work demonstrates similar findings and goes beyond these to illustrate the positive aspects of mother tongue-based bilingual programs listed above, specifically:

Facilitated bilingualism and biliteracy. In an effective bilingual program students become bilingual, or communicatively competent, in the L2 as well as the L1, and biliterate, or able to read, write and learn in both languages. Since these skills take some time to develop, what is noticeable in the early years is the ease at which children learn beginning literacy and content through the mother tongue; this is a common observation among teachers (Ouane 2003). After three to four years the effects of biliteracy are more measurable (see reviews in Komarek 1997; Dutcher 1995), which is consistent with findings from North America (Ramirez et al. 1991; Thomas & Collier 2002) that the more the L1 development, the better the results in both languages. Not all experimental studies have been able to demonstrate that bilingual students have significantly better test performance than non-bilingual students, but this is attributable to basic needs not being met (as mentioned above), to the impossibility of controlling all of the social, cultural and logistical variables, and/or to testing only in the L2 before bilingual students have been adequately exposed to that language. Despite these challenges, most studies are able to say at least two things: one, that students are not disadvantaged by bilingual schooling; and two, that student competence in the L2 is not high enough to use the language to learn content (see e.g. Williams 1998 on Malawi and Zambia). Some studies have found positive differences in test scores favoring bilingual schooling as mentioned above (see also CAL 2001), and a relatively recent study in Niger that tested bilingual and non-bilingual students in both L1 and L2 (Hovens 2002, 2003) clearly demonstrated that those who did best were bilingual students tested in the L1, while those who did least well were non-bilingual students tested in the L2.

Classroom participation, positive affect and increased self-esteem. Observational data confirm differences between bilingual and non-bilingual classrooms worldwide. In contrast to students in submersion programs who sit listening or reciting, bilingual students participate more often in the classroom and demonstrate greater self-confidence and higher motivation (ADAE, 1996; Dalby, 1985; Dutcher, 1995). The L1 allows children to express their full range of knowledge and experience and demonstrate their competence, which pedagogical approaches like those of Piaget and Vygotsky would support as productive for learning (Richardson 2001). Further, positive classroom affect

is essential to good second language learning, as Krashen (1999) has established. Not coincidentally, bilingual programs tend to report lowered failure and dropout rates (see e.g. Urzagaste 1999 on Bolivia).

Valorization of the home language and culture. Another result of bilingual schooling that figures prominently in the literature is the newly awakened pride the community feels for its language and culture. Seeing the mother tongue in print in the official context of schooling elevates its status and usefulness in the eyes of both speakers and non-speakers. In addition, the L1 brings cultural values into the classroom, which parents highly appreciate (see e.g. d'Emilio 2001 on Bolivia; Benson 2001 on Mozambique).

Increased parent participation. Another outcome of bilingual programs is increased parent participation in school affairs, a situation likely to be related to the fact that they are allowed to use the L1 to speak to the teacher. In Bolivia, d'Emilio found that given a “real opportunity to participate in decision-making about their children’s schooling, parents no longer think speaking to teachers is a ‘waste of time,’ nor are they ashamed of using their native language in these meetings” (1995: 85). Parent participation is a widely-cited factor in successful bilingual programs (Cummins 2000; Dutcher 1995).

Increased participation of girls. While the mechanisms remain to be explored, a number of studies (Benson 2002; Hovens 2003) have found that bilingual schooling has positive effects on girls’ schooling in terms of higher enrolment and passing rates and lower dropout rates (see also CAL 2001). International research indicates that girls never get to school, or stop attending after only one to three years, due to various factors such as perceptions that they are less able than boys, or lack of trust in male teachers (Chowdhury 1993). Benson (2002) proposes that both internal and external impediments to girls’ participation may be eliminated by use of the L1, because increased student-teacher communication allows girls to demonstrate their competence and teachers to see it, and increased parent-teacher communication increases trust in the teacher while exposing him to more social control.

4. How programs have been structured

4.1 Managing languages in the classroom: models

The most common model of bilingual schooling is transitional, which Baker (2001) considers a weak form because the L1 is used only as a bridge to the L2. Weak models take a subtractive approach to the mother tongue, undervaluing the first language and culture and prioritizing the second language. Transitional programs range from short-term oral use of the L1 during the preschool and/or early primary years to development of L1 literacy skills over three to five years before transitioning, or changing the language of literacy (and usually instruction) to the L2. The L2 is taught first orally and then phased in gradually as a language of instruction. Studies have demonstrated that “late-exit” transitional programs, i.e. those that develop the L1 for four to five years, have much

better results in terms of student performance than other models that do not invest in L1 development (Ramirez et al. 1991; Thomas & Collier 2002).

A weak form made weaker: Programs in economically disadvantaged countries often attempt to transition to the L2 after only one or two years, without consolidating L1 literacy or L2 communication skills. “Short cut” transitions try to do too much too fast and fail to produce optimal results, giving parents and teachers the mistaken impression that the L1 has caused the confusion. Teachers may go back to submerging students in the L2 when what would actually help students is deeper development of L1 skills on which to base second language literacy and learning. Early-exit programs are very weak, but even some time spent in the L1 is preferable to submersion because there are so many affective benefits associated with validation of the first language and culture, and teacher-student interaction is automatically facilitated to some degree by L1 use.

Strong models take an additive approach, adding a second language to competence in the first and building on the learner’s skills and knowledge in the L1 while teaching the L2 in an understandable way, with more positive academic and affective results. Two known strong forms function only in particular contexts and are not readily applicable here. The first, immersion education, was developed in Canada where the L1 and L2 are both relatively prestigious and where formally educated parents who can assist their children choose for their children to become bilingual and biliterate. The other, two-way bilingual education, combines native speakers of two different language groups in one classroom so that they learn from each other. Neither model is likely to work in most developing countries due to highly asymmetric power relations and the fact there are few native speakers of the L2.

One strong form of bilingual schooling that does apply is the developmental maintenance or heritage language model, whose goal is bilingualism and biliteracy based on the long-term development of both L1 and L2 skills (Skutnabb-Kangas, 2000). There are a variety of practices ranging from continued study of the L1 as a subject following transition of all other parts of the curriculum to the L2, to mostly L1 study with the L2 existing mainly as a subject. Many heritage language programs settle on a 50:50 balance of language use, but in all maintenance programs the learner’s mother tongue remains a solid component of the school curriculum, ideally for as long as s/he is in school but at least throughout primary schooling (Baker 2001).

All of the above models draw on the literature from the North. Researchers from multilingual contexts bring more languages into the picture; for instance, Pattanayak (2003) describes the situation in India, which has a trilingual schooling policy involving a regional (state) language, a national language (Hindi) and an international one (English) but these do not necessarily include the student’s mother tongue, raising difficulties if the regional language is taught as if it is the L1. Considering many African contexts, Bamgbose (1991) explores the alternatives in terms of three types of language—the mother tongue, a lingua franca or regional language, and an international language—and according to how each is used—as the language of literacy, studied as a subject, and used as a medium of instruction. The Six-Year Yoruba Medium Primary Project, as well as the findings of North American studies (especially Thomas & Collier, 2002) and the

experience of many European countries, suggest that a language foreign to the learner should be taught as a subject for five to seven years prior to being used to teach academic content. This would mean focusing on the mother tongue throughout primary schooling and using appropriate methodology to teach other languages as subjects, a model that is not yet being practiced in multilingual countries.

4.2 Best practices concerning models

It is difficult to highlight certain programs as “best practice” when few functioning bilingual programs in developing countries actually follow the models that Western research would see as most pedagogically sound, and even countries that have adopted well-designed models on paper have had difficulties implementing them in practice. As mentioned above, short-term transitional models are the most commonly practiced, presumably because resources are scarce and decision-makers hope for a quick solution to the school’s linguistic “problems.” Likewise, more appropriate models require more time, resources and commitment to implement, leaving a gap between even well-intentioned policies and actual practice. It could also be that multilingual developing contexts are special and that new, more creative solutions need to be generated in the South. However, it is clear from research in both North and South that submersion or early use of a foreign medium of instruction do not provide a reasonable quality of basic education.

The transitional program that has had the most success has been Nigeria’s experiment with Yoruba use throughout the six years of primary education with English taught as a subject and phased in gradually. There is ample documentation of all of the accomplishments of this project, as well as the steps taken to effect the model and pitfalls to be avoided (Fafunwa et al. 1989; see also Adegbiya 2003). There are quite a few shorter-term transitional programs, i.e. where the L2 starts serving as a language of instruction in grade 3; the better versions of these would be the ones that begin at preschool level, and the ones that provide for continued study of the L1 through the end of primary schooling (see e.g. Tadadjeu & Mba 1996).

In terms of bilingual education policy consistent with good models, Bolivia is clearly the most advanced, with its maintenance and development model for long-term continuous study of the mother tongue and Spanish taught as a second language throughout, having arrived at a 50:50 model around grade four (ETARE 1993). Logistical difficulties like trained teacher shortages, failure to keep bilingual teachers in the most remote areas, and delays related to the development, supply and distribution of L1 and L2 materials have meant that many schools can only provide a few years of mother tongue schooling to those who most need it (Albó & Anaya 2003; King & Benson 2004). In addition, the most innovative elements—interculturalism, L1 study through secondary schooling and indigenous language instruction for the monolingual Spanish-speaking elite—have yet to be put into practice in ways that can be evaluated. Even so, this educational reform has survived over ten years and through a few governments, so it is a case to be watched.

A final point when discussing models is that it may be instructive to look more at non-formal education (NFE), where it seems there is more being done in mother tongues as well as more innovation. This is probably because there is simultaneously more grassroots involvement from communities and NGOs and less control from government ministries. Bilingual adult literacy programs may be an important source of ideas, especially where they are experiencing success like in India (Pattanayak 2003), Papua New Guinea (Klaus 2003), and Cambodia (Kosonen 2004). Urzagaste (1999) has reported creative interactions between bilingual primary and adult literacy classes in Quechua-speaking regions of Bolivia that could provide a model.

5. Key lessons learned

The following summarizes the points made in the text and key lessons learned from over thirty years of experience in developing countries as well as research in the North.

- *Basic needs of students and teachers must be met for any reform to be effective.* Unless physical conditions are improved for the most marginalized it is unlikely that a change in language policy will dramatically improve educational attainment.
- *Significant investment of time and resources is needed in both teacher training and materials development (including linguistic development of the L1).* Cost-benefit analyses demonstrate that this investment is balanced by savings in terms of per-pupil expenditure because of significantly reduced repetition and dropout rates.
- *All stakeholders should be involved in the decision-making regarding implementation of bilingual schooling as well as which languages will be used and how they will be developed.* Top-down processes should enable implementation through legislation and allocation of resources, while bottom-up processes provide grassroots commitment and linguistic community support and mid-level processes facilitate educational implementation. This implies some degree of decentralization of educational decision-making.
- *Selection of appropriate bilingual models is the key to educational quality.* Gradual transitional and developmental maintenance models maximize L1 development and therefore have the greatest potential to improve L2 development and content learning.

Conclusion

What EFA means for people in developing countries is access to basic literacy and numeracy as well as other skills that will improve their lives. Mother tongue-based bilingual education not only increases access to skills but also raises the quality of basic education by facilitating classroom interaction and integration of prior knowledge and experiences with new learning. The effects of bilingual schooling mentioned above depict the progress made by traditionally marginalized students in the process of:

- Becoming literate in a familiar language
- Gaining access to communication and literacy skills in the L2
- Having a language and culture that are valued by formal institutions like the school
- Feeling good about the school and the teacher
- Being able and even encouraged to demonstrate what they know
- Participating in their own learning
- Having the courage to ask questions in class (students) or ask the teacher what is being done (parents)
- Attending school and having an improved chance of succeeding (all children and especially girls)
- Not being taken advantage of (all children and especially girls)

Where these characteristics correspond with the goals of EFA and the goals people have for their children, mother tongue-based bilingual education can provide a means for reaching them.

Glossary of terms

Bilingual	(Individual or societal) ability to speak two (or more) languages, or a model of schooling that uses two (or more) languages
Biliterate	Ability to speak, read and write two (or more) languages
Empowerment	Specific efforts to give learners the knowledge, strategies and self-confidence to act to improve their own situations and those of others
Foreign language	A language that is not spoken in the immediate environment of the learner
Immersion	Focused use of a second language for instruction, using second language teaching methods (with L1 support at school and/or at home)
Interculturalism	Promotion of mutual understanding and tolerance between cultural groups
L1	First language, mother tongue
L2	Non-native language, second language, foreign language; may specifically refer to contexts where the language is widely spoken outside the home, but often used to refer even to situations where there is little contact with the language except through the school or “official” contexts.
Lingua franca	Widely spoken language used for communication between linguistic groups
Maintenance	Continued development of a language through schooling
Medium of instruction	The language used in teaching and learning curricular content
Mother tongue	First language (L1), native language
Multilingual	(Individual or societal) ability to speak more than two languages
Official language	Language adopted by the state for administrative and institutional use, often including schools
Submersion	Use of an instructional language that is not spoken by the learner nor taught as a language
Transfer	Cummins’ concept that what is learned in the L1 contributes to one’s competence in other languages
Transition	Shift in the medium of instruction from L1 to L2, or shift in the language of literacy
Transitional	Schooling that shifts sooner or later from the L1 to the L2

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