Education is a very serious business, since it touches strongly on the lives of the people, and so it deserves to be managed in a scientific manner. (Obanya 2002)

Introduction

Since independence, African countries burdened with colonial school systems have been challenged to reform nearly all aspects of these selective systems to provide a quality basic education for all. Over the past twenty years it has become increasingly clear that the instructional use of exogenous languages has been a significant factor in the high repetition and dropout rates characteristic of post-colonial education systems. As a result, government ministries attempting to manage education ‘in a scientific manner’ have made the mother tongue an object of experimentation in the schools.

Guinea-Bissau, Mozambique and Niger have all piloted instructional use of the mother tongue at the primary level, with varying results in terms of documentation and further progress toward implementation. This paper will highlight their cases in an exploration of the gap between educational experimentation and practical implementation of mother tongue or bilingual education. I have chosen these three countries because of my involvement in their experimental projects as a researcher or technical assistant, work that will form the basis for this reflection on the role of the researcher in the process of educational innovation.

Some time ago, Nancy Hornberger wrote an article entitled ‘Bilingual education success, but policy failure’ (Hornberger 1987). She discussed a large and well-supported bilingual primary education project which, though practised within the structure of Peru’s educational reform and though demonstrably successful in a number of ways, failed to lead to generalised implementation through official policy. There are similar examples in other parts of the world, perhaps the best documented of which is the Six-Year Yoruba Medium Primary School Project in Nigeria, where once again clear demonstration of the benefits of mother tongue use throughout primary schooling was not sufficient to influence national policy nor to stimulate wider implementation (Bamgbose 1984; Fafunwa et al. 1989). Having been involved in similar situations of practical success where use of the findings was limited, I joined many colleagues in Africa in criticising the ‘lack of political will’ among leaders about which Neville Alexander speaks (Alexander 2000:11), and in thinking that a brave policy decision on the part of an education ministry or a government was all that was needed to move forward. However, later work in Bolivia made me aware that even well developed policies

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47 An earlier version of this paper appeared in the proceedings of the African Languages in Education workshop held at Stockholm University in June 2003 and published by the Centre for Research on Bilingualism.
and laws do not necessarily lead to effective bilingual education. Obviously the question of how to close the experimentation-implementation gap is a complicated one, and there are many factors to be considered beyond the pedagogical.

On the basis of his extensive review of the literature on bilingual education in Africa and Latin America, Stroud (2002) has found evidence that a variety of conditions involving different parts of society must be in place. These include parent and community participation from the onset, a felt need for speaking and literacy skills in the mother tongue or other local language used, and a commitment on the part of government to making this part of the curriculum. It seems as if the process of piloting bilingual schooling should allow for the exploration of many of the factors involved, from logistical to pedagogical to governmental, and should raise awareness in many parts of society regarding alternative methods and media of instruction that are more effective than submersion of primary school children in a foreign language. Yet most countries experience a disconnect between experimentation and more widespread practice of bilingual schooling. Somehow this gap needs to be bridged, and it is logical to argue that those involved in the piloting have a part to play in the process.

What is the role of the researcher, then, in this bridging process? To address the part researchers play, this paper will begin with a contextualisation of African educational reform in terms of the historical and philosophical conditions under which experimentation has taken place. The next section will take up the three country cases individually, describing the experiences my colleagues and I have had in trying to report findings and influence policy and practice. Finally, there will be a discussion concerning the role of the researcher in this process, concluding with some implications both for future research and for strategies that are most likely to produce change.

The context of educational experimentation

To begin with, educational experimentation in African countries can be viewed as a phenomenon of post-colonial processes. According to Obanya (2002), African school reforms have taken four main approaches: radical-revolutionary, realistic-revolutionary, evolutionary, and ad hoc. The radical approach has involved breaking away from colonial systems and practices, with some positive results such as Nyerere’s *Education for Self-Reliance* in Tanzania, and the development of African languages for public and educational use in countries like Guinea-Conakry and Ethiopia. The realistic approach, which Obanya says has moderated revolutionary zeal with caution and awareness of constraints, has been taken by many countries that have kept colonial education systems but focused on ‘righting the wrongs of the past’ by holding conferences, publishing improved national policies, and making relatively superficial structural changes (Obanya 2002:19). The evolutionary approach, which Obanya believes characterises educational reforms in most countries, has been to make changes only when needed and to follow the rest of the world (read: former colonial powers). An example is when France abolished the first *baccalauréat* exams and most of ‘francophone’ Africa did the same, representing attitudes far from ‘decolonisation of the mind’ (ibid.:21). Educational experimentation has taken place in the context of all of these approaches, but the ad hoc approach seems especially pertinent to this discussion. This approach has involved addressing one issue at a time without looking at the larger picture or at related factors or actors who should be involved, resulting in a ‘culture of pilot projects,’ including not surprisingly ‘piloting on the use of African languages in Education which have lasted indefinitely (e.g. Sénégal, Côte d’Ivoire, Cameroun)’ (ibid.:20).

Behind all but the most revolutionary of these approaches are widely held language attitudes. Throughout his long-term work on educational language policy in South Africa and across the continent, Alexander has written extensively on the debilitating attitudes toward mother tongues and home cultures left in the wake of colonial rule. ‘For reasons that have to do with the modalities of colonial oppression,’ he explains, ‘it seemed as though every newly independent African state was doomed to take the same language policy detour by accepting in practice the primacy of the ex-colonial language, in spite of all the eloquent rhetoric.'
to the contrary’ (Alexander 2000:8). Language policy decisions have not happened in a political vacuum; in fact, deliberate efforts on the part of former colonial powers to promote their respective languages - not only English but also French and Portuguese - have now been exacerbated by globalisation, co-opting national elite decision-makers and further marginalising African languages and their speakers.

There are also widely held attitudes concerning what constitutes research. The point made in the opening quote about handling education scientifically may also provide a key to understanding how research and experimentation are perceived. The terms ‘scientific’ and ‘experiment’ both originate in research in the natural sciences and point to a positivistic tradition that is oriented toward ‘provability,’ which is not very well suited to the study of human social behaviour. While more qualitative and process-oriented research methods are certainly available, many people still have the idea that school research should involve random samples, differential treatments and control groups, and that the success or failure of a bilingual programme, for example, should be determined by comparing test scores. Clearly school research involves a whole collection of overlapping variables that are social, economic, linguistic, gender-related, health-related, and so on, and managing any type of treatment or control group can prove difficult if not nearly impossible when individual choice is involved. However, positivist arguments still abound even in economically developed countries, as evidenced by Jim Cummins’ strong work to refute claims like those of Rossell and Baker (1996, as cited in Cummins 1999, 2000) who say that few or no studies of bilingual education can be considered ‘methodologically rigorous’ enough to constitute proof of superior results. Epistemological arguments by Cummins and others (see e.g. Krashen 1999) may be understood by researchers, but they are not likely to become part of the discourse on educational reform. This discourse is highly influenced by development agencies and dominated by economists, who develop formulae to calculate school ‘efficiency’ and manage to quantify even educational quality by defining it in terms of numbers of schools, books, trained teachers, and so on.

While there may be other ways to contextualise experimentation in bilingual education in Africa, these attitudes toward language and toward educational research seem to be salient in the countries with which I am familiar. The examples that follow illustrate how these attitudes can play out in practice.

Experimentation in three countries

As mentioned earlier, Guinea-Bissau, Niger and Mozambique are used as examples here because I have worked in these three countries as researcher, technical assistant, or evaluator of bilingual programmes at some point in the past ten years. I will also discuss some of the experiences of a colleague from the Guinea-Bissau project, Mart Hovens, whose later work to revitalise bilingual education in Niger included long-term evaluation and whose published studies compare findings from Niger with those of Guinea-Bissau (Hovens 2002, 2003). The three countries reflect two different colonial language influences - Portuguese in Guinea-Bissau and Mozambique and French in Niger - where these languages, much like English in other parts of the world, are perceived as global languages representing economic, educational and other opportunity-related links to the North. The three cases also reflect different types of societal multilingualism in terms of what I have called ‘levels of language’ (Benson 1994, 2003). These are comparable to di- or triglossia in their reference to diverging domains and status, while also reflecting the order in which the languages are most often learned. Mozambique has basically a two-level situation (indigenous mother tongue and Portuguese official language), Niger a two- or three-level one (indigenous mother tongue, often a second indigenous language – Hausa - that serves as lingua franca, and French official language), and Guinea-Bissau a solid three-level one (indigenous mother tongue, Kiriol lingua franca, and Portuguese official language). I mention this because in a three-level situation one practical alternative may be to use a widely spoken second language instead of a number of mother tongues for initial literacy, which is in fact what was attempted in Guinea-Bissau. In each profile that follows, there is a brief description of the linguistic and educational situation in the country followed by an account of bilingual experimentation there and what has resulted, including efforts by researchers, myself and others, to disseminate information and influence policy.
Guinea-Bissau

Guinea-Bissau has a population currently estimated at 1.4 million (UNESCO 2005) representing 30 ethnolinguistic groups, of which the largest are Balanta at 27% of the population and Fula at 23% (MICEP 1993). Over half of all Guineans are monolingual speakers of an indigenous language; most of the rest are bi- or trilingual in indigenous languages and Kiriol, a Portuguese-substrate creole (Ahlenhed et al. 1991; MICEP 1993). Portuguese is spoken by about 10% of the population as a first, second, or third language (MICEP 1993). It is estimated that about 52% of school-age children are enrolled in primary school (UNDP 2001). Apart from scattered missionary work in mother tongue literacy, there has been one experiment in bilingual education, the CEEF project.

CEEF, or Centros Experimentais para Educação e Formação de Professores (Experimental Centres for Education and Teacher Training), began in 1986 at the initiative of the then Vice-Minister of Education, who was a decision-maker and innovator promoting africanist and indigenist values and whose political platform was to change the elitist bias of the school system. Functioning from 1986 to 1994 with European Community sponsorship, the CEEF project had three goals: to develop a ruralised and integrated curriculum, to use Kiriol for beginning literacy and content area instruction to facilitate acquisition of Portuguese, and to train teachers capable of implementing these innovations. The project operated in two schools in each of three very remote regions of the country, and used Kiriol, a widely spoken second language for most, for beginning instruction, transitioning to Portuguese after three years. The rationale was that if this type of bilingual education could be demonstrated to work under difficult circumstances in regions representing different mother tongues and different degrees of Kiriol diffusion, experimental results would convince national decision-makers.

Having learned about the experiment while in Guinea-Bissau doing other work, I requested and was granted permission to conduct a year of fieldwork on the CEEF project for my doctoral dissertation from 1992 to 1993. When I arrived, the CEEF project was in a declining state: although the Vice-Minister had later become Minister, he was replaced in 1991; further, the project was short of funding and the Ministry itself was experiencing financial difficulties that meant educational personnel went without pay for months at a time. The Guinean staff at CEEF, supported by technical assistants from SNV (Netherlands), were attempting to back up bilingual teachers in the field. Meanwhile, the Ministry had not recognised Kiriol in any way, even as the de facto language of explanation that it was in all schools, and official teacher training and curriculum development went on without consideration of the potentially new medium of instruction. (Ironically, not only were the CEEF project and the teacher training unit in adjacent offices, they shared the same administrative head.)

Because CEEF had no built-in system for monitoring and evaluation, my dissertation study became the principal evaluation of the project, and as participant observer I was able to work collaboratively with project personnel to develop linguistic and other assessments. Based on the data we collected and analysed together over that year, we could make the following points: (1) that children demonstrated high average levels of Kiriol competence by school age, and nearly universal fluency by grade 2, making it a feasible language of literacy and instruction for the early years; (2) that children demonstrated low average levels of Portuguese competence even after four or more years of schooling, meaning that submersion schooling was not resulting in communicative competence in Portuguese; (3) that there was more and better interaction between teachers and students in bilingual classrooms than in submersion ones; and (4) that virtually all parents and teachers were in favour of bilingual schooling due to the observable benefits in terms of communication, literacy skills, promotion of home cultural values, and more (Benson 1994).

To disseminate these and other results, we conducted a seminar on national languages in education in February of 1993, our goal being to raise awareness on the part of Ministry personnel who might be in a

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48Little reliable demographic or educational data is currently available on Guinea-Bissau, which underwent an intense period of civil war from 1998 to 1999 and is in the process of marshalling scarce resources to rebuild basic infrastructure, including the school system.
position to make decisions about instructional languages. The weeklong seminar, funded by SNV (Netherlands) and Sida (Sweden), included Gustave Callewaert, an educational sociologist, and Chérif Mbodj, a Kiriol linguist and director of the Centre of Applied Linguistics in Dakar, both of whom brought a great deal of prestige to the meeting. Other participants included social scientists from the National Institute for Study and Research (INEP) and others working with Guinean languages, and even the new Minister of Education made an appearance. CEEF staff, including school supervisors and directors, also figured prominently. By the end of the week, there was firm consensus about the need to officially recognise oral Kiriol use in the primary schools, which our Guinean colleagues believed was an important first step toward further recognition of the benefits of Kiriol use. Though the Minister gave verbal approval to this recognition, he was replaced soon afterwards, and the official announcement never came.

Before my departure in September 1993, I was invited to conduct a weeklong seminar on bilingual education for all staff of the research unit of the Ministry of Education. While this was well received, participants were working at the technical level and had limited decision-making power, and no official decisions of any kind were made at that time regarding languages or implications for a new curriculum. Shortly afterward I wrote an article in Portuguese summarising our findings for the academic journal published at INEP (Benson 1993), but readership was similarly limited to scholars rather than politicians.

Project support ended in 1994, and with it the experiment, scattering teachers, trainers and other personnel throughout Portuguese-medium schools and teacher training programs. My dissertation, written in English for the University of California, came out in June of that year (Benson 1994). I sent a bound copy to the library at INEP and notified interested parties of its existence, but doubtless few could read it in its English form, and unfortunately I did not have the means at that time to translate the document into Portuguese, or better yet into Kiriol.

Thanks to Sida involvement at the research unit, two Master’s theses related to instructional language were written, both of them in Portuguese. The first was published in 1994 by Mart Hovens, who combined the data collected for my study with that of sociolinguist Ibrahima Diallo as well as Hovens’ own study of CEEF graduates to present bilingual Kiriol-Portuguese schooling as a highly preferable alternative to submersion in Portuguese (Hovens 1994). The second study by Diallo came out one year later and used sociolinguistic data to discuss the issue of instructional language in primary education (Diallo 1996).

As far as I am aware, the only other direct attempt to influence instructional language policy with information about CEEF findings was made by a German technical assistant at INEP in 1995. Johannes Augel went through my dissertation and wrote a series of detailed summaries in Portuguese along with his own analysis that were published every few weeks in the Bissau newspaper Banobero (Augel 1995a-e). Augel called the study ‘a thesis that calls us to action’ (March 1995) and contextualised the CEEF results by discussing mother tongue schooling evidence from other parts of the world.

Hovens went on to work with SNV support on a community-supported school project which he developed collaboratively with a rural village in southern Guinea-Bissau. This project made use of Kiriol and experience from the CEEF project, but it was on a smaller scale than the experiment had been. He and Guinean colleagues from the Ministry also worked creatively with puppet theatre presentations for national television that brought in some aspects of bilingual education and community use of Kiriol, and aimed to stimulate public discussion. However, the prestige of Portuguese seemed firmly grounded amongst elite decision-makers, and now there have been no further efforts to implement mother tongue-based schooling.

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49 The INEP library was completely destroyed in the civil war in the late 1990s. Later I sent another copy at the request of an NGO that was attempting to rebuild the library and recover lost documentation.
**Niger**

In 2003, Niger was estimated to have 11.8 million inhabitants (World Bank 2005:257). Ten indigenous languages are officially recognised, of which the largest is Hausa, which is spoken by 70% of the population as a first or second language (Hovens 2003). According to UNICEF (1999), only about 28% of the school-age population are currently enrolled in primary school.

Systematic bilingual experimentation began in 1973 with a large-scale USAID-funded project, which involved hundreds of schools and five different mother tongues (Hausa, Zarma/Songhay, Fulfulde/Peul, Tamajaq or Kanouri) to be used in the first three grades, with transition to French in grade 4 but continued study of the L1 as a subject through to grade 6 (Hovens 2002). This experiment received extensive specialist input during the initial years, but when these schools later reverted to Ministry supervision they lost technical support but retained their experimental status. Over time, the original transitional model became more and more diluted, so that when Hovens arrived in 1997 as a technical assistant for GTZ (Germany) there were only about 40 functioning experimental schools that bore varying degrees of resemblance to the original bilingual model (Hovens 2002).

GTZ wanted to revitalise the experimental bilingual schools and bring bilingual education back into policy discussions by starting a special support project, of which Hovens was the director. The GTZ project was part of the Department for Educational Reform at the Ministry of Education as well as the Institute for Education Development, both of whom were involved in the planning and monitoring of the project as well as all the training which was carried out. Hovens and his Nigerien colleagues began with an assessment of the schools, personnel and conditions and found that teachers and school directors were in need of technical training so that they could regain lost bilingual methodologies and gain an understanding of relevant pedagogical concepts that would aid them in supporting bilingual programmes when questioned (Hovens et al. 1997). On this basis, Hovens hired me for a short-term assignment in 1997 to train a multilingual group of teacher trainers and comment on the project design. We were in agreement from our experiences in Guinea-Bissau that Ministry of Education personnel should be involved in all training and awareness activities, not only to build capacity but also to influence future policy, something that 25 years of experimentation had somehow not been able to do. At that time we focused on improving methods for second language instruction and providing information about the basic theories and principles in bilingual schooling. This was considered to be necessary since experimental schools had lost public support over the years due to concern over the perceived loss of time spent in the official language and lack of easily available information about how mother tongue study could support the learning of French.

During his three years with the project, Hovens and his colleagues documented ‘experimental’ findings and a number of significant successes, framing them within theoretical models and international findings and disseminating them as widely as possible. Hovens also did some unusual things with his research design; for example, students from both bilingual and French submersion programmes were tested through both the mother tongue and French. Interestingly, even students who had not been educated in the L1 were able to understand and succeed on written L1 tests. Overall, test results were best among students who were taught bilingually and tested in the mother tongue, followed by students taught bilingually and tested in the L2, demonstrating that experimental schools achieved better results than French submersion. Lagging behind were students from the all-French system tested in the mother tongue, but they still did better than those from the all-French system tested in French, demonstrating that the best strategy for learning was not exclusive use of French (Hovens 2002).

The results obtained by Hovens and his colleagues were similar to those found in other countries, i.e. that bilingual classrooms were more stimulating, interactive, and relaxed, and that those who gained the most from participating in bilingual programmes were rural children and girls. The majority of parents surveyed were in favour of early schooling in the mother tongue and wished to see national languages used in other public contexts (Hovens 2003). In addition to conducting studies, they did some community advocacy by establishing
several village theatre groups in national languages. Their plays focused on the necessity of school, especially for girls, and the use of national languages in school. Like the puppet theatre in Guinea-Bissau, these presentations were comedies, and the reaction of the public was laughter and a lot of discussion (personal communication with Hovens, 22 July 2003). Their hope was that such events would be a light but sustainable way to influence public opinion – and indirectly the political decision makers - about bilingual education.

These results were disseminated as widely as possible, and when Hovens left his position at the GTZ project the task was taken up by Thomas Buettner and Maman Mallam Garba, the latter a Nigerien specialist in bilingual education who has also published a number of studies. The experimental schools are carrying on to date, but policy in Niger has not yet changed in response (Hovens, personal communication, 22 July 2003). Hovens’ study (2003) demonstrates that a significant factor in the failure to implement mother tongue programmes is the reticence of the national political elite.

**Mozambique**

In 2003, Mozambique was estimated to have a population of 18.8 million (World Bank 2004:257). According to the last published census data, 75% of the population are monolingual speakers of one of 24 indigenous languages, and about 25% are speakers of Portuguese as a first, second or third language (Katupha 1985). Portuguese is the official language of primary schooling, in which about 50% of the school-age population are currently enrolled (UNICEF 1999). An estimated 53% of the population lacks literacy skills (UNESCO 2004).

Beginning in 1989, a small group of linguists from the national Eduardo Mondlane University, along with educators from the research branch of the Ministry of Education known as National Institute for Educational Development (INDE), held a series of public seminars focusing on educational use of indigenous languages. What developed as an outgrowth was an experiment in bilingual education which came to be known as *Projecto de Escolarização Bilingue em Moçambique* (Bilingual Schooling Project in Mozambique) or PEBIMO. The main research question was whether use of the mother tongue could reduce student attrition and improve primary schooling in Mozambique. According to its designers, the experiment was publicly seen as a test of bilingual education, both in general and in Mozambique.

The actual experiment began in 1993 with four Year 1 classes in each of two provinces, using the dominant Bantu language of each province: Cinyanja in the northwestern province of Tete and Xichangana in the south-central province of Gaza. Bilingual classes functioned alongside all-Portuguese submersion classes in regular primary schools. Experimental students were to attend PEBIMO classes from Years 1 to 5, with the same bilingual teachers following along, after which they would move on to the next phase of primary schooling in the national Portuguese-medium system. Funding for the project - a combination of Ministry, UNESCO, and World Bank contributions - supported teacher training, materials development and production, and project monitoring was done by a team of educators at INDE.

As outside evaluator and later technical assistant for the PEBIMO project, I worked with the bilingual education team to evaluate the project and make recommendations to the Ministry of Education regarding bilingual programmes, beginning in 1996 when students were in Year 4 and continuing through 1997 to the end of the project. I also helped plan and execute the actions taken by the INDE team following the evaluations, during the period that we considered at the time to be the post-experimentation, pre-implementation phase of bilingual education in Mozambique.

The evaluations used both quantitative and qualitative methods. We tested academic achievement both years. In 1997 all available PEBIMO students (126 in total) and SNE students in ‘comparison’ classes (152 in total) were tested in the subjects reflected in the Year 5 curriculum, with Portuguese as the language of instruction.
testing. (Only bilingual students were tested using the mother tongue.) We also observed 64 classes and interviewed all PEBIMO personnel, Ministry and provincial officials, and parents of experimental students.

My evaluation of the 1996 data was published in Portuguese by INDE the next year and distributed widely. A later translation into English was published by Sida for wider use (Benson 2001). A colleague, Marcelo Soverano, also worked on his Master’s study using a combination of data, but he was unable to complete the work. In addition, Samima Patel and I wrote an article for a magazine for teachers sponsored by GTZ (Benson & Patel 1998). Overall, the qualitative results of the 1996 and 1997 evaluations were overwhelmingly positive for bilingual education, while the test results were inconclusive. We knew that the bilingual/non-bilingual group comparison was unfair, and we also knew that the experiment did not use an effective model of bilingual education. This meant that the ‘proof’ sought by the designers of the experiment was not readily apparent, i.e. it was difficult to show ‘scientifically’ that bilingual education was indisputably the best form of primary schooling. The PEBIMO team decided to report the research results honestly but with a great deal of explanation. We explained why the qualitative results were valid and worthy of consideration, and why the ‘comparative’ test scores should not be used exclusively to judge the effectiveness of bilingual education. The INDE team also agreed to report all results in the context of how bilingual education could be or should be applied to the linguistic situation encountered in Mozambique. When dealing with everyone from colleagues at the Ministry to members of the public and the media, we explained that the basic principles of bilingual education had already been established worldwide; what was needed was information about how they could be used to improve primary schooling in Mozambique.

Parents were virtually unanimous in their support for experimental schooling, and both of the provincial bilingual coordinators reported a public outcry at the end of the 1997 school year when it was announced that the bilingual experiment had ended and that INDE would take at least two years off to prepare for the future. Two different school directors reported that families in PEBIMO communities had taken in children from relatives or friends in anticipation of their being able to attend bilingual classrooms. In Gaza, a group of local leaders even submitted a written proposal to the Ministry to expand Xichangana-Portuguese instruction to 25 other schools beginning the next year, and the INDE team was put in the unfortunate position of recommending against the plan due to its unrealistic accounting of the needs for teacher training and materials production. Clearly a demand had been created in both provinces, but time was needed to prepare an adequate response to that demand. The team encouraged the provincial education directorates to track former bilingual students from 1998 on, in an effort to determine whether the experiment would have any lasting effects on their studies and/or their lives. Unfortunately the team itself has not managed to follow up on the investigation (Marcelo Soverano, personal communication, 3 September 2003).

As a result of the team’s reports and recommendations, the Ministry of Education tentatively agreed with INDE that bilingual education should be implemented gradually in linguistically homogeneous areas. It would begin in the near future, in the same two provinces where the PEBIMO experiment had taken place, with an improved model and the corresponding methods and materials in the same two languages. Then, after a few more years, it would be introduced in other provinces where there was sufficient interest, with new materials in Bantu languages which would by then be ready to be utilised in terms of standardisation and codification. This would imply greater decentralisation of the Mozambican education system, with transfer of considerable responsibility to the provincial and local levels. It would also mean increasing the technical capacity of INDE’s personnel to serve as resources for curriculum design and teacher training in bilingual education. In addition, other institutions such as linguistics departments and teacher training colleges would need to expand their capabilities.

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51 The PEBIMO model did not introduce Portuguese until the end of grade 2, yet it was expected that students would be taught all subjects except the mother tongue in Portuguese by the end of grade 3. When in practice Portuguese was not introduced until grade 3 due to interruptions in the 1994 school year caused by national elections, instead of delaying the transition until students were ready, the programme was followed as scheduled. PEBIMO students could not be expected to develop basic communication skills in the L2 after such little instruction, much less the type of context-reduced language proficiency (per Cummins 1981) required of content area instruction in the L2.
In 1998, in a partial response to future implementation needs, INDE reorganised its bilingual education department and made plans to adopt an effective model of bilingual education and develop mother tongue materials. The two-year period from 1998 to 1999 was seen as the phase of transition between experimentation and small-scale implementation of bilingual programmes. During that time some additional publications came out, including another summary of my research in an INDE publication (Benson 1998).

Unfortunately, there have still been doubts on the part of Ministry officials about the usefulness of the mother tongue for school purposes, and some members of the elite are more interested in promoting Portuguese-English bilingualism than recognising the real needs of the nation’s schools (see e.g. Lopes 1999). During seminars on a wide-scale curriculum reform, at which speakers including myself were invited to present papers, language of instruction remained a topic of discussion. Bilingual programmes in 16 languages were being readied for implementation at the beginning of 2002 (Samima Patel, personal communication, November 2001), but the planned implementation phase was postponed year after year until 2003, when pilot schools finally began using mother tongue-based programs as part of the reform. These programs have experienced delays in starting up and in receiving materials, and there is little support provided except to pilot schools in two provinces where an NGO known as Progresso has been operating, sharing its experience in adult bilingual literacy (Feliciano Chimbutane, personal communication, September 2003). Apparently the necessary commitments in terms of government support have yet to be made.

The role of the researcher

Does the researcher play a role in the process of closing the gap between experimentation and implementation? After our experience in Guinea-Bissau, both Hovens and I were determined to do whatever we could to keep the findings of bilingual experiments alive in the public discourse on educational quality. We brought this determination to our respective jobs in Niger and Mozambique, yet even with public awareness, information dissemination seminars, publication of results, and discussions with Ministry of Education officials, implementation has remained elusive in these settings.

Clearly an important role of the researcher is to investigate aspects of the innovation and evaluate in some way whether or not the innovation represents an improvement over the status quo. The perceived need for a ‘scientific’ comparison, however, leads to a reliance on positivistic research, as mentioned above: random samples, control groups and quantification of performance using test scores. As Cummins explains, this dominant research paradigm fails because the assumption is that research will yield clear-cut results upon which policy-makers can base their decisions, yet the treatment variable - a change in language of instruction - is ‘intertwined and interacting with hundreds of other variables that will affect program outcomes’ (1999:26). We acceded to this paradigm in all three countries when we tried to compare test scores of bilingual and submersion classes even though the comparison was not valid. In addition, in all three experiments, use of the mother tongue (or lingua franca in the case of Guinea-Bissau) fell far short of the recommended period of development (Cummins 2000; Thomas & Collier 2002) needed for significant benefits to manifest themselves in L2 competence and general school performance.

One implication here is that evaluations should be approached from a different paradigm and with alternative methodologies. This has been attempted to some degree. For example, as mentioned above, Hovens (2002, 2003) tested both bilingual and ‘control’ groups in Niger in both languages, despite the fact that ‘control’ students had never been taught L1 literacy, and the results clearly demonstrate an advantage for all students when they are tested in a language in which they are competent. Alternatively, I have studied affective and other benefits of bilingual schooling that are less likely to be captured by test scores, for example by using comparative observational data (which reveals much higher levels of participation in bilingual classrooms), or parent interviews (which report observable effects such as how bilingual children take initiative at home, enjoy school, learn cultural and societal values, and so on) (Benson 2002a). Taken together, these data point to the
need for further exploration of the social mechanisms at work and the potential for L1 use to effect change more directly than might be presumed. I have also attempted to organise qualitative results so that policymakers can relate to the data, as in the following table categorising Mozambican parents’ responses to an open question about why they said they were in favour of bilingual schooling.

<table>
<thead>
<tr>
<th>Reasons given (Open response, categorised for table)</th>
<th>Number of respondents (%age)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child can read, write, and count in both languages</td>
<td>73 (70 %)</td>
</tr>
<tr>
<td>Value of the local language/culture is increased</td>
<td>52 (50 %)</td>
</tr>
<tr>
<td>Child can write letters in the L1 to family members living abroad</td>
<td>46 (44 %)</td>
</tr>
<tr>
<td>Using the L1 makes learning easier for the child</td>
<td>36 (34 %)</td>
</tr>
<tr>
<td>Child can read the Bible in the L1 at religious services</td>
<td>34 (32 %)</td>
</tr>
</tbody>
</table>

A related role of the researcher is to help previously unheeded voices find a forum. In interviewing parents and even teachers, researchers have an opportunity to reveal what people who are integrally involved have to say about bilingual education. Since these people are rarely consulted when projects are designed (projects are often imposed on local schools), this type of empowerment can be important. D’Emilio (2001) has written an entire report based on testimonies from parents and indigenous leaders in Bolivia about the impact of bilingual education on themselves, their children and their communities, and their words are arguably more personal and powerful than a table of test scores could ever be. They also reveal affective benefits for students such as raised self-esteem that echo those described by parents in Guinea-Bissau, Niger and Mozambique, so that taken together these results provide strong support for bilingual schooling.

Another role researchers take on is to disseminate findings of both their own studies and those of others. This helps to contextualise research findings and analyse them from a wider perspective. Part of the task of dissemination is to help non-specialists understand the implications of what the experiment has demonstrated. One of my concerns has been the language of reporting, since we typically publish results in European languages instead of in languages that make the data accessible to the local public. If we are aware of the existence of misinformation such as belief in language myths as mentioned above, perhaps the best way to reach people in developing countries is face to face. In my experience, messages about bilingual education carry less weight if they come directly from the researcher’s mouth, and more when they come from those who have experienced the effects of bilingual programmes. In Bolivia, for example, indigenous groups known as Consejos Educativos de Pueblos Originarios (Educational Councils of Original Peoples), with technical support from researchers and educators, have taken on the function of disseminating information community by community in their respective ethnolinguistic regions (King & Benson 2004).

Although researchers are expected to maintain their objectivity, many take on the role of advocate at some point in their work. I personally find it difficult to take an impartial stance when reporting results, since so many studies worldwide demonstrate the benefits of mother tongue instruction, especially for marginalised groups. Hornberger (2002) has discussed the sense of urgency which advocates of reform have felt in South America, in part motivated by fear of a backlash once steps have been taken to adopt bilingual programmes. In Bolivia, for example, the Reform has thus far survived three political administrations, demonstrating that some continuity is possible (Contreras 1999:47). However, there is concern that faster
progress must be made to guarantee that the Reform will continue to be implemented (Moya 1999; Reforma Educativa 2000; UNICEF 2000) so that critical political and ideological momentum will not be lost. On the other hand, Peru provides a now classic example of attempting to go too far too fast, when in the 1970s sweeping reforms officialised Quechua and made its instruction mandatory for Spanish speakers, resulting in such a negative reaction from the Spanish-speaking majority that the idea was immediately dropped (Hornberger & King 2000). While balancing between these two extremes is difficult, Hornberger has recently urged linguists, educators and researchers to ‘work hard alongside language planners and language users to fill the ideological and implementational spaces opened up by multilingual language policies’ (2002:19), implying - I believe correctly - that these spaces will not always be available.

Part of advocacy may mean looking for ways to package findings. For example, we found indications in our Guinea-Bissau data that girls seemed to be even more positively impacted by bilingual education than were children as a whole. Both Hovens in Niger and I in Mozambique sought further evidence of this effect, and can now say that bilingual schooling - in contrast to submersion schooling - appears to help all rural children and especially girls to enter and stay in school as well as to have better results (Benson 2002b; Hovens 2003). This and other implications of mother tongue use - facilitating bilingualism and biliteracy, increasing positive affect and self-esteem, revaluing traditionally marginalised languages and cultures, and increasing parent participation - all address aspects of development that low-income countries and donor agencies purport to address. By demonstrating that mother tongue-based bilingual education may be connected to improving girls’ school participation, we may positively influence policy decisions.

Finding ways to package findings does not mean hiding the truth, of course. Researchers are obliged to report their findings honestly, in all their complexity, but they should also be aware of how the audience may understand and interpret these findings, and what repercussions there might be. I believe that terminology is especially important. For example, authors often use words with a negative connotation like ‘problem’ alongside words like ‘multilingual’ thereby unintentionally supporting the notion that speaking more than one language causes difficulty. Even words like ‘complex’ when used to describe natural linguistic diversity in a society may fuel the idea that it is impossible to offer mother tongue-based schooling. Similarly, studies that provide detailed descriptions of the difficulties of implementing a change in instructional language without offering alternatives or solutions from other studies, or without balancing costs with benefits, may be used by policymakers to ‘throw out the baby with the bath water’ instead of making the adjustments needed for the change to work. Neville Alexander is fond of saying that if you are not carrying out your own agenda, you are carrying out someone else’s, which may be an important warning for researchers in this field.

Conclusion

While there are obviously any number of factors involved in implementing an educational innovation like bilingual education in developing countries, this paper has focused on the researcher’s role to highlight factors that are under our control. It may be clear by now that my purpose in writing has been to encourage researchers to be aware of what we can do, wherever we are along the continuum between information disseminators and outspoken advocates, to be socially as well as academically responsible for our actions and to recognise that we already play a role in the development process. My suggestion is that we make our role part of a purposeful agenda that aims at improving the quality of basic education for all and in particular for the most marginalised of learners.

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