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Barbara Trudell and
Catherine Young,
editors

Good Answers to Tough Questions

in Mother Tongue-Based

Multilingual Education

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Preface

Good Answers to Tough Questions in Mother Tongue–Based Multilingual Education (MTB-MLE): Introduction

Barbara Trudell

Across the globe, the idea of using local languages of instruction in the primary grades is catching the interest of governments, donors, and NGOs alike. National-level programs in countries such as the Philippines, Uganda, Ethiopia, Ghana, and Nepal are aiming to develop and implement curriculum for teaching in the languages of the nation rather than international languages such as English, French, Spanish, and so on. Supported often by bilateral education donors, these programs have the scope and the backing to make a significant difference to education quality and access for speakers of the minority languages of the country.

This approach to early-grade instruction is well supported by research on language and learning. The cognitive benefits of using a familiar language of instruction include easy construction of schemata for learning and the availability of prior knowledge in learning new content (Bloch 2014; Benson 2000; Collier and Thomas 2004). The opposite effects are also well observed, in which the use of a medium of instruction not understood by the learner significantly inhibits learning (e.g., Diarra 2003; Harris 2011; Motala 2013; Trudell and Piper 2014). Fluency in the language of instruction stands out as a significant predictor of learner success in both reading competencies and curriculum content (Gove and Cvelich 2011:16; Alidou et al. 2006).

The student-centered pedagogical model, shaped by Northern scholars such as John Dewey and Carl Rogers and popularized in the 20th century by educators such as Maria Montessori, is also heavily dependent on the use of a language which the learner has mastered. Vavrus, Thomas, and Bartlett (2011:81) note:

> Because this approach relies heavily on critical thinking and dialogue, students and teachers need not only adequate space for discussions but also the linguistic skills in the [medium of instruction] to express complex ideas and to ask critical questions. Thus, [learner-centered pedagogy] places significantly higher linguistic demands on teachers and students than teacher-centered approaches.

Classroom research on language and learning also indicates strong links between language of instruction and the participatory nature of the classroom (e.g., Batibo 2014; Trudell 2005). Fewer children drop out of mother-tongue classes (Laitin, Ramachandran and Walter 2015); understanding what is being taught, and what they are expected to do themselves, gives children more motivation to continue attending classes. Parental understanding of the curriculum and ability to help the child with his or her homework are considerably heightened as well.

Language choice for medium of instruction has also been linked to measures of economic and social inequality. A recent study of the countries of Africa by Coyne (2015) indicates that using the former colonial languages as the medium of instruction has a direct relationship to inequality, as measured by household income. Blommaert (2005:411) argues that the question of language use in education systems is part of a larger debate about the role of education in either reproducing social inequality or facilitating greater agency on the part of the population being served. The limitation of access of certain ethnic or linguistic groups to formal education by means of a foreign medium of instruction is a particularly important form of social and political inequality (Johnson and Stewart 2007:247; Trudell and Klaas 2010:126).

Thus the cognitive, pedagogical, and sociocultural rationales for local language–medium learning are strong, and in the last decade they have persuaded many policy makers and implementation agencies to enter the field of mother tongue–based bilingual and multilingual education. The conceptualization of strong multilingual education programs is not excessively complicated, having been described in helpful

detail by experts such as Baker, Cummins, Heugh, Malone, and many others. Most recently, Pflepsen (2015) has compiled a detailed guide to best practices in planning strong MLE programs.

However, the successful implementation of strong MLE programs carries significant challenges. The factors affecting program success are many, and cannot always be controlled by the program implementer. These can include some or all of the below:

- the demographics of the language speakers;
- linguistic factors such as dialect variations and the status of the writing system;
- ethnic and political issues affecting the choice of languages to be used in formal education;
- policy and practice factors such as language policy, teacher preparation and allocation practices, and curriculum content;
- teachers' level of expertise in their field, as well as their fluency in the languages involved;
- the availability of textbooks, by language and by subject;
- the language attitudes of parents, education authorities, national decision makers, and other stakeholders;
- infrastructural issues related to the existence and location of schools.

The interplay between these factors can create contexts that prove challenging even to the best resourced and informed implementer.

Nevertheless, many committed government, bilateral, and NGO agencies are moving forward in the implementation of mother tongue–based bilingual or multilingual education programs, demonstrating their determination to help provide access to quality education for linguistically marginalized communities and their children. As these agencies get more and more deeply engaged in such programming, some important questions are arising. These questions are generally very practical, and highly relevant to the success of the program.

Answering these implementation questions is not primarily a matter of scholarship. In many cases the relevant research that would provide a theoretical underpinning has not even been carried out. And in any case, the questions beg for practical responses that can be implemented on-site rather than an academic approach. These responses arise from experience in what has been done in actual programs around the world, and can be provided by consultants/practitioners who are well versed in the research context as well.

So this document on "Tough Questions" has been written for education practitioners who are experienced in their field, but who have come up against some tough obstacles to implementing MTB-MLE programs in their context; these are the people who provided the questions in the first place. The eight questions addressed here are:

- How can mother tongue–based MLE be carried out in classrooms where three or more local languages are represented as mother tongues? (Carol Benson, PhD)
- What is the most effective approach to transition to the use of a second language as medium of instruction when classroom policy and practice has used the learner's home language/first language in the early primary years? Which school year is best for implementing this transition? (Dennis Malone, PhD)
- What can be done in contexts where teachers have inadequate oral fluency or literacy skills in one or more of the languages being used in the program? (Stephen L. Walter, PhD)
- How can pilot MTB-MLE programs be successfully scaled up? (Greg and Diane Dekker)
- How can instructional materials and supplementary reading materials be effectively developed for target populations speaking multiple dialects? (Diana Weber, PhD)
- When the orthography of the local language is not yet standardized or requires further review in order to adequately represent the linguistic features of the language, how should this challenge be handled in the program? (Leila Schroeder, MEd)

- How can informal and non-formal learning opportunities in the mother tongue best support or supplement school settings, particularly when the formal school system is unable to serve as a venue for mother tongue–based multilingual education? (Rudy Klaas)
- What approaches have been proven effective for managing the use of two or more languages in a bilingual/multilingual curriculum? (Kristine Trammell, PhD)

These eight questions have been addressed by experienced MLE consultants working around the world, in a range of program conditions. The answers aim to provide alternatives for meeting the challenges embodied in the questions in practical, credible ways. It is hoped that these responses will help make a challenging job just a bit easier.

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1

How can MTB-MLE be carried out in classrooms where three or more local languages are represented as mother tongues?

Carol Benson[1] and Catherine Young

One challenge identified by education planners and policymakers is how first language–based multilingual education (L1-based MLE) would work in multi-language contexts where learners with different home languages come together in a single classroom or school. In this paper we explore why the question arises, summarize the MLE theories that would apply, suggest some strategies for dealing with the situation, and offer some directions for future research.

Why is this question being raised?

In countries with highly centralized education systems, particularly where one dominant language has been used to teach everyone, it may be seen as impossible to reach all learners with mother tongue-based multilingual education. Admittedly, most MLE programs are designed to function in rural, linguistically homogeneous communities where the need is greatest, and where large numbers of learners can be served with a single L1. When applying this model to more linguistically diverse contexts, adaptations would clearly need to be made.

Before we continue, it is important to establish whether claims of super-diversity are valid or are being used as an excuse not to implement programs in non-dominant languages. For example, in the capital cities of both Mozambique and Guinea-Bissau, Benson (e.g., 2000, 2003) and colleagues discovered linguistically homogeneous schools. While not all urban schools were the same, these schools drew students from neighborhoods where certain ethnolinguistic groups clustered. For this paper we acknowledge that multi-language contexts are a reality, and that they are increasing with urbanization, economic and/or social mobility, intermarriage, displacement due to conflict, and a number of other factors. UNDESA (2014) identifies increasing urbanization as a demographic characteristic of the twenty-first century and, although the Africa and Asia/Pacific regions still have predominantly rural populations, urban centers are predicted to grow rapidly in the next 30 years. Meanwhile, responses to conflict or natural disasters may push speakers of non-dominant languages further to the margins, yet joined in multi-language communities such as refugee camps (Dryden-Peterson 2015). The presence of multiple languages should not be grounds for ignoring effective pedagogy with regard to language(s) of instruction. Efforts to improve educational access, quality and equity must acknowledge the key role of learners' mother tongues for initial literacy and learning of academic content. The challenge in a multi-language context is how best to build on each learner's linguistic resources. Specific needs include:

> A pool of teachers with proficiency in multiple languages, and their deployment to schools according to learners' language needs;
> Training programs that provide teachers with strategies for identifying the languages spoken in their classrooms and addressing learning needs accordingly;
> Linguistically and culturally relevant teaching and learning materials that promote learner identity formation and build self-esteem;
> Assessment methods and instruments that use multiple languages to capture learners' abilities and capabilities while diagnosing individual needs;

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> School curricula that facilitate development of learners' L1 competencies to high levels, giving them strong foundations for literacy and learning.

In the next section we review the theoretical basis for addressing these needs, after which we discuss ways to meet these needs, at least to some degree, in multi-language contexts.

The theoretical basis for MLE in all contexts

Monolingual education in a dominant language cannot meet any of the above needs of learners from non-dominant linguistic and cultural groups. The focus should be on facilitating learning through at least one of the learner's strongest languages while building multilingualism and multiliteracy. The principles of L1 literacy learning, transfer to additional languages and bilingual content teaching have been established through large-scale research in North America (Cummins 2009; Thomas and Collier 1997, 2002) and substantiated in low-income settings, particularly in Eritrea and Ethiopia whose policies call for learners' L1s to be used for all eight years of primary schooling (Walter and Davis 2005; Heugh et al. 2012). In low-income countries, use of the L1 in education is associated with improved access, quality and equity for marginalized groups (Ouane and Glanz 2011; UNESCO 2010, 2012) along with greater parent involvement (Ball 2010) and participation of girls and women (Lewis and Lockheed 2012). Overall, use of the L1 at any level of education builds not only cognitive skills but also positive affect— self-confidence, self-esteem and strong identity—all of which contribute to successful learning (Cummins 2009).

What happens to the principles of MLE in a classroom with two, three or more L1s to consider? According to García (2009), the strategic and purposeful use of multiple languages, or translanguaging, not only supports the linguistic development of multilingual learners, but also normalizes multilingual communication as practiced outside the school. Some examples are programs that practice immersion of learners with varying language competencies in heritage or identity languages (for revitalization purposes) or in new languages through a Content and Language Integrated Learning (CLIL) approach. CLIL integrates language with content instruction with no language prohibitions; learners are encouraged to use all of their linguistic resources (Genesee and Hamayan 2016).

A more expanded model is the Integrated Plurilingual Curriculum used in the Spanish Basque Country, in which Basque (the heritage language), Spanish (the national language) and two additional languages are given different roles in the curriculum depending on learners' cognitive development, their exposure to the languages outside school, and the linguistic proximity between languages (Elorza and Muñoa 2008; EHIK 2009). The theoretical basis for this approach is linguistic interdependence (Cummins 2009), which allows for the transfer of skills and metalinguistic knowledge acquired in one of the learner's languages into additional languages. Application of a plurilingual curriculum in low-income countries could be challenging due to limitations in teacher preparation, but the concepts of strategic communication in more than one language, of comparing and contrasting languages, and of using individuals' diverse linguistic resources are all things that adults do naturally in many multilingual contexts. At the very least, all languages that learners and teachers bring to the classroom should be seen, heard and utilized as resources.

Strategies for working effectively in multi-language contexts

There are a number of contextual factors to consider in developing multilingual strategies for heterogeneous classrooms. Depending on these factors, we can determine the nature of each multi-language context and what can be done pedagogically to maximize L1-based learning there. In this section we begin with strategies for gathering the information needed to make evidence-based decision-making, after which we offer ideas about organizing effective teaching and learning based on MLE principles. The first factor to consider is to what degree perceived linguistic heterogeneity is a reality for young learners. Which languages are spoken by children beginning school? What is the linguistic proximity between their languages and any additional language(s) taught in the curriculum? Are learners exposed to an additional language or additional languages outside school? Related to these

questions are societal aspirations for certain languages and how they are prioritized in the curriculum. Research data may be of value in adapting the curriculum to more realistic and age-appropriate aims. Research into teachers' language proficiencies, uses and attitudes will be of complementary value in planning, since language learning is highly dependent on competent speaker input (Krashen 1982).

Language mapping

A mapping strategy can be used to determine the languages spoken in a given area or even throughout a school system. Specific linguistic data can be collected at the community or school level through self-reports by families enrolling their children. Another option is for teachers to interview each family to determine who speaks which language(s) to the child, and in which language(s) family members may engage in literacy practices. An example of a larger, province-wide investigation is the Primary Classroom Language Mapping project implemented in Lao Cai, Vietnam by the Ministry of Education and Training, UNICEF and SIL (UNICEF Vietnam 2012). Information collected from students and teachers about language proficiency and academic performance was used to identify homogeneous Hmong-speaking schools where teachers had the language skills to teach bilingually. While the focus was on finding non-diverse schools, the same data could inform decentralized planning to accommodate all classroom languages. This was done in the Western Cape province, South Africa using a survey of students in grades 1 and 7 conducted in isiXhosa, Afrikaans and English (Plüddemann et al. 2004). The result was a database of languages used in school with a typology of their use in instruction, which could be used to raise awareness and facilitate language planning among stakeholders.

Planning grid

Benson (2009) proposes a simple grid for language-in-education decision-making that could be expanded to include linguistic survey and proximity data. In the vertical column are the actors: incoming learners, families/communities, teachers, school directors, teacher trainers and so on. Across the top are the languages in question, and within each, categories like understanding/speaking and reading/writing. The grid can be completed with an estimation of language proficiency as low, medium or high. At the bottom of the grid, realistic aims can be set for each language. For example, if teachers have "high" verbal but "low" written skills in a certain language, short-term training is likely to be able to address their literacy needs so that the language can be used in school. On the other hand, if teachers have "low" verbal skills in a certain language, it is unrealistic to expect that learners could achieve anything higher; long-term planning and training would need to take place if proficiency in that language is aspired to.

Once the presence of multiple languages in one school catchment area has been established, creative solutions can be reached depending on local conditions. The following strategies have been suggested, with examples if they have been put into practice.

Organizing classrooms by language:

Organizing classrooms by language rather than by age or grade level could offer learners a complete L1-based MLE program in two or more languages within one school (Kosonen 2006). Alternatively, learners could be grouped by language during the language arts period of the school day, after which they return to their grade-based classes. Either strategy requires teachers with proficiency in the appropriate languages to be trained in multi-grade teaching approaches, with a focus on languages and literacies.

Organizing a multiple immersion program

In traditional dual (two-way) immersion programs (Genesee and Hamayan 2016), classrooms combine speakers of a dominant language with speakers of a non-dominant language so that students learn from each other as well as from the teacher, curriculum and materials, with the goal of developing oral and written proficiency in both languages. This idea could be adapted in contexts where there are, for

example, speakers of one or more local languages combined with speakers of a regional or national language, especially where these languages share features like a writing system. Multiple immersion would call for teachers who are multilingual and multiliterate and have the creativity to develop multilingual teaching approaches, though it could be possible to organize multiple immersion using team teaching or classroom language assistants.

Using L1 speakers as interim teachers or teaching assistants

In contexts where qualified teachers do not speak learners' L1s, they might be incentivized to learn, especially if they are proficient in related languages or are highly integrated into learners' communities. However, it may be more efficient to access L1 speakers from the community to be trained as teachers or teaching assistants. Status imbalances between qualified and unqualified school staff are often a challenge, but such interim measures can be phased out as soon as the first cohorts of multilingual learners graduate and go on to become teachers. This has been the case in Cambodia, where MLE learners taught by community teachers since 2002 have begun to graduate from formal teacher training institutions and gain employment in MLE schools (Benson and Wong forthcoming). In multi-language classrooms, multiple teaching assistants could be needed, making group work essential in organizing teaching and learning.

Using multilingual teachers

In multilingual low-income settings, teachers are likely to have proficiency in more than one local language, so their skills could be useful if appropriate methods could be developed and adequate training provided. Linguistic proximity is again a factor, as it may be possible for teachers to use one "standard" but make oral adaptations to include all learners. Information on teachers' language proficiencies can be collected at the school, district, regional or provincial levels, and it would ideally become part of their job profiles so that hiring and school placement can be done with languages in mind.

Providing multi-language materials

The provision of teaching materials in multiple languages enables teachers to adapt pedagogies and include children's languages in the curriculum, supporting a school-based approach accepting of all languages. Materials that reflect the cultural experiences and worldview of learners and their families are particularly important (Edwards and Ngwaru 2011, 2012). Initiatives such as the African Storybook Project seek to remedy the lack of local language literature by creating simple, interesting stories that can be adapted into different African languages. Hosted by the South African Institute for Distance Education (Saide), the project partners with organizations in South Africa, Uganda, Kenya, Zambia, Rwanda and Haiti to create stories in languages and contexts that will be familiar to African children; see the website http://my.africanstorybook.org/ for stories and strategies for adapting them to other contexts.

   If materials need to be developed, an online shell book source such as the Bloom library at www.bloomlibrary.org offers software to support the development of texts in one, two or three languages. A final low-cost alternative in the absence of such materials is to use post-it notes to adapt monolingual storybooks in dominant languages to the languages represented in the classroom.

Involving parents/community members in classroom support

The active participation of family members in school-related learning activities enables the use of more than one L1 in multi-language classrooms, and adult literacy learners can support the creation and use of multi-language learning materials. Project Literacy, a grassroots literacy and education project in South Africa (see http://www.projectliteracy.org.za), offers home language literacy classes for parents, who learn alongside their children once a week at government-run primary schools as well as at community-

run home learning centers. This approach has strengthened ties between parents and teachers, increased parent involvement in their children's education and raised parent awareness of the benefits of home language learning.

Further research

There is a need to document creative policies and practices in multi-language classrooms worldwide, particularly in low-income settings where teacher training may be limited but where multiple languages are likely to be prevalent, at least in the communities if not yet in the schools. As we have shown above, there are existing models like the Integrated Plurilingual Curriculum that are being implemented and from which we can learn. We have also suggested extrapolations from existing models, like "multiple immersion" based on dual immersion, which could be piloted. Curriculum development and materials production specialists should research and identify approaches that are adaptable at school and classroom levels to consider the needs of classes with three or more languages.

More instances of language mapping in schools and communities could be shared to identify simple tools that can be applied by community members to support localized approaches to appropriate education provision. Guidance materials might include simple planning tools like the language proficiency grid described above to help policymakers make well-informed decisions about the inclusion of multiple languages in school.

Conclusion

It seems clear that supporting classrooms where three or more languages are spoken means being able to make appropriate pedagogical decisions based on local realities. This calls for "enabling" language-in-education policies at the national level, or at least some decentralization of decision making so that flexible multilingual programs can be developed. At the central level, we would hope to raise the awareness of educational decision-makers, trainers, inspectors and supervisors regarding why and how to use the linguistic resources of teachers and learners. This may require continued advocacy by stakeholders in order that potential solutions are well understood and implementation processes are identified. The bottom line is to value learners' own languages to promote cognitive and affective development, while giving them access to additional languages and academic content. This should guide education policy, even—and, we would argue, *especially*—when there are multiple languages in the classroom.

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2

What is the most effective approach to transition to the use of a second language as medium of instruction when classroom policy and practice has used the learner's home language/first language in the early primary years? Which school year is best for implementing this transition?

Dennis Malone

1 Introduction

Practitioners use a bridge metaphor to illustrate the work involved in mother tongue–based multilingual education (MTB-MLE) programs. MTB-MLE presupposes an educational goal of bilingual, biliterate, bicultural students.[2] The educational task includes constructing the necessary supports for non-dominant language learners who begin their formal basic education in their mother tongue and finish it in the dominant language of their home nation. The MTB-MLE bridge forms a two-way link between the learners' heritage language and culture and their participation as members of a larger multilingual and multicultural society. How and when to make the transition from MT to dominant language is an appropriate, necessary, and, yes, tough-to-answer question.

2 Why is this question being asked?

In almost all MTB-MLE programs, the main emphasis is placed on a successful transfer of academic, cognitive, and literacy ability from the learners' mother tongue to the national (dominant) language used in education. Attaining and sustaining learning and literacy in the mother tongue is, at best, a secondary goal. The MTB-MLE program's success is uniformly recognized only to the degree that its students acquire and can use the dominant language for learning and literacy purposes.

- Funding: The initial outlay of money for a strong MTB-MLE program is more than for a single language program. Concerns for cost often imply a desire to eliminate the additional funding required from the education budget as soon as possible.

- Too few bilingual teachers: The scarcity of bilingual teachers is often a product of the local language community's socioeconomic marginalization. Their children are often victims of inappropriate, irrelevant, and ineffective "submersion"[3] education programs. Those programs require the children to learn in the national language of education they do not understand. Therefore, language minority students frequently are unprepared to complete secondary school in

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[2] MTB-MLE programs involve the use of at least two languages as media of instruction, as subjects and for the acquisition and development of literacy skill and ability. Thus the phrase "bilingual, bicultural, and biliterate" in many MTB-MLE contexts is more precisely "multilingual, multicultural, and multiliterate."

[3] "Submersion" education refers to the common practice of enrolling minority language students into classrooms where all instruction is in the dominant language without any provisions for supporting the students who are learning a new language. The "submersion" is linked to the idea of "sink or swim"—an education practice with virtually no evidence-based support at all.

the dominant language and thus do not qualify for admittance to teacher training institutions, as a result, there are few bilingual teachers.

- Little understanding of the educational rationale and research for MTB-MLE: School administrators, classroom teachers, and parents misunderstand the reasons for using the learners' MT to the end of primary education level (Grades 1–6). Often stakeholders view primary education merely as the means by which the students learn the dominant language. The time students spend in learning through their mother tongue and in gaining proficiency in MT literacy is considered to be "wasted."

3   What is the context in which this question is likely to be found?

One likely context in which this question is found is in countries with one or two dominant languages and many non-dominant languages. Students from non-dominant languages are seriously disadvantaged by the language and education policy (cf. Jhingran 2005; Rahman 1996). In that context, acquiring the dominant language is seen as the true educational goal (as with Thai in Thailand, Mandarin in China, Khmer in Cambodia, Bangla in Bangladesh, Vietnamese in Vietnam).

Another typical context is minority language communities inhabiting countries where an elite educational language is dominant (as with Urdu and English in Pakistan, English in Papua New Guinea, French in Senegal, Portuguese in Guinea Bissau). The diversity of small languages is situated in reference to that prestige language, frequently tied to a colonial past.

4   Theoretical context

Research indicates that a successful transition from MT to dominant language for minority language students may take as many as 5–7 years, depending on the age and experience of the child and the learners' own motivation for learning the dominant language (Cummins 2000; Hakuta, Butler, and Witt 2000; Thomas and Collier 2002).

Children are capable of learning languages for everyday purposes fairly well in a short period of time (1–2 years) given adequate exposure to the L2 in meaningful situations. However, their ability to use the L2 for learning new, more difficult concepts is a slower process.[4]

Russian psychologist Lev Vygotsky observed that the ability to talk about ideas is what helps learners think about them. If they are unable to talk about concepts in the second or third language, minority students' thinking is reduced to rote memorization (cf. Vygotsky 1986).

Development of oral language proficiency in the dominant language is a key component in minority students' achieving comprehension in dominant language reading (Droop and Verhoeven 2003; Verhoeven 1990).

Students' second language learning is influenced considerably by the extent of their mother tongue development. When the L1 has developed sufficiently to cope with decontextualized classroom learning, the student can acquire the L2 effectively, provided there is adequate exposure to L2 and adequate motivation to learn the L2 (cf. Cummins 2000). Students' knowledge and skills in the mother tongue transfer readily to the dominant language (cf. Cummins 2000). Students do not have to re-learn a concept in L2. They only need to learn the L2 terminology to talk about it.

When the L1 is less well developed or is (quickly) replaced by the L2 in classroom instruction, the child's L2 development will be significantly impeded (cf. Cummins 2000; Thomas and Collier 2002).

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[4] See the discussion of Cummins' basic interpersonal communication skills (BICS) and cognitive/ academic language proficiency (CALP) in Baker 2011:170–173.

5   Recommendations: Some ideas to try

Following are three recommendations to try:

1. *Use the MT and L2 throughout the scope of primary education.* Do not abruptly stop or curtail MT instruction and literacy. Construct the bridge from non-dominant language to dominant language by beginning initially with a solid foundation, using the mother tongue as medium of instruction. Students develop their use of the mother tongue in the academic context, while also learning to read and write in that language. They can also begin acquiring oral vocabulary in the dominant language as early as Grade 1, provided the L2 instruction is meaningful, unthreatening, and enjoyable. Dominant language oral proficiency supports achievement of dominant language literacy (Droop and Verhoeven 2003; Verhoeven 1990).
   An ideal time frame would be for the students to be able to do most of their learning and literacy in the dominant language by the beginning of Grade 5, with continuing MT support. Different students in different contexts progress at different rates. That makes designating a specific grade level for the L1-to-L2 transition very difficult. Educators are rarely provided with ideal contexts.
2. *Use a team-teaching approach where there are few or no bilingual teachers.* Frequently an MTB-MLE program cannot be implemented without the use of trained bilingual teacher assistants (TAs) from the minority language community, along with the dominant language teacher. That collaboration has shown very good results in Vietnam and Thailand (cf. UNICEF 2011).
3. *Ensure that MTB-MLE curriculum is based clearly on the mainstream curriculum.* That reduces suspicions among detractors that MTB-MLE will lead to unwanted outcomes. Education supervisors can then recognize that the goal of the program is integration—not separation or assimilation (S. Malone 2012; D. Malone 2003).

6   Why will they help answer the question?

Where the MTB-MLE program has been implemented with the MT included until upper primary, the results have been uniformly good, even dramatic. The Thomas and Collier (2002) study in the U.S. provided solid research support for a multilingual program with a strong MT component through to upper primary and middle school. Results from that research also indicated that an effective transition process is much longer than a single-year transition from MT-supported learning to dominant language-only learning.

   The use of the MT is, in part, to make the minority students' entry into formal education smooth and painless. However, beginning in the MT and then two or three years later abruptly changing to the dominant language may only delay the pain, not alleviate it (Bougie, Wright, and Taylor 2003).

   Even where the long-term results of MT education have not been assessed (e.g., the Philippines, Thailand, Vietnam), MTB-MLE used in lower grades for instruction and initial literacy has shown very good results (cf. UNICEF 2011; Malone and Paraide 2011; Walter and Dekker 2011).

   One of the main reasons stakeholders (including parents) are opposed to MTB-MLE is that they do not understand its educational purposes and processes. L2 speakers think it promotes separatism or they think MTB-MLE is not worth the additional expenditure of money. Parents of non-dominant language children are anxious for their children to learn the dominant language, a prerequisite in the larger society for getting wage-earning jobs. If people can see how well MTB-MLE helps the MT children learn the L2 better and learn the other subjects more effectively, much of the opposition will fade away (Tupas 2014).

7   Where the proposed solutions have worked

Few "strong" MTB-MLE programs have been permitted to run the full course of their instructional design in ethnic minority communities. Finding empirical evidence that the recommendations above work is virtually impossible. Plenty of empirical evidence demonstrates that weak or aborted MLE programs fail

to deliver the long-term benefits possible in strong MTB-MLE programs. There is even more evidence that submersion programs in the dominant language of education do not provide effective education for minority language students (cf. Thomas and Collier 2002).

Thomas and Collier's study (2002) also shows the results of not doing a strong program. It is worth mentioning because the records studied were of students immersed in the L2 society with L2 oral and written language present everywhere in the school and community. Still, the students experienced little success. In most remote areas of non-industrialized countries, where MTB-MLE is most needed, the MT students rarely hear L2 or see written L2 outside of the classroom. If early-exit transition programs are not effective in the USA, they will be even less effective in places where the L2 is not spoken in the student's community and where there is little print literature in the dominant language.

In Thailand, the Patani Malay-Thai Bilingual Education Pilot Project was planned as a strong MTB-MLE program with the use of the MT through to Grade 6.[5] For a multitude of reasons, a strong program by design turned into a weak, early-exit one in practice. Instead of the learners' MT being used for support and for literacy through Grades 4–6, the MT was effectively eliminated after Grade 3. Grade 3 assessments clearly demonstrated a strong positive effect of L1 literacy on the students' acquisition of L2 literacy. By the end of Grade 5, however, that benefit had virtually evaporated (Suphalak Sintana 2015). Similar experiences have been shown in Papua New Guinea (Malone and Paraide 2011).

8   Conditions and limitations of each recommendation given

8.1   Recommendation 1: Conditions and limitations

The ingrained nature of the dominant language as the "true" language of education creates pressure to spend every moment of classroom time promoting it. Often, the desire for assimilation of minority children by the educational planners and frequently by the parents themselves, make planning for the learners' bilingual, bicultural, and biliterate achievement difficult to implement.

8.2   Recommendation 2: Conditions and limitations

Any team teaching instructional approach requires a healthy climate of mutual respect and clear roles for the teacher and TA. Bilingual TAs from the minority culture are not automatically respected, especially where the local language is seen as substandard. Program implementers need to monitor classrooms carefully to foster mutual respect between classroom teacher and TA. Where this is done well, the classroom teachers usually gain a genuine respect for the TA's ability to communicate key ideas and concepts to the children. However, this respect may diminish as the minority students advance into the upper primary grades. Most TAs have not had enough effective secondary education to be able to communicate complex ideas in math, science, and social studies. Where the TAs have tertiary degrees, their performance in the MT can exceed the classroom teacher's ability in the dominant language (Suwilai Premsrirat, pers. comm., 2010).

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[5] The southernmost provinces of Thailand, where the MTB-MLE program is being implemented, is a conflict zone. The choice of Thai script for the written form of Patani Malay in the education setting has met with strong resistance in the language community where a Perso-Arabic script, which was used in the past, is preferred by religious leaders. Also, due to the conflict and other variables, there is an unusually large turnover of teachers and administrators that makes sustaining a new, innovative instructional program very difficult.

8.3 Recommendation 3: Conditions and limitations

Curriculum development in MTB-MLE programs is often the skill for which the MTB-MLE practitioner is least likely prepared. It is difficult and time-consuming work, with technical expertise needed that is difficult to train local partners to do. Yet, without the linkage of MTB-MLE to the mainstream education outcomes and competencies, the program is vulnerable to resistance at the local, the district, and the provincial levels. With that linkage, the bridge of instruction in the MT to instruction in the dominant language is supported and reinforced.

9 Conclusion

The MTB-MLE program specifically aims for learners who are bilingual, biliterate and bicultural. The bridge from the learners' non-dominant language to the nation's dominant language is therefore an essential, not an optional, component of the program. Bridges take time to build, and two-way bridges take even longer. Practitioners should avoid the "quick fix," which is almost certain to result in a collapsed bridge at some point in the future.

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What can be done in contexts where teachers have inadequate oral fluency or literacy skills in one or more of the languages being used in the program?

Stephen L. Walter

1   Introduction

It is a given that the knowledge and skills of classroom teachers (or lack thereof) will impact the quality of their instructional work in the classroom. Further, most models of education simply assume that teachers have proficiency (oral, reading, writing) in the language of instruction and that a high level of effective two-way communication can be taken for granted in the classroom. This latter assumption is coming under increasing scrutiny as national and international researchers continue to improve their understanding of the reasons for educational failure in a broad range of educational settings.

The issue of teacher proficiency in the language of instruction takes on special relevance in linguistically diverse countries which have chosen to deliver primary education in a colonial or other language having few or relatively few native speakers. What are the consequences of having teachers who lack proficiency in the national language of instruction? Research in Namibia, for example, indicated that just 2 percent of public school teachers in that country possessed the levels of proficiency in English deemed necessary to be an effective teacher (the Guardian 2012; Harris 2011). The author recalls receiving messages written in Spanish by teachers who were non-native speakers of Spanish that were barely readable for the many grammatical and orthographic errors they contained. Under these constraints, instructional effectiveness is reduced by poor communication skills, by inadequate mastery of basic educational jargon and technical terms, and by an inability to teach correct use of the target language.

At the same time, efforts to provide instruction in local languages (MLE or MTB-MLE programs) in such contexts also encounter the issue of linguistic deficits in teachers but of a different sort. Such teachers typically have full oral proficiency and are able to communicate fully and freely with their students. However, they often lack skill in reading and writing the language—indispensable skills in providing good instruction to children in how to read and write their language properly. This lack of skill is not due to academic laziness but rather to the fact that the languages involved are only beginning to be developed for educational purposes at the same time that teachers are being recruited and trained to teach in these local languages. Too often, these teachers have never before seen their language in writing nor had practice in reading material written in the language. Even if they have had such experience, it has not been sufficient to develop the kinds of proficiency teachers need to provide quality instruction.

2   Theoretical context

2.1   Cognitive deficits at the instructional level

Numerous researchers (e.g., Cummins 1978, 1984; Collier 1989) have pointed out that there are critical stages in the development of proficiency in a second language *and* that these stages play a critical role in the ability of children to benefit from instruction in that second language. Specifically, it is posited that children who have reached only a BICS (Basic Interpersonal Communication Skills) level of proficiency are not ready to deal with educational content which is more linguistically demanding. Rather, a higher

level of proficiency—identified as CALP (Cognitive Academic Language Proficiency)—is required to benefit from instruction at this level.

While this model has gained considerable credibility in the educational world, little work has been done to extend this model to the performance of classroom teachers. If a teacher has reached only a BICS level of language proficiency in the language of the classroom, it is reasonable to ask, How well has the teacher learned content which is more linguistically and cognitively demanding? Further, if a teacher has not mastered an idea or a concept, how effective will that teacher be when trying to teach the idea or concept to students? See, for example, the research done in Cameroon by the author, Walter 2012, on teachers' proficiency in mathematics.

2.2   Plateau effects in language and academic development

The pyramid model of Thomas and Collier (1997) suggests that when language, cognitive, and academic development do not proceed in parallel, one tends to be left with permanent deficits in one or more of these areas. Many have observed, informally, that it is very common for second language learners to arrive at—and stay at—a developmental plateau in their language proficiency. This tendency appears to hold widely among teachers who are teaching in a second language. Whether one can move beyond this plateau is an issue to be addressed.

2.3   Language development issues in education

A common, and perhaps unconscious, assumption among educators is that the language of instruction in the classroom has already undergone all of the development needed to function as a language of instruction. When the language of instruction is an international language like English or Spanish, this is a safe assumption to make. However, when the focus shifts to the use of local languages in low-income countries, such languages almost certainly will need further development to become robust vehicles of instruction.

While this need for further development is readily recognized at the level of curriculum development, there is also a need to recognize that teachers are going to be affected. How does a teacher explain the concepts of "place value" or "circumference" if there is no local term of these notions or no decisions have been made on how to explain them?

3   Recommendations: Some ideas to try

3.1   Dealing with deficiencies in L2

The research is quite clear that second language learning is a function of time on task. By this is meant that one's mastery of a second language improves to the extent that one spends time seeking to improve. At the same time, it is also clear that a person tends to stay on a given level if that person uses what he or she has learned on a regular basis but makes no concerted effort to improve. The following sections list some of the actions which can be taken to improve students' proficiency in L2.

3.1.1   Oral and written improvement

Reading circles

A reading circle is a small group of people who get together on a regular basis to discuss something that they have all read. A reading circle includes at least the following components:
1. Everyone reads the same book, often a novel, written in L2;
2. Each person records in a notebook words, phrases, or idioms which he or she does not know;
3. Each person looks up the word or phrase in a dictionary, records the meaning, and uses the word in a new sentence to help solidify the word in memory;

4. When the reading circle meets (typically once a week), the members of the reading circle discuss what was read including giving special attention to the new words and phrases learned;
5. Members of the reading circle make a real effort to use words and phrases which were learned from recent previous sessions.

3.1.2   *Vocabulary development and enrichment*

A person at a BICS level of language proficiency in L2 can function reasonably well on a limited vocabulary of just 1,500–2,000 words. By contrast, the English-language textbooks for Grades 1 to 6 in Cameroon contain a vocabulary of close to 7,000 words. Based on a number of studies of the English content of textbooks published for primary school students in the U.S., Nagy and Herman (1987) estimated that Grade 3 students have a reading vocabulary of 10,000 words, and that young people leave high school with a vocabulary of approximately 50,000 word families. Research done by this author in Cameroon indicated that Cameroonian teacher trainees (who were about to graduate) did not know many of the 7,000 words in the English-language curriculum.

To be an effective teacher using an L2, teachers desperately need to upgrade their vocabularies in that language. An obvious focus of such vocabulary development would be the technical terms contained in the school curriculum. At regional or provincial levels, education officials could prepare educational dictionaries of key terms that teachers (and eventually students) need to know in order to teach school content effectively. Walter (2005) suggested that teachers or schools develop vocabulary modules to be included in the curriculum as new content is introduced (for middle school and above). The evidence is pretty clear that such modules would benefit teachers as well as students.

A major function of education is teaching younger children to read and write. If teachers lack proficiency in these areas, their students will as well. The major reason for the lack of skill development in reading is lack of practice. It follows, then, that the best route to improvement is getting practice—the more the better.

3.1.3   *Improving writing*

Improving one's skill in reading will also improve one's proficiency in writing. However, improvement in writing also requires feedback and instruction. Therefore, improvement in the development of writing skills requires deliberate and guided instruction usually in a formal setting such as a classroom or workshop. A workshop or semi-structured framework which gives instruction, requires writing exercises, and extensive feedback including correction is needed to promote significant improvement in writing skills.

3.2   Dealing with instructional deficiencies

Two techniques for addressing instructional deficiencies due to language deficiencies not already addressed, include the following:
1. Training or instruction on the use of logical connections, rhetoric, and argumentation. Accomplishing this goal usually requires training, such as in a workshop environment.
2. The development and provision of detailed lesson plans. Typically, teachers with significant language limitations resort to terse and abbreviated teaching activities which are inadequate for teaching the needed content. Such teachers will often also resort to depending on various time-consuming but ineffective strategies such as extensive copying from the blackboard and choral chanting by students. The development and use of detailed lesson plans is one way to support teachers with weak L2 proficiency.

3.3   Dealing with deficiencies in L1

The language deficiencies observed in teachers using the L1 for instructional purposes in MLE programs in low-income countries contrast significantly with those seen in teachers using an L2 for instructional purposes. For example, oral proficiency is not an issue for the former with the possible exception of the educational jargon needed for the classroom.

3.3.1   Deficiencies in reading and writing

In the case of most MLE initiatives in low-income countries (and some in developed countries), it will often be the case that teachers or prospective teachers will have little or no experience in reading and writing their own L1, the intended language of instruction in the program. Accordingly, several steps need to be taken. First, the initial training program needs to give substantial attention to developing initial skill in reading and writing the L1. Second, program supervisors need to incorporate regular in-service and follow-up training/practice in reading and writing the L1. Third, program managers need to make regular assignments which give teachers practice in reading and writing the L1. Fourth, to safeguard the quality of instruction, program managers need to assess teachers at some point to ensure progress towards mastery.

Consistency in spelling at the classroom level is a common problem in the early phases of MLE programs. This problem can be addressed by putting together a basic dictionary of common words in the target language. While this kind of project is not commonly seen as an educational task, it is nonetheless important as a means of supporting teachers teaching for the first time in their L1 when they have had little experience writing the language.

3.3.2   Deficiencies in technical and educational jargon

Teachers teaching in the L1—even those with teacher experience—may lack a command of the technical and educational jargon of the classroom and the content areas of instruction. Basic terms such as blackboard, chalk, erase, practice, sentence, paragraph, title, author, letter, capital, number, alphabet, etc., may not have local terms to express these notions. As the content of instruction becomes more difficult, the number of technical terms will increase dramatically and teachers will need support in how to deal with these terms.

The suggested solution is that program managers put together a guide or dictionary of educational terms to be used in the classroom. Once developed, this guide or dictionary should be both incorporated into teacher training programs and in-services, and should be distributed to all teachers so that they can study and master the terms needed for the classroom.

3.3.3   Instructional deficiencies related to teaching in L1

With experience, early grade teachers develop many intuitions and "rules of thumb" on such basic issues as letters which will be difficult to teach, words which will be easy or difficult for students to learn, how much help students will need to master a given element or concept, what instructions and strategies work best for teaching such skills as phonemic awareness or decoding, etc. In the early phases of an MLE program, teachers lack such intuitions and rules of thumb for teaching children to read and write in L1. Program managers and curriculum writers can help teachers by (a) regularly interacting with them to identify problem areas in teaching reading and writing and (b) providing lesson plans and supplementary instructional materials to address what turn out to be problem areas in teaching literacy in a given language.

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How can pilot MTB-MLE programs be successfully scaled up?

Greg and Diane Dekker

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1 Introduction

Many governments around the world have recognized that first language–based multilingual education is crucial for providing effective education for all learners. There is a growing understanding of the vital role the mother tongue (MT) plays in cognitive development that impacts learning outcomes. The MT is important for developing academic knowledge, critical and creative thinking, multiple languages, and confident identities. The awareness of the value of home languages has resulted in an increase in Mother tongue–based Multilingual Education programs, also known as MTB-MLE. As a result, MTB-MLE has become accepted as a powerful means of developing multilingual populations of globally competent citizens with strong positive local identities. As Battiste (2015) clearly states, using the mother tongue is a step forward in education aimed at correcting previous wrongs that marginalized and discriminated against local languages. In addition, MTB-MLE strengthens national unity by fostering mutual respect across linguistic and cultural lines.

The need for MTB-MLE is real in every country in our linguistically diverse world. However, the places where MTB-MLE has been a center of focus are primarily in multilingual contexts where colonial languages such as English, Spanish, and French have remained dominant. Post-colonial countries often have a history of colonial language education that did not produce the same results as in the "mother country." However, colonial language education has benefitted those who have access to extra resources such as private schooling, hired tutors, books in the home, and highly educated parents who may use the colonial language at home (Bray and Kwo 2013). The resources required to succeed in a foreign language immersion program are typically not available to many learners.

With the growing awareness of the importance of the learners' first language in educational achievement, several countries have experimented with MTB-MLE in small pilot projects. These experiments continue to reveal educational benefits. However, international and donor agencies such as UNESCO, UNICEF, World Bank, USAID and AUSAID are recommending that governments move beyond small test projects to provide the benefits to all learners by scaling up their programs to the national level. Perpetual experimentation is no longer justifiable in light of the positive outcomes. Moving from pilot projects to national implementation is not easily done. In this chapter we will examine contextual considerations that are important to address for successful MTB-MLE implementation.

2 Context

The move from a foreign language educational system to an MTB-MLE system requires extensive effort. There are at least six important areas to consider when planning for strong implementation of MTB-MLE.

First, the entire nation should be engaged in dialogue around the research evidence for the value of local languages in cognitive development, learning academic content and second languages, and developing strong identities. The conversation around the rationale of the new policy should address common concerns and alleviate fears of losing global language proficiency. There is great power in providing opportunity for community members to engage with and discuss the research that helps to unveil basic underlying assumptions in order to reconsider possibilities in light of the research to which communities generally do not have access. Such conversations should be maintained as an ongoing process in order to continue reaching out to help citizens understand and support the program. When such an advocacy program is set aside, the consequential resistance may be more difficult to overcome, resulting in compromise to the program as a whole.

Second, it is necessary to develop a language map of the languages spoken in various geographical areas. A linguistic map will aid schools in planning to meet the needs of diverse student populations. There may be multiple areas where communities are linguistically mixed and languages must be negotiated. In some cases, school-based planning may result in two or more of the local languages used, dividing teachers and students into linguistic groups rather than following national prescriptive plans. Language mapping is necessary for planning the best way to meet the teaching and learning needs of all.

Third, it may be that local languages are in need of developing a written form. In this case orthographies should be developed by engaging local linguists and with community participation and agreement. Community members, as language owners and primary users, participate with local linguists on orthography development processes in order to negotiate on a commonly acceptable orthography that accurately represents the sounds of the language in a manner conducive to literacy development.

Fourth, literature in the mother tongue is often lacking even within previously developed languages. School literature and reading materials will need to be developed to help learners acquire literacy skills in their first language first. Generally, a fairly substantial number of graded easy readers of interesting stories needs to be developed. Books that reflect the local culture back to the children in positive, affirming ways are most appropriate. Later-stage literature will begin to introduce outside information and outside life contexts. Primers are helpful for teaching initial sound-symbol patterns within whole texts. Transitional reading materials are equally important to support developing literacy skills in second languages.

Fifth, writers will need to be trained to produce these materials. Often skilled writers from more developed languages can work with local language writers in developing first language materials. A plan and budget will help to facilitate the on-going training process and materials development. Advocacy for each component of the program within the nation and the local community will assist in motivating gifted writers to participate in training local language writers.

And sixth, teachers, principals, supervisors, and superintendents, as well as other education policy-makers will require training and time to think through and to reframe their prior beliefs about language and how it should be taught. They will need time to reconsider bilingual pedagogies and transitional approaches in light of MTB-MLE. They may also need to study their own language and strengthen their home language literacy in order to contribute to materials development. School leaders and teachers will likewise need to engage with parents and include them in the change process so that they will understand and support teachers, possibly also contributing written stories, local knowledge, and histories for classroom use.

Differing contexts will require different processes. Some additional situations may be necessarily addressed in different contexts. The above list provides an overview of the main issues that will need to be addressed. Each location will need to establish its own contextualized strategic plan to guide the entire process over the course of a number of years to ensure strong implementation of MTB-MLE. Publication of lessons learned in this process will be vital for far-reaching impact.

3   Recommendations: Some ideas to try

In contexts where few people have themselves experienced MTB education, it will be likely that even when people agree to the change, they may not feel confident with how to implement or make necessary pedagogical adjustments. It is helpful to develop a core group of change agents including teachers, teacher educators, national department of education officials, and other leading stakeholders to lead the process. This group will need input to understand both MTB-MLE and educational change so that they can contribute to facilitating strong development and support for the new policy. Furthermore, this group will need opportunity to learn more about language in education, the value of the mother tongue, as well as how MTB-MLE affects learning outcomes, repetition, national economics, and even the cost-benefit ratio for this program. As the core group of people engages in discussions and fora and trainings, they can then share their thoughts and learning with others, widely disseminating the information while continuing their own journey of understanding. Out of this group may come the dominant trainers and advocates.

Once the policy is in place, a strategic plan for scaling up implementation created by a group of stakeholders will guide the process of implementation. These stakeholders may include department of education officials, educators from institutions of higher education, advocates of MTB-MLE such as politicians or professionals, members of the business sector, etc. A committee or individual may act as the initiator of the strategic design process and complete the documentation. The resulting document should serve as a guide for the program's development and implementation. Yearly updating of the plan may include recording and explanation of what went well, what was not accomplished and why, and what the current realities are, and may include a revised document for the ensuing year(s).

Once a strategic plan has been developed which outlines steps forward, the department of education and vested stakeholders may motivate and recruit domain-specific educators to assist in developing various components of the program. These specialists may include:

- subject specialists to adjust curriculum
- training specialists to prepare and initiate training for teachers, principals, supervisors, parents, and others
- teacher education institution specialists to help adjust teacher training programs to prepare incoming teachers to teach under the new MTB-MLE policy
- assessment specialists to train local educators to prepare student assessment tools in the MT
- language specialists to assist in orthography development and MT materials creation

An analysis and restructuring of the administrative framework in which the program is integrated will help ensure that everyone knows who is responsible for each component and will help processes run more smoothly. Adequate funding must accompany each stage of development, from strategic planning to restructuring administration, to training, advocacy and materials development.

Development of MT student assessment tools is crucial to any MTB-MLE program so that assessment of learning accurately reflects what the learners are learning and informs teachers. Testing must always be carried out in the language of instruction. Thus MT tests will be necessary in each language and for each subject and grade level.

Creation of monitoring and evaluation procedures should recognize that the new policy creates significant learning opportunities for teachers and monitors. Under a new MTB-MLE policy, monitoring should be seen as collaborative dialogue between supervisors and teachers that facilitates ongoing development for both and results in the strengthening of the program. This may be different from traditional styles of supervision where experts observe and inform teachers of required practices. In addition to this school-based supervisory plan, an overall program analysis should occur at specific points in the implementation process to assess implementation processes and problems in order to quickly address issues before they become too well entrenched in the new program.

Some may desire to continue to work on supportive legislative policy in order to ensure the success and continuation of ongoing programs that may be affected by the political change process. This process of ongoing development within the legislature may also be seen as a form of ongoing advocacy whereby politicians and public servants are continually informed of the benefits and value of MTB-MLE.

Because many post-colonial contexts have a long history of colonial language education, there may be deeply held fears of MT education. Ongoing advocacy for the program should invite dialogue and research to examine the effects of language in education and in society in general. Many university professors and students often engage in debates on such political issues. They may be of service in simply introducing patterns of conversation that differ from previous patterns and that aim to strengthen entire countries as well as whole language groups.

Though similarities prevail across contexts, every context is different and will require different measures to ensure that all its citizens receive fair and equitable education that is based on their home language as well as focused on learning national and global languages. A general principle important in every context is that scaling up pilot projects to national levels will be impossible without executive support, administrative know-how, and adequate funding. It will be essential to engage local experts to collaborate and study together in order to create a principle-based, context-sensitive model program, and in order to lead in the educational change necessary to implement that program.

- Conditions and limitations on recommendations

Teachers, school leaders, and parents must support the new policy fully and be willing to work together to produce materials and support teachers in the implementation of MTB-MLE. If principals, supervisors, superintendents, and parents do not support the program and the teachers' work, efforts may be minimized or sacrificed and the program may ultimately fail. Thus, the most crucial first need is for adequate and ongoing advocacy to build understanding and support for the program through discussing the rationale, supportive research, and projected national impact of the program.

5   Conclusion

With educational research currently emanating primarily from economically developed Western contexts, it is important that research to inform global best practices for language-in-education pedagogy be developed in Southern, often lower-income contexts. Transfer of recommendations or best practices is highly dependent on contextual factors. Such research will help us all to understand specific contexts and the constraints that affect implementation of MTB-MLE policies. In addition, locally based research will further the move toward providing strong education for all learners that builds on what learners know and who they are while developing multilingual, multicultural, academic, and social competence toward both local and global participation.

Furthermore, all stakeholders who have a role in the scale-up of MTB-MLE to national levels need to understand well and articulate concisely the principles of MTB-MLE because it is very easy to misunderstand what MLE is for those who just hear about it in passing or see it as a move backward rather than progression forward. As Battiste (2015) says, we are all complicit in the progressive move forward toward providing equity in education through addressing linguistic and cultural issues that have been previously overlooked. MTB-MLE for all learners provides social justice for all mankind as we move toward a more egalitarian society, appreciating and respecting one another as we should.

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5

How can instructional materials and supplementary reading materials be effectively developed for target populations speaking multiple dialects?

Diana Weber

1 Introduction

Today's educational contexts are not only multilingual but also multi-dialectal. In the best of situations educational systems are working with a single local language community needing or desiring mother-tongue instruction. The world over, governments, international and local non-governmental organizations, and language committees (UNICEF, Save the Children, Germany, and SIL International, among others) have provided effective mother tongue–based (MTB) instructional materials. Usually these programs have focused on large languages (for example, Quechua in Peru). In languages with multiple dialects it is often the case that it is difficult to decide how to meet everyone's needs/desires when resources are scarce so nothing is done. One solution has been for program designers to select one variety or dialect in which to print materials, while another has been to design a pan-dialect, a composite of all, for material production. Both solutions have left many speakers without the ability to read and write their language.

The task would be easier if there were clear distinctions of what constitutes a language and a dialect. However, the factors which are used to differentiate the two are almost exclusively political and not linguistic (Landerman 2015). Decisions about "which" dialect will receive MTB education has often been in the hands of the central governments, politicians, and donors. In the case of indigenous language communities, however, the Declaration on the Rights of Indigenous Peoples (UN 2009) established that decisions about education (Articles 11, 13, 14, and 19) need to be made with the community through free, prior, and informed consent.

Therefore, in those languages where there are several dialects it is important for the speakers to decide whether they are one language, or several languages in a language family, or a language with dialects. Does the MTB program align with the desires and understanding of the language community? Educators can play an important role in facilitating community decision making, keeping in mind that writing systems are largely political statements (Cahill 2014:12). How do people identify themselves? How do they feel about people who speak other dialects or neighboring languages? What are their primary uses for written materials both now and potentially in the future?

Providing bi-literacy for a language community is important for lifelong learning. In many languages there are multiple dialects whose linguistic or sociolinguistic realities demand not one but several sets of reading materials in order for comprehension and response to take place. The question then becomes: How can instructional materials and supplementary reading materials be effectively developed when the target populations (schools, adult literacy classes) speak different dialects within a language community?

2 Context

Each language community is distinct. Sizes of dialects vary, and the influence of the national education system differs. The source of income generation (e.g., subsistence farming vs. weavers) can mean more or less time to study. While many communities have received education through immersion in the national language, results are questionable. To produce effective materials for language communities, it is important to align MTB program decisions not only to the goals of the program designers and funder but also to the goals and context of the target group.

Goals

Materials development is part of a larger program. Each program has a unique set of goals. If the program goals include unification of the language, there will be one approach and one set of materials. If the goal is bi-literacy designed for life-long learning in a local as well as another language, or the development of a growing local language literature, some activities will be the same but participants might differ. Each community has to decide what "effective" means in light of their purposes. Who will do what to whom and to what end? Effectiveness is measured, not at one point of time, but through monitoring, listening, and changing. If a program strategy does not include time, money, or will to listen and change, seldom are materials effective.

Ownership

When a MTB program arises from a desire and request from the language community, internal motivation exists. An externally motivated program, with little or no community involvement in decisions, will likely be ineffective even if every dialect is provided with materials. If the emphasis of the program is merely comprehension and does not include the development of independent writers and a growing literature, the program will also be short-lived. "Effective" bi-literacy demands competent, confident writers of the language and an n infrastructure to produce new materials for the community.

Orthography

Foundational to effective materials is the writing system. Whether there is an established orthography or one has to be developed, there are challenges. Living languages change through contact with other languages. They are influenced by local religions with differing scripts, and by a growing sense of ethnic identity. Effective orthographies depend on the flexibility of designers and users, and the dialectal diversity of phonological, lexical, and grammatical elements. If the orthography is not intuitive, nor seen as representing the spoken language, it is less likely to be used. However, all of these obstacles can be overcome when there is enough internal motivation to compromise (Adams 2014:245).

3   Recommendations: Some ideas to try

The following recommendations are based on the assumption that the MTB reading program being considered is desired and supported by at least a portion of the language community. Also, it is important that designers consider more than just linguistic factors of intelligibility, morphology, syntax, phonology, and lexicon. These factors are important but equally so are the ease of material production and readability, and most important of all is the acceptance and ownership in the community.

3.1   Prestige dialect

Perhaps the easiest solution in a multi-dialectal language is where there is a prestige dialect which the other dialects accept as the standard. For those MTB materials to be effective the lexical and grammatical differences must be so minimal that good comprehension and written response can be experienced. The inclusion of multi-dialectal dictionaries, simple comparative descriptions of the grammar, and a "shallow" orthography can increase comprehension and aid the development of writers (Friesen 2002).

While this seems the easiest solution, seldom does it work. In the competition for resources, some dialects are seen as more deserving and resentments arise, particularly when outsiders are making the decisions. Often problems arise out of a unified orthography, and although it would be possible to learn, the desire to have one's own writing system can make unification impossible.

3.2   Two smaller dialects

After considering linguistic and social factors, two smaller dialect communities may be encouraged to join forces. One example of where this was piloted was in central Peru where there are at least five dialects of one Quechua [que] language. The tough question was how to begin with few resources. After assessing ethnic identity, and linguistic and lexical differences across the five varieties, it was decided

that two of the five varieties, Huallaga (HG, pronounced "Why-Yá-ga") and Pachitea (PN, pronounced "pa-chi-Té-a") would be combined into one project. The project developed a set of materials: a pre-reading book for HG and PN and 3 books for initial reading instruction. Book 1 taught orthography elements used by both HG and PN. Care was taken to use only shared lexical items in book 1. In Books 2 and 3 the teaching elements and lexical items differed slightly while following similar cultural themes. This dual-dialectical strategy facilitated teacher training, reduced the cost of publications, and promoted unity rather than diversity. Writers' workshops (Weber, Wroge, and Yoder 2007) provided training for writing and editing the supplemental reading materials that were used. For several years the materials proved effective; children were reading and writing in the two varieties. However, as community leaders became enamored with the idea that "different is better," not only were there changes to the orthography but a "them" and "us" dichotomy became more prevalent and two different sets of materials became necessary.[6]

2.3   Sustainable Use Model (SUM)

It is important to assist language communities as they think through how they want future generations to use their language. World-wide, language communities are becoming aware that the future of their language and culture is at risk. Lewis and Simons have developed the Sustainable Use Model (SUM) to help members of local speech communities and those organizations working with them to reflect on how "they will transmit life-crucial knowledge to future generations" (2015:11).

To help language communities have access to the SUM, Hanawalt, Varenkamp, Lahn, and z have produced "A Guide for Planning the Future of Our Language" (PFOL). Languages in the Americas, Asia, and the Pacific regions have held workshops in communities to help identify issues of ethnic identity, linguistic diversity, and possible orthography design or revision. Using the guide to identify the current status of their language and their hopes for the future, many groups have expressed a desire for MTB literacy instruction for both children and adults, perhaps as a way to preserve or enrich their language for future generations. At the same time, they have acquired a better understanding of available resources and their responsibility to publish and train. As yet, few MTB programs have developed after using PFOL, but there are language communities working on the issues of approved orthographies, the training of teachers in multilingual settings, and the local development of reading materials. All of this activity creates not only interest and ownership of the future of their language, but it means more informed decisions by project designers in the formal sector.

2.4   Transfer guides

Speakers of the local language who have studied in the national language can more easily be guided to fluent reading and writing through transfer guides. Even before "Education for All," most countries in the Americas had established formal education in rural areas. Primary education, usually through Spanish, Portuguese, or English, resulted in readers of the national language who could quickly learn to read and write in their local language. Since the skills of knowing how to read in one language can be transferred to learning to read and write in a second, some communities are using transfer guides, materials designed to facilitate L2 literates to read in their L1. When there are L2 literates in various dialects, transfer guides (not nearly as complex as initial reading instruction materials) can be made, adapting for multiple dialects if needed. Transfer guides result in a large group of L1 literates in various dialects. Those literates can then be the writers, designers, and illustrators of materials for the selected dialects chosen for school programs. Once there are readers and writers of the L1, the community is

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[6] Adams notes that "an orthography cannot extend group identity beyond any pre-existing political or social organization" (2014:241). Where dialect groups already cooperate within some structure, the chances of accepting a unified or collaborative writing system are greater.

more able to say which dialects will be used for literacy, what type of materials are desired, and who will be the writers of the materials.

In Panama, the Guaymi (Ngäbere language, [gym]) had L1 materials designed for the community but there were no L1 teachers and there was not much interest in reading. When Eric Kindberg (an SIL linguist) spoke with the leaders, they decided to produce a transfer guide for those who were literate in Spanish. A transfer guide was developed, making it possible to have sufficient L1 readers, writers, and teachers to develop a more formal program for the school. The orthographies and some cultural content had to be adjusted for the various groups. It was not an easy task but community leaders willingly gave their time (Eric Kindberg, pers. comm. August, 2015). One cultural benefit that resulted was that once parents and elders were able to read and write in the L1, their knowledge was more respected. It also gave greater value to the local language.

The L2 to L1 bi-literacy approach, using a transfer guide, provides program designers with writers and readers of the L1 in a very short time, and strengthens the community's ability to use their language in expanded contexts. An example of this comes from Guyana. New L1 literates in the Wapishana [wap] community are using Bloom,[7] a simple publishing tool, and have produced several volumes of easy-to-read stories. Today it is possible for communities to create simple books themselves and to strengthen local language capacity (Bloom 2016).

4   Conclusion

Which dialect should be used? To have effective literacy materials, the answer should come from within the language community. When designing literacy programs, the goals, the resources, the outcomes, and the assessment tools should be agreed upon by the community. Everyone involved should know "who does what to whom and with what desired outcomes."

Pedagogy and methodology also influence "which dialect." A student-centered approach will focus on the interests of the learner, providing for an active role in learning and in the choice of content. If instruction is in the learners' dialect the program is more student centered than if instruction is in a different dialect.

Finally, underlying the question of "which dialect" is the need for an agreed-upon definition for language, dialect, and variety. When a community insists that it is a language, not a dialect, who gets to decide? Language communities will ultimately decide on the basis of their political and social needs. The stakes are high for many language communities. Who decides their future? The Declaration of Indigenous Rights would say that they do!

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[7] Bloom is a free program available at http://bloomlibrary.org/. The website includes a library of shell books that can be adapted for multiple languages. Books can be created in diglot or triglot as well.

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6

When the orthography of the local language is not yet standardized or requires further review in order to adequately represent the linguistic features of the language, how should this challenge be handled in the program?

Leila Schroeder

1 Introduction

Poverty isn't the only barrier to learning. Another significant challenge to the learning of millions of rural children is that their language is unwritten. As governments and NGOs in the South try to provide reading materials for speakers of even large language groups, they often discover that writing instructional materials is like trying to cook a stew without a pot!

Since orthographies no longer have the luxury of evolving over centuries as their users experiment with them, and because they are significantly influenced by their sociolinguistic context, it is imperative that technical experts be involved in their development or modification. The experts who each play a crucial role include readers who speak the language, linguists who can analyze its grammar and phonology, and literacy experts who can advise on readability issues and test the orthography (Schroeder and Schröder. Forthcoming).

If a group of adults were assembled who are literate in a language of wider communication, it is easy to assume that those people will be able to spell and write in their own language. It can also be assumed that mother tongue–speaking teachers will read and write their language easily and accurately. But curriculum developers often discover that:

- speakers of the language complain about reading being difficult
- the adult literacy rate in the community is very low, despite the existence of literature
- readers are having significant problems with comprehension, despite the fact that the literature is written in their mother tongue
- people don't know how to spell certain words because there are no rules to guide them, so spelling is inconsistent—even for teachers.

2 The context

If a problematic orthography is to become standardized and used widely, it will require input from linguistic study of the spoken language and good coordination with speakers of the language, usually carried out by linguists and literacy experts, finding out which elements of the language must be represented visually. These technical experts work with L1-speaking stakeholders: literate educators, community leaders, and literature developers.

These participants in orthography development should gather any published and unpublished documents describing the grammar and the phonology of the language, and any writing rules previously agreed upon before anything was published. They will make a list of vowel phonemes with a gloss and minimal pairs (such as bit vs. bet, boot, bat, bait) from the same part of speech. They will list all possible syllable structures and where they occur within words.

If there is an existing orthography, they will list its symbols along with the sounds they represent. They'll also briefly describe important features of grammar and affixation to be noted, including pronouns, locatives, case, verb tense, auxiliary verbs, plurality, mood, and word order. If spelling rules have already been documented, they will study them and discuss their effectiveness with users.

Someone may also need to examine the role of tone in the language. If it communicates meaning for grammar, especially, it may need to be represented in the writing system. An example: In the Bassa language, Liberia (Samuel Cooper, personal comment), <ḿ> means 'I' or 'me', but <m̀> means 'you'. Tone marks the difference between those two pronouns and many other grammatical words.

SIL International is one organization that has experience with participatory approaches to orthography development (Kutsch Lojenga 1996, Schroeder 2008) including multiple stakeholders. Every sociolinguistic situation is unique, but two strategies for a participatory approach emerge:

1. For unwritten languages, involve L1 speakers from the outset, so all phonological and grammatical discoveries are made with their involvement. L1 speakers assist linguists in the documentation and analysis of their language, thus helping them understand the tensions between representing the sounds and also the meaning of their language, in writing.

2. When dealing with flawed orthographies, raise the awareness of L1 speakers who are already literate, of the problems with their orthography by letting them experience the comprehension and spelling problems. Then let them try out a limited set of proposed solutions.

Once an orthography is standardized, the ultimate users are the whole language community, but its effectiveness should be tested first. Let its immediate users be the ones to try using a draft orthography, for at least a year (two years may be better), with a reading curriculum, before considering modifying it. A children's literacy program is an ideal setting for testing an orthography because there will be trained teachers, a curriculum, and a large number of willing, unbiased participants: children.

Discuss the results of testing, propose a limited set of viable solutions, and choose one for piloting. After finalizing the spelling rules, produce a writers' guide alongside speakers of the language, explaining spelling rules with examples. Accompanying a writer's guide, a dictionary or simple lexicon with gloss in a language of wider communication would be very useful to both teachers and authors.

Limitations come from the nature of the orthography problem: is it purely sociolinguistic, deriving from people's attitudes toward their language and other languages? In this case, awareness-raising is crucial, as well as the involvement of community leaders in decisions made. As mentioned above, an extensive participatory approach which begins with linguistic analysis and ends with spelling decisions helps ensure comprehension and ease of learning for all users. If it is teachers who have encountered an orthography problem, their input, as observers of literacy learning, will be vital.

There are several situations which repeatedly arise as literacy curricula are developed for unwritten or not-yet-developed languages. Here is a sampling, with ideas or solutions to try, for each.

3   Recommendations: Some ideas to try

Situation 1. You try to begin writing decodable readers, using a word list from the language or a dictionary, and you find that there isn't one. With no dictionary and no spelling guide, people don't know how to consistently spell speech contrasts such as long and short vowels. They struggle. When there are no explicit rules for writing any important sound or meaning contrast, people write as it sounds to them personally. This leads to inconsistent word appearance in literature, and to important contrasts in the language being masked.

You expect mother tongue speakers of a language to have a fair degree of confidence in spelling their own language, but you find they don't, because they have no rules to guide them and little or no literature. I saw the resulting spelling and comprehension problems when developing MLE curricula for the Borana language [gax], in Kenya.

Idea to try: Analysis of phonological patterns within words usually shows the linguist when vowel lengthening is predictable due to phonological processes in speech, vs. when lengthening is actually meaning-based, so the contrast must be consistently written. The Zanaki language of Tanzania [zak] is one of many which must write vowel length distinctions (Gray 2009). One example of contrastive verbs is given here: *okukura* 'to grow up', vs. *okukuura* 'to shout for help'.

When there are no spelling rules for vowel length, disregarding it can be disastrous. The Bukusu [bxk] language of Kenya has none, resulting in inconsistent word spellings even within the same book,

and comprehension challenges too, because the essential contrasts are often masked. Three simple spelling rules usually make it all fairly straightforward:

- If the vowel follows a <w> or <y>, it sounds long but really isn't. Write it short.
- If the vowel precedes a nasal cluster such as <mb, mp, nd, nt…>, it looks long but it really isn't. Write it short.
- If it sounds long in any other situation, it really is long. Write it long.

This solution has worked for many other speakers of Interlacustrine Bantu languages, such as Ganda [lug] (http://www.buganda.com/language.htm). But testing and interviewing readers and writers who have practiced using these rules is the only way to know for sure.

Situation 2. Mother tongue speakers can't understand what they "read." Some essential feature of the spoken language is not represented in writing. For the Maasai [mas] of Kenya and Tanzania, tone indicates case (Payne et al. 2012). If you can't tell the object from the subject of a sentence, reading is almost impossible. And if tone also distinguishes subjunctive imperative and negative imperative ("you should do" vs. "don't do"), readers can completely misinterpret a basic sentence. The result is failed communication for writers and ambiguity for readers. Comprehension is the major goal of reading, while communication is the major goal of writing. If readers aren't understanding what they read in their own language, some important speech sound /sound contrast is not written.

Idea to try: Involve the community by raising their awareness and in choosing a tone-marking strategy. Try it out on a fairly small scale for at least a year. Test both children and their teachers, to learn whether the strategy has helped their reading comprehension, accuracy, and fluency. I did this with twenty-four Maasai teachers. Their comprehension of tone-marked text was 25% better than their comprehension of a similar, unmarked text, though their reading was a bit slower.

Situation 3: You find that even experienced readers are slow, and they have to read aloud in order to understand. They don't recognize whole words at a glance. Writers may need help with breaking up the rapid stream of speech into simple, consistently spelled words. For the Ikizu language of Tanzania [ikz], inconsistent spelling of words (Eaton and Schroeder bb12:230) results in the simple word 'and', <na>, having four different spellings, based on rapid speech pronunciation rather than writing each entire word consistently. It can be spelled as <na, no, ne, nɨ> (Sandeen and Gray 2013:25). The vowel prefixes of all the nouns following 'and' have been deleted from the noun to which they belong and visually moved to the end of 'and', giving it these various visual forms:

<na baatʉ> rather than <na abaatʉ> 'and people'
<ne ngoko> rather than <na engoko> 'and chicken'
<nɨ bɨsʉbɨ> rather than <na ɨbɨsubɨ> 'and egg yolks'
<ni miri> rather than <na imiri> 'and roots'

Idea to try: Consistent word appearance promotes fluency. The second option in each example is preferable. Try writing all such grammatical, frequently appearing words, with the same spelling everywhere. This amounts to writing slow speech. Give learners at least a year of significant practice, and then test to see if they have started recognizing such words immediately. Expect their immediate word recognition to be quick, and their oral reading to reflect natural-sounding speech, because elision of vowels between words in rapid speech is normal.

Situation 4: Bassa [bsq] children in Liberia read mostly short words, but have to decipher stacked nasal and tone symbols (hi, lo, mid, falling and rising), resulting in a huge vowel grapheme count)! The number of vowel graphemes for Bassa include its seven vowel heights (degree of openness in the mouth) <a e i o u ɔ ɛ> and nasalized vowels <ĩ, ɛ̃, ɔ̃>. Each of these vowel symbols is also marked for high, low, rising, falling, and mid tones, like these variants for the vowel /ɑ/: <a, á, ǎ, â, à>. The Bassa child must therefore recognize a total of 65 vowel symbols. Each vowel symbol carries information regarding tone, nasalization, and vowel height. These complex symbols constitute a heavy grapheme load for the reader. Simple appearance of graphemes eases the cognitive load for the reader, promoting fluency.

Idea to try: This principle applies to readers who try to decode using very different scripts for different languages: try to make the visual symbols simple. For grapheme overload such as the one

described above, try eliminating one symbol at a time, systematically. Test the effect this has on readers' comprehension.

Grapheme overload also applies to children having to learn various scripts simultaneously. When there is no alternative to teaching children to read very different scripts, it is important to allow mastery of one before introducing another. Also, use a teaching methodology which helps the learner use what he/she already knows, to learn the second one. Example: if the first script is syllabic, teach the Roman script with syllable recognition at the forefront, rather than focusing on individual alphabetic letters. Recognizing syllables at a glance will help the readers make the leap from one script to another.

4 Conclusion

Common symptoms of poor or underdeveloped orthographies are:
- Fluent readers struggling with comprehension, though the language is theirs.
- People reading very slowly, though they can read other languages fluently. They may read and then re-read, words or whole sentences, changing their pronunciation the second time. These may be symptoms of an under-differentiated orthography (in which all the important sound distinctions are not written), or of words being written inconsistently. More rarely, they are due to grapheme complexity, which is very taxing on visual perception.

There is a natural tension between the principle of grapheme simplicity, and the maximum representation of linguistic contrasts. No solution will be perfect, because language is auditory and writing is visual, but testing the effectiveness of an orthography usually helps its users find something which is comprehensible and learnable.

If you suspect an orthography problem in the literacy project you are working with:
- Gather all existing resources: wordlists, dictionaries, and linguistic descriptions of the language.
- Contact your nearest SIL linguist or literacy consultant. He or she is trained for analysing languages and proposing orthography solutions.

Basic, yet inherently conflicting, readability principles common to all of the orthography examples given are: strive for simplicity of symbols used; strive for maximum representation of the sounds of a language; and strive for consistent word appearance. An orthography should then be tested, or tried out, before it is widely used.

The language attitudes of the speakers of the language play a significant role in the acceptance and use of any orthography, so involvement of these ultimate users in orthography development is essential.

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7

How can informal and non-formal learning opportunities in the mother tongue best support or supplement school settings, particularly when the formal school system is unable to serve as a venue for MTB-MLE?

Rudy Klaas

1 Introduction

In many environments, multilingual education (MLE) is not being implemented in the formal school system because the potential for MLE has yet to be realized. The pedagogical advantages of teaching in a language that both teachers and students understand well have not been understood by national or local governments, parents, teachers, school directors, and students. At the same time, these very environments often intentionally facilitate or passively permit the implementation of non-formal or informal mother tongue learning opportunities, in particular, mother tongue literacy. When this is the case, we may ask if there is not potential for the transfer of good practices, skills, and positive attitudes about learning from the non-formal and informal systems to an eventual MLE program in the formal school system.

One example of a situation where non-formal mother tongue literacy for children took place before a pilot mother tongue education program was officially endorsed is that of the Pokomo [pkb] community in Kenya. Classes were provided in church buildings after the school day and within the school building for older students before lessons began. The language study, updated orthography, and a corpus of adults literate in Pokomo from which volunteer teachers were drawn were invaluable to the development of the mother tongue education program. The teaching practice was somewhat different from that followed by the volunteer teachers since it needed to fit more closely with the Early Childhood Development classes in which the mother tongue education program began. However, many of the teachers were previously taught Pokomo literacy in the non-formal setting of the Pokomo Language Project. The Pokomo story books on which much of the mother tongue education was based were also written by these teachers. The informal setting also provided space for training teachers and raising awareness of parents and other community members through discussions about mother tongue literacy and its value in education.

2 Context

While non-formal and informal mother tongue literacy has its own inherent benefits, many benefits are also transferable to the formal school setting and are likely to have important positive impact. They include the development of positive attitudes and behaviors towards reading, transferable learning skills and learning strategies, linguistic research, effective learning and teaching techniques, and a draft format for formal school materials.

Positive attitudes and behaviors towards reading can be weak or absent in formal school when students do not sufficiently understand the language they are reading. In such situations, reading can be reduced to mere decoding and pronunciation of chunks of letters or memorized words, phrases, or sentences. To the contrary, non-formal or informal literacy in a known language removes the language barrier and allows students to recognize and interact with the meaning of a text. Students develop confidence as they see that their ability to ascertain meaning is growing. They anticipate the successful discovery of information, as well as pleasure, and persevere until they find it, as opposed to abandoning the search for meaning that is hidden in a language they do not know. Students develop the reflex of reading when encountering a text, in or out of school, as well as a desire to explore its meaning instead of developing the habit of avoiding texts, expecting to be defeated in their struggle to derive meaning. In

addition, the removal of the language barrier allows students to discuss a text among themselves and with teachers, debating and thinking critically as well as imaginatively.

3 Recommendations: Some ideas to try

As mentioned above, non-formal mother tongue literacy has its own inherent benefits. Apart from the acquisition of transferable reading skills and positive attitudes and expectations towards reading, mother tongue literacy reinforces ethnic identity and community cohesion and allows a medium for the expression and continued appreciation of local values. Furthermore, parents who have benefitted from mother tongue adult literacy will be able to apply themselves in reading situations with their own children or with other children. While this is particularly true when the reading situation occurs in a common language, it is also true across languages when parents can apply transferable sound/symbol relationships, reading strategies, and attitudes to reading another language. A literate parent provides a positive role model for early learners.

Through initial success in non-formal or informal reading initiatives, positive attitudes towards reading have been observed to emerge from recently reticent or antagonistic communities. As has been my personal observation in DRC, Senegal, Mali, Gambia, Kenya, Uganda, and among Darfur refugees, many communities are convinced that their own language is not readable since they have never seen it written and so believe that it cannot be written. Once taught to use even a few rudimentary reading techniques or guided to transfer their reading skills in another language to the reading of their own, they quickly deduce that their language is indeed readable and enthusiastically set about the task of learning to read and even write in their own language. This is often the first step in the process of developing that language for use in formal school and elsewhere.

The transfer of these attitudes, behaviors, and expectations from non-formal or informal learning opportunities to formal school also presents an occasion for growth on the part of teachers, school administrators, and teacher training institutions. In those cases where school age students participate in non-formal or informal learning opportunities, their ability to find meaning and their expectation that lessons will be interactive challenge formal schools to reconsider learning based on dictation and rote memory. This, however, would require retraining teachers and school administrators who may rather maintain the status quo than exert additional effort. This existing inertia can be challenged by the momentum generated through citizen-led assessments as well as data sharing and empowering local stakeholders as has been done, for example, in India, Kenya, Mali, and Senegal.

Reading skills, whether taught in non-formal opportunities or elsewhere, are often based on common pedagogical approaches and/or techniques and thus many are transferable across education sectors. Those readers present in the local community often attest that they did not have to learn how to read all over again in order to read another language but could, instead, transfer those skills used in reading a first language.

Teaching/learning materials, even while yet in their non-formal or informal format, offer many transferable benefits such as correct orthography and grammar use, a usable scope and sequence as well as the content for letter-specific exercises addressing phonemic awareness, alphabetic principle, vocabulary development, fluidity, and comprehension. Once the language in question is approved for use in formal schooling, the pedagogical materials can be adapted to fit the formal school schedule, the formal thematic content, and the text level of the grades implicated. The same would be true for supplementary materials. Significant resources can thereby be saved by adapting non-formal or informal materials to formal school specifications rather than creating materials from scratch.

Along the same lines, teachers and teacher training materials and techniques can be transferred from a non-formal or informal setting to a formal school classroom or even to a formal teacher training college. As concerns the non-formal teachers' ability to apply best practices in a formal school setting, they are often better trained than many teachers who were not taught best practices in teacher training institutions. They are likewise more experienced in teaching in the mother tongue or national language and are more experienced using participative teaching materials and techniques. Non-formal teachers can be used to model and teach new attitudes, materials, and practices in formal teacher training

institutions, though this requires a substantial amount of open-mindedness on the part of formal school structures.

Finally, I would mention an interesting phenomenon observed in DRC, Senegal, and Uganda. In these cases, and undoubtedly in many more that have escaped my attention, students that have failed in the official language formal school system have had recourse to non-formal or informal mother tongue reading programs. Here, language is no longer a barrier to understanding teaching instructions or lesson content. Many quickly learn the transferable skills and concepts of reading through the use of their own language, and this has become, upon return to formal school, the trampoline which propels them even higher than their re-found classmates and friends who continue to struggle with the language barrier. While their abilities in the foreign language might not have improved significantly, they now excel at decoding and word recognition and are motivated to renew their efforts in foreign language learning by the knowledge that there is indeed, with a little more effort, meaning to be found in text.

Adults who are learning to read and write their mother tongue could write stories or songs specifically for children in a particular class. This could be done in exercise books with drafts being written until they are satisfied, whereupon the final edition could be "published" by being written in a book kept for that purpose.

4   Conclusion

Though education policy in many African countries recognizes the right and the pedagogical benefit of using familiar languages in education, that policy is often not yet implemented in practice. Non-governmental and faith based organizations have, nonetheless, been active in this area for many decades, having already studied the linguistic foundation for orthography development, having already tested reading methodologies as appropriate to that particular language, having produced reading materials, and having developed teacher training materials and procedures. Great potential exists for a transfer to formal schools of learning attitudes, reading skills and strategies, teaching/learning materials, as well as positive local working relationships.

8

What approaches have been proven effective for managing the use of two or more languages in a bilingual/multilingual curriculum?

Kristine Trammell

1 Introduction

Children learn best when they understand what the teacher is saying, so it is not surprising that students who attend schools where the medium of instruction (MoI) is unfamiliar to them often struggle to succeed academically. Often those who do not drop out are required to repeat grades and frequently do not pass the exams necessary to continue studying in secondary school (Dutcher 2004, Heugh 2006, Pinnock and Vijayakumar 2009). Government leaders and educators desire to help language minority (LM) students succeed, but question the most effective means to do so. A solution shown to be successful in many countries is Mother Tongue Based Multilingual Education (MTB-MLE), in which the students' mother tongue (MT) is the MoI for reading, writing, and other subjects, while at the same time the majority language is taught gradually (Thomas and Collier 2002, UNESCO 2012, World Bank 2005).

2 Context

MTB-MLE programs use the MT and other languages as they are acquired, to form a base of understanding that the students can use to increase their knowledge. This base of knowledge, referred to as the Common Underlying Proficiency of Language Competence is an important tenet upon which MTB-MLE is established; knowledge is accessible through all languages a person understands. While the knowledge is shared, access to it in another language is dependent on the individual's proficiency in that language. Educators commonly focus on two proficiency levels: Basic Interpersonal Communicative Skills (BICS) and Cognitive Academic Language Proficiency (CALP). BICS describes proficiency in basic conversational skills used for informal communication, which can be acquired in two to four years. CALP refers to academic language ability used for communicating abstract ideas, which takes five to eight years to acquire. The distinction between BICS and CALP indicates a person may have fluent basic communication skills adequate for informal language situations without having developed the language skills necessary to process abstract academic subjects. Optimal cognitive development is possible only when students sufficiently develop the language in which a subject is taught.

The goal, therefore, is to implement MTB-MLE programs where the students' cognitive development is fostered resulting in better academic achievement. Wayne Thomas and Virginia Collier (2002) researched a variety of educational programs for LM students to determine which promoted the highest levels of achievement. Their findings revealed three predictors for academic success:

- Development of cognitive academic proficiency in the MT for as long as possible (at least through grade six) and development of cognitive academic proficiency in the subsequent languages of instruction.
- Promotion of socio-culturally supportive environments where the languages and cultures of minority children are respected and valued.
- Implementation of effective instructional materials and methodologies to teach academic curricula through two or more languages.

The following section describes some approaches to meet these predictive factors of success in countries where resources are limited.

3 Recommendations: Some ideas to try

The first predictor of success is the on-going development of CALP in the MT for as long as possible and development of CALP in subsequent languages of instruction. Strong MTB-MLE programs include five or more years of instruction in the students' home language and culture, and a gradual introduction of other languages as classroom subjects with the ultimate goal of achieving CALP in each language. Often, language and education policies do not allow for the minority languages to be studied in intermediate and secondary grades, but rather discontinue MT instruction in the early grades, often after only one or two years. Research has demonstrated such practices do not provide sufficient time for the development of CALP skills in either the MT or the national language(s), and lead to limited student achievement (Heugh 2006; Thomas and Collier 2002; Walter and Trammell 2010). Implementing this crucial factor requires careful planning.

Susan Malone (2010) suggests an eight-step progression to foster CALP in two languages throughout the first eight years of school (table 1 in appendix A). In this model, the home language is used initially for two years as the MoI for all reading and writing and other subject areas, while the second language (L2) is taught orally. After two and a half years, literacy classes in the L2 are begun; however, academic content and on-going literacy skills continue to be taught in the first language even as students begin learning to read and write in the second. Throughout the remaining years of schooling, both languages are used as MoI. In this way the students become both bilingual and biliterate. Malone has designed similar progression plans for the instruction of three and four languages (tables 2 and 3 respectively in Appendix A).

The second predictor of success is the promotion of socio-culturally supportive environments where the languages and cultures of minority children are respected and valued. The use of the MT and provision of contextualized materials are means to provide socio-cultural support.

Translanguaging is one strategy to promote a supportive environment. Ofelia Garcia defines translanguaging as "multiple discursive practices in which bilinguals engage in order to make sense of their bilingual worlds" (2009:45). It occurs when multilingual speakers alternate between two or more languages in the context of a single conversation. In the multilingual classroom translanguaging enriches oral and written communication between teachers and students as well as increases understanding of academic content by promoting authentic interaction (Hornberger and Link 2012).

In addition to translanguaging, Echevarria (2004:107) notes that use of the students' MT to clarify concepts provides support for the academic learning of bilingual students. The preview-review method provides this support by introducing new vocabulary and concepts in one language and then reviewing them in another. In this way, the students develop background knowledge necessary to understand new information in the L2 and gain CALP in both languages.

The third predictor of success is the implementation of effective instructional materials and methodologies to teach academic curricula through two or more languages. In order to develop materials of this caliber, there must be collaboration with the Ministry of Education, local education officials, and native-language speakers. The first requirement is to establish an official orthography. Once the orthography is approved, then any MT literature already available can be revised and more materials created. Some necessary resources include:

- A transfer primer for learners who already know how to read in one language and want to learn to read in another language they already know. A transfer primer teaches the sounds and symbols which differ between the two languages.
- Literacy teachers' guides and instructional resources to teach basic reading and writing skills. Discrete instruction in phonological awareness and phonics is vital for learners to decode multisyllabic words.
- Leveled reading books and accompanying teachers' guides to develop reading fluency and comprehension using whole language approaches such as cooperative learning strategies, problem solving, thematic content, and writing in a variety of genre.

4   Literature in a variety of genres

Creation of scholastic materials reflective of the language, culture, and context of the students can be accomplished by bringing together native speakers, teachers, and education officials for writers' workshops. Mother tongue materials have been developed in many countries. In Papua New Guinea, where MTB-MLE programs have been implemented since the mid-1990's, writers' workshops were held to produce materials that were accepted by the minority communities and that were useful in the schools. "The local stories, legends, songs, and poems produced by the writers made it possible for the local culture to be reflected in the formal curriculum" (Weber, Wroge, and Yoder 2007:89). In 2000, the Secretary of Public Education in Mexico reported textbooks in indigenous languages had been written by bilingual teachers with the support of local communities. All together they produced more than a million books in 33 languages and 52 dialects (Dutcher 2004:90). In addition to books for teaching reading, culturally appropriate materials need to be created for other curricular areas.

In the Kom Education Pilot (KEP) MTB-MLE project in Cameroon, a series of leveled reading anthologies were designed that integrated the science and citizenship objectives of the national syllabus (Walter and Trammell 2010). This integrated curriculum consisted of a series of leveled anthologies with stories appropriate for each grade level. To ensure cultural relevance and linguistic accuracy, the team crafted story ideas and a native speaker composed the stories. Once completed, they were reviewed by the language committee members and then revised based on their feedback. A local artist was given the text and the team's recommendations for drawing culturally appropriate illustrations. If the first rendering deviated from cultural realities, the artist would make adjustments to the illustration.

These examples demonstrate it is possible to implement strong models of MTB-MLE programs that provide sufficient time for cognitive, academic language development in both languages and have contextualized education curriculum. Yet, the best program plan and materials cannot lead to improved achievement unless the teachers are able to implement effective teaching methodologies in the classroom.

For this reason, teacher training is a vital component of any MTB-MLE program.

The first step in training mother tongue teachers is to enable them to read and write in the MT. This is often done by means of a transfer primer that teaches the new letters, diacritics, and other features that differ from the national language the teachers already know how to read. Once the teachers are able to read and write in both languages they are ready to learn to teach children in the mother tongue.

In some developing countries teachers have not received quality education themselves and tend to teach by the rote methods they experienced, rather than more effective strategies. This insufficiency can be improved by quality training in best teaching practices. However, learning the best practices of literacy instruction is only as good as the quality of the teacher training. Jane Vella (2008:1) notes that adults learn best through dialogue education and the use of praxis to reflect on their learning and make changes as necessary.

The use of dialogue and praxis were employed in training seminars for the KEP project by following a four-step method, which proved to be quite effective in transforming classroom practices. The steps were:

- The new teaching strategy was explained.
- The strategy was modeled in the language.
- Teachers practiced the strategy in small groups with observation by a literacy supervisor. Each teacher taught a lesson using the strategy to the others. They helped one another by reminding each other of the steps in the process or the correct language to be employed.
- After practicing, the teachers gathered together to reflect on the experience and make suggestions to contextualize the strategy to their classroom situations.

5   Conclusion

It is possible to implement strong MTB-MLE programs to improve the achievement of LM students. The most successful models promote at least six years of instruction in the school languages, develop contextualized curricula, and effectively train teachers in the use of best instructional practices.

Unfortunately, many MTB-MLE programs do not include the three key factors for LM students to succeed. The foundation of a quality program is the provision of sufficient time for the development of CALP skills in the mother tongue and the national languages. In order to truly improve the achievement of LM students, national language policies must be established to not only allow MTB-MLE programs to continue through all six years of primary school, but to oblige implementation in the schools. Once the length of the program is established, then materials for each grade and teacher training may commence. As strong programs are implemented, it will be important to conduct research to monitor student progress in both primary and secondary schools.

Appendix A: Language Progression Plans

Table 1. Example of a 2-language progression plan*

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Build fluency in oral L1 Pre-reading and pre-writing in L1 Introduce written L1 Begin oral L2 (Total Physical Response in second semester)	Continue oral L1 Build fluency in written L1 Continue building oral L2 Bridge to written L2 (second semester)	Build oral & written L1 Build oral L2 Begin Oral L3 (Total Physical Response in second semester)	Build oral & written L1, oral L2 L1 for teaching	Build oral & written L1 & L2	Build oral & written L1 & L2	Build oral & written L1 & L2	Build oral & written L1 & L2
L1 for teaching	L1 for teaching Begin introducing L2 "Word Bank"	L1-oral L2-L1 for teaching	L1-L2-L1 for teaching	L1-L2-L1 for teaching	L1-L2-L1 for teaching		

*Source: S. Malone 2010:16

Table 2. Example of a 3-language progression plan*

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Oral L1 Begin written L1 (2nd semester)	Oral & written L1 Begin oral L2	Oral & written L1 Oral L2 Begin written L2	Oral & written L1 & L2	Oral & written L1 & L2 Begin oral L3	Oral & written L1 & L2 Oral L3 Begin written L3	Oral & written L1, L2, L3	Oral & written L1, L2, L3 (reduced time for L1, increase for L2, L3)
L1 as LOI	L1 as LOI	L1 as LOI	L1-L2-L1 as LOI	L1-L2-L1 as LOI	L1-L2-L1 as LOI	L2-L1-L2 as LOI	L2-L1-L2 as LOI

*Source: S. Malone, pers. comm. Jan. 22, 2016

Table 3. Example of a 4-language progression plan*

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Oral L1 L1 pre-reading and writing→ L1 literacy (2nd semester)	Oral & written L1 Begin Oral L2	Oral & written L1 & oral L2 Begin written L2 (2nd semester)	Oral & written L1 & L2 Begin oral L3	Oral & written L1 & L2 & Oral L3 Begin L3 Literacy	Oral & written L1 & L2 & L3 Begin oral L4 (2nd semester)	Oral & written L1 & L2 & L3 Begin L4 literacy	Oral & written L1 & L2 & L3 & L4 (Reduced time for L1 and L4)
L1 as LOI	L1 as LOI	L1 as LOI	L1-L2-L1 as LOI	L1-L2-L1 as LOI	L1-L2-L1 as LOI	L2-L1-L2 as LOI	L2-L1-L2 as LOI

*Source: S. Malone, pers. comm. Jan. 22, 2016

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