

**Knowing what we see:
Research and evaluation in mother tongue-based multilingual education
programs in ethnolinguistic minority communities**

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Abstract

Research and evaluation studies of mother tongue-based multilingual education (MT-Based MLE) programs in North America and Europe have provided considerable evidence that such programs benefit students who do not speak the official school language when they begin their education. These studies also demonstrate convincingly that the benefits of MT-based MLE are cumulative and become most apparent only after five or more years of mother tongue instruction. The studies have underscored the need for research and evaluation with a longitudinal perspective – one that looks beyond the immediate results of 1-3 year MT interventions for ethnic minority learners.

For multiple reasons, credible long-term studies of MT-based MLE programs are still rare in countries of the South (parts of Africa, Asia, South America, and the Pacific). The lack of research evidence that such close-to-home programs “work” is frequently given as a reason for resisting consideration of MT-Based MLE programs. Without credible research and evaluation studies in these areas, the likelihood of serious experimentation with MT-based MLE diminishes.

This paper focuses on several of the situations in which MT-Based MLE programs have been established in Asia and Africa and the Pacific. I describe both the opportunities these programs provide and the obstacles that must be overcome for good quality, credible longitudinal studies of MT-Based MLE programs to be done. Traditional approaches to quantitative and qualitative studies are examined for insights they might provide in overcoming obstacles to quality research in the often remote, sparsely-resourced areas where the ethnolinguistic minority communities live. In addition, more recent approaches to research and evaluation are summarized for participants’ consideration.

Introduction

In 1973, Noam Chomsky and Jean Piaget held a debate on language and learning. I recall reading somewhere that during their debate, Chomsky underscored a point he was making by asserting to Piaget, “We know

what we see!” To which Piaget reportedly replied: “No, you see what you know.”¹

Most scholars will concede that, in this case, Chomsky actually *did* know what he saw with respect to language development in human beings. But the comment by Piaget (who didn’t say from whom he stole it) has always remained in my mind, especially in connection to research.

What we know to be true—especially what we know to be true in the face of strong and unjustified opposition—can become an obstacle for us as researchers and practitioners, preventing us from seeing what we do *not* know but which is there waiting for our attention. We see what we expect to see and miss the unexpected.

I will try to keep that in mind as I share some thoughts about the kind of research and evaluation that needs to be done in the specific area of mother tongue-based multilingual education.

Why is Research & Evaluation in Mother Tongue-based Multilingual Education so difficult?

I was forced to ask myself this question when I revisited an article in a 2003 issue of *Reading Research Quarterly*. The article, “New Directions in Reading Research”, featured several language and literacy scholars writing on the topic of “reading in multilingual contexts.” I would like to share several insights from that article because five years after it was first published, the authors’ vision for the future of research in multilingual literacy seems prophetic as well as applicable to the wider field of MT-based MLE.

Let me ask again: Why is research and evaluation of mother tongue-based multilingual education (MT-based MLE) so difficult? Charles Berg (2003) suggests one reason: we are combining into a single effort three distinctly complex processes—language (in the plural), education (including non-dominant, marginalized, frequently impoverished language communities), and learning to read and write in multiple languages.

¹ This is one of those anecdotes (I have many) for which I have a clear memory of having read it but not the vaguest recollection of its source. I have seen accounts of the retort that I ascribe to Piaget as belonging to some other wit. I concede that I may be wrong. But an error in ascription does not negate the main point of the anecdote with respect to the paper so I have left it in.

“Putting together three complex entities such as reading, multilingualism, and teaching will not lead to one simple result. There are no clear answers, no ‘magical potions’ (p. 110; emphasis added)

I will return to Berg’s exploration of the implications of this complexity later under the heading of “guiding principles”. One aspect of the complexity is the fact that we associate multilingual education solely with schools when it clearly involves the home and family long before children arrive at school.

Literacy is an element of language socialization, a family matter, linked to family structure and culture as well as to gender differences. One of the keys to success is comprehension in a multilingual world and what it stands for in the varying lives of learners. (p. 108)

Coming to understand this dimension of MT-based MLE that is rooted in the family and community is a step in the right direction but leads to even more complications.

A new understanding of the social realities of multilingual reading is a necessary, but not sufficient, condition for a change in literacy pedagogy. Practical transformation of teaching and learning will not occur unless collaborative action allows the transfer into day-to-day school practice to take place. (p. 108)

The “collaborative action” that Berg emphasizes is a recurring theme in this paper. Because of its multilayered complexity, MT-based MLE requires researchers and practitioners working together cooperatively and collaboratively to ensure that the education program as a whole is greater than the sum of its parts.

The complex mix of processes at work in MT-based MLE that takes place, formally and informally, in the family and in school, requires an investigation that goes beyond experimental research designs that focus on measuring students’ achievement of pre-determined indicators and outcomes. Qualitative approaches fill the gap left by quantitative approaches that are unable to explain “why” or “how” things are as they are in an environment as complex as MT-based MLE (see following section, “Quantitative versus Qualitative”).

Berg suggests several necessary changes, including a change in the relationship between researcher and teacher: collaboration is favored over experimentation.

This kind of sharing of responsibility is reported in an *action research project* from Nigeria, where researcher Chukwuemeka Eze Onukaogu (2004) and a colleague worked together with teachers and learners in English-as-medium of instruction classrooms. The research aimed at discovering how the children’s mother tongue “can best be used to

empower the child to read and write” and “ways that teachers can best acquire knowledge about teaching literacy and how they might be empowered to become more effective literacy teachers through an intervention” (Onukaogu, 2004: 116)

Onukaogu and his colleague, through attitude and literacy aptitude assessments of both teachers and learners in that Nigerian community, discovered five issues that are common to many multilingual classrooms for ethnic children speaking non-dominant languages. Teachers

- lacked classroom management skills,
- had negative attitudes about teaching reading comprehension,
- took a teacher-centered role in the classroom,
- had little knowledge of how to teach reading strategies and skills, and
- were unfamiliar with instructional resources for mother tongue literacy.

The researchers and teachers then spent a week discussing their observations after which the researchers provided the teachers with resource materials on using the learners’ mother tongue for literacy instruction to read over a two-week period. Onukaogu reports:

Later, the research team modeled some of the methods that the teachers had read in these resource materials, and at the teachers’ requests a series of workshops were organized in order for them to learn more about how to improve their instruction and attitudes.

These workshops included topics on

- the role of talk in the classroom
- the importance of reading aloud, singing, dancing, in preparing children for literacy
- the use of big books for shared reading
- the use of other literature – fiction, information, subject content, newspapers – to facilitate reading and writing
- the importance of print-rich environment
- the development of a coalition among home, school and wider community “to create a community-based reading culture” (p. 117).

The researchers modeled and the teachers practiced, and then implemented the new pedagogy in their classrooms. After six months, the researchers re-administered the teacher attitude checklist and reading achievement tests and found both teachers and learners had improved by over 100%. Also, observations of the classrooms using the checklist revealed that the center of the learning environment had shifted from the

teachers to the children. Onukaogu reports that the teachers gained confidence from the good results of the new approaches and were willing to take more risks and be more innovative in their teaching, an especially encouraging result given the perennial lack of resources in the schools.

The students also benefited:

The docility that characterized the pupils when they had first come to school and were confronted with an unknown language had changed. The children became active again because they were able to communicate with their home language. Further, because interactions with their peers and teachers had increased, the children were better able to enjoy learning to read and write (p. 117).

Berg also suggests that the researcher can perform a new role as messenger between the researcher-practitioner (teacher) and the policy-maker, communicating empirical data that reflect positive practices to the society's decision-makers who are charged with finding educational solutions in complex contexts.

The borderland between research and policymaking is particularly interesting. Here the dialogue is both important and threatening. It can lead to an exchange of legitimacies, benefitting both sides, or impose an awkward (Allington, 1999, says 'slippery') role on research and researchers (Berg, 2003:110).

As in most cases where ideas about society's main functions lead to misunderstandings and not a little strife, the best advice for us as researchers may be to try our utmost to keep the channels of communication open, to *talk* and (especially important) to *listen*. Researchers, practitioners, and policy-makers need to engage each other as openly as possible.

Some Current Research and Evaluation Issues

Let's look now at several specific research and evaluation issues that relate to MT-based MLE. The field is wide and the issues complex so I must focus here on only a few of many issues: (1) the relationship between quantitative and qualitative research; (2) the critical need for research on effective pre-service and in-service teacher training; and (3) related to that, more research and evaluation of the second-language acquisition bridging strategies now employed in Asia, the Pacific and Africa. A fourth issue – research and evaluation innovations that privilege the participation of the members of the non-dominant ethnic language communities themselves, especially the learners' parents– will be treated as a separate section.

Quantitative versus Qualitative

With respect to this issue, I take refuge in a quote attributed to Albert Einstein: “Not everything that can be counted, counts; and not everything that counts, can be counted!” Please note that he does not therefore conclude that *nothing* should be counted. The fair inference is that some things should be counted because they *do* count,

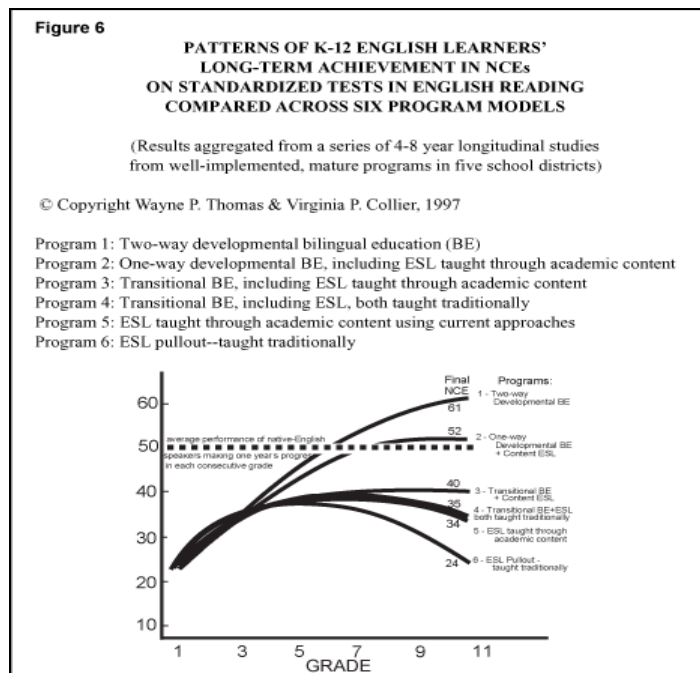
QUANTITATIVE

Setting quantitative and qualitative research approaches in opposition to each other might be fun but it is essentially a bogus activity and a waste of time. In these “research duels”, the proponents of the one approach get to stereotype the proponents of the other. Fortunately, an in-depth treatment of ideological issues is beyond the scope of this paper. I refer the reader to the References section at the end of this paper for such explorations (e.g., Hillocks, 1992).

It is easy for the uninitiated person’s eyes to glaze over when a quantitative research proponent begins to discuss the merits of T-tests, chi-square, ANOVAs, ANCOVAs and regression analysis. However, like it or not, the world is filled with numbers.²

One of the most influential studies of MT-based MLE is Thomas and Collier’s (1997: 53) longitudinal study in the U.S. of more than 40,000 language minority students and hundreds of thousands of documents over a period of 11 years.

² I do a lot of air travel. When I board an airplane, I put my confidence into the fact that *someone* has done the calculations – quantitative analyses – that will keep those tons of metal in the air for the duration of the flight. I count on the pilot to be in control of those numbers, putting them to use in navigating the path through thin air to an agreed-upon destination. I am definitely *not* looking forward to him or her coming onto the p.a. system to ask us passengers if we’d like to get into small groups and negotiate among ourselves where and when and how we would like to land and then report back.



This particular graph showing results of a set of very complicated statistical applications conveys a fairly clear message to those engaged in MT-based MLE—researchers and practitioners alike. The difficulty with many quantitative studies is that the results are cast in language, tables and graphs that mystify more than inform most of the people who actually want to understand and use the information—the policy makers, planners and practitioners. Highly trained academics and scholars do the analysis and write the interpretation, much of which is incomprehensible to the members of the ethnic language communities to whom the statistics apply. If research and evaluation of multilingual education is meant to be a collaboration between researchers and practitioners, then researchers need to include methodologies that teachers and other community members can use and to which they can contribute meaningfully.

A recent example of this kind of collaborative approach is a longitudinal study of a MT-based MLE program in northern Luzon, Philippines. Steve Walter, an SIL International colleague, is working with practitioners and members of the Lubuagan community in this research study. With his permission, I share a bit of his preliminary statistical analysis of the government-sponsored end-of-the-year tests that were administered in schools in that province, including the schools in the Lubuagan program.

Over-All Results of testing in Grades 1-3

	Controls			Experimentals			Statistics	
	N	Mean	%	N	Mean	%	T-test	P
Grade 1	73	40.10	53.47	69	56.90	75.87	7.89	0.000
Grade 2	94	55.20	56.9	42	75.48	77.8	10.98	0.000
Grade 3	60	44.23	53.9	56	61.64	75.1	7.08	0.000

A t-test figure above 5.0 is considered statistically significant ; adapted from Steve Walter (2008); used with permission.

Actually, you will not see this particular table in the final report because it is a composite of the results of three separate tables, one for each grade, divided by the subject areas that were tested: Reading, Math, Filipino, Makabayan (roughly, values education), and English. The summary table for the three grades compares the control group (in traditional Filipino and English medium of instruction classrooms) with the experimental group (MT medium of instruction MLE classrooms). It shows the number of students (N) tested, their mean (or average) scores, and the percentage (of a possible 100%) represented by the mean. It also shows the statistical significance of the scores, using a T-test and a p-value. The T-test figures are all above 5.0 which tells us that the difference between the two sets of scores (control versus experimental) is significant. The p-value of 0.000 reflect the degree of likelihood that the differences measured by the T-test are the result of mere chance – in this case, virtually none. With a little bit of explanation, the table communicates a very positive result of the MT-based MLE experiment in all three grades.

In the tables below, the researcher uses simple descriptive statistics to make an emphatic point with respect to the two groups of minority language learners. The tables are constructed by ranking all of the students in the research sample by the actual raw score achieved by each on the test.

Grade 1

Performance rank	# of children from the experimental classes	# of children from control classes
Top 20	15	5
Top 40	32	8
Bottom 40	4	36
Bottom 20	0	20

Adapted from Steve Walter (2008); used with permission.

Grade 2

Performance rank	# of children from the experimental schools	# of children from control classes
Top 20	15	5
Top 40	30	10
Bottom 40	0	40
Bottom 20	0	20

Adapted from Steve Walter (2008); used with permission.

Grade 3

Performance rank	# of children from the experimental schools	# of children from control classes
Top 20	20	0
Top 40	32	8
Bottom 40	9	31
Bottom 20	3	17

Adapted from Steve Walter (2008); used with permission.

The purpose here is not to interpret the tables above. Quantitative researchers themselves debate as to how much they can rely on T-tests and p-values to establish or refute educational hypotheses. My contention is that these numbers can be presented in a way that is comprehensible to people at all levels of the MT-based MLE project, be they researchers, scholars, educational administrators, teachers, or members of the minority communities (including the learners themselves). When they are communicated in a clear and understandable format, then there is an opportunity for real and meaningful collaboration.

This is also a case of researcher-as-messenger, traveling across borders, as policy-makers can also understand the point of the numbers (e.g., Walter, Dekker and Dumatog, 2008). The statistical tables shown above will not satisfy the requirements of a Ph.D. dissertation, but they satisfy the requirements for participatory understanding and decision-making in programs meant to benefit those who have been excluded from “Education for All” in the past.

QUALITATIVE

Benson (2001) has described qualitative research of bilingual and multilingual education as having the dual purpose of fostering a deeper understanding of the complexities of MT-based MLE while simultaneously providing ways to improve the programs under investigation.

It may be clear from some of these examples that I believe qualitative data shows us a lot of good things about bilingual programs that are not always reflected quantitatively. ... A quick run-down of the characteristics of the ideal student might look something like this: bilingual, bicultural, biliterate, self-confident, participates actively in class, participates actively in the community, likes school and learning, seeks further opportunities to improve herself/himself, and so on. In comparison, test scores give us a poor evaluation of the true child and her/his possibilities for a happy and productive life. Our evaluative instruments need to be designed as much as possible to capture these desirable qualities... (p. 7)

In fairness to the quantitative researchers who use tests scores (like Steve Walter et al. above), they have no intention of describing the ideal student. They are simply presenting test scores. But, not everything that counts, can be counted. That those test scores describe only a single cognitive aspect of the students (and that incompletely) is the reason why qualitative research approaches were developed and why we need to keep the two approaches complementary in our minds.

Nevertheless, Berg (2003) agrees with Benson.

Thus, the purely experimental designs vanish, whereas qualitative and exploratory methods, grounded theory and research linked to practical projects, and participatory research giving social actors a voice gain in weight... Researchers must become partners with readers and practitioners. They must work with them, not just talk about them. Findings from research must make sense for practitioners: Findings should be reliable and credible enough to modify accepted ideas, founding a day-to-day praxis. (p. 108)

The example of quantitative research done in the Philippines, based on learners' test scores, is an example of the kind of research preferred by government departments and international donors. Many people in decision-making roles in education, in Benson's (2003) words

... still have the idea that school research should involve random samples, differential treatments and control groups, and that the success or failure of a bilingual program, for example, should be determined by comparing test scores. Clearly school research involves a whole collection of overlapping variables that are social, economic, linguistic, gender-related, health-related, and so on, and managing any type of treatment or control group can prove difficult if not nearly impossible when individual choice is involved. (p. 3)

With respect to qualitative research, the struggle is for acceptance and respect. There are relatively few recognized ethnographic accounts of MT-based MLE. Shirley Brice Heath's 1981 classic study of education in a community in the eastern U.S., *Ways with Words*, Nancy Hornberger's 1988 account of a Quechua bilingual education program in Peru, and Kendall King's 2001 study of language revitalization in Ecuador come to mind. Benson is currently leading the way with contributions of qualitative research in her study of primary bilingual

education in Mozambique (2000), her article on Role of the Researcher (2003), and work on the consultant report for Ethiopia's MT-based MLE (Heugh, et al., 2006).

In summary, the productive use of both quantitative and qualitative research designs is amply demonstrated in the MLE literature. As I point out in the following section, whether quantitative or qualitative or some combination of both is chosen for research and evaluation, the subjects of the research will need to participate in all phases of the process. And they must not be excluded from participating in the interpretation and application of the results of the study simply because it is presented in a form that they cannot understand.

Teacher Training for MT-based MLE

Another critical issue facing MT-based MLE researchers and practitioners involves teacher education and training programs. Not surprisingly, teachers who have not themselves experienced learning through the medium of their mother tongue, who have not received any courses in using the MT as medium of instruction (MoI) in the classroom, and who have not observed other competent teachers using the MT successfully as MoI, frequently experience difficulty and confusion teaching in their own language.

In 2006, the Association for Development of Education in Africa (ADEA) published a review of research on the use of African languages in the education of African children (Alidou, Boly, Brock-Utne, Diallo, Heugh, and Wolff, 2006). In an early chapter, the following assertion is made:

...continued maintenance of the mother tongue (or a national language) medium of instruction plus the teaching of the official and other foreign languages *by skilled teachers* will secure quality education, in Africa as much as in the so-called developed countries (p. 37; emphasis added).

The operative phrase is “by skilled teachers.” For centuries, educational scholars and practitioners have observed that a skilled teacher is able to facilitate children’s learning irrespective of the quality of the instructional program. The critical issue is, how do skilled teachers become skilled? Why are so few teachers skilled in the kind of instruction that produces multilingual, multiliterate learners? As argued at the beginning of this paper, MT-based MLE is a complex process. It will certainly require effective pre-service and in-service teacher training programs. However, in assessing the African context, Ngu (quoted in Alidou, et al., 2006) asserts that the lack of adequate teacher education in African school systems predates independence for most African countries. In short,

teacher education models from the colonial period are still in force. That means, teacher education includes “no courses in mother tongue teaching or bilingual teaching or in strategies to use when teaching in a foreign language” (p. 88).

With respect to MT-based MLE, Ethiopia has one of the most favorable language-and-education policies anywhere in the world. The learners’ mother tongue is mandated as the language of instruction from Grade 1 through Grade 8. However, policy implementation has been partial or nonexistent in many areas of the country. The reasons for this lack of action are familiar to most practitioners in mother tongue education: lack of instructional materials in the indigenous language, lack of teachers trained to use the language in the classroom, lack of funding.

Earlier this year, I had the opportunity to consult with two lecturers from a teacher education institution in the Benishangul-Gumuz region of western Ethiopia. They were charged with putting together a curriculum for first-year teacher trainees who would be using one of three indigenous languages as medium of instruction in their classrooms. The enthusiasm and perseverance with which these two educators engaged in this complicated process of curriculum development was quite encouraging.

What is needed, in addition to this new teacher training curriculum is a research or evaluation plan for this innovation in teacher education. The Teacher Training Institute instructors, the teacher trainees, the learners in the demonstration classrooms, all will be engaged in negotiating a new path toward quality education. Developing and mentoring a corps of teacher educators as researchers and evaluators who can readily collaborate with teachers and learners in discovering what works and what doesn’t in MT-based MLE is a critical need. The report by Onukaogu of his Nigerian experience referred to above is encouraging because it shows us that this kind of collaboration and research can be and is being done.

Second Language Acquisition and “Bridging” Strategies

One of the guiding principles of MT-based MLE grows out of Jim Cummins’ “interdependence hypothesis” which states that things learned in one language (L1) will transfer to a second language (L2) if the second language is learned well. In Cummins’ words (1981):

...to the extent that instruction through the minority language is effective in developing academic proficiency in the minority language, transfer of this proficiency to the majority language will occur given adequate exposure and motivation to learn the language (p. 29, adapted).

A key phrase in that statement is “given adequate exposure.” Cummins makes clear elsewhere that the transfer of knowledge from the first language to a second language is not automatic. It doesn’t just happen. MT-based MLE can fail rather dramatically if that “given adequate exposure” proviso goes unheeded. Bougie, Wright & Taylor (2003) describe a three-year program of mother tongue education for Inuit children in Canada that developed the children’s first language oral and written proficiency to quite a good level. However, in Grade 4 the children entered a dominant language-only classroom (either English or French) and proceeded to experience many of the same effects of language and culture disorientation as children entering dominant language immersion classrooms in Grade 1. The authors question whether such programs that feature an abrupt change from L1 as language of instruction to L2 actually prevent the children’s loss of their ethnic language and cultural, or merely postpone it. That is why the issue of adequate and effective second language acquisition strategies is so important, and why this needs to be a major research and evaluation focus of MT-based MLE.

An Example of an Innovative Form of Participatory Research and Evaluation

It is unusual today to find researchers in education who are not aware of the trend toward participatory methods. As emphasized throughout this paper, the days of doing research and evaluation *on* or *for* a group of people without their integral participation—never really a legitimate form of research with human subjects—are fading rapidly into a patronizing past. At an international conference I attended last year, I heard a catch phrase from the ethnic minority participants that has stayed with me: “Do not do anything *for* us *without* us!” Basically, that describes the ‘modus operandi’ of most MLE research today. The example below provides one such attempt to make the research and evaluation effort as participatory and comprehensible as possible.

MSC TECHNIQUE

A research and evaluation method known as “Most Significant Changes (MSC) Technique” is being used by several international NGOs working among dominant and non-dominant ethnic minority communities throughout Asia and Africa. A 104-page Manual (Davies & Dart, 2005) in PDF is down-loadable for free from several websites (cf. References for URL). Space limitations here do not allow for a full discussion of the

MSC process but I hope that the following short examples will encourage you to check out the on-line materials.



©Rick Davies and Jess Dart, 2005. *The 'Most Significant Change (MSC) Technique': A Guide to its Use*, Vol. 1.0

This cartoon provides the rationale for MSC: if the people at the local level are to be privileged contributors to and participants in the evaluation process, story-telling will surely be as important as outcomes, inputs, outputs and progress indicators.

The MSC Technique, as outlined by the originators (Davies & Dart, 2005:15), is roughly a ten-step process:

1. Getting started: establishing champions and getting familiar with the approach
2. Establishing 'domains of change'
3. Defining the reporting period
4. Collecting stories of change
5. Reviewing the stories within the organizational hierarchy
6. Providing stakeholders with regular feedback about the review process
7. Setting in place a process to verify the stories if necessary
8. Quantification
9. Conducting secondary analysis of the stories en masse
10. Revising the MSC process.

Staff are trained to interview project participants and pose the questions, “what important changes have taken place as a result of this intervention?” and “why do you think that is so?” The process for a typical non-government organization might go something like this:

1. Local field staff begin collecting stories from project participants-in response to the questions above.

2. Local field staff meet to discuss the stories that were provided by project participants in order to identify criteria for choosing the stories that are most significant. Then, using those criteria, they identify the change story that is the most significant. After the selections are made, the staff take them back for feedback and verification from local participants.
3. The field staff from the various localities each send their set of significant change stories, with their choice of most significant marked, to the next level of organizational hierarchy. At this level and subsequent levels, selections are made then feedback from local field offices, and so forth.
4. Depending on the organization, this process continues until it reaches the highest level and then the donor agency, if appropriate.
5. Interestingly, during the discussion and selection process, the organizational staff together with the project participants of necessity work out their values and beliefs regarding the project that they are involved in, often resulting in a greater, deeper shared vision and understanding of the project goals and principles.

For example, a Danish international NGO (Sigsgaard, 2002) related how the process worked in Tanzania. The staff review team visited a group of male and female farmers participating in an onion growing project. The team began the interview process asking the farmers questions about their project and whether their income had increased. The farmers' responses were all positive even when revealing problems – prices going down, transportation costs going up – “But it works out! We're happy.”

One staff asked, “If you were to prove to us that it works, what would you tell us?”

A young woman spoke, “We don't really need to tell you. Just use your eyes, your ears.”

The staff responded, “Eyes and ears? What do you mean?”

The woman replied, “I am sitting here among the men, and I speak. This never happened before...”

As this woman pointed out, the significant change “stories” are often seen as well as heard.

Obviously, one feature of this process needs to be a practical way of verifying the authenticity of the stories shared. Most, but not all, of the stories come from the local participants. Other stories, however, come from local NGO staff who report stories of significant change that they have heard about or observed themselves. Were the stories accurately

told? Can the content be verified by others with firsthand knowledge? This component, as with the collection, discussion and selection components, is time-consuming but necessary.

How are all of these stories, these accounts of significant change, used? The following purposes are specified by Davies & Dart (2003:12):

- Means for identifying unexpected changes
- Way to identify primary values in the organization
- Participatory form of monitoring; communicates across cultures
- Encourages analysis because individuals have to explain why they consider one change more important than another
- Builds capacity in staff for analyzing data and assessing impact
- Provides a rich and detailed account of what is happening in the project context as opposed to “an overly simplified picture where organizational, social and economic developments are reduced to a single number.”
- “It can be used to monitor and evaluate bottom-up initiatives that do not have predefined outcomes against which to evaluate.

In addition to the obvious value this technique will have for identifying problems and successes and for the effective allocation of resources, energy, and time within specific community-based programs, the total collected stories of significant change can be analyzed as a database to identify repetitions and patterns and recurrent themes that can help guide the planning, implementation and improvement of the project. The authors list three forms of quantification inherent in the MSC technique:

- There is “quantity” involved in most stories: the number of people involved, the number of activities taking place, the number of different effects.
- The built-in feedback stage of the selection of most significant change provides an opportunity for staff to collect additional accounts of other local community members with the same experience (e.g., the follow-up to the story of the woman in Bangladesh who was able to buy land in her own name, where field staff asked community members if they knew of other women who had been able to purchase land in their own names).
- The full set of SC stories provides a rich data source for identifying the number of times, in how many place, with how many people any specific significant change occurs over the whole range of countries and regions where the organization works.

In MT-based MLE programs, the MSC technique could be tried for any research and evaluation issues that involve interactions among teachers and learners in the classroom, teachers and learners outside the classroom, teachers and parents, teachers and wider community, school administrators and teachers, even among the learners themselves; in short, interactions among any group of stakeholders.

CAVEATS

MSC technique has its drawbacks. Various levels of project staff spend a considerable amount of time in collecting, assessing, verifying and selecting the stories. If time is money then it is not a cheap way to evaluate a program. Depending on the situation, stakeholders may feel that the benefits are not worth the cost. Once the MSC technique was expanded from its initial site in Bangladesh to other countries, the MSC story selection timetable changed from twice-a-month (the original pattern), to once-a-month, and in some places to once a quarter.

One disadvantage is the need in many multilingual settings for the stories to be elicited in a local language and then translated to the national or official language and, in many cases, into the international of the project funding agency. This is not an insurmountable obstacle, but you can see that it is time-consuming.

The authors clearly state that MSC technique is not a stand-alone evaluation tool. It is designed to be used together with other forms of research and evaluation, such as the logical framework-type evaluation procedures that international donors frequently require when they fund educational and other community development projects. In that sense, MSC is complementary to the more traditional approach.

MSC can bring new and unique insights to the research and evaluation process. The stories that are collected, studied, ranked and then selected bring rich accounts of insider perspectives, and of the outcomes for which no indicators have been prepared because they could not have been anticipated. In this sense, MSC is a way of getting around the problem of merely seeing what we know; it enables us to learn and to understand what we and others are seeing.

Guiding Principles

In summary, we can identify several principles to guide research and evaluation in MT-based MLE.

- Combining three complex processes – multiple languages, primary education and literacy acquisition – into one program will not lead to simple solutions.
- MT-based MLE includes more than the school and classroom. It begins in the learners’ homes and communities. Research, therefore, needs to focus on attitudes, interactions and perceptions of multiple stakeholders as well as on test scores.
- Research in MT-based MLE with practical classroom application requires collaborative action involving researchers, educational practitioners, teachers and learners.
- Research and evaluation results – whether quantitative or qualitative – are not just for the donors. They need to be presented in a way that is understandable to the research subjects, so they can act on them.
- With respect to research and evaluation of MT-based MLE programs in ethnolinguistic communities, don’t do anything for them, without them.

There are likely other possible guiding principles, but these are several that highlight the trend toward more participatory research and evaluation designs. In some ways, the increased participation of the project participants is a way of overcoming the researchers/evaluators’ dilemma of only seeing what they know. With insider eyes as well as outsider eyes, we can be learning together how to know what we see.

Residue

In a paper as limited as this one, many relevant issues are unfortunately omitted. I will list below several that I am aware of and refer the reader/listener to sources of useful information.

- *Expanded site of Literacy Acquisition.* Some excellent research of early childhood education programs is focusing on the role of home and family in setting the stage for successful literacy acquisition. A good example is research associated with JoAnn Farver of USC that builds on the collaboration between home, community, classroom for preschool children.
<http://urban.usc.edu/sys/index.php?/member/20/>.
- *Funding.* The urgent need for research and evaluation of MT-based MLE is not necessarily recognized by donors with the necessary financial resources. Indeed, the limited scope of most MT-based MLE projects tends to repel rather than attract international donors.

Applicants for funding are frequently told their research project is too small. There are, however, hopeful signs, one of which is the Fast-Track Initiative (FTI) that connects the World Bank and UNESCO's program of Education for All: "accelerating progress towards quality universal primary education".

<http://www1.worldbank.org/education/efasti/overview.asp>.

- *Literacy and MLE assessment tools.* This is a research area receiving a lot of good input. Conference participant Kay Ringenberg of SIL International has developed an excellent "Informal Reading Inventory" technique being used in Indonesia to assess reading ability in the national language. I am sure there are others.
- *Literacy Module.* UNESCO has developed a useful and practical literacy module for insertion into the household survey instruments used by many countries in the Asia and Pacific region.
<http://www2.unescobkk.org/elib/publications>.
- *ICT.* I have made no mention of the multiple information and communication technologies (ICT) that are being utilized to support MLE and language revitalization projects. This field is being accessed by many indigenous language communities in the struggle to revitalize and maintain their heritage languages. Cf. Annual Reviews,
<http://arjournals.annualreviews.org/doi/abs/10.1146/annurev.anthro>
As more and more endangered language communities access ICT, applications in MT-based MLE will almost surely emerge. See also, Voice Thread, an interactive multimedia website being used in classrooms for instruction and research.
<http://www.voicethread.com>.

Conclusion

In presenting ideas about research and evaluation in relation to MT-based MLE, I began by mentioning two key concepts: (1) what we already know can prevent us from seeing what is actually happening and (2) in MT-based MLE, we are looking at a seriously complex endeavor. The research and evaluation tasks will necessarily be complex activities as well. If that in itself was not complicated enough, the context of MT-based MLE is changing. As Allan Luke (2003) observes, "The research and policy questions about language and literacy in multilingual societies are now about language and literacy in globalized economies" (p. 138). The game is changing as I write.

The MSC authors cite an observation by Steven Jobs of Apple Computer fame.

If you knew [in advance] what was going to happen ... every day you could do amazing things. You could become insanely wealthy, influence the political process et cetera. Well, it turns out that most people don't even know what happened yesterday in their own business. So, a lot of businesses are discovering they can take tremendous competitive advantage simply by finding out what happened yesterday as soon as possible. (p. 14)

In the MT-based MLE programs we can make useful adjustments if we know what has happened with the innovation yesterday. Our efforts at research and evaluation are integral to keeping pace with the kind of rapid change that is occurring worldwide. And this is particularly important if our unspoken goal is to be able to know what we are seeing. In a rapidly changing world, priority needs to be given to new and innovative designs for research and evaluation that can help a wide range of stakeholders see what is there. My hunch (hypothesis) is that what is there in the MT-based MLE project is well worth seeing.

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