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An Evaluation of Language education models in Africa : Findings & Recommendations from the UNESCO Institute for Education-ADEA stocktaking report on *Lingua Materna e Ensino Bilingue* in Africa

Kathleen Heugh

Human Sciences Research Council

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This paper is primarily informed by research undertaken by the author for a larger report on Mother-tongue and Bilingual Education in Sub-Saharan Africa. The Report had been commissioned by the UNESCO-Institute for Education (UIE) and the Association for the Development of Education in Africa (ADEA) in late 2004, and finalised for the ADEA Biennale in Libreville, Gabon, 27-31 March 2006 (Heugh 2006a, b).

The full UIE-ADEA Report (Alidou et al 2006) acknowledges that many programmes, initiated by well-intentioned organizations, have established early literacy, mother tongue and bilingual education programmes in African languages across the continent. The considerable efforts undertaken are valuable and contribute towards a growing body of work which supports the development and use of indigenous languages in Africa. They contribute positively towards the better provision of education for children as well as the international frameworks for education included in UNESCO's Millennium Development Goals and the Education for All goals. Many non-government organizations (NGOs), development and co-operation agencies, and governments, have assisted in the establishment of early literacy and bilingual education programmes. This work includes the transcription of languages which have sometimes never before been used in education and in other instances includes the development of reading and learning materials in African languages.

More than 50 years ago, at the time of the publication of the now famous *Report on the Use of the Vernacular Languages in Education* (UNESCO 1953), it was believed that as long as children had two or three years of mother tongue (or local language) education, they would be able to change to the international language and use this language as the medium of instruction by the third or fourth year of school. Much educational innovation in Africa has been driven by this educational assumption since then. In many countries the large number of languages has made this a difficult objective to reach. In other countries, with fewer indigenous languages, the principle has been easier to establish in practice.

The different colonial administrations in Africa have left their imprint on the educational landscape. It suited the style of the British administration to support the implementation of early mother tongue education. Before 1953, in the former British colonies, the missionaries had already established a practice of between four and six years of African language education in primary school, followed by transition to English medium. The French, Spanish and Portuguese administrations, however, had never been in favour of the use of African languages in education and preferred children to be plunged straight into the international language. Not surprisingly, for reasons which we now understand, few children in these countries ever reached secondary school. Nevertheless, as mentioned above, there has been a number of early literacy programmes developed for use in local African languages in countries like Niger, Mali and Mozambique.

The UIE-ADEA study, was commissioned because, despite the vast sums of money invested in various literacy and language education programmes in African countries since independence, there has been a low rate of return on the investment. Low literacy levels and low through rate to secondary school continues. What the UIE-ADEA Report shows is that with the benefit of hindsight, and new research, we can now see that the principles established for early mother tongue education (UNESCO 1953), have to be reviewed and taken further.

What we see is that early education in African languages is a good thing. However, if education benefits are to be of lasting value, the new research shows us that mother-tongue/L1 literacy and mother-tongue medium education (MTE) needs to continue at least to the end of the sixth year/grade 6, and preferably longer. Early literacy in mother tongue needs to be developed beyond the decoding of stories or narrative texts in the first three to four years of school. Mother tongue (or language best known to the child) literacy and oral language development, needs to be developed to the level that written texts and oral language proficiency can be used for learning and teaching mathematics, science, history, and geography. We now know that early L1 literacy has to be strengthened in the middle and upper primary and secondary school years so that learners can develop their reading and writing skills well enough to use these effectively across the whole curriculum. They need to develop what is known as academic literacy if they are to succeed in formal educational contexts.

In other words, the learner needs to be able to comprehend and construct the kind of written language required for learning at upper levels of primary and secondary school. In African countries, because of the high profile of the international languages, one of these languages is usually regarded as the target language. If a switch in medium of instruction occurs before learners have developed high levels of written and spoken proficiency in the mother tongue (L1) and also in the second language (L2), then the learning process across the curriculum will be interrupted. Learners will fall behind their peers who have L1 or MTE throughout in other education systems.

In Africa, all learners need to have very good teaching of the language of high economic, educational and political status in the country (the L2 / foreign language / international language of wider communication) as a subject, so that it becomes possible to use the L2 as a **complementary** medium of learning by the second half of secondary school. It needs to be emphasised that a switch from MTE to L2 medium only is not, contrary to popular wisdom, necessary or the best way to ensure the highest level of proficiency in the L2.

The research evidence from which we are able to draw in the early years of the 21st century provides us with a more nuanced understanding of language acquisition processes in the home and local community as well as the more structured processes which occur in and are expected in the formal education systems of countries worldwide. Informal oral language development of children, who are able to learn conversational skills in second, third or more languages quickly and easily, is not the same as the learning of a second language for formal education. Informal second language learning occurs very differently from the learning of language for the kind of educational challenges of the school curriculum. Children's ability to pick up and use oral speech competently and quickly while at play is often misunderstood to mean that they will be able to learn to use cognitively demanding decontextualised language for formal education in school settings quickly and easily. Unfortunately, this is a misconception. Children and adults take longer to develop the kind of language and literacy proficiency required of the formal education system than it takes them to learn enough spoken language for informal conversational purposes.

The developmental process necessary for the high level cognitive language proficiency required for successful learning across the school curriculum, takes longer than most people expect. The development of the type of academic literacy necessary for reading and writing about science, history and geography, or understanding problems in mathematics, becomes increasingly complex and difficult from the fourth year of school onwards. This is the case for most children worldwide and who have MTE. It is much more arduous if children are expected to do this in a language they barely know.

At the time of the UNESCO Report of 1953, as mentioned above, it was commonly thought that if children had mother tongue literacy and education for the first few years of school (2 – 3 years), and at the same time also learnt the international language of wider communication (ILWC) as a subject, they would develop sufficiently strong literacy skills to be able to switch from mother tongue medium to L2 medium by about grade 3 or 4. We now know, that by the end of the 3rd year of school, most children in well-resourced African settings would have only a small fraction of the language skills in the

ILWC/L2 that they need for learning across the curriculum. For example, we know from South African data that by the end of the third year of school, learners from African language speaking communities may have learnt to understand and read about 500 words in English. They are then expected to switch to English medium in the fourth year where the curriculum assumes that they would be able to read and understand about 5 000 words in English. In other words, children who switch medium at this point only have about 10% of the vocabulary they need to manage to continue learning without interruption. If learners do not understand and cannot use up to 90% of the vocabulary they need, it means that L2 learners will, after the 4th year of school, rapidly fall behind learners who continue in their L1 (see Table 1 below).

System-wide, multi-country studies, such as the second Southern [and Eastern] Africa Consortium for Monitoring Educational Quality (SACMEQ II) (Mothibeli 2005), show that by grade 6 more than 55% of students, in 14 Southern and Eastern Africa countries, have not attained the minimal level of literacy required to remain in the school system. Only 14, 6% have reached the desired level of literacy. The investment required to keep students in the system to this point, is therefore not yielding a good return. It is a poor investment. It becomes a waste of expenditure to retain students in the system after grade 6 if they have not reached the minimal level of literacy achievement at this point. The current literacy and language models in the region are so ineffectual that they could result in at least 55% of students leaving school by the end of grade 6 as unsuccessful learners. This undermines the Millennium Development Goals and UNESCO's Education for All (EFA) agendas.

There are of course other reasons which compound the challenges to successful education in Africa. These include poverty, hunger and increasingly the impact of HIV/AIDS. We can now see, however, from the closely monitored longitudinal studies of students in the USA (Ramirez et al 1991; Thomas & Collier 1997, 2002) that even where poverty, hunger and incidence of HIV/AIDS are far less common, students in programmes similar to those in Africa (early-exit from mother tongue to English/French/Portuguese) can only

be expected to reach an achievement of about 37 – 38,5% in the language of learning by grade 6.

We also know, from research in second language acquisition and psycholinguistics conducted in many other parts of the world that this is not a phenomenon peculiar to Africa.

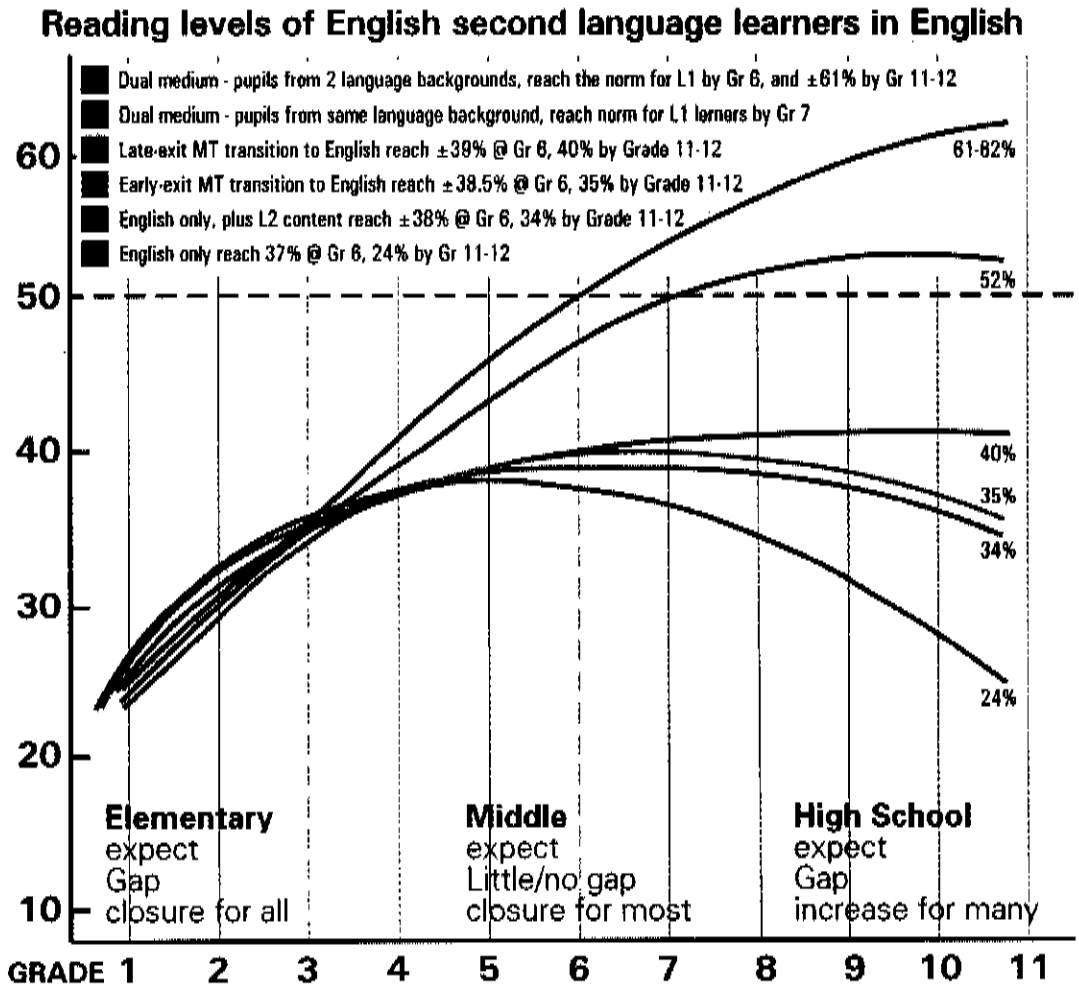
The UIE-ADEA Report drew studies and data from the African continent and compared these with longitudinal studies from elsewhere (e.g. Ramirez et al 1991; Thomas & Collier 1997, 2002). Early research on different forms of mother tongue and bilingual education in South Africa (Malherbe 1943), the Six Year Primary Project in Ife, Nigeria conducted in the 1970s (e.g. Bamgbose 1984, 2001; Fafunwa 1990), and the early and later findings of achievement of learners in the bilingual programmes in Niger (Halaoui 2003) and elsewhere were re-examined in the light of the most recent of the Thomas & Collier (2002) findings. They were also re-examined in the light of the SACMEQ II study (Mothibeli 2005) mentioned above and more recent South African system-wide research of grade 6 learners (DoE 2005).

Briefly, the earlier African research (e.g. Malherbe 1943, Bamgbose 1984, Fafunwa 1990, amongst many others) has shown that African languages can be used as languages of learning beyond grades 3 and that learners perform far better when they have six or more years of African language medium than if they have only three or fewer years of mother tongue education. The later research data from the USA has confirmed this.

In Table 1 below, the results of a longitudinal study of about 220 000 second language speakers of English in different types of language education programmes in schools in the USA are shown (Thomas & Collier 1997, 53).[1] This graph is particularly interesting, because data from African studies show that our learners are demonstrating similar trends in performance to those in the USA. The Thomas & Collier graphs show that learners in

[1] Graph reproduced and adapted with permission from Wayne Thomas and Virginia Collier (1997:53). Adaptation courtesy of Marise Taljaard, HSRC.

all well-resourced programmes, whether straight for the second language, or early mother tongue followed by transition to English, or even dual medium (L1 plus L2 medium), show similar rates of achievement in the first three years of school. The differences amongst learner achievement levels starts to become clear mid-way through the third year, becoming more evident by the fourth year. The gaps of performance across the different programmes increase dramatically by the sixth year. The dotted line along the 50th percentile represents the national average achievement level per grade of learners who study through their first language, English in the USA.



[graphs adapted from: Thomas & Collier, 1997: 53; consistent with findings in SADC and South African studies, 2002 - 2005]

Table 1: Graph adapted from Thomas & Collier (1997: 53)

The only L2 learners of English who catch up to their peers who are L1 speakers of English are those who are in dual medium bilingual education programmes. Dual medium programmes retain the mother tongue (L1) as a medium of instruction for at least 50% of the day, or 50% of the curriculum, for six years or longer. These learners catch up with their peers somewhere between the sixth and seventh grade.

Students who start off in the L1 and then change over to English medium by the fifth to sixth grade (late-exit transition to English) may achieve, on average, about 40% in English by the end of secondary school. Students who are in the early-exit transition to English by the third to fourth grade, are likely to achieve only about 35% in English, at the end of secondary, when compared with their peers who are L1 speakers of English. Learners who have only second language instruction fall so far behind, that their average achievement is on the 24th percentile.

In the North American studies, learners' performance was tracked only in schools and programmes which were well-functioning and where teachers were well-qualified and there were sufficient learning materials available. Most school settings in African countries cannot match these conditions, so we should expect that our learners would not be able to perform as well as those in the USA.

A recent national system-wide study of grade 6 learners in South Africa allows researchers an opportunity to compare the national average score for language at grade 6 with that of second language learners in the USA. The South African grade 6 national average for language is 38%, almost spot on the 38,5% expected level at this point for second language learners in the USA. However, in South Africa, while 80% of learners are in the early-exit transition to English programmes, 20% of learners are in L1 programmes. When the L1 learners are disaggregated from the data set, the L2 learners on average are shown to reach only the 32nd percentile. This is to be expected, since South African schools where the majority of L2 learners study, are poorly resourced. In Table 2 below, learner performance in the language of learning and teaching (medium of

instruction) is shown per province. The dotted line shows the achievement of learners who study in their L1, whereas the solid line shows achievement of learners studying through their L2. The gap in achievement ranges from 18 percent in the Northern Cape province and 49% in the Free State province.

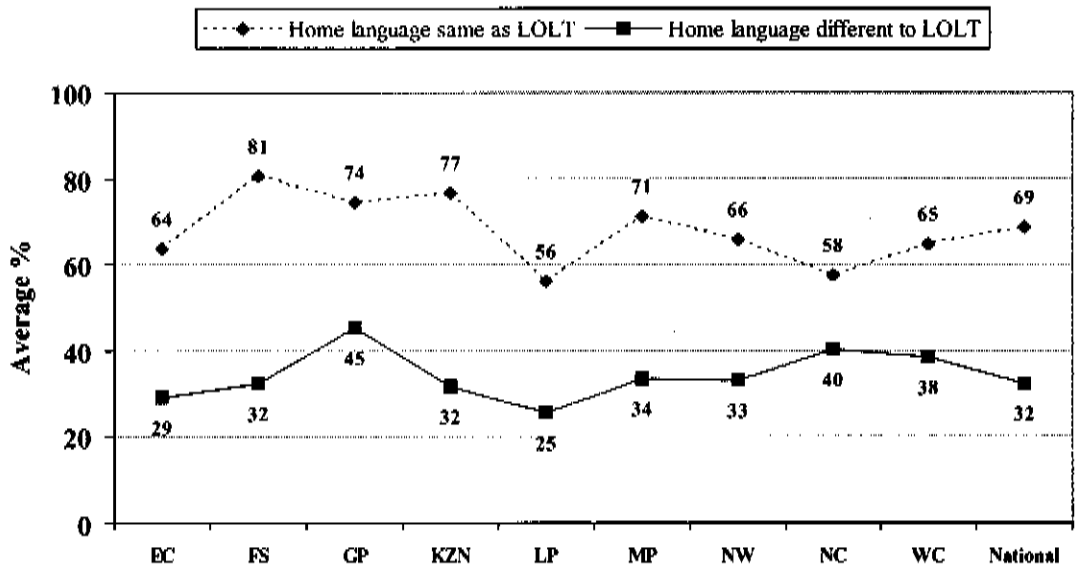


Table 2 Language (LOLT) achievement by home language and province (DoE 2005: 77)

In Table 3 below, one can see that not only is learner achievement in the language of learning and teaching weak, but that the achievement in mathematics is even weaker. On average, learners achieve 10 - 11% less for mathematics in South Africa than they do for language. The medium to long term implication of this is that if learners are not developing strong academic literacy and language skills, they are unlikely to be able to develop adequate expertise in mathematics or science.

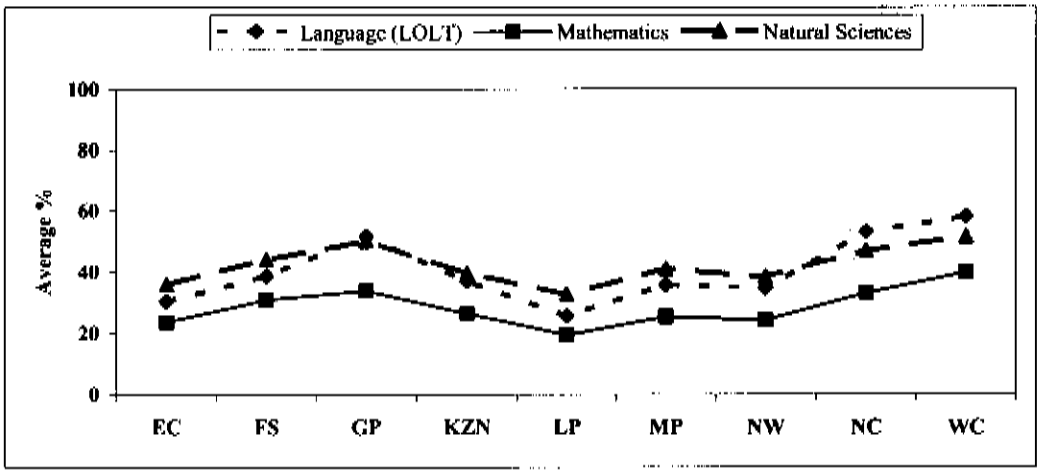


Table 3: Learner scores by learning area and province (DoE 2005: 73)

Why have the stakeholders continued to implement models which cannot work?

For the last twenty to thirty years, language education specialists in the institutions of higher education in many Southern Africa countries have had their training in the field of applied linguistics, and especially a sub-branch of this field, namely, second language pedagogy (methodology). The major influences in the field come from the second language (English Second Language, Portuguese Second Language, French Second Language etc) industry in Europe.

Language education models used in African settings have their origins in the second language programmes designed in Europe for students who learn the second language as a subject only. They were designed, originally, to teach students conversational skills, writing tasks (letters, descriptive paragraphs and short essays) and some literature. These programmes were never designed to prepare students to learn mathematics, science, geography or history through the second language. They were certainly not designed to prepare school pupils in African countries to learn through French, Portuguese, Spanish or English. However, it is these programmes and the training for the teaching of these programmes which have become the prototypes for programmes in Africa.

A second reason for concern in regard to the programmes which are now being used in Africa is that the programme designers have not kept up to date with contemporary research from a related field of enquiry, namely, psycholinguistics and particularly in the area of second language acquisition. Specifically, the branch of applied linguistics which has gained prominence in the region has not been sufficiently informed about the relationship amongst: cognitive development of children; first and second language learning; and understanding how children use language to learn all areas of the curriculum. Finally, because these programme designs do not originate in African settings they are not sensitive to and therefore do not accommodate the multilingual environments in which African children live. The theoreticians and practitioners, often trained in Europe, have not accommodated the ways in which children who grow up in multilingual environments learn languages in Africa. The formal school programmes therefore have not built on the multilingual skills which children bring into school settings.

Knowledge of psycholinguistics and second language acquisition, furthermore, shows that it is almost impossible for pupils to learn enough of the second language in three years in order to switch to second language medium of instruction by year 4. In countries where there are well-trained teachers, as well as sufficient classrooms and school books, children usually need between 6-8 years to learn a second language before they could use it as a medium. This means they should not switch language medium before grade 7 under optimal conditions. The Six Year Primary Project in Ife, Nigeria, conducted during the 1970s demonstrates this clearly. In less well-resourced situations, the research evidence shows that it may be possible to switch medium in year or grade 9. Data from South Africa shows the educational efficiency of eight years of mother tongue education followed by transition to English, in less well-resourced conditions between the 1950s and mid 1970s. (Unfortunately, because this system was operationalised during apartheid, scholars found it difficult, until recently, to separate the educational benefits from the unacceptable political policy of the day.)

Switching medium of instruction too soon, i.e. before learners have enough second language and second language academic literacy, results in educational failure as the studies demonstrate. The bottom line is that the wrong programmes have been used across Africa. They were not designed for our learners and they cannot serve them well.

Why have the stakeholders not seen the medium to long term effects different language education models in Africa before now?

Most evaluations of literacy, mother tongue and bilingual programmes in Africa have monitored the programmes over the first 1-3 years of primary school. Most education systems do not function very well for various reasons in African countries. The reasons include poor teacher preparedness, lack of classrooms and materials etc. Therefore when new, experimental programmes are introduced, they will inevitably appear to have better results or show improvement when compared with the less well functioning mainstream state school system. There are, therefore, countless evaluations of early mother tongue literacy and early transition to second language programmes in nearly every country in Africa. All of them claim that their particular programme is successful, and the evaluations conducted amongst learners in years 1-3 will show that the programmes are successful. Based on this evidence, further investment in the programme continues.

However, as is evident in Table 1 above, most programmes will show the same kind of progress during years or grades 1-3. The differences only emerge from year 4 onwards. It is only the evaluation of programmes which shows the medium to longer term effect on learner performance, by years 5-6 or even later, that will really indicate which programmes have worked and which do not really work.

The recent SACMEQ 11 and South African grade 6 studies show the longer term effect of early exit transitional bilingual programmes. They do not work well in Southern Africa. The Thomas & Collier (1997, 2002) studies show that these programmes do not work well in the USA where the conditions are far more favourable, and therefore it is

inevitable that they will not work well in Africa. The newly available African data confirm this.

What are the lessons we need to take from the most recent research in Africa and elsewhere?

Evaluations of programmes can only show what the medium to long term effect on learners will be after five or more years. Evaluations which claim to show learner achievement earlier than grade or year 4 cannot be used as the basis upon which to expand or scale-up programme delivery. The data at this stage is not stable and should not be used as a significant basis for further support or implementation. Where stakeholders require evaluations of programmes which they support, great care needs to be taken to ensure that the evaluators have the necessary expertise and are also able to offer unbiased and reliable evaluations. Evaluators contracted to assess literacy and language programmes in African countries should be persons with contemporary expertise in:

- second language acquisition or psycholinguistics;
- second language pedagogy, programme design and applied linguistics;
- literacy development at early primary, intermediate and secondary levels of school; and
- adequate knowledge of the practicalities of school education in multilingual African contexts.

Evaluators who do not have this range of expertise are unlikely to be able to produce studies which are reliable and valid for the complex contexts of African countries.

Issues which are highlighted and addressed more comprehensively in the main UIE-ADEA Report include the following recommendations:

- Teacher education programmes should focus on upgrading teachers' knowledge of the content area of the curriculum.
- Teacher education programmes should include the upgrading of teachers' own academic literacy in a relevant local language and also in the relevant international language (Portuguese for Mozambique).

- A re-emphasis of psycholinguistics and second language acquisition programmes at institutions of higher education.
- A recognition that the field of applied linguistics as it has become interpreted in Southern Africa, focuses too much on the use of second language pedagogy as developed in Europe rather than second language pedagogy developed for African settings.
- That work which has already gone towards developing African languages for use in years 1-3 needs to be gradually expanded to reach at least grade 6.
- That achievable targets and careful timeframes need to be set in order to address the above.

Governments and other stakeholders that have invested in, or that are in the process of investing in, African language programmes for the first two to three years of school followed by a switch to French, Portuguese, Spanish or English are likely to be disappointed by this research. It shows very clearly that two to three years of the use of African languages is not enough. Further investment is required, and for at least six years of primary education. The main report also demonstrates that the costs are unlikely to be as high as most stakeholders fear. Lower repeater rates and higher throughput to secondary education are likely to have economic rewards which exceed the initial investment.

References:

Alidou, H., Boly, A., Brock-Utne, B., Diallo Y. S., Heugh, K., & Wolff, H.E. 2006. *Optimizing Learning and Education in Africa – the Language Factor. A Stock-taking Research on Mother Tongue and Bilingual Education in Sub-Saharan Africa*. Paris: Association for the Development of Education in Africa (ADEA). http://www.adeanet.org/biennial-2006/doc/document/B3_1_MTBLE_en.pdf

Bamgbose, Ayo.1984. Introduction: The Changing Role of the Mother Tongue in Education. In *Mother Tongue Education. The West African Experience*, ed. by Ayo Bamgbose, 9-26. London: Hodder and Stoughton; Paris: UNESCO.

Bamgbose, Ayo. 2000. *Language and exclusion: The consequences of language policies in Africa*. Münster, Hamburg & London: Lit Verlag.

Fafunwa, A.B. 1990. Who is afraid of the use of African languages in Education? Contribution to: Propos africains sur l'éducation pour tous. *Sélection d'articles présentés à l'occasion de la consultation régionale sur l'Education Pour Tous*. Dakar: UNESCO-UNICEF.

Halaoui, Nazam. 2003. Relevance of Education: Adapting Curricula and Use of African Languages. Background paper for the ADEA Biennale 2003, Grand Baie, Mauritius, 3-6 December.

Heugh, K. 2006a. Theory and Practice – Language Education Models in Africa: research, design, decision-making, and outcomes. In: Alidou, H., Boly, A., Brock-Utne, B., Diallo Y. S., Heugh, K., & Wolff, H.E. *Optimizing Learning and Education in Africa – the Language Factor. A Stock-taking Research on Mother Tongue and Bilingual Education in Sub-Saharan Africa,* 56- 84. Paris: Association for the Development of Education in Africa (ADEA).

Heugh, K. 2006b. Cost Implications of the Provision of Mother Tongue and Strong Bilingual Models of Education in Africa. In: In: Alidou, H., Boly, A., Brock-Utne, B., Diallo Y. S., Heugh, K., & Wolff, H.E. *Optimizing Learning and Education in Africa – the Language Factor. A Stock-taking Research on Mother Tongue and Bilingual Education in Sub-Saharan Africa,* 138-156. Paris: Association for the Development of Education in Africa (ADEA).

Malherbe, E.G. 1943. *The Bilingual School.* Johannesburg: CNA.

Mothibeli, A. 2005. Cross-Country achievement results from the SCAMEQ 11 Project – 2000 to 2002. A quantitative analysis of education systems in Southern and Eastern Africa. *Edusource Data News*. No. 49. October. Johannesburg: The Education Foundation Trust.

Ramirez D, Yuen S, Ramey D, Pasta D & Billings D 1991 *Final Report: Longitudinal Study of Structured English Immersion Strategy, Early-exit and Late-exit Transitional Bilingual Education Programs for Language-minority Children.* San Mateo, CA: Aguirre International.

Thomas, W & Collier, V 1997 *School Effectiveness for language minority students (NCBE Resource Collection Series No.9).* Washington, DC: National Clearinghouse for Bilingual Education.

Thomas, W & Collier, V 2002 *A National Study of School Effectiveness for Language minority students' long-term academic achievement.* Santa Cruz, CA and Washington, DC: Center for Research on Education, Diversity & Excellence. http://www.crede.ucsc.edu/research//llaa/1.1_final.html

UNESCO 1953. *The Report on the Use of Vernacular Languages in Education.* Paris: UNESCO.