

“But English is the language of science and technology” – the language of instruction in Africa – with a special look at Tanzania

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Abstract

This paper discusses the following four fallacies often heard in the discussion about language of instruction in Africa :

1. To get good jobs one needs to command a European language well
2. Most of the African languages have not developed the scientific terminology we need in a modern and advanced society
3. There are so high costs involved in translating learning material into African languages that the poverty stricken continent cannot afford it
4. Since there are so many languages spoken in Africa, it is not possible to agree on one or a couple of African languages to use and therefore it is better to retain the colonial languages.

These arguments are looked at one by one and often illustrated through the situation in Tanzania. An account on the current debate on the issue in Tanzania is also given.

To get good jobs one needs to command English well

In November 2001 I visited some secondary schools in the Dar es Salaam region in Tanzania. In my field notes I describe among other observations an observation in a Form II class that had commerce with a male teacher. He made frequent use of Kiswahili to make students understand. He would say the sentences in English very slowly first and then repeat what he had said more quickly, but in Kiswahili this time. On one occasion, when he had not translated , one of the students asked him a question in Kiswahili and he answered in Kiswahili and at some length. On the blackboard he wrote daily sales four different places and always with two lls. He seemed like a very good teacher, the students were eager and he was very quick to praise them (“excellent girl”, “excellent boy”). Here is an excerpt from my field notes:

After some time my attention was drawn to this one student who asked the teacher a question in Kiswahili. I noticed quickly that when the teacher returned to English, this student was sitting there passive, did not write down anything that was said but tried to copy notes from the blackboard. He did not answer any questions posed in English. Neither did he ask question himself in English. Apart from asking the teacher a question in Kiswahili he twice asked a fellow student in Kiswahili what the teacher had been saying. When the lesson was over and there was a break, I

approached him and the following conversation took place between us (my translation into English of a conversation which took place in Kiswahili):

I: I noticed that you had great difficulties following the teaching when it took place in English while you seemed to follow well when the teacher for a short while spoke Kiswahili.

The student: That is true. I have problems with English. I understand very little of what the teacher is saying when he speaks English.

I : Would it not then be much better for you if the teaching took place in Kiswahili?

The student: Of course. Then I would understand everything the teacher was saying.

I: Would it then not be best if one would switch the language of instruction in secondary school in Tanzania from English to Kiswahili so that students like you would understand what the teacher was saying? Then English would not be a barrier to learning commerce for instance like it looked like it was not only for you but for most of the students in the class?

The student: No, one cannot do that for English is the language of science and technology. To get good jobs in this country one needs to command English well. I need to learn English. Kiswahili I know already.

The student is here mixing up several issues. First of all he does not make the distinction between learning a language, in this case a foreign language, and using a language as a vehicle for learning subject matter. He erroneously thinks that the best way to learn a foreign language is to have the language as a language of instruction. He commits what Robert Phillipson (1992) calls “the maximum exposure fallacy” thinking that the more you hear the language around you the easier you learn it. This is definitely not so. It depends on in which contexts you are exposed to the language. If it is in a natural setting where you hear it all day around you and have ample opportunity to practice it, maximum exposure will help you learn the language. If it, however, is in a school setting where the language is one you do not normally hear around you, using it as a language of instruction will make it a barrier to knowledge of subject matter and will *not* contribute to your learning the foreign language. Especially not if you also hear it from teachers who do not command it well.

In Tanzania English is a foreign language— a language children are not exposed much to outside of school – yet it is the language of instruction in secondary and tertiary education. I agree with Holmarsdottir (2003) who has found the distinction made by Ringbom (1987) between a second language and a foreign language useful. Ringbom notes that in the situation of second language acquisition the language is spoken in the *immediate environment* [emphasis added] of the language learner and in this environment the learner has positive opportunities to use the language in natural communicative situations. Second language acquisition may or may not be supplemented by classroom

	<i>Foreign Language Learning</i>	<i>Second Language Learning</i>
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teaching. On the other hand, in the foreign language-learning context the language is *not* spoken in the learner's immediate environment and although the mass media may provide opportunities for practicing receptive skills of the language, there is little or no opportunity for the learner to use the language in a natural communicative situation .

Based on this distinction Holmarsdottir has made the following model

Foreign Language Learning vs. Second Language Learning

TIME	Limited time generally confined to school only.	Unlimited time for both consciousness and unconsciousness learning.
INPUT	Limited quantity of highly selected and structured input.	Rich and varied input, but generally unstructured.
TEACHER'S ROLE	Teacher plays a major role with little or no peer learning.	Peers play a major role. If formal learning is also involved it is of secondary importance.
SKILLS	Emphasis on written skills and test taking ability. Oral skills are less important as there is little or no opportunity to practice.	Oral skills are essential and natural speech comprehension is significant.

Using the table above for our reflection we see that it fits the situation of Tanzania well. For those Tanzanians for whom Kiswahili is not the first language¹, it is a second language, a language they hear around them and use when interacting in the larger society. It is the language of the lower courts, of the various ministries, the language used in the post offices and the banks. It is the language they hear frequently on television and radio. Most of the newspapers sold in Tanzania are written in Kiswahili. Many children in Tanzania, who may speak a vernacular language at home, speak Kiswahili with their peers. English is to most Tanzanians a truly foreign language that they do not feel

1. In 1997 the Tanzanian researcher Grace Puja (2001) interviewed 34 second year female students as well as 22 university teachers in connection with her Ph.D.research.. She had written her interview guide in English since she was taking her Ph.D. in Canada and had expected to conduct the research in English. Her interview subjects had, after all, had English as the language of instruction for eight years. She found that most of the Tanzanian female undergraduates that she interviewed asked if they could have the interview in Kiswahili. She then let them choose the language they would like to be interviewed in and only 8 of the 34 subjects chose to be interviewed in English, the rest preferred Kiswahili. Among the eight who chose English were several of Asian descent. Most of the university teachers Puja interviewed stated that most of their students are not competent in either spoken or written English. This is an observation she made during her field work:

During class observations and during my visits at the three University campuses, I noted that most students (male and female) do not speak in class [where the medium of instruction is English] but as soon as the class is over, both teachers and students switch to Kiswahili and communicate freely. (Puja,2002:1)

comfortable communicating in even after having had it for nine years as language of instruction (see a discussion of study by Puja, 2001, 2003)2

One of the Tanzanian participants in the LOITASA3 project group, dr. Martha Qorro (2003), is herself a Senior Lecturer in English in the Department of Linguistics and Foreign Languages at the University of Dar es Salaam. The reason why she is a great promoter of the use of Kiswahili as the language of instruction in Tanzanian secondary schools has to do with the fact that she, as an English teacher, has seen that children neither learn English (they learn bad and incorrect English) nor subject matter. The English language has become a barrier to knowledge.

In the English language newspaper *Guardian* in Tanzania the editors started a Kiswahili medium debate in the spring of 2002. In an editorial of 30th April 2002 the editor openly

2 The number of children having Kiswahili as the first language is growing rapidly in Tanzania. Although only two of the 73 (3%) University students in the Puja (2001) study identified themselves as Swahili, over 63% of the participants stated that they speak Kiswahili most of the time in their homes.. Moreover, only 12% of the participants stated that they speak Kichagga at home although 26 % of the participants indicated that they had Chagga backgrounds. Only 2 of the 73 participants who responded to the questionnaire stated that they speak English most of the time in their homes

3 LOITASA (Language of Instruction in Tanzania and South Africa) is a NUFU (Norwegian University Fund) project involving partners from the University of Dar es Salaam in Tanzania, University of Western Cape in South Africa and the University of Oslo in Norway. The LOITASA project began in January 2002 and will continue through 2006. NUFU projects typically involve both a research part and a staff development part. The research part of the LOITASA project consists of two elements, one descriptive element and one more action oriented one. The description we are seeking to provide in the first book from the project (Brock-Utne, Desai, Qorro (eds.),2003), is a description of the current language in education situation in Tanzania and South Africa. What are the current policies regarding the language of instruction in the two countries? To what degree are the policies being implemented? What forces are working to have the policies changed and in what direction? What is the underlying reasoning behind the current policies? How have the policies developed over time? How does the language in education policy actually work in the classrooms of Tanzania and South Africa? In the more action-oriented part of our project we are seeking to carry out an experimental pilot project in the first two grades of secondary school in Tanzania and in grades four to six of primary school in South Africa. In the experiment we shall have some classes being taught Geography and Biology through the medium of Kiswahili in Tanzania and Geography and Science through the medium of Xhosa in South Africa. The control classes will continue to be taught through the medium of English. We have been using the first year of our project - 2002 - to prepare material for the experimental classes in Kiswahili and Xhosa and for negotiations with decision-makers within the education sector in the two countries to seek their permission to carry out the experiment. We have both master's and doctoral students from Tanzania , Norway and South Africa working with us on the project.

warns Kiswahili medium advocates. On May 29th Martha Qorro gave a substantial answer to the editor based on her own observations and research.

Here are some quotes from her answer:

In terms of language use in public secondary schools in Tanzania most students and the majority of teachers do not understand English. For example, the headmaster of one of the secondary schools once admitted that, of the 45 teachers in his school only 3 understood English well and used it correctly. This in effect means that the other 42 teachers used incorrect English in their teaching. This is not an isolated case. Those who have been working closely with secondary school classroom situations will agree with me that this situation prevails in most public secondary schools in Tanzania.

Dr.Qorro claims that it is the prevailing situation in the secondary schools in Tanzania, where most teachers teach incorrect English, that forces her to argue for the change of medium of instruction to Kiswahili. She feels confident that students can, in fact, learn English better than is currently the case when it is taught well as a subject, and eliminated as the medium of instruction. In her own words:

The use of English as a medium actually defeats the whole purpose of teaching English language. For example, let us suppose that, in the school mentioned above the 3 teachers who use English correctly are the teachers of English language, and the other 42 are teachers of subjects other than English. Is it not the case that the efforts of the 3 teachers of English are likely to be eroded by the 42 teachers who use incorrect English in teaching their subjects? If we want to improve the teaching and learning of English in Tanzanian secondary schools, I believe, that has to include the elimination of incorrect English to which students have been exposed from the time they began learning it (Qorro,2003).

In her article Martha Qorro argues for the elimination of incorrect English by not using it as a medium of instruction. She knows that many people are put off by this suggestion because of the belief that by using it as a medium of instruction students would master English better. Though she agrees that mastering English is important she feels that the best way to do this is through improved teaching of English language as a subject and not to the use of English as a medium.

And then she adds:

Not everyone who recommends a change of medium of instruction to Kiswahili is a Kiswahili Professor. I for one am *not* a Kiswahili Professor, I have been teaching English for the last 25 years, and to me a change to Kiswahili medium means:

- Eliminating the huge amount of incorrect English to which our secondary school students are exposed.
- Enhancing students' understanding of the contents of their subjects and hence creating grounds on which they can build their learning of English and other languages.
- Eliminating the false dependence on English medium as a way of teaching/learning English, addressing and evaluating the problems of teaching English.
- Impressing on all those concerned that English language teaching is a specialized field just like History, Geography, Physics, Mathematics, etc. It is thus unreasonable and sometimes insulting to teachers of English when it is assumed that teachers of all subjects can assist in the teaching of English.

The debate on the language of instruction in Tanzania has increased markedly through 2003. During a couple of weeks in the fall of 2003 I had the opportunity of following the debate rather closely myself. The Kiswahili newspaper *Rai*, which is a weekly newspaper, appearing each Thursday had something on the language of instruction issue every week I was there. *Rai* had also on three consecutive Thursdays in July carried three articles on the language issue from the Tanzanian project leader of LOITASA Galabawa (2003a, 2003b and 2003 c). In the first days of October interviews with the Minister of Education Joseph Mungai and the LOITASA researcher Prof.F.Senkoro, who is the Head of the Department of Kiswahili, were sent on the Kiswahili program from BBC London. In the interviews Minister Mungai repeated that it was his firm opinion that parents did not want Kiswahili to be used as the language of instruction in secondary school. He drew this conclusion based on the fact that he daily got applications for starting new private primary schools in Tanzania with English as the language of instruction but did not get any applications from parents who wanted to open a private secondary school with Kiswahili as the language of instruction.⁴ . Professor Senkoro stressed the point that those who argue for the use of Kiswahili as the language of instruction are not saying that

⁴ These private primary schools are built to make business. Those who build them find that they can charge higher school fees from parents if they are advertised as English medium schools. From a whole number of well informed educationists in Dar es Salaam I have heard that the Minister of Education himself owns such a private primary school with English as the language of instruction. The official policy of Tanzania as lead down in the Education and Training policy of 1995 stats that Kiswahili should e the language of instruction in primary schools in Tanzania.

children should not also learn English well. On the contrary they are of the opinion – and also have research backing their view - that students will learn English better if they are taught the language as a school subject. These interviews were resent without comments by BBC after the Prime Minister had come out in favour of Kiswahili.

The LOITASA group in Dar had a meeting with Minister Joseph Mungai in December 2002 to seek permission for conducting a two year experiment in FORM I and II having students being taught in Kiswahili in some subjects and in some classes . The Minister put his foot down. At the same time the Chancellor at Mzumbe University in Morogoro (earlier IDM) former foreign Minister Mr.Kaduma gave a speech to the student body at Mzumbe University announcing that that university would now make plans to shift the language of instruction to Kiswahili. I visited Mzumbe University on the 15th of October 2003 and spoke with Vice Chancellor Warioba who could tell me that the group of students, group of teachers and group of administrative staff had held separate meetings to discuss the language of instruction issue and in all of the groups as well as in the Senate they had decided they wanted to switch to Kiswahili. They still did not dare to do it because they are a government institution and the government has not made a final decision yet. Also Hon.Pius Ng'wandu the Minister of Higher Education, Science and Technology has not voiced his opinion.⁵

The frontpage of *Rai* on Thursday 9th of October carried a picture of the Minister Mungai. Underneath the picture one could read: “Kauli ya Mungai kuhusu Kiswahili inatisha (Mungai’s opinions are dangerous/threatening). The front-page article refers

⁵ VC Warioba was, however, of the opinion that preparations for the switch to Kiswahili should be started by translating books and creating a communication skills center where Kiswahili would be taught also to foreigners and the language further refined and developed . When I had a talk with Chancellor Kaduma on Wednesday 21st of October he said that he felt that Mzumbe University should just start teaching in Kiswahili. The universities actually had great autonomy that they should make use of. He said that Nyerere as the Chancellor of the University of Dar es Salaam had never mixed into university affairs. He said Mzumbe now desperately needed help to get books written in Kiswahili and other books translated into Kiswahili. He also saw the communication skills center as very important and was of the opinion that after some initial help that center would be income generating. There was a need for good Kiswahili teachers to come and lead the center.

readers to page 7 in the newspaper where two readers have articles arguing for the use of Kiswahili as language of instruction in secondary and tertiary education in Tanzania. Joshua Katondo (2003) from Tabora has called his article “Kauli ya Mungai kuhusu Kiswahili inakatisha tama (the opinions of Mungai go against our expectations)” He starts by citing Mungai: ”Kiswahili hakifai kabisa kutumika kama lugha ya kufundishia”. (Translated by me: Kiswahili is in no position at all to be used as language of instruction.) And he continues: Haya ni maneno makali yaliyotamkwa na waziri aliyepewa dhamana ya kuhakikisha elimu na utamaduni vinaendelezwa na kuimarishwa. (These are the strong words which were uttered by the Minister who is given the responsibility to see to it that education and culture continue and become strengthened. (my translation) He goes on to quote Nyerere from 1962 where he stressed the importance of Tanzanian culture and language. The writer asks if 40 years are not enough to make Kiswahili into a language to be used in secondary and higher education - how many years does Mungai think it takes? Maana, mtoto anakuwa na uwezo wa kutosha kutumia lugha yake vizuri sana akiwa na miaka mitano. Je, sisi tunahitaji miaka mingapi? (A child has enough sense to be able to use its language very well when s/he is five years old. An we, how many years do we take? – my translation) He goes on to remind the Minister that his Ministry is called Ministry of Education *and Culture*. “Sasa kama Kiswahili hakifai kufundishia (kama alivyosema Mungai) tumuombe basi Rais aondoe neno “utamaduni” katika jina la Wizara ya Elimu. (If Kiswahili cannot be used as a language of instruction (as Mungai claims) we ask him to take way the word “culture” from the name of the Ministry).

The other article is written by Swalehe Kassera (2003) from Iringa. (Kiimbila kathibitisha hata “Wamrima” wanakimudu Kiswahili – Kiimbila confirms that even the “Wamrima” can use Kiswahili) . Kassera tells about a wonderful mathematics teacher, Kiimbila, now deceased, who in the early sixties used Kiswahili in secondary school for teaching the basics of mathematics, working in Kagera. . In this way the students understood mathematics much better. Kiimbila was of the opinion that Kiswahili ought to be used in mathematics teaching also at the university. Kassera argues like Kiimbila did

that Kiswahili is understood all over the country and functions as a second language for those for whom it is not the first.

On Friday the 10th of October 2003 the daily Kiswahili newspaper *Uhuru* came out with large headings on the front page announcing: *Sumaye: Kiswahili kinafaa kufundishia*. (Translated: Sumaye: (He is the current Prime Minister) “Kiswahili can be used as language of instruction”). The front page article (written by Mwandishi Wetu – our correspondent) starts this way: Waziri Mkuu Fredrick Sumaye, alisema jana kuwa siyo sahihi kusema kuwa Kiswahili hakifai kufundishia elimu ya sekondari na juu nchini, ingawa serikali haijafanya uamuzi kuhusu jambo hilo. (Prime Minister Fredrick Sumaye said yesterday that it is not correct to say that Kiswahili cannot be used as language of instruction [here he is arguing directly against the Minister of Education – my comment] in secondary school as well as in higher education although the government has not made a decision to this effect.). The Prime Minister stressed that this was his personal opinion and the government had not taken a final decision on the language of instruction yet.

Most people I spoke with in Tanzania in October 2003 claimed that when a Prime Minister voiced his opinion on such a hot and political matter, it could not be regarded as just a personal opinion. When I left Tanzania at the end of October 2003 the President had not voiced his opinion on the matter, neither had the Minister of Science, Technology and Higher Education, Hon.Pius Ng’wandu. A government decision yet has to be taken. In the meantime the debate continues.

The Minister of Education has called those arguing for the use of Kiswahili as language of instruction for Kiswahili fundamentalists. In an article in the Tanzanian English Language newspaper *Guardian* on the 10th of October 2003 the Guardian correspondent Wilfred Kahumuza (2003) argued against the “Kiswahili fundamentalists” and like the student quoted in the beginning of the article claimed that Tanzania needs to use English as the language of instruction in order to catch up with the west in the fields of science and technology. I answered him in an article on Thursday 22nd of October (Brock-Utne,2003). I asked Mr. Kahumuza if he would he call me, a Norwegian, supporting that our youngsters continue to have Norwegian as the language of instruction in secondary

and tertiary education, a Norwegian fundamentalist? I told him that we are just four Million people but we would not dream of not using our own language as language of instruction. This did not mean that we do not learn English. We learn English quite well, but as a subject, as a foreign language – which it is to us - as to Tanzanians. We learn it from teachers who are language teachers, who have specialized in teaching foreign languages. I asked him whether he would call the Icelandic educators who also find it natural that Icelandic children continue to be educated through Icelandic for Icelandic fundamentalists? The population of the island Iceland far in the north is just 280 000 but the Icelanders use their language, a language noone outside of Iceland understands, as a language of instruction in secondary school as well as in university. Iceland is a well developed and well functioning country. (Holmarsdottir,2001)

Some of the African languages have not developed the scientific terminology we need.

The young student we met in the beginning of this article claimed that English is the language of science and technology. Any language can be the language of science and technology. If one wants to bring science to the people, that has to be done in a language that people understand and communicate well in. Societies with colonial pasts, which have been able to make a break with the use of colonial languages as media of education and instruction, are those which make progress and development not only in the educational field, but also in other areas of social life. This point is particularly borne out in the experience of post-colonial Asia. A.Mahinda Ranaweera (1976), Sri Lankan researcher and former director of education at the Curriculum Development Centre of the Ministry of Education in Sri Lanka writes about the great advantages to the population of Sri Lanka of the introduction of Sinhala and Tamil instead of English as the languages of instruction - *especially* for the teaching of science and technology:

The transition from English to the national languages as the medium of instruction in science helped to destroy the great barrier that existed between the privileged English educated classes and the ordinary people; between the science educated elite and the non-science educated masses; between science itself and the people. It gave confidence to the common man that science is within his reach and to the

teachers and pupils that a knowledge of English need not necessarily be a prerequisite for learning science (Ranaweera, 1976: 423).

Ranaweera notes that the change of medium of instruction in science and mathematics always lagged behind the other subjects because of special difficulties, like the absence of scientific and technical terms, textbooks, and proficient teachers. Yet he found the greatest need to switch over to the national languages in the science subjects. He gives two reasons for this claim:

- First, science education was considered the main instrument through which national development goals and improvements in the quality of life of the masses could be achieved. Thus, there was a need to expand science education. He tells that the English medium was a great constraint, which hindered the expansion of science education.
- Secondly, he notes that in order to achieve the wider objectives of science education, such as inculcation of the methods and attitudes of science, the didactic teaching approach had to be replaced by an activity- and inquiry-based approach. Such an approach requires greater dialogue, discussion, and interaction between the pupil and the teacher and among the pupils themselves. As Ranaweera (1976, p. 417) notes: "Such an approach makes a heavy demand on the language ability of the pupils and will be more successful if the medium of instruction is also the first language of the pupils".

Fafunwa (1990) holds that one of the most important factors militating against the dissemination of knowledge and skills, and therefore of rapid social and economic well-being of the majority of people in Africa, is the imposed medium of communication. He claims that there seems to be a correlation between underdevelopment and the use of a foreign language as the official language of a given country in Africa (e.g. English, French or Portuguese):

We impart knowledge and skills almost exclusively in these foreign languages, while the majority of our people, farmers, and craftsmen perform their daily tasks in Yoruba, Hausa, Wolof, Ga, Igbo, Bambara, Kiswahili, etc... The question is: Why not help them to improve their social, economic, and political activities via their

mother tongue? Why insist on their learning English or French first before modern technology could be introduced to them? (Fafunwa, 1990: 103)

Fafunwa's claim of a correlation between under-development and the use of a foreign language as the official language of a given country seems likely and is highly interesting. Kwesi Kwaa Prah (2000:71) similarly points out that:

No society in the world has developed in a sustained and democratic fashion on the basis of a borrowed or colonial language...Underdeveloped countries in Africa remain under-developed partly on account of the cultural alienation which is structured in the context of the use of colonial languages.

As all educators know, student input is essential for learning. In an experiment one of the doctoral students on the LOITASA project Halima Mwinsheikhe (2001,2002) conducted, as part of the research on my project and in the connection with her Master thesis, she had teachers teach some biology lessons solely through the medium of English, and later had the same teachers teach some other biology lessons solely through the medium of Kiswahili. She tells that during the experimental lessons one could easily see that teachers who taught by using English only were exerting a great effort not to succumb to the temptation of code mixing or switching. They seemed to be very tense and their verbal expressions were rather "dry". Those who taught in Kiswahili were much more relaxed and confident. Those who taught through the medium of Kiswahili also seemed to enjoy teaching. They found it easy to make the lessons lively by introducing some jokes.

It is not only when teachers are to teach students that the language of communication becomes a problem. Halima Mwinsheikhe (2003) tells that after her study for the master degree and her return to Tanzania she felt compelled to probe further into the issue of Kiswahili/English as LOI for science in secondary schools. Whenever she found herself among teachers and/or students she observed and sought information/ opinions regarding this issue. She tells how in May 2002 she co-facilitated a training workshop for science teachers of the SESS (Science Education in Secondary Schools) project together with an American Peace Corp. The main objective was to train the teachers on the use of participatory methods to teach/learn some topics on Reproductive Health. She relates:

The intention was to conduct the workshop in English. However, it became evident that the low level of participation, and the dull workshop atmosphere prevailing was partly due to teachers' problem with the English language. This is not a very shocking observation considering that some of these teachers were students some four years ago. The workshop co-ordinator and I agreed to use both Kiswahili and English. The problem was immediately solved. Since we started with this mixture, the working atmosphere was good, lively and conducive to learning. The other workshop co-ordinator was well aware of the language problem in secondary classrooms in Tanzania. ...An interesting observation is that my co-facilitator, an American, who had been in Tanzania for only 18 months, used Kiswahili rather well in teaching a science subject intended for secondary schools! (Mwinsheikhe ,2003:145)

When it comes to Kiswahili it is certainly not true that the scientific terms are not developed. There are several dictionaries with scientific terms (Vidah,2003). In the code-switching example below we also notice that students and the teacher master the correct technical terms in Kiswahili. In the following passage the science teacher changes languages completely as he sees that his students do not understand (taken from Rubagumya, Jones, Mwansoko,1999: 17) His own English is not easy to understand. He expresses himself much clearer and better in Kiswahili. For him the important thing is to get the subject matter across. He is a teacher of science, not of English.

T: When you go home put some water in a jar, leave it direct on sun rays and observe the decrease of the amount of water, have you understood?

Ss: (silence)

T: Nasema, chukua chombo, uweke maji na kiache kwenye jua, maji yatakuaje? (I say take a container with water and leave it out in the sun, what will happen to the water?)

Ss: Yatapungua (it will decrease)

T: Kwa nini? (Why?)

Ss: Yatafyonzwa na mionzi ya jua (it will evaporate by the sun's rays)

In the example above the teacher, after his initial try in English and the following silence from the students, switches completely to Kiswahili.

In the example below the geography teacher mixes in English words in his sentences but lets the important words be said in Kiswahili. The following excerpt is taken from classroom observations made in a Form I geography lesson:

T: These are used for grinding materials. It looks like what?

S: Kinu (mortar)⁶

T: Kinu and what?

S: Mtwangio (pestle)

T: It looks like kinu and mtwangio and it works like kinu and mtwangio. (Rubagumya, Jones, Mwansoko, 1999:18)

In this example the teacher is satisfied with the answer from the student which shows that the student has the right concepts. The fact that these concepts are expressed in Kiswahili does not seem to bother the subject matter teacher, who does nothing to expand the vocabulary of the student within the English language. From the excerpt we do not even know whether the teacher knows the correct terms in English. Even if s/he does, s/he does not bother to make his/her students partake of this knowledge. Had the teacher insisted on an answer in English, s/he would most likely have been met by silence. We see that it is the more complicated, specialized terms that are expressed in Kiswahili, not the everyday ones. An argument sometimes heard that teachers code-mix because the more advanced terms are not developed in the language of the learners does not seem to hold true for Kiswahili. The technical terms are there and well understood by the learners. Had the teacher in this case known the concepts in English, and been concerned about expanding the vocabulary of the learners within the English language, e s/he would have used some time to explain what these terms are in English. This would, however, have slowed down the speed of the geography learning. The teacher would then be engaged in English teaching, not in geography teaching.

At this point in time, no university in Sub-Saharan Africa has an indigenous African language as the language of instruction. The languages of instruction at the universities in

⁶ In the original kinu is translated pestle and mortar kinu. This is, however, incorrect. Kinu is mortar and mtwangio is pestle. My correction here of the original text has been double-checked by consulting Prof.F.Senkoro, the Head of the Kiswahili Department at the University of Dar es Salaam .

Sub-Saharan Africa are the European languages English, French, Portuguese, Dutch⁷ (in South Africa), and Italian (when the university in Somalia was still functioning)⁸

Ali Mazrui (1996) argues that the choice of European languages as mediums of instruction in African universities has had profound cultural consequences for the societies served by those universities. He gives as an example professional Japanese scientists who can organise a conference and discuss professional matters entirely in Japanese. (He could for that matter also have mentioned Korean, German, Italian, Norwegian, or Finnish scientists who do the same.) Mazrui states: "But a conference of African scientists, devoted to scientific matters, conducted primarily in an African language, is for the time being sociologically impossible" (Mazrui, 1996: 4)

Generally Mazrui is correct when he maintains that almost all black African intellectuals conduct their most sophisticated conversations in European languages. "It is because of this that intellectual and scientific dependency in Africa is inseparable from linguistic dependency" (Mazrui, 1996: 4). Mazrui quotes Jomo Kenyatta in the old colonial Kenya, who said: "When the white man came to Africa he had the Bible and we had the land. And now? We have the Bible and he has the land" (:5), Culture - including language - was offered in exchange for material goods. The West exported its ideas and languages and imported riches.

For the further growth and development of a language, its use as language of instruction at higher levels is of fundamental importance. The west - African educational researcher Adama Ouane from Mali, now the Director of the UNESCO Institute of Education in Hamburg, Germany has accurately observed:

⁷ Afrikaans, the language of the Boers and also the Coloured of South Africa is, according to Dutch people I have talked with in South Africa, 95% Dutch.

⁸ In Somalia the language of instruction in all the faculties except the Faculty of Education was Italian (even though the language of instruction in primary school was Somali and in secondary school English) because the University got development aid from Italy. The Faculty of Education was, however, sponsored by the Americans and therefore English was the language of instruction there (Personal communication from Hassan Keynan from Somalia who attended my weekly "Education in Africa" seminar)

Unless these languages (the indigenous African languages) can step beyond the door of primary schooling, and face the challenges of secondary and higher education, with increased number of subjects to deal with, their modernisation will be achieved only half-way (Ouane, 1991: 10).

At the University of Dar es Salaam in Tanzania there is, however, one department and one institute that use an African language as the language of instruction: the Department of Kiswahili and the Institute of Kiswahili Research.. In the department of Kiswahili at the University of Dar es Salaam in Tanzania prior to 1970 the courses in this department were all taught in English. Makini Roy-Campbell (1992a, 1992b), in discussing the history of the department, responds to the frequent argument that the African languages do not have a vocabulary that is developed enough to be languages of scholarship and instruction at higher levels in the educational system. She holds that this department provides an excellent and realistic example of the coinage of technical words that was undertaken in the process of changing from English to Kiswahili as the medium of instruction. I have elsewhere (Brock-Utne, 2000) mentioned that before 1970 there were no Kiswahili terms for guttural sounds and phonemes, nor even linguistics and vocabulary, but once the decision was made to teach the courses in Kiswahili words were developed in the process of teaching and later standardized. Some words were used side by side as synonyms. English terminologies were used until Kiswahili terms were developed. Some English terms became Kiswahilized and some terms were found in some of the other languages of Tanzania. The process of creating new words was done with the assistance of all teachers in the Department of Kiswahili and the Institute for Kiswahili Research. There is in Tanzania a wealth of terminology in Kiswahili developed by the Kiswahili Council of Tanzania (Mutasa,2003). The fact remains that there needs to be the political will to implement these policies. A language develops and grows through use.

As Kwesi Kwaa Prah notes (2003:)

Where LOI is the same as the mother tongue/home language, it not only affirms the developmental capacity of the mother tongue to grow as a language of culture, science and technology, it also gives confidence to a people, with respect to their historical and cultural baggage. LOI in the home language or mother tongue is an instrument for the cultural and scientific empowerment of people. Its denial

signifies the social and cultural inferiority of the culture and people whose mother-tongue-use is denied. Therefore, in free societies, knowledge transfer takes place in the language or languages of the masses; the languages in which the masses are most creative and innovative; languages which speak to them in their hearts and minds most primordially. Cultural freedom and African emancipation therefore cannot be cultivated, expanded or developed where the LOI is different from the languages or language the people normally speak in their everyday lives.

What about the costs involved in translating so much learning material into African languages?

To the argument that it might be expensive to translate or write anew learning material in African languages one first has to ask about the costs involved in having millions of children going to school and hardly learning anything because the language of instruction is a barrier to knowledge. This is a calculation that should be made. What are the costs involved in children dropping out of school, children repeating grade after grade, children sitting there passive, learning to copy notes but hardly anything else?

The costs involved in publishing materials locally using modern desk top publishing does not need to be that high. In a text published by the International Development Research Centre (IDRC) under the direction of Kiyanjui (1997 :xv), we are informed that:

Recent research indicates that the long-term benefits of producing learning materials in a mother tongue outweigh their high initial publishing costs. Progress in computer technology has considerably reduced the cost of offset printing. Desktop publishing, for instance, is resulting in the growth of national publishing industries, which will ultimately reduce African countries' dependency on foreign publishers. African researchers are uniting across the continent to draw the attention of policymakers to the political, economic, and, above all, educational benefits of shifting toward LOI policies that take these research findings into account.

David Klaus (2001) has also shown how publishing in local languages in a multilingual society like Papa Guinea is possible without involving very high costs.

Publishing in the ex-colonial languages benefits the former colonial masters. We have many examples showing this. When school-books are not published in local languages by local publishers all publishing in the country suffers. In my book Whose Education for

All? (Brock-Utne,2000) I mention a conversation I had with the former Director of Tanzania Publishing House Walter Bgoya. He worried that, unless special provisions were made to support publishing in Tanzania by Tanzanians, the liberalization of the textbook industry which Tanzania has been forced to open up for, would only mean that the profit would go to foreign multinationals. He reminded me of what happened to textbook publishing under the English Language Teaching Support Project introduced in 1987.

The objective of that particular project, which was introduced in Tanzania through British development aid (1.46 million pounds sterling), was to increase the competence of English-language teachers and to provide books for that purpose. Nine specialists from the United Kingdom were brought to Tanzania to implement the project. In the early days of the project it was realized that there was a great need for relevant books in English, preferably written by Tanzanians, in place of books written primarily for students in Britain. Such books written for school-children in Britain had already been given for free by the British Council in large quantities to many secondary schools. In my trips to secondary schools around the country, where I did student teaching supervision, I sometimes came across stacks of relatively new English textbooks sitting around in the teachers' staff room. One teacher commented when she saw me looking at them: "They are highly irrelevant for our situation here. But what shall we do? We got these books for free and this is all we have."

Through the English Language Teaching Support Project it was proposed that Tanzanians be invited to write books, or where such books already existed with publishers in manuscript form, they should be submitted to the project for approval, editing, and eventual publication. Walter Bgoya explains that a number of Tanzanian publishers thought the Tanzanian publishing industry might benefit from the project, which would buy no less than 20,000 copies of the English supplementary readers if published under the project (Bgoya, 1992: 179). They had books in manuscript form in which they had already invested a lot of time and work but had not been able to publish them because of lack of funds. But the Tanzanian publishers were not helped to survive through the project. On the contrary:

As it turned out, the agreement stipulated that the first edition of all books published under the project had to be published in the UK and by either Longman, Macmillan, Oxford University Press or Evans. Only a reprint could be published in Tanzania under a co-publication arrangement between the UK publisher and a local one. But even this was revised, and no book was published in Tanzania. British publishers, it is said, insisted that they should publish the books in the UK even if the manuscripts originated in Tanzania. English-language teaching is also good business for publishers in the UK. (Bgoya, 1992: 179)

If the aim of indigenization of the school book industry is to have any chance of being fulfilled, however, regulations have to be passed allowing the government to regulate the import of textbooks to Tanzania in order to protect a very fragile publishing industry, be it private or parastatal. Foreign interests in the private Tanzanian publishing industry should also be severely limited to, say, 20-30%. According to the liberalization policy, which forms part of the structural adjustment program of the World Bank and which also countries like Sweden have bought into, such protective measures are not allowed.

Which African language should we use as the language of instruction when there are so many languages spoken in our country?

All education is best achieved in the home language. Kwesi Kwaa Prah(2003:) asks:

However, what needs to be done to make this option economically viable? Make the switch profitable for both the individual and society? Economically the development of materials and the economies of scale are only manageable when they are developed on the basis of large mutually intelligible written forms. In practice, this means that they need to be cleansed of missionary linguistic fragmentation of the ethno-linguistic field. One inadvertent result of missionary linguistic practices in Africa is that dialects have been elevated to languages to the point that the myth of Babel in Africa appears real, when in fact it is only ephemeral.

The truth is that the demographics of language and linguistic diversity in Africa are not really different from what obtains in other parts of the world. What is different is that the identification of linguistic units in Africa cuts across state boundaries. When the colonial powers divided Africa between themselves in Berlin in 1884 they paid no attention whatsoever to the language boundaries which existed at the time. Kwesi Kwaa Prah mentions that the identification of language communities in Africa has been approached

in a way, which favors the recognition of practically all dialect, and phonological variations as separated languages. This is partly so because those who have made the observations - often western linguists - have never in most instances, looked at African societies outside the framework of colonial boundaries or the immediate areas of missionary settlement and evangelical zeal. By this approach Cockney, Tyneside, broad Yorkshire, etc. in Britain will be languages in themselves. Prah mentions that this fragmentation approach is still popular with the Summer Institute of Linguistics (SIL), a leading group in the work of rendering African languages into script, otherwise translating the Bible into African languages. We quote him here:

The rendition of African languages into scripts for purposes of the development of Africa cannot at the same time proceed with the fragmentation of languages as is being conducted by the SIL. In effect, the SIL is building and destroying at the same time. When one asks why this is the case, the reason that comes easily to the fore is that the object of such endeavours at rendering African languages into script is not in the first instance to help in the development of Africa, but rather simply to translate the Bible into African speech forms and to evangelise and convert Africans into Christians. Unless one assumes that converting Africans to Christianity represents development. All other considerations are for such purposes insignificant. (Prah, 2003 :)

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