Teacher’s Guide to the Use of African Languages in Bilingual Primary Education

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LINGUAPAX is a UNESCO project aimed at promoting the culture of peace through multilingual education at all levels, and ensuring respect for linguistic diversity.

The objective of the project is to provide a specifically linguistic response to the issues raised by the search for peace, the defence of human rights and the promotion of a genuine form of education for democracy.

In order to achieve this goal, LINGUAPAX seeks to develop new foreign-language and mother-tongue curricula based on international tolerance, understanding and solidarity, and to develop teaching methods which incorporate the objectives of international cooperation and solidarity and at the same time eliminate negative stereotypes and prejudices. Teacher training and textbook design catering to these objectives are decisive components of this strategy.

Initially, LINGUAPAX proposes to give priority to the following actions:

1. TO DEVELOP, on an experimental basis, new materials for foreign-language courses which help to give pupils objective knowledge of the salient aspects of the everyday life, culture, literature, folklore, customs and habits of the countries where the languages in question are spoken.

2. TO FACILITATE the inclusion of minority or lesser-used languages in the language-planning components of the master plans addressing the various types of situation in Member States where such action has been decided.

3. TO SUPPORT the dissemination of effective foreign-language and mother-tongue teaching methods with a view to strengthening peaceful cooperation between communities, peoples and nations.

4. TO BIND LINGUAPAX firmly to the culture of peace, as part of UNESCO's efforts to develop the spirit of tolerance, defend the cause of human rights, and promote education for democracy.

5. TO PREPARE a regularly updated descriptive and explanatory linguistic atlas of the world with a view to safeguarding and protecting living languages.
6. TO PROMOTE a multilingual culture by helping States to renovate their language-planning criteria and provide educators and teachers with suitable teaching tools.

7. TO PARTICIPATE, at the request of Member States, in the drafting of legal measures relating to linguistic rights.

8. TO TAKE ACTION, as a matter of priority, in pre- and/or post-conflict situations.

9. TO INCLUDE the defence of minority or lesser-used languages in the promotion of foreign languages in general.

10. TO HELP teachers to make use of advances in psycholinguistics to ensure that poor quality teaching does not lead to rejection of the foreign language itself, and hence of the culture it represents, which would be contrary to the spirit of LINGUAPAX.

11. TO TAKE INTO ACCOUNT language-teaching theory, which recommends that separate methodologies should be used for foreign-language teaching and mother-tongue training.

12. TO EXTEND the LINGUAPAX philosophy to the teaching of the social sciences in general in education systems.

13. TO MAKE SYSTEMATIC EFFORTS to bring about convergence and coordination at the theoretical and practical levels in the teaching of the mother tongue and a foreign language, without distorting the linguistic facts of either language.
THE APPROACH BASED ON EDUCATIONAL PSYCHOLOGY AND ITS IMPLICATIONS FOR THE DISTRIBUTION OF EDUCATIONAL CONTENT BETWEEN THE MOTHER TONGUE AND THE NON-MOTHER TONGUE, IN A CONTEXT OF BILINGUAL PRIMARY EDUCATION

A. Convergence of the need for cultural identity and the primary objectives of educational psychology

Since African countries began taking charge of their own destinies, the language of their former tutors has usually remained the privileged medium of education, and the learning of French, English, Spanish and Portuguese continues to occupy a privileged position in school programmes designed for black children.

But African languages have not remained immune to new intellectual trends: in these past 10 years they have rebounded with unexpected vigour, and are now refusing to die the slow death that seemed inevitable for some of them. Faced with the encroachment of a universal modernity, people feel a pressing need to return to their natural means of expression. Mother tongues offer a wealth of living, natural terms and are the guarantors of a deep-seated identity. Thanks to these languages, Africans possess a powerful antidote to the levelling out of individual character.

Naturally, a return to cultural roots was accompanied by a questioning of some assumptions of educational psychology that were too hastily formulated. We now know that suppressing a child's native speech is extremely harmful to the development of emotional and intellectual capacities. Spontaneous expression spurred by a rich interior life is artificially constrained, and one hampers the proper development of the pupil's ability to express himself in the very language one intended to favour. Modern pedagogy has learned that the rational acquisition of European languages in Africa will not be accomplished solely by using them exclusively in primary-school classes. The European languages are ill-served by a policy that grants them a monopoly over usage which is no real advantage.

By denying young Africans the opportunity to use their vernacular languages, the medium closest to their source of creativity, the school impedes their growth. By so acting, the school forces the child back into himself in an attitude of forced resignation, thereby stunting his power of imagination and natural curiosity. When the child must face, in the very
first years of school, and in the worst circumstances of emotional
uncertainty, the daunting system of a foreign language often still taught
in extremely traditional fashion, the child submits passively to this
apprenticeship and ends up acquiring only the rudiments of a language
which limits him as a thinker.

On the other hand, if educational policy favours the use of the
family's language in the school, the child is given a chance to verbalize
his desires and thoughts in every circumstance, as well as the
confidence to do so. Thinking thereby becomes sharper, more refined
and richer. The child gradually reaches beyond the perimeter of his self-
interest and becomes curious about the variety of environments he
finds himself in, and takes steps to grow and structure his individual
character. In this receptive context, the need for new means of
information and expression linked to the curriculum is quickly felt.
Learning a language other than the mother tongue is best begun at this
auspicious time. The need to learn the language is now felt as neces-
sary, and the process therefore benefits from a powerful motivation that
facilitates its acquisition and guarantees progress.

In practice, however, the simultaneous use of two or more
teaching languages in a single curriculum poses numerous problems
of balance and distribution. Once a country has opted for bilingual
teaching in the schools, how can it avoid the groping and confusion
that accompany such a policy? What reasonable basis can be used for
apportioning subject matters between the mother tongue and the other
language(s)?

B. A possible solution: the functional criterion

From the pedagogical point of view, the solution to the problem comes
down ultimately to determining which language or languages are most
likely to contribute to the pupil's growth and balance at all stages of his
or her psychomotor, affective, psychological and intellectual develop-
ment, while simultaneously guaranteeing the child's integration into the
society of the future.

That is the real question people in the teaching profession must
both ask and answer. The right approach to the issue is not to take
the teaching languages decided upon by the country's educational
authorities and assign separate objectives to each. On the contrary, a
clear statement of the school's objectives for a teaching language must
first of all be spelled out in the national policy context; after that initial
step, the question then becomes one of determining which candidate languages hold the best promise of attaining those initial objectives in the most economical fashion.

Just as modern linguists assign various functions to human language, the national research institutes involved in language policy should first of all draw up a list of teaching objectives by type, specifying the concrete roles to be played by the country's teaching language or languages as part of national policy. Such preliminary analytical work should take into consideration the content and spirit of government directives, current programmes, the overall intentions of the government and the desired student profile at the end of the primary phase of instruction.

The next step would be to determine, on the basis of this preliminary analysis, which language(s) are best suited to fulfil the various pedagogical functions, taking into account the language's potential and progress up to the present.

At this point it will be possible to send the policy-making authorities proposals for distributing language use across the various instructional levels.

This approach will help the national institutions involved to frame accurately problems which have often been presented subjectively by partisans and adversaries of the use of national languages in early education.

C. What pedagogical functions should a teaching language perform in the present context of African primary education?

1. The function of providing a link between school and society

It is often the case that the disparaged breach between the school and the social milieu is mainly a function of using different languages. However, the social milieu should not be sent to school, but rather the school should be oriented towards society. Which language actually links the school to the social milieu?

- The economic milieu (i.e. local small industries, retail sales, agriculture and crafts) is almost exclusively African in its language choice. Success in these various activities is dependent on good understanding of local languages.
The political milieu, consisting of the village and the town, also uses African languages. Social relations between the people and their village chief, police, government officials, etc. are widely based on the shared use of these languages.

The family milieu is one in which an African language is spoken. If that language is also used in school, it could become a privileged avenue to formal schooling.

Authentic religious expression occurs only in indigenous languages: whether or not the religion itself is indigenous, it is the local language that is used by the religious congregations in the rites and other practices of the faith.

Clearly, the indigenous languages are the most effective tool for ensuring active participation in economic, political, familial and religious life, on the part of the education system in general and its students in particular. These languages express everyday reality without impoverishing or deforming it, and they bind the school and its human environment into a socially and culturally coherent group. The function of linking the school to the social milieu clearly belongs to the indigenous languages.

Applying this conclusion to the current curricula, it would be a natural choice to assign school activities directly focused on the social milieu to the African languages.

Basic education: Ethical and civic instruction.

Early learning: History and geography, object lessons, hands-on agricultural training.

Scientific study: Early technical education, vocational counselling.

Artistic education: Drawing, singing, physical education and sports.

Religious education: Where applicable.

The use of African languages in these areas of the curriculum should be generalized, since these languages are more effective and certain means than foreign languages for attaining the objectives assigned to these activities in the initial phase of African children's schooling.
2. The function of providing access to basic skills

The need to learn is innate. Gestures, play and the voice are the tools the very young child has available for discovering the external world. At school, however, physical freedom is strictly regulated, especially in beginning classes, where overburdened staff is a common problem. The stabilizing framework of the family setting and whatever special linguistic situation has been formed through play activities are challenged in the early days of the new school year. New and more coercive structures do not mesh with what a given child may have acquired spontaneously, and which may conflict with the pre-programmed "lesson plan".

The new situation is marked by temporary disarray that the child experiences intensely. The pupil must be helped to overcome this difficult obstacle by confronting it in his mother tongue, thereby taking advantage of the verbal tools best suited to giving an authentic voice to the pupil's basic need to know and to express himself creatively.

It must be borne in mind that the child's powers of internalizing, that is to say, the powers identified with thought and reflective consciousness, are exercised in the initial stage of human development through the medium of the child's mother tongue, precisely because that language is the sole instrument of active verbalization available.

The child's first operational achievements are made in the mother tongue, and on this foundation the child's mind is structured and grows to maturity. Abstract thought cannot initially be linked to a language other than the mother tongue. This explains why active teaching methods designed to derive the abstract operation from the concrete action cannot be seriously contemplated in a linguistic context other than the mother tongue. Only after the child has achieved some distance from the concrete can operational thought become active in a different language – with all the complex problems that accompany such a transfer.

Consequently, the function of providing access to basic skills cannot be performed by a foreign language only weakly grasped in the early years of schooling. This function is properly that of the native tongue, which enables the child to verbalize his or her thought and therefore concretize observations and sensory investigations and master them through verbal expression.

For the foregoing reasons, acquisition of the skills required for reading and writing must be entrusted to the mother tongue. This is
supported by both pedagogical practice and psychology, which teaches us that learning to read requires an enormous effort on the part of the student, certainly greater than the effort made to acquire any other “subject” in the curriculum. If reading is taught at the very start of the school years, it does not mean that less effort is required to acquire the skill, but rather that the acquisition of reading is simply fundamental, and constitutes a sine qua non for acquiring other school subjects. It is incumbent on educators to minimize the known difficulties the student will encounter and not create new ones.

What exactly is involved in the acquisition of reading skills that imposes such a huge effort on the child?

The acquisition of reading passes through three distinct plateaux that represent objectives to be achieved in the course of the first year of schooling. In order, these are:

- Physical recognition and discrimination of signs and graphic groupings.
- Comprehension of the meaning associated with the decoding of simple texts.
- Fluid reading of extended texts using known vocabulary.

If the child is required to learn reading through a foreign language, he or she is required initially to overcome three enormous difficulties that correspond, respectively, to the three learning stages listed above:

- Difficulty associated with deciphering the physical signs.
- Difficulty comprehending the meaning of words to be decoded (these words have no meaning for the child).
- Psychological difficulty caused by the medium itself. Written communication is impersonal, distant, remote in time, whereas spoken communication involves a physically present interlocutor who focuses and strengthens meaning through general behaviour.

This is not to say that the first and third difficulties are completely eliminated simply by using the mother tongue, although the child’s abilities to distinguish the written signs and especially to read with ease are necessarily improved and grow more rapidly in that case. The second difficulty is the one which constitutes a truly major obstacle from a pedagogical point of view, and it is that problem which is largely avoided when the acquisition of reading and writing skills is accomplished using the child’s native tongue or vernacular language.
It is an acknowledged principle in this area that the decoding of the meaning of expressions can only occur when the child understands the meaning of the constituent words and phrases. That is why spoken language lessons must always precede the introduction to reading.

Clearly, this common-sense approach to teaching is only possible if the acquisition of reading occurs in the mother tongue. In the opposite case, acquisition of reading skills must be put off for a period of time ranging from several months to a year, that is, until such time as the child has sufficient command of the language to be able to understand the meaning of the words he is required to decode. Under that scenario, it would also be necessary to delay other important components of the curriculum, notably the learning of writing. It would also be out of the question to begin writing elementary arithmetic operations on the board, since the students would not be able to read them. In fact, a significant block of the curriculum has to be delayed whenever the preliminary reading and writing skills are imparted in a foreign language.

The same is true for learning to handle numbers, which is an indispensable instrumental prerequisite for acquiring the basic mathematical skills defined by modern curricula. All cultures acknowledge the representational nature of numbers as expressed in their respective languages, but some differ in their mental structuring of the number system. Why insist on teaching number skills in Africa – the basic notions of similarity, equality, degrees of comparison, etc. – in a language other than the mother tongue, a practice bound to deform and impoverish these notions as they arise from the original cultural milieu? The mother tongue translates in depth the emergent logical mathematical thought of the child, and does it far better than a foreign language – not to mention a foreign language only sketchily grasped – and it does so using various means, ranging from clearly focused expressions to syntactic structure of the wording, to expressive speech.

Despite the small number of studies completed, there is every reason to believe that the African student best grasps fundamental mathematical concepts in the language he or she uses most commonly. Relation and number determine verbalization procedures linked to operational activity, and using the mother tongue helps to avoid ambiguity, false relationships and errors in understanding which necessarily preclude the use of a foreign language that the child is not yet in a position to use effectively.

It should be added that it would be a mistake to use African languages in introducing the child to basic number and relation
concepts, while at the same time continuing to teach using the models adopted for these concepts in Western cultures. What is required in this domain is not only the use of African languages, but also the logical progressions inherent in them, even if these progressions are at odds with Cartesian reasoning.

Access to the basic instrumental skills must be provided using the pupils' mother tongue. The African child, like his or her European counterpart, should learn reading, writing and arithmetic in the mother tongue. Using a non-mother tongue is surely not the most effective and economical way of acquiring these skills.

3. The function of teaching medium and carrier of curricular content

This function comes down essentially to conveying the various subjects in the curriculum. The linguistic vehicle of course content should both open the mind of the learner to the external world and anchor him in his native environment. This language should provide the pupil with the means to integrate smoothly into the family circle and into African society, and at the same time familiarize the student with modern techniques, whose acquisition is inescapable from his country's economic and cultural development.

Do we find in contemporary French-speaking Africa teaching languages that are capable of performing both of those functions adequately? This does not appear to be the case. Although it is certain that the European languages are unable to express adequately African emotional life, and logical and technological approaches that have emerged from African soil, it is also true that, at their current stage of development, African languages are not always sufficiently precise in expressing technical and scientific concepts which are part of African school curricula, but which have been developed within other cultures.

This is obviously a purely temporary situation arising from historically determined habits, and therefore able to be changed radically through contact with new realities.

It remains the case, nevertheless, that certain logical mathematical objectives of a recognizably Western type, and as currently defined in school curricula, would no doubt be attained more readily and effectively if verbalized in European languages. This is, in fact a fundamental issue which paradoxically is not yet widely recognized and is seldom mentioned. It is often thought that the mere fact of using a mother tongue may solve the African child's principal difficulties in
learning mathematics. This is to underestimate the difficulties inherent in mathematics itself, viewed as an approach to facts and as an intellectual attitude. The problem is not that of finding and using a French, Hausa or Chinese word "denoting" the mathematical concept. What matters is knowing how to construct the concept and ensuring that the student has an effective and certain approach to constructing it through recognized manipulations and confrontations with reality. The operational construction of the concept is of greater importance than the language from which the designating term is taken.

In our view, this explains why, when engaged in scientific thinking, it is futile to merely replace French or English expressions with African equivalents, while at the same time maintaining imported thought processes. If one continues to teach mathematics and the exact sciences based on European teaching models transferred wholesale, there is no doubt that the European languages are better suited to that activity. If, on the contrary, one seeks to "Africanize" these disciplines and teach them on the basis of the logical progressions lived by African children, one can do no better than to use African languages themselves to achieve that objective.

Does this mean that we must rediscover all the subject matters in the current curricula, and reinvent an African mathematics and an African technology? Certainly not, but what is required is a new definition of the pedagogical approach to mathematics and technology, and a fresh identification of the logical and operational structures underlying African languages, which determine the proper development and organization of logical mathematical structures in the African child.

In itself, the mathematical result transcends cultures and is the universal possession of humankind. What are culturally dependent are the ways in which the child gains access to this result. A new teaching methodology aimed at authenticity must tap these culturally dependent avenues to understanding. One must therefore resolutely abandon uniform approaches and reject standardized logical procedures when teaching in a cultural environment different from the one in which one was brought up. The categories of logic and thought are no more universal than the categories of grammar, which in fact mirror them.

Those who support the use of African languages for teaching and training purposes must be aware that the introduction of African languages is the seed of a basic reform not only of the media of instruction, but of the very definition of teaching methods and the choice of content itself. A reform of this kind is without a doubt an
arduous and long-term undertaking, but is it not obvious that it is the prerequisite to a truly African pedagogy, in both form and content?

If a language is to be used as a medium for curriculum content, it is assumed that it must also be able to provide a meta-language – i.e., roughly speaking, a reflective vocabulary – capable of expressing the functioning of the language and able as well to describe the language’s deep dynamic structure. It is language speaking about language, for instance, which enables the student to engage in traditional grammatical, logical and functional analysis.

Some African languages have not yet developed a metalanguage. This is not because they are incapable of inventing one, but because the need for one has not yet arisen. As a result, and for the time being, the metalanguage developed by European languages normally serves to describe the phenomena governing the functioning of a given African language. It is true that reflection on language itself is not taken up at the primary level in any sort of depth – except perhaps for the last two years – but it is gone into in depth at teacher-training institutes. At that level one cannot be content with an approximate grammatical vocabulary, and in most cases the European language remains the most effective descriptive tool.

Once again, that the present state of affairs is as described above should come as nothing unusual or shocking. The vocabulary for theorizing about teaching is richly developed in the European languages, and there is no reason why African languages should not take advantage of this fact. It is certain that once they become effective participants in school curricula, the new teaching languages will also develop the metalinguistic repertory they need. For the time being, at any event, a solid grasp of the metalanguage borrowed from European languages is a necessary condition for an objective understanding and accurate description of a good number of African languages.

4. The cross-cultural function

Cultural concerns are not foreign to the objectives of primary school. The intercultural function of a teaching language in Africa is to anchor the child (and later the secondary-school and university student) in his or her specific national culture while offering the student the keys to the outside world. Consequently, the language selected should be capable of fully representing the aesthetic, philosophical and ethical values shared by the various ethnic groups within the national territory and in
the region. The language should also be able to carry the national culture outside the country’s boundaries, enriching other cultures with its own specific contributions, and being enriched in turn by the best contributions of those outside. In this sense, a teaching language always transcends its purely schoolroom framework and plays the expanded role of a language of communication and culture, linking its speakers to the contemporary phase of universal humanism.

Although there are African languages which are capable of playing an internal unifying role, there are far fewer which are capable of transmitting the national culture to the world at large. For the time being, that function can only be performed by a handful of major world languages. Paradoxically, it is through the medium of these few languages that the literature, culture and general facts about African civilizations are known and appreciated by the other peoples of the African continent and the rest of the world. These few languages will for some time continue to be the means by which the children of other countries become acquainted with the narratives, epics, stories and legends of Africa. The same is true of African cinema, which is still largely dependent on French, English and Portuguese in order to become known and appreciated in the rest of the world.

D. Prospects and concrete action

Whether one welcomes or deplores the fact, the days when the African classroom was dominated by a single European language are over. Today it is a rare country that has not made the linguistic issue an item on its educational agenda. What is common is to find African States – even those with a high degree of multilingualism – whose immediate concern is to guarantee the indigenous languages a privileged place in school activities. In the years to come it is certain that the use of native languages will be central to the major educational reforms carried out in most of sub-Saharan Africa.

Does it follow that African school systems will necessarily become exclusively monolingual, using only African languages? All recent statements by public officials and prominent intellectuals indicate the contrary. What sense does it make to react to the excesses of the past by a contrary excess? With extremely rare exceptions, African monolingualism, like European monolingualism, seems a totally unrealistic choice for modern African schools. Whatever the case may be, it is still the exclusive prerogative of sovereign national authorities to promote the use of one or another teaching language in school
programmes. No one can intervene in that choice. This principle is at the very basis of our own analysis, and the solutions we propose are based on purely pedagogical principles to the exclusion of any political and even cultural options. It is well to recall once again that, whether the educational environment is multilingual or bilingual, the distribution of curricular content between African languages and European languages should be based solely on the pedagogical objectives being pursued, the choice of the linguistic medium being strictly subordinate to those objectives. Authorities in the field of education, teachers and all those directly involved in African linguistic policy must be aware that conflict between foreign languages and African languages is in no sense inevitable. Rather it is perfectly possible in teaching practice to make an apparently confrontational situation an occasion for mutual enrichment and positive contributions all around. All that is required is that the interlocutors set aside begging the question, making rhetorical flourishes, and getting lost in the distorting mirrors of theory, and concentrate more closely on the outcome we all seek in teaching; in other words, concentrate more on the pupil.

Clearly, the implications of a problem such as this lead to reflection on the very practical domain of the primary school, an arena that is less comfortable than that of theory, but how much more motivating for all those directly involved in the educational process! It is very much from the viewpoint of concrete application of principle that the following technical notes have been designed.
PRELIMINARY PEDAGOGICAL DOCUMENT

INTRODUCTION OF NATIONAL LANGUAGES INTO THE CURRICULA
OF AFRICAN SCHOOLS: GENERAL ISSUES

Objectives of this preliminary document

- to present an overall view of the problem and a reference outline for the entire set of technical notes that follow;
- to provide general information on the content of the various technical notes;
- to outline the target audience of each technical note.

Experience shows that it is possible to group under three working headings the immediate problems encountered in varying degrees of intensity by educational authorities responsible for implementing a language policy based on the use of national languages in school curricula. This approach makes it possible to:

- systematize the types of language and teaching situations encountered;
- identify and elucidate the problems specific to each situation;
- prioritize the action and intervention plans required in order to reduce – if not eliminate – the problems found.

For those actively engaged in promoting national languages in schools, the problems encountered can be grouped under three working headings:

- the child
- the teacher
- the African language.
TOPIC A: THE CHILD AND THE AFRICAN TEACHING LANGUAGE

TECHNICAL NOTE A1

CONTENT. The African language officially selected to serve as a teaching medium is not always the mother tongue of the African school pupil. What are the actual variants in the child's situation as regards the language of instruction? What are the implications for teaching of each of these situations? What actions can be taken to overcome the existing handicaps and alleviate the difficulties encountered?

AUDIENCE. Education officials, persons involved in training new teachers (inspectors, educational advisors, professors in teachers' colleges).

TECHNICAL NOTE A2

CONTENT. Verbalizing intuitive ideas (space, time, causality, result, etc.) and using the African language as a thinking medium (e.g. in logical mathematical approaches to problems) are the basic prerequisites for technological thinking. At the level of teaching, what solutions can be proposed for substantially reducing the problems in this key area as regards early learning and scientific attitudes?

AUDIENCE. Education officials, persons involved in training new teachers, school headmasters.

TECHNICAL NOTE A3

CONTENT. This technical note is an application of the previous one. It proposes concrete examples of technological sequences for guiding children age 10 to 12 years in functional thinking and verbalizing of technical matters in the African teaching language. It provides guidance in designing and using verbalization exercises whose goal is to improve the cognitive yield of the African language used by the pupils. How can one facilitate the approach to logical mathematical ideas in the African teaching language?

AUDIENCE. Education officials, school headmasters, teachers.
TOPIC B: THE TEACHER AND THE LANGUAGE OF INSTRUCTION

**Technical Note B1**

**CONTENT.** The variables encountered in the linguistic situations of African pupils also characterize the situations of their teachers and future teachers. The result is often an added complication in the actual status of the African teaching languages from the teacher's point of view. What can be done to avoid the greater part of the difficulties encountered in the practice of teaching?

**AUDIENCE.** Education officials, persons involved in training new teachers.

**Technical Note B2**

**CONTENT.** In order to be successful, a reform of the use of national languages in schools requires a broad consensus on the part of teachers, who are the primary agents carrying out the policy. A survey undertaken in three African countries, involving 800 teachers and prospective teachers, highlights the practical and theoretical issues confronting trainee and practising teachers.

What are the major concrete stumbling blocks encountered by those actively involved in using an African language in a school context?

**AUDIENCE.** Education officials, persons involved in training new teachers.

**Technical Note B3**

**CONTENT.** One of the most important questions raised by practising teachers, and especially trainee teachers, is "Why teach in an African language, when the European languages have a long-standing, proven track record as effective teaching media?" (Question asked by 87 per
cent of the teachers surveyed.) What concrete, effective response can be made to this question, which is also asked by parents?

AUDIENCE. Education officials, persons involved in training new teachers. (This technical note provides materials for teachers' professional meetings, and related workshops, able to be used directly by inspectors, educational consultants and professors in teacher-training colleges.)

TECHNICAL NOTE B4

CONTENT. Another question frequently asked challenges the notion of teaching the African language as a subject matter in the curriculum (question asked by 60 per cent of the teachers surveyed). To many teachers and prospective teachers, the need to reflect on the language itself—which can only be done in a rudimentary way at the primary-school level—is not obvious. How can this need be made apparent?

AUDIENCE. Education officials, persons involved in training new teachers. (Technical note providing material for a professional teachers' meeting followed by workshops.)

TECHNICAL NOTE B5

CONTENT. Many teachers and prospective teachers contacted in the survey expressed doubts about the feasibility of adapting African languages to contemporary scientific and sociocultural realities. The objection is generally formulated as follows: "Are the African languages sufficiently rich and effective to be used both as teaching media and as teaching subjects in themselves?" What answers can be given to their questions from a teaching perspective?

AUDIENCE. Education officials, persons involved in training new teachers. (Technical note providing material for a professional teachers' meeting followed by workshops.)
CONTENT. To use the expression “African languages” is to give an undeniable impression of fullness and effectiveness, whereas using the term dialects carries with it a strongly pejorative overtone. Of the teachers and prospective teachers interviewed, 86 per cent asked the following questions: “Can one really speak of African languages? Should we not, rather, speak of dialects or patois?” These questions should not be taken lightly, or treated condescendingly: they involve the possibility of hope for, and confidence in, the national languages that we are attempting to inspire in the teachers who are to become users of these languages in their classrooms.

AUDIENCE. Education officials, persons involved in training new teachers. (Technical note providing material for a professional teachers’ meeting followed by workshops.)
TOPIC C: THE AFRICAN TEACHING LANGUAGE AND THE EXTENT OF ITS USE IN TEACHING

**TECHNICAL NOTE C1**

CONTENT. The African languages chosen as teaching languages have usually been studied and described in some depth, and these studies are more or less applicable to primary education. What can teachers and teacher trainers realistically do - given their particular profile and skills - to promote applied research on national teaching languages and steer such research in the direction of practical applications in the classroom?

AUDIENCE. Education officials, persons involved in training new teachers, prospective and practising teachers.

**TECHNICAL NOTE C2**

CONTENT. Once the choice of an African teaching language has been made, the classroom teacher charged with implementing the national language policy is immediately confronted with the question of the number and effectiveness of the teaching aids at his or her disposal. There is a great deal of difference on this score from country to country. Whatever the given situation may be, the teacher needs well-made and easy-to-use textbooks as allies in the instructional task. What concrete response can be given to the diversity of existing situations? What teaching aids should be supplied to teachers? How should these aids be designed and developed?

AUDIENCE. Education officials, persons involved in preparing new teachers, researchers in pedagogical institutes.
Analysis of situations involving the primary school pupil's relationship to the African teaching language. Problems and suggested solutions.

I. WHAT IS THE EXACT NATURE OF THE PROBLEM?

There are a wide variety of individual ways in which national languages are used in African school systems, depending on the countries' specific educational objectives, and the particular configuration of languages used in each country. The main types of situations, either in experimental curricular programmes or already well established ones, are the following:

- **Category 1** A single national language is used for classroom instruction. In this case, the learning of a European language is more or less deferred to the later years of the pupil's education.
- **Category 2** Several African languages are used in school (depending on the geographical/linguistic zones making up the country). In this case, also, the learning of a European language is more or less deferred to the later years in the pupil's education.
- **Category 3** Several African languages are used in school (according to geographical/linguistic zone). The learning of a second national language (perhaps a competitor for the position of single national language) is put off to some later point in the student's education. In this case the learning of a European language is also put off until a later time.

The **African child's possible situation** vis-à-vis the national teaching languages may be:

- *Directly related* to the languages used.
- *Like the situations themselves, complex and varied.*
- *Generally very badly understood,* because the percentages of active speakers of widely-used African languages were arrived at by polling adult populations, and are not valid for school-age
children, whose interests and needs remain closely tied to their mother tongue (e.g. more than 80 per cent of people in Senegal speak Wolof, and more than 95 per cent of people in the Central African Republic speak Sango. The question remains: What would be the percentage of Senegalese children and children from the Central African Republic who speak these languages when they begin school?).

II. WHAT IS THE SITUATION CONFRONTING THE SCHOOL-AGE CHILD?

Whatever the type of official language policy, how the child stands with respect to the African language of instruction is determined by two fundamental and mutually exclusive situations.

First situation: The African teaching language (ATL) is the child’s mother tongue (MT), represented thus: ATL = MT.

Children in this situation should not experience any particular difficulty in assimilating the content of the curriculum in their mother tongue. Formal instruction in the African teaching language will be of the sort commonly applied to native speakers of a language, including the ability to move on rapidly to writing and reading, since the language has already been largely acquired by living in this linguistic environment.

Second situation: The African teaching language is not the child’s mother tongue, or ATL ≠ MT.

<table>
<thead>
<tr>
<th>Variant</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>First variant:</td>
<td>ATL = 0 i.e. the teaching language is not used by the pupil at all.</td>
</tr>
<tr>
<td>Second variant:</td>
<td>ATL &lt; MT or the pupil uses the teaching language less than his or her mother tongue.</td>
</tr>
<tr>
<td>Third variant:</td>
<td>ATL ≥ MT or the pupil's command of the African teaching language is as advanced as that of his or her mother tongue.</td>
</tr>
<tr>
<td>Fourth variant:</td>
<td>ATL &gt; MT or the pupil’s command of the teaching language is better than that of his or her mother tongue.</td>
</tr>
</tbody>
</table>
WHAT IS THE PRACTICAL USE OF THE SITUATIONS AND VARIANTS AS DESCRIBED?

They enable us to identify and systematize the situations we find in school, and to plan teaching strategies and instructional arrangements in accordance with these situations, both in schools and in teacher-training colleges.

III. WHAT ACTIONS CAN BE TAKEN, AND WHAT APPROACHES TO A SOLUTION CAN BE PROVIDED IN ORDER TO REDUCE THE NEGATIVE EFFECTS OF SITUATION NO. 2?

N.B. To each of the following tasks there corresponds a category of responsible parties within the education system. The reader should imagine, in the margins of the following paragraphs, the query: "Who does what?"

A. IN THE FIELD

Inspectors of school districts (in collaboration with professors at the national pedagogical institute)

During the experimental phase of the introduction of the African languages into the curriculum, make a judicious choice of pilot schools so as not to multiply the initial difficulties of the type: ATL ≠ MT.

Needless to say, these types of situation cannot be completely avoided, given the fact that officials and their families, for example, are reassigned to different linguistic areas; but if care is taken to ensure that linguistic homogeneity of the school has been made one of the criteria for designating experimental classes, such situations may be reduced to a minimum.

1. Although not the sole criterion, as will be clear from a later technical note.
Prior to the expansion of experimental classes, or even to the generalization of the experiment, ascertain the pupils' situation with regard to the African teaching language adopted in the schools involved.

In order to obtain up-to-date, usable and concrete information, practising teachers in the district in question will be called upon to gather data. The teacher-researchers will be provided with the means to carry out their inquiries, including the practical tools which could be developed by researchers in the pedagogical institutes and the teacher-training colleges.

The most convenient tools are series of game tests or a standardized series of objects by means of which one can determine the degree to which the new teaching language has been mastered by students in situation 2 (ATL ≠ MT), who are to be given instruction in that language.

At the beginning of the school year, divide the students into groups based on the results of the language survey undertaken at each of the schools. Prepare beforehand the practical work in the curriculum suited to each linguistic situation represented. Pupils in situation 1 (ATL = MT), for example, will be able to begin instruction in reading and writing in the first quarter of the school year; for situation 2 students (ATL ≠ MT), this same first quarter will have to be devoted to either improving comprehension of the teaching language, or beginning instruction in it, for situation 2 pupils coming under the variants: TL = 0 and ATL < MT.
This division of the pupils based on prior language experience and level of mastery is only a temporary palliative: the objective is to return as quickly as possible to a common curriculum for the entire class.

Supervisors in teacher-training colleges, offices of the ministry of education

Include in the initial experimental phase a class reflecting ATL ≠ MT to a high degree. This class can serve as a pilot project for trying out the division of students into linguistic classes for purposes of future applications to all schools in which linguistic heterogeneity is prominent. By proceeding thus, one will be able to evaluate the effectiveness of specific programmes and improve the system as a whole.

N.B. Specialized team from the national pedagogical institute

Although still a rarity in Africa, a widely available pre-school programme open to national languages could replace in many instances the need to divide primary-school classes according to language competence and history.

B. IN TEACHER-TRAINING COLLEGES

Supervisors in teacher-training colleges

Make an analysis of the way in which recruitment is carried out in teacher-training colleges based on good understanding of indigenous languages. The point is to favour candidates who possess a good working knowledge of several languages spoken in the country.
| Supervisors in teacher-training colleges | During the period of their professional internship, **provides** **prospective teachers** with the concrete resources needed to learn or improve their knowledge of the practice and theory of one or two indigenous teaching languages in addition to the one they already possess. To this end, an excellent start would be the creation and use of a language laboratory within the teacher-training college, provided one has first of all **prepared** the corresponding instructional materials (i.e. graded pronunciation, grammar and vocabulary exercises, etc.). |
| Researchers in institutes of applied linguistics | |
| Offices of the ministry of education and district school inspectors | **Plan** as early as possible on assigning a prospective teacher to a given linguistic region after the period of training, so that the teacher's own technical and psychological preparation can be matched to situations in which: ATL = 0 and ATL ≠ MT. |
| Supervisors in teacher-training colleges | It then becomes possible to **create** working groups and workshops within the teacher-training colleges focused on structuring a suitable pedagogy and specific teaching methods based on the pupils' language situations and their variants, as surveyed by teachers in the field. |
| Offices of the ministry of education and district school inspectors | In instances of high concentration of pupils reflecting language situation 2 (ATL ≠ MT), **favour the assignment** of teachers in the same language situation, with the following variants: ATL ≤ MT and ATL > MT. |
The personal experience and specific teacher-training in college of this class of teachers (see preceding section) make them better suited than monolingual teachers to the tasks of identifying and correcting lexical ambiguities that occur at various levels of African languages, when juxtaposed. They will also be better prepared to deal with the problem of dialect variation and the use of a standardized, codified teaching language, and to assess and interpret psychologically individual situations of pupils in their relationship with the teaching language.

AVENUES OF RESEARCH
(FOR PEDAGOGICAL INSTITUTES)

Even at the primary-school level, bilingualism or multilingualism is always a matter of degrees, being more or less comprehensive or approximate, integrated or distinct. One cannot be satisfied with a simple survey in measuring the qualitative differences within the second language situation. In an environment where more than one language is being used, it is therefore necessary to define appropriate and precise standards as regards the teaching language in question on the basis of which minimum and maximum thresholds of pupil competence in this language can be ascertained, taking into consideration the various divisions of this language situation.

Accomplishing this will no doubt entail serious and prolonged inquiry and research. Teachers may be sorely tempted simply to endure passively a situation for which they bear no responsibility, especially in instances where the teaching languages have been selected on non-pedagogical criteria (see introductory technical note).

On the other hand, it would be unforgivable not to react to a situation which “institutionalizes” a factor of inequality by creating right from the start a class of privileged pupils (ATL = MT) and an underclass of unfortunate learners (ATL ≠ MT).

Whether one likes it or not, the truth is that in the majority of African countries embarked on the promotion of national languages as languages of instruction, teachers must be prepared for situations in which the teaching language is not the mother tongue of all the students in the class.
It is therefore necessary, with regard to research, pedagogical practice and teacher training, to find realistic responses to these difficult situations. Any teacher worthy of the name must refuse to accept the linguistic status quo.

The most economical manner in which to obtain the necessary information on the actual language-competence situation in schools is to ask each teacher to conduct a survey in his or her school, using a questionnaire that is easy to use, comprehensive and easy to analyse.

What follows is a sample questionnaire that has proved workable.

<table>
<thead>
<tr>
<th>Situation 1</th>
<th>ATL = MT</th>
<th>Number of pupils for whom ATL is also the mother tongue:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Situation 2</th>
<th>ATL ≠ MT</th>
<th>Number of pupils for whom ATL is not the mother tongue:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Situation 2.1</th>
<th>ATL &gt; MT, ATL ≠ MT</th>
<th>Number of pupils with equal or better grasp of teaching language compared with the mother tongue:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Situation 2.2</th>
<th>ATL &lt; MT, ATL = 0</th>
<th>Number of pupils with less grasp of the teaching language compared with the mother tongue, or no grasp at all:</th>
</tr>
</thead>
</table>

Recommendations to users of the questionnaire

1. It is essential that a meeting be held for teachers administering the survey, to promote awareness and information on how the questionnaire is to be administered and filled out.

2. The concept of a mother tongue should be clear to teachers: the language used by the pupil habitually and continuously in his or her dealings with family and society since early childhood. Individual
examples of student language use in the classes can be referred to for clarification.

3. In filling out the questionnaire, the teacher should rely on:

- his or her personal knowledge of the pupil;
- information supplied by the parents of each student.

Note: The assessment criteria may seem relatively subjective, even though the teacher's experience and the family language use are concrete and relevant evidence for evaluating the linguistic profile of a child entering primary school. However, the survey is not aimed at achieving mathematical precision (after all, the languages used in a given class may fluctuate widely from one year to the next), but is designed simply to provide the persons in charge of educational reform with credible information on the language-use situation in the schools of each region as the experiment is launched, or extended to the entire system.
Verbalization of elementary intuitive notions (space, time, etc.) and cognitive use of the language. Problems and approaches to solving them.

I. WHAT IS THE EXACT NATURE OF THE PROBLEM?

The endeavour to make full use of African languages in school curricula frequently runs up against two prejudices that are still widespread, even in the teaching profession.

First prejudice: African languages lack "precise terms" for elementary intuitive notions (space, time, cause and effect, etc.) which underlie technical activities in school.

Second prejudice: African languages are conceptually and intellectually impoverished. They fail to convey adequately the logical mathematical concepts whose acquisition is foreseen in school curricula.

The aim of this technical note is:

• To provide a brief response to these charges.
• To clarify the actual pedagogical problems regarding the acquisition and verbalization of fundamental intuitive notions in the African teaching language, in addition to the cognitive skills related to this acquisition in the classroom.
• To suggest practical teaching approaches to these problems based on the facts that emerge from the analysis.

II. HOW TO REACT TO THESE CHARGES?

The first charge against the African languages confuses the language and the use made of it.

• It is not the language itself which "lacks terms" (it is perfectly able to generate them as needed), but the users of the language whose knowledge of the resources and potential of the language is more or less advanced. (For instance, one user of Wolof translated part of Einstein's work into that language.)
Any human language that is pushed to perform can express any communicable human experience (example: in the space of only 20 years, Hebrew went from a "Biblical" stage of development to that of a specialized technical language).

In sum, there is no such thing as a language that is imprecise by nature. What we are in fact confronted with is a temporary situation in which some languages, influenced by extra linguistic forces, have developed more or less elaborate expressions for given portions of the spectrum of human experience.

The second charge does not stand up to the slightest scrutiny either.

The so-called "lack of logical ability" that some teachers claim to find in African pupils has nothing whatever to do with a supposed inability of the African languages to convey logical mathematical learning; the culprit is rather the inadequacy of instruction.

It is perfectly normal that African pupils should rebel when confronted with a form of logic such as that imparted by their teacher (who has been trained in Cartesian methods of reasoning) and imposed by their textbooks (which are based on imported conceptual schemata):

It remains to be demonstrated that these same pupils would reject other logical approaches better suited to the cultural habits of their own socio-linguistic milieu.

In conclusion, the problems encountered in teaching mathematics in Africa should not be attributed to structural deficiencies in African languages; they are rather linked to deficiencies in the instructional and methodological approaches.

III. WHAT ARE THE ACTUAL PEDAGOGICAL PROBLEMS?

As regards the acquisition and verbalization of the fundamental intuitive notions:

The authors of school textbooks and teachers generally have very inadequate objective information regarding the African school child's means of expression, and notably the child's ability to make functional use of the African teaching language selected for the classroom. Having this objective information is crucial for:
Designing curricula and textbooks better suited to the actual, as opposed to the supposed, potential of school-age children.

Adopting an active teaching style in which mental operation is subordinated to verbalization of the corresponding mental experience.

As regards the use of the African teaching language for instruction in mathematics:

- It is no doubt the case that there is a problem with the teaching of mathematics in Africa. The phenomenon can be gauged by the small number of mathematics students enrolled in African institutions of higher learning, compared with the large number of students of literature and law.
- It should not be assumed, however, that the use of an African language in which the child is at ease would suffice to overcome the problems of understanding mathematics.
- The truth is that the link between language and conceptualization must not be broken in certain contexts. That is why, when the language of instruction is Africanized, one must also Africanize the content and the instructional method, so that they are better suited to the logical and experiential world of the African child.
- This does not imply that we must go about inventing an “African mathematics” (mathematical principles are universal and transcend cultures). What must be done, rather, is to redefine the approach to mathematics and adapt it to the African child, whose operational modalities and intellectual approaches leading to the acquisition of mathematical principles are dependent on cultural factors.

IV. WHAT CONCRETE ACTIONS SHOULD BE TAKEN AND WHAT POSSIBLE SOLUTIONS CAN BE PROPOSED TO ENSURE A BETTER UNDERSTANDING OF THE CHILD’S ABILITY TO VERBALIZE FUNDAMENTAL INTUITIVE NOTIONS AND USE THE COGNITIVE POTENTIAL OF THE AFRICAN TEACHING LANGUAGE?

As regards fundamental intuitive notions

Here the task consists in encouraging surveys regarding each African language newly introduced into school programmes, aimed at gathering information of direct relevance to teaching. The results of these surveys
will constitute an education psychology foundation for all the textbooks in African teaching languages to be subsequently created (notably those intended for early scientific learning).

Survey objective

Ascertain and list how children verbally express fundamental intuitive notions when speaking African teaching languages.

Methodological considerations

The nature of this study, and the level at which it is undertaken, will require interdisciplinary cooperation involving:

- The trainer/student teacher teams from teacher-training colleges.
- The team of psychologists from the national pedagogical institute.
- Professional linguists.

The resulting database should reflect three education psychology priorities:

- Concentrate on the child and the child's own means of expression.
- Respect the stages of the child's mental development.
- Consider the African teaching language as a means of expression, not an object of study in itself.

Sample survey

The table below provides a summary of such a study relating to an African teaching language (Sango, spoken in the Central African Republic). The study was undertaken entirely by a group of prospective teachers. As such, the study constitutes a concrete example of what can be accomplished by future teachers.

Important observation

The inadequacies of this study are obvious. They are essentially the result of a lack of interdisciplinary coordination with specialists in the language. One consequence was that the student teachers conducting this study tended to favour clearly demarcated phrases at the expense of other means of expression such as the structure and expressiveness of the utterance.
Even so, the results of this study bring a systematic approach to the situation, and help to reconstruct the general order of emergence and development of fundamental intuitions and their expression through actual contact with African children. As such, these data are a precious basis on which to build textbooks, and they point to the order in which the content of those textbooks should be presented (introductory textbooks in history, geography, geometry, technology, language, etc.). Although the results of this study by student-teachers are valid only for a specific linguistic environment, the approach may be applied to other contexts.
<table>
<thead>
<tr>
<th>Notions</th>
<th>Preparatory class for beginners (ages 6-8)</th>
<th>Elementary class, 1st and 2nd years (ages 8-10)</th>
<th>Intermediate class, 1st and 2nd years (ages 10-12)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Spatial relations</strong></td>
<td>- mbage ti koli (man's side = right side)</td>
<td>- mbage maboko ti koli (side of man's arm = right side with respect to others)</td>
<td>- mbage moboko ti wali (side of woman's arm = left side with respect to others)</td>
</tr>
<tr>
<td><strong>Temporal relations</strong></td>
<td>- Kozoni (beforehand, without reference to self)</td>
<td>- lege oko tongana mbii (simultaneity)</td>
<td>- Kozo ti mbii (before, the self implied)</td>
</tr>
<tr>
<td><strong>Temporal relativity</strong></td>
<td>tongana (when)</td>
<td>gilili (in the past) tade so (now) la (duration), gilili so (the last time that, in time past when)</td>
<td>tongana a nde (hypothetical if) tongana fade (hypothetical if, that)</td>
</tr>
<tr>
<td><strong>Spatial-temporal relation (speed)</strong></td>
<td>- hio fade fade</td>
<td>- nda il ti so fade so (duration), gilili so (the last time that, in time past when)</td>
<td>- tene ti nye? (because of what?) - ngbanga ti nye? (for what reason?)</td>
</tr>
<tr>
<td><strong>Causality</strong></td>
<td>- nda il ti so (because)</td>
<td>- ngbanga ti so (because)</td>
<td></td>
</tr>
<tr>
<td><strong>Cause and effect relation</strong></td>
<td>- nda il ni si (that is why) - ngbanga ti so (a question of = that is why)</td>
<td>- mbi hoo lo (I am taller than him) - lo hoo mbi</td>
<td>- mbi yeke kota mingi (I am tall very = I am very tall)</td>
</tr>
<tr>
<td><strong>Comparison and degrees of comparison</strong></td>
<td>tongana (like)</td>
<td>- mbi hoo lo (I am taller than him) - lo hoo mbi</td>
<td></td>
</tr>
<tr>
<td><strong>Notions of class</strong></td>
<td>ala kwe (all) ni kwe (all)</td>
<td>a mbeni (some) a mbeni ya (some) oko, oko (each)</td>
<td></td>
</tr>
</tbody>
</table>
Practical verbal exercises for children ages 10 to 12 providing an introduction to thinking about technology (practical application of the previous technical note).

I. WHAT IS THE EXACT NATURE OF THE PROBLEM?

In order to justify making full use of them in school curricula, African teaching languages must be able to convey technological content and related operating procedures effectively and economically. In early learning science activities, rough approximations are not acceptable.

Experience shows that the use of African languages to convey technological content works best when:

1. Precise information is available regarding the child's expressive potential vis-à-vis his or her needs and the concrete domain of technical objects designed to satisfy those needs (materials, manufacturing and processing procedures, instructions, etc.).

2. A minimum of reliable information has been gathered on the child's ability to verbalize the cognitive experiences to which he or she has already been exposed (introduction to local systems of counting and arithmetical operations).

3. The child has been trained to describe technological processes and to think functionally, so that he or she is in the habit of rapidly and consciously using the logical tools inherent in the African teaching language, and satisfactorily verbalizing the full range of logical relations and connections whose mastery is a condition for assimilating the scientific and technological subject matter of school curricula.

The previous technical note suggested a number of approaches aimed at helping the teacher to meet the first two conditions.

This technical note proposes a concrete example of a technological sequence and a sample of functional thinking designed for children aged 10 to 12, to help them formulate **precise verbalizations** and make proper use of logical relations and connections – in other words the linguistic underpinnings of the cognitive functions of language.
II. CONCRETE EXAMPLE AND APPLICATION

Objectives of the exercise

- Stimulate thought and verbalization regarding a technological fact drawn from the pupils' social milieu.
- Create awareness of the pupils' own technological values, guiding them in discovering that their own technology is not inherently inferior to imported technology.

Level of application

A group of students aged 10 to 12 years (intermediate primary school class).

Procedure

The pupils analyse a "squirrel trap" (also called a "rat trap").
Instructions for use:

1. Have pupils give a detailed description of how the trap works, taking care to insist that each component’s function is clearly demonstrated (both pupils and teachers may be tempted to use a European language: this should not be allowed).

2. Have pupils give the proper name of each technical element of the trap (stake, peg, loose binding, pin, trigger). If need be, the pupils can learn the technical terms from their older colleagues, who regularly build this sort of trap (adolescent males aged 13 or 14, according to our observations), and who use precise terms for each functioning part of the trap.

3. Have pupils make a list of all the precautions that must be taken in order for the trap to be 100 per cent effective.

   Q: — Why must the binding be made loose? What would happen if it were tied tightly?

   A: — A tight binding would prevent the trigger mechanism from pivoting.

   Q: — What would happen if the stake were not firmly fixed in the ground?

   A: — The trap wouldn’t be reliable. If the stake were put into loose (wet, sandy, etc.) earth, the trap would fall forward under the animal’s weight, without pushing the pin back.

   Q: — Why is it better to use a branch for the trigger than a smooth stick?

   A: — Because that would leave space for the animal to jump over it or pass under it. Also, a branch cut from a neighbouring bush or tree has camouflage properties. unlike, say, a machine-made dowel.

   Q: — Why do the two wooden forks that hold up the entire trap have to be of different heights? Why does one of the forks have to be shorter than the other?, etc.

   Q: — What changes would have to be made to the trap if we wanted the trapped animal to be kept alive?

   A: — Place the stone on a sieve or a wire mesh box with no bottom.
Q: — What would be the advantages of these changes?

A: — If the animal were kept alive, it could be eaten fresher. The trapped animal would be protected from predators (vultures, ants, etc.). The meat would not be spoiled by bursting of the animal's internal organs, etc.

4. The training in analysis and verbalization should be continued by asking pupils to compare the advantages and disadvantages of a locally made trap with those of an imported manufactured one (i.e. the classic large rat trap used in cities). Which of the two traps is usable in more situations? Which gives you the best quality for the price, given the natural setting in which it is to be used? Without a doubt, the local product comes out ahead, being perfectly adapted to the desired outcome. It is cheaper to make. It is also more rugged (e.g. the spring on the imported item rusts in wet weather). It is also more effective (with the manufactured article, if the animal is not caught by the neck, it can escape). It is designed specifically for one purpose: the imported article can be triggered by a cat, an inedible bird, or a dog, and rendered inoperative. It is less dangerous to handle than the manufactured article (the imported item can injure the inexperienced fingers of children, etc.). One big advantage of the imported trap, however, is that it can be easily moved.

III. WHAT CAN BE EXPECTED FROM THIS SORT OF EXERCISE?

The preceding exercise is not meant to take place in a vacuum, but rather is part of a graded series of exercises covering all the intuitive relations and notions presented in technical note 4 (relative time, space-time, cause and effect, etc.)

When it comes to technological descriptions, it is always hard to elicit precise verbal explanations from pupils. Children tend to juxtapose what is actually coordinated, and to substitute gestures and mimicry for the relational verbal tools they have difficulty in finding.

Thanks to this type of training exercise, the child will be able to discover the considerable potential for logical structures inherent in the African teaching language, and the outcome will be new language habits enabling both pupils and teachers to make effective use of African teaching languages in the technological activities included in the school curriculum.
Analysis of the linguistic situations of teachers with regard to the African teaching language. Proposals for a solution.

I. WHAT IS THE EXACT NATURE OF THE PROBLEM?

The linguistic situation of teachers with regard to national teaching languages is rarely simple and straightforward. This situation naturally tends to reflect broader African linguistic realities that are sometimes complex. Moreover, as countries strive to promote national unity, teachers are assigned not only to their original language zone, but may be assigned to any area of the country, which further complicates the initial linguistic state of affairs for the teacher.

When the process of using national languages in the classroom is still in an experimental phase, it is relatively easy to find teachers whose own language usage matches the criteria required for the country's new language policy. Since experimental schools are usually few in number, educational reformers are able to select teachers with an excellent command of the language or languages chosen as teaching media. However, once the reform expands to cover the whole country, one can no longer avoid situations in which the national teaching language is not the mother tongue or vernacular of the teachers (Professor Alexandre cites the case of an Iwo teacher giving instruction in Swahili to Lugbara children—three completely unrelated languages).

II. WHAT IS THE SITUATION IN THE FIELD AS REGARDS TEACHERS AND FUTURE TEACHERS?

For some teachers, the African teaching language (ATL) is also the mother tongue (MT), a situation represented by the formula ATL = MT.

This optimum case, corresponding to student language situation 1, is commonly encountered in the initial reform process.

For other teachers and prospective teachers, the African teaching language is different from the mother tongue. This case corresponds to situation 2 in student language use, and is represented by the formula ATL ≠ MT.
This situation has a number of variants that can be reduced to two crucial types with regard to teaching.

2.1 Mastery of the teaching language is equal to command of the mother tongue, or ATL = MT.

2.2 Command of the African teaching language is below the level of mastery of the mother tongue, or ATL < MT.

In teacher-training colleges, one encounters a third type, in which the mastery of the African teaching language is nil (ATL = 0).

The outline provided above is a rough sketch, and does not apply universally. Situations vary from one country to the next and one region to the next, and the system of classification applied to them must be adjusted as a consequence. When dealing with adult language use, the mother tongue is not always the sole significant point of reference with respect to the teaching language. It is often necessary to introduce a third variable, namely the habitual African language (HAL), which may not be the mother tongue, but a language sufficiently mastered to ensure instruction free of language problems. In this case, language situations 1 and 2 will be represented, respectively, by the formulae:

\[
\begin{align*}
ATL &= MT \text{ and/or } HAL \\
ATL &< MT \text{ and/or } HAL
\end{align*}
\]

Obviously, it is the schema that must be made to fit the facts not the other way round.

III. WHAT CAN BE DONE TO RESOLVE THE DIFFICULTIES INHERENT IN SITUATION 2?

Clearly, this situation poses problems (especially variant 2.2), but it is not an inevitability that must be passively endured.

First, a certain number of preventive measures can be taken, such as determining several years in advance what the linguistic situation of teachers will be when the time comes to expand the language reform to the entire country. A first step involves ascertaining the language-use situation within teacher-training colleges. The data from such a survey can be used to design administrative and pedagogical measures to remedy the most problematic situations.
As a concrete illustration, there follows a breakdown of the language-use situations of the teachers participating in the language reform in Burkina Faso some 15 years ago. It includes prospective teachers in training at l'École Normale de Ouagadougou.

Preliminary observations

The breakdown of prospective teachers within the various categories of situation 2 is purely notional, being based on individuals' personal assessment of their own language situation, to which is added assessments made by other members of the group, who are speakers of the languages in question.

The letters M, J and F in the tables stand for Moore, Jula and Fulfulde, used as teaching languages in the corresponding linguistic areas.

<table>
<thead>
<tr>
<th>LANGUAGE USED BY PRACTISING TEACHERS</th>
<th>IN EXPERIMENTAL CLASSES: 1981-1982</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SITUATION 1: ATL = MT</strong></td>
<td></td>
</tr>
<tr>
<td>for 17 teachers out of 35</td>
<td></td>
</tr>
<tr>
<td>M/F = MT</td>
<td></td>
</tr>
<tr>
<td>12 cases in which ATL M = MT</td>
<td></td>
</tr>
<tr>
<td>5 cases in which ATL F = MT</td>
<td></td>
</tr>
<tr>
<td><strong>SITUATION 2: ATL ≠ MT</strong></td>
<td></td>
</tr>
<tr>
<td>for 18 teachers out of 35</td>
<td></td>
</tr>
<tr>
<td>M/J/F ≠ MT</td>
<td></td>
</tr>
<tr>
<td>2.1: ATL &gt; MT</td>
<td></td>
</tr>
<tr>
<td>for 11 teachers out of 35</td>
<td></td>
</tr>
<tr>
<td>M/J &gt; MT</td>
<td></td>
</tr>
<tr>
<td>5 cases in which ATL M &gt; MT</td>
<td></td>
</tr>
<tr>
<td>6 cases in which ATL J &gt; MT</td>
<td></td>
</tr>
<tr>
<td>2.2: ATL &lt; MT</td>
<td></td>
</tr>
<tr>
<td>for 7 teachers out of 35</td>
<td></td>
</tr>
<tr>
<td>J/F &lt; MT</td>
<td></td>
</tr>
<tr>
<td>1 case in which ATL F &lt; MT</td>
<td></td>
</tr>
<tr>
<td>6 cases in which ATL J &lt; MT</td>
<td></td>
</tr>
</tbody>
</table>

Observations: Twenty-eight teachers out of 35 correspond to situation 1 (ATL = MT) or situation 2.1 (TL > MT). In theory, then, seven teachers whose command of the teaching language is not complete should be provided with more thorough technical and pedagogical support.
LINGUISTIC SITUATION IN A PROGRAMME FOR PROSPECTIVE TEACHERS IN TRAINING IN 1982

SITUATION 1: ATL = MT
for 24 prospective teachers out of 31
M/J/F = MT

- 20 cases in which ATL M = MT
- 3 cases in which ATL J = MT
- 1 case in which ATL F = MT

SITUATION 2: ATL ≠ MT
for 7 prospective teachers out of 31

2.1: ATL > MT
for 3 teachers out of 31
M ≡ MT

- 3 cases in which ATL > MT

2.2: ATL < MT
for 1 teacher out of 31
M < MT

- 1 case in which ATL M < MT

2.3: ATL = 0
for 3 teachers out of 31
M/J/F = 0

- 3 cases in which ATL (M/J/F) = 0

Observations: Few problems foreseeable in this class of trainee teachers. The three cases in which the ATL = 0 can be resolved by proper placement of the teachers.

IV. CONCLUSION

A typology of this sort is obviously of interest to the promotion of language reforms, since the information provided by such surveys makes it possible:

- To introduce into teacher-training colleges variable curricula which are specifically geared to each type of situation identified.
- To rationalize the assignment of teachers in the field, by ensuring that all pupils and teachers enjoy optimal teaching situations.
- To target recruitment with a view to remedying shortfalls and anticipating the number of teachers needed for each national teaching language selected.
- To develop a programme of language skill improvement using language laboratories. Such exercises may help to reduce, if not eliminate, difficulties arising from situations of type ATL < MT, and to increase the range of choices when assigning prospective teachers to posts outside their original language areas.
What practical and theoretical questions do teachers and prospective teachers ask about the use of African languages in the classroom? What are the concrete stumbling blocks encountered by teachers who use an African language in the classroom?

I. THE EXACT NATURE OF THE PROBLEM

The basic task of regional school inspectors, educational consultants and headmasters is to advise and assist teachers who are responsible for implementing, under their supervision, programmes ensuring the use of African teaching languages in the classroom. If these officials are to be timely and effective in their work, it is crucial that they have a solid, objective understanding of the major general and technical questions of concern to teachers regarding the use of national languages in their classes.

II. A SURVEY OF THE TEACHING PROFESSION

This technical note makes an inventory of all these questions on the basis of a survey of 800 African teachers and prospective teachers involved in using national languages either during their initial teacher training or in the classroom application phase.

The survey was carried out in two countries that are very representative with regard to language situations in Africa:

- In the Central African Republic, a single national language (Sango) was introduced on an experimental basis in the curriculum of the “école de promotion collective”, in which Sango and French form the two poles of a functional educational bilingualism. Carried out from 1974 to 1979, the survey covered the classes of prospective teachers and the majority of practising teachers in the field (747 professionals in all).
- In Burkina Faso, three national languages have been used on an experimental basis in reformed school curricula (Moore, Jula and Fulfulde). French remains one pole of a functional bilingualism in the three different language zones. The survey was carried out from 1979 to 1981 and covered 53 prospective teachers.
Given the size of the overall population covered by this survey, the resulting data may be considered a faithful reflection of the need for information and training felt by practising and future primary-school teachers. We believe we are providing a useful service to inspectors, educational consultants and headmasters by making available the raw data of the survey, on which they may draw freely for the preparation of teaching theory courses, and more generally, the design of teacher-training programmes wherever their respective education systems already use or intend to use national languages in school.

III. RESULTS OF THE DATA ANALYSIS

First topic: Why use African languages in school?

With respect to this topic we have identified a set of general questions of concern to teachers. The importance of these questions is a strong indicator that awareness building and information for future teachers should not be neglected in favour of technical training alone.

<table>
<thead>
<tr>
<th>Question 1</th>
<th>Why use national African languages as teaching media?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question 2</td>
<td>Why teach African languages as a curricular subject matter (grammar, language, elocution, etc.)?</td>
</tr>
<tr>
<td>Question 3</td>
<td>Are African languages sufficiently rich and effective to be used to convey subject matter and to be studied in themselves?</td>
</tr>
<tr>
<td>Question 4</td>
<td>Is it accurate to speak of African “languages” as such, or would it not be more appropriate to speak of dialects or patois?</td>
</tr>
<tr>
<td>Question 5</td>
<td>What exactly will our role be in the promotion of national languages? (We are teachers, after all, not linguists.)</td>
</tr>
</tbody>
</table>
Second topic: Oral expression and reading in the African teaching language

Sample responses were relatively low for the following technical topics. It is teachers already actively involved in the process who are particularly sensitive to problems of practical implementation, whereas the questions in the first table were mainly asked by students in teacher-training colleges. Trainee teachers constituted the vast majority of the sample in our survey.

<table>
<thead>
<tr>
<th>Question 1</th>
<th>If we begin using a national language as a teaching language, and delay the study of French, will the pupils have enough time to assimilate French before they graduate?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question 2</td>
<td>How can we give instruction in language arts in the indigenous language when we have no textbooks available for this purpose?</td>
</tr>
<tr>
<td>Question 3</td>
<td>Is it possible to use the methodology for teaching language arts in French as the basis for teaching language using the national language?</td>
</tr>
<tr>
<td>Question 4</td>
<td>How can we test the progress of our students in language arts? Have tests in the African languages been devised?</td>
</tr>
<tr>
<td>Question 5</td>
<td>Here in Africa, ecological, geographical, economic and sociocultural particularities are more pronounced than in Europe. When textbooks and teaching aids, and overall language curricula are designed, will these differences be taken into consideration?</td>
</tr>
<tr>
<td>Question 6</td>
<td>How can we deal with the problem of cross-linguistic relationships (phonetic, grammatical, lexical interference)?</td>
</tr>
</tbody>
</table>
Third topic: Instruction in written expression: spelling and grammar

Question 1 Why not use French spelling for transcribing our national languages, since a large number of people can already read written French? Wouldn’t that option spare us some problems in the learning of a new spelling system?

Question 2 If we keep separate spelling systems (for French and national languages), won’t this create confusion in spelling as the student moves from language to language (e.g. u and ou, e and e). How can this problem be solved with regard to teaching?

Question 3 Is it really not possible to use the terminology already used for describing French and apply it to the grammatical analysis of our African languages (subject, verb, object). Teachers and students already have a good grasp of that terminology. Would using a new terminology not be a needless multiplication of difficulties?

Fourth topic: Introduction to reading and fluent reading

Question 1 Teachers have already been trained in various methods of learning to read in the European languages (global [look and say, whole word] method, semi-global method, mixed method, synthetic method, etc.). Can these methodological habits be used for teaching reading in the African languages? Or here again will teachers have to retrain?

Question 2 How can we check whether our pupils have really learned to read in the national language? At what point in the curriculum can we move on to learning reading in French?
Question 1  The national languages are not rich in logico-mathematical terms and abstract terms. Can we seriously envisage teaching mathematics in this situation, without settling for second-rate instruction?

Question 2  Can one use the same methods and procedures for teaching arithmetic in French and in the national teaching language?

IV. OBSERVATIONS

• A good many other questions are on the minds of the teachers and future teachers, in particular the matter of national unity (will ethnic divisions not be widened by dividing the country into language zones?).

• The choice of languages (what of minority languages?). The question of job opportunities, the question of translators (what of the child who follows his or her parents to a different language zone?). We have limited ourselves in this discussion to problems of general pedagogy, and issues that involve a particular teaching technique.

• The following technical notes offer educational officials and those responsible for teacher training a framework for replying to questions under topic 1. The responses should be of help to inspectors and consultants responsible for conducting lectures and seminars on teaching theory for teachers in districts engaged in linguistic reform.
Question 1: asked by teachers and prospective teachers:

Why teach in our African national languages?

Question 2:

Why teach the national languages as a subject matter in the curriculum (language arts, grammar, elocution).

The purpose of this technical note is to provide those responsible for training teachers and headmasters with a framework for responding to these questions.

**FRAMEWORK FOR RESPONDING TO THE FIRST QUESTION**

The main elements of the justification for teaching at the primary-school level in the African languages are the following:

From the point of view of teaching practice

The use of the vernacular language ensures the child's affective and psychomotor development.

Only the mother tongue can unlock the child's expressive potential.

The mother tongue enables the child to verbalize his entire experience.

From the point of view of teaching theory

The use of a vernacular language already spoken by the child allows the bulk of instructional efforts to focus on content.

Using a foreign language means that the initial effort must be to master the medium of instruction; only later can content be mastered. The expenditure of time and energy is much greater.
From the psychological point of view
The acquisition of the child's initial skills using the vernacular tongue should be followed up using the same language, in order to avoid interference and confusion resulting from too sharp a break between modes of thought and expression.

From the perspective of society and the family
The use of vernacular languages in the classroom gives the family and the village the ability to:

- continue the educational effort already begun within the family;
- participate in the children's instruction by ensuring that the school honours traditional values.

From a cultural perspective
Vernacular languages are the initial foundation of the personality of individuals and the nation: denying these languages is tantamount to denying oneself.

From an economical point of view
Use of vernacular languages ensures access to education for a greater number of children, by reducing the number of pupils who have to respect grades (expensive) or fail in their studies due to premature attempts to learn a teaching language that is not native to the children.
FRAMEWORK FOR RESPONDING TO THE SECOND QUESTION

The main points of justification for teaching national languages as a subject matter in the curriculum are as follows:

From a pedagogical perspective

**Improved practical use** of the national language comes about through an understanding of the way it works.

Mastery of a minimum number of grammatical rules is required for **written composition**.

Spelling is governed by constraints that are morphological and syntactic, and these must be learned.

From a cultural point of view

The teaching of African languages, which are studied systematically in and of themselves, **without reference to other linguistic systems**, enhances the authenticity and personality of these languages as autonomous cultural entities.

In order for a language to have full status as a teaching language, it must both be used as a medium and studied as a subject matter in itself. There is no reason to deny such full status to national languages in Africa.

African languages were already taught implicitly through traditional activities (language games, grammatical play, etc.). The schools merely systematize informal, ad hoc practices (see practical exercises).

From a cognitive point of view

The study of national languages as subject matters introduces the child to a logical universe and a way of thinking that are characteristically African. (Linguistic structures mirror underlying logical structures.)

Discovering how a language functions draws on cognitive skills just as the discovery of logico-mathematical relations does.
PRACTICAL EXERCISES

Even the best pedagogical studies are ineffectual if they are not illustrated by practical activities. The ideal would be if each theoretical argument listed above were to be supported by concrete practical exercises adapted to specific national circumstances.

For example, here is an exercise applied to traditional games that teachers and prospective teachers can use in their own languages. It supports and illustrates the third argument in the cultural justification under question 2. The goal is to make teachers and prospective teachers aware that certain traditional games which are firmly linked to the child’s everyday world are in fact practical exercises in grammar, language, vocabulary, etc., which have been evolved by tradition for the implicit purpose of linguistic self-defence and self-correction.

The following example is from the Fulfulde language (spoken in northern Burkina Faso). It involves the description and pedagogical use of a language game.

**LANGUAGE:** Vocabulary game

**Description of the game:** The game leader speaks to the whole group, saying:

"mi / soppi / ngaari"
I / kill / a steer

One of the players replies:

"mi / soodi"
I / buy.

What does the player buy? All the usable parts of the steer. Now, of all the edible and useful parts of the animal, he will have to say precisely what he would like to purchase, with the understanding that "payment" for these parts will take the form of stories or riddles, with the "expenditure" proportional to the size and quality of the part he wants to buy. The "price" of the hooves, for instance, will be one riddle, whereas the neck will fetch four riddles and two stories. Here is a list from which the player will make his choice:
The game continues, with variations ("I kill a goat, a kid, etc."). After all the players have played, they move on to the "payment".

This game is in fact a special vocabulary lesson in animal morphology. It makes the children use a precise and detailed terminology. It also introduces notions of more or less, and comparisons useful in mathematics (such and such a body part is less sought after than another, and will consequently be cheaper to buy; but it is more sought after than a third part, therefore, etc.).

*Use in the classroom*

Teachers are asked to prepare a lesson plan in which this game is adapted to the particular class learning objectives, with a test of items learned at the end of the class.
Question 3: asked by teachers and prospective teachers:

"Are our African languages sufficiently rich and effective to be suitable to convey subject matter and to be studied in themselves?"

Question 4: asked:

"Is it accurate to speak of African ‘languages’ as such, or would it not be more appropriate to speak of dialects or patois?"

**FRAMEWORK FOR RESPONDING TO THE THIRD QUESTION**

African languages are perfectly suitable media for conveying course content, for the following reasons:

**Common sense**

In most African languages, the existing vocabulary is sufficiently rich to handle the only slightly specialized content of primary school curricula. Language reform has to begin in primary school, not at the university or graduate school levels.

**Psycholinguistics**

African languages are more precise, richer, and therefore more effective than foreign languages when it comes to reflecting the African realities which nourish school curricula. The africanization of teaching media must go hand in hand with the africanization of curricular content.

**Educational psychology**

A really effective teaching language is one which enables the child to question, respond, explain what he or she does not understand. This means, necessarily, that the child's familiar language of communication must be used in school, at least in the initial years of instruction.

**Linguistics**

Languages are only potentially rich and effective as media. They acquire depth and effectiveness through the full and concrete exercise of teaching activity. The need to "perform" forces a language to evolve its own resources.
It is accurate to speak of "African languages" and not "dialects" or "patois", for the following reasons:

**Science**

The difference between a language and a dialect is based more on sociological criteria than on purely linguistic criteria.

**Linguistics**

Any form of speech that has a *lexical, syntactic and phonetic system* of its own can claim to be a language.

**History**

The social status that distinguishes a dominant language from a subordinate one (assigned the title of dialect) is the product of *historical events and cultural phenomena* which are always subject to change.

**Good usage**

Intellectually respectable, modern studies which have no ethnocentric hidden agendas, freely use the expression "African languages".

**PRACTICAL EXERCISES**

Our task is to demonstrate to teachers, using concrete examples, that African languages are richer, more accurate, more "pedagogically effective" than foreign languages in translating the realities of African life and *harnessing those realities in the curricula*. (Cf. Framework for responding to question 3, "Psycholinguistics"). Subsequently, teachers will be asked to look for examples in their own language, taking care to ensure that this research may be incorporated into future practical teaching exercises.

The following example is taken from the Fulfulde language. It is well known that in Fulfulde the names given to cows and steers is determined by the colour of the animal. The wide variety of instances and the precision and richness of the vocabulary involved are such that this local theme gives rise to convincing illustrative exercises in arithmetic, mathematics, vocabulary, natural science, language, etc., as will be seen below.

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1. The reason why examples appearing in this series of technical notes are drawn from Fulfulde is that this language covers a particularly large geographical area, and is used as a primary-level teaching language in several countries of the Sahel region.
Set 1:

- White body, coloured head (WOHE)
  - Yellow head: WOHE (ole)
  - Reddish-brown head: WOHE (shinge)
  - Brownish head: WOHE (wune)
  - Black head: WOHE (bale)
  - Grey head: WOHE (terkaaye)
    - Grey-black head: WOHE (terkaaye bale)
    - Grey-yellow head: WOHE (terkaaye oole)

Set 2:

- White body speckled neck (EERE)
  - Upper neck speckled with yellow: EERE (ole)
  - Upper neck speckled with red/brown: EERE (shinge)
  - Upper neck speckled with brown: EERE (wune)
  - Upper neck speckled with black: EERE (bale)
  - Upper neck speckled with grey: EERE (terkaaye)
    - Upper neck speckled with grey/black: EERE (terkaaye bale)
    - Upper neck speckled with grey: EERE (terkaaye oole)
USING THE PRACTICAL EXERCISES

These three basic sets (cow with white coat) provide a mere glimmer of the depth of the Peul shepherd's vocabulary. To these sets could be added those for cows with reddish-brown, black and yellow coats, etc., each of which creates a new series of subsets of colours. Added to the colour criterion are the density of the coloured spots, their size, and their distribution over the entire body of the animal. What might appear to be an insignificant detail to the layperson (e.g. a white dot on the head of the cow) is a very precise distinguishing mark to the herdsman. Lastly, the position of the horns (more or less curved, straight, curved in or curved out, etc.) gives rise to terms which may be added to those of colour, adding precision and depth to the observations.

One can easily imagine that a lesson for Peul children on cattle-raising focusing on observation, language use and vocabulary, but conducted in English or French would seem singularly impoverished and irrelevant. In view of their detailed and rigorous nature, the
preceding distinctions could also be used by the teacher as the basis for a series of mathematics lessons. An analysis of situations encountered in a herd of livestock provides a concrete basis for exercises in classification, arrangement, substitution and relational inquiry.

Teachers would be asked to seek out and develop teaching applications based on similar realities, for instance by inquiring into native craft techniques, housing, birth and marriage relationships, with their interconnections and equivalences that often cannot be expressed in a non-native tongue.

In each instance it will be possible to show that the local languages are superior to any second languages – whether European or African – when it comes to expressing local realities, and exploiting such knowledge in the classroom.
TECHNICAL NOTE C1

THE AFRICAN TEACHING LANGUAGE
AND THE EXTENT OF ITS USE IN TEACHING

The fifth question asked by the teachers and prospective teachers: "What can teachers and teacher trainers realistically do – given their particular profile and skills – to promote applied research on national teaching languages and steer such research in the direction of practical applications in the classroom?"

WHY SHOULD TEACHERS BE INVOLVED?

It would be unthinkable to leave teachers and teacher trainers – especially primary-level teachers – out of the applied research projects, since they are in a position to make a particular contribution to the following:

Pedagogy The teachers ensure that the objectives of educational psychology are kept paramount. This means that all the research should be focused on the child and his or her relationship with the teacher and the teaching language.

Psycholinguistics The teacher, being bilingual or multilingual, has direct experience of transference problems from one language to the other, which the child must also confront. The research effort cannot ignore this precious experience.

Technique Familiarization with applied research on teaching languages should be part of the professional training of teachers and future teachers who are required to use those languages in the classroom.

Practice Primary-level teachers constitute an exceptionally dense and homogeneous network of potential informants and researchers who are well established in all the linguistic zones of the country.

It would therefore be unreasonable to launch or extend a research project in applied linguistics on language teaching theory, without the moral and technical support of the grass-roots community of users, who are primary-level teachers and teacher trainers.
**How should teachers be involved?**

Experience shows that by drawing on their own human, material and intellectual resources, teachers and prospective teachers are perfectly able to undertake a certain number of concrete, profitable actions in the field of applied research on African teaching languages. Nevertheless, it is necessary to define the research options in terms of the degree of specialization required, and the urgency of the project. Teachers cannot be expected to do everything on their own. They need the support of specialized institutes, before, during and after project implementation. Furthermore, the research activities should not be additional to the existing teacher-training curriculum, but rather incorporated into it.

Listed below are some forms of teacher involvement in research that have a proven track record in the field.

<table>
<thead>
<tr>
<th><strong>Gathering and processing</strong></th>
<th><strong>A better understanding of the actual relationship between the child and the African teaching language can be gained when teachers help to clarify the situation of the pupil vis-à-vis the African teaching language or languages used.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>of educational psychology data</td>
<td>To speed up development of a basic teaching vocabulary for use in the classroom, teachers in the field can help by:</td>
</tr>
<tr>
<td></td>
<td>• contributing to research on the lexical resources of the teaching language, in order to ensure adequate expression of the more specialized subject matters in the school curricula;</td>
</tr>
<tr>
<td></td>
<td>• contributing to research on borrowing from other languages (European or African).</td>
</tr>
<tr>
<td>Gathering and processing</td>
<td>With a view to strengthening the degree to which the teaching language is used in teaching, the teachers can help by:</td>
</tr>
<tr>
<td>of teaching theory data</td>
<td>• contributing to the development of an arithmetic textbook based on a preliminary analysis of the counting and numbering systems that are part of the child’s everyday experience, and which must be taken into consideration at the methodological level,</td>
</tr>
<tr>
<td></td>
<td>• contributing to the creation of a textbook in fluent reading, by compiling an edited anthology of children’s texts, stories and narratives geared to the children’s level of interest and understanding.</td>
</tr>
</tbody>
</table>
SUGGESTIONS FOR APPLICATION IN THE CLASSROOM

The following examples are illustrations of applied research carried out by teachers in response to specific needs. Their purpose is to provide inspectors and educational consultants with concrete suggestions regarding what can be accomplished in such circumstances.

1. Gathering and processing educational psychology data: defining the status of the pupil with regard to the African teaching language

With the collaboration of linguists and educational experts from the Institut National d'Éducation of Ouagadougou, who provided a suitable model questionnaire, the teachers undertook a survey to ascertain the basic linguistic situations in first-year classes in experimental primary schools where Moore (M), Jula (J) and Fulfulde (F) are used as African teaching languages (ATL).

The table below shows information obtained in this survey of first-year classes consisting of 1,234 Moore-speaking pupils, 719 Jula speakers and 401 Fulfulde speakers.

<table>
<thead>
<tr>
<th>Situation 1</th>
<th>Percentage of pupils whose teaching language (M, J or F) is the same as their mother tongue</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATL = MT</td>
<td>M/ 95.2%  J/ 13.5%  F/ 69.6%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Situation 2</th>
<th>Percentage of pupils whose teaching language (M, J or F) is not the same as their mother tongue</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATL = MT</td>
<td>M/ 4.8%  J/ 86.5%  F/ 30.4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Situation 2.1</th>
<th>Percentage of students whose mastery of the teaching language (M, J or F) is as good as or better than their command of the mother tongue</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATL = MT</td>
<td>M/ 62.3%  J/ 46.7%  F/ 33.6%</td>
</tr>
<tr>
<td>ATL &gt; MT</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Situation 2.2</th>
<th>Percentage of students whose mastery of the teaching language (M, J or F) is inferior to their command of the mother tongue, or who have no command of the teaching language</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATL &lt; MT</td>
<td>M/ 37.7%  J/ 53.3%  F/ 66.4%</td>
</tr>
<tr>
<td>ATL = 0</td>
<td></td>
</tr>
</tbody>
</table>

N.B. The percentages given for situations 2.1 and 2.2 are within situation 2.
This work has considerable interest, since the findings can both be applied to the initial training of teachers and also be used for writing textbooks and teachers' guides which are better suited to the various situations actually encountered in the country's classrooms.

Who better to undertake this sort of survey than teachers, who have a thorough knowledge of the pupils, their families and the village milieu?

2. Gathering and processing linguistic data: research on the lexical resources of the African teaching language

This study was carried out by all primary-level teachers working in the regions involved in Burkina Faso's educational reform. The Institut National d'Education (INE), with the collaboration of qualified linguists, ensured that proper methodology was used.

The first objective of the study was to standardize the terminology used by teachers and authors of textbooks. Secondly, the project sought to enrich that vocabulary, given that existing terms are inadequate for expressing today's curricular content. The actual study involved the following steps:

A. Identification of criteria for the selection of standardized terms

The committee of experts of INE adopted the criteria of currency, geographical spread, economy and conceptual adequacy, and circulated a note to the teachers involved in the survey explaining its choice of criteria.

B. Analysis of curricular content

The INE committee of experts drew up a list of basic concepts and notions for the teaching of each subject, lesson by lesson, year by year. All curricular activities were analysed and exhaustive lists drawn up.

C. Survey carried out by teachers and other practitioners in the field

The teachers organized terminology collection groups at the village school. Included in these groups were village inhabitants, farm labourers, craftspersons, fishermen, tradesmen, women, etc., generally considered the repository of specialized terminologies in their respective fields.
D. Exploitation of the study

The proposed terms were received and analysed at INE by the committee of experts made up of linguists and education specialists. Two lists were drawn up on the basis of the terms received and analysed: one a thematic lexicon and the other an alphabetical lexicon, both easy to use for teachers and textbook authors.

CONCLUSION

These examples of teachers participating in a programme of applied research concerning teaching in national languages are not the only ones that could be mentioned. When collaboration of this kind is well designed, preceded by appropriate efforts to ensure that the teachers are aware and motivated, and followed by effective exploitation under the supervision of specialists in language teaching, it is unusual for such efforts to be disappointing from technical and professional points of view.
1. WHAT IS THE EXACT NATURE OF THE PROBLEM?

When a clear choice has been made of an African teaching language, the teacher responsible for using that language in class finds himself immediately faced with the problem of the quantity and quality of the teaching aids at his disposal. He should be able to base his teaching on textbooks that are reliable and easy to use. What is the concrete situation in the field as regards this matter? What teaching materials need to be developed as a matter of urgency? Can working teachers help to assess the effectiveness of these materials?

2. THE SITUATIONS FOUND IN THE FIELD WITH REGARD TO TEXTBOOKS

Situations vary considerably according to language and country, but in general five basic situations are encountered in French-speaking Africa.

Situation 1: The teacher has textbooks which are based on prior research and suited to the teacher's ability and the pupil's level of understanding.

Generally speaking, in this type of situation the teaching aids that are available are the fruit of interdisciplinary research carried out and supervised by a team of psychologists, education specialists and linguists at an educational institute.

Situation 2: The teacher has available teaching materials which are theoretically sound, but poorly suited to the experience and ability of the teacher and pupils.

This is often the situation when textbooks are borrowed from neighbouring countries in which the same language is used in schools. It is also the case with textbooks designed to teach adult literacy, and

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1. The reader may profitably consult LINQUAPAX practical guide No. 2 in this series, entitled *The Design and Production of Textbooks: An Author's Guide*. 

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subsequently "adapted" for primary-school curricula (especially as regards reading and arithmetic).

**Situation 3:** The teacher has available educational tools whose content and methodology are simply copied from similar European works.

This situation is frequently encountered in the case of mathematics and early education textbooks. The language is African, but the content and the pedagogical approach are merely transposed, with no effort made to ascertain whether these are appropriate or even viable in the African context.

**Situation 4:** The teacher has at his or her disposal working tools that are well suited to the context and experience of the child, as well as to the teacher's own ability, but which lack a solid theoretical basis.

This is the case with textbooks hastily put together by educational specialists (for example, just in time to meet the needs of a language reform), *without proper consultation of linguists* regarding transcription, segmentation, spelling, etc.

**Situation 5:** No teaching materials are available.

This happens in the experimental phases of hastily adopted programmes (for instance under political pressure), and also in programmes that are more carefully prepared, but in circumstances where the production and distribution of teaching materials are deficient.

Until recently one could still come across all these situations in the field, and numerous concrete examples could be adduced to illustrate them. The most favourable situation — situation 1 — is still not the one most often encountered.

3. **WHAT TEACHING MATERIALS NEED TO BE DEVELOPED AS A MATTER OF URGENCY?**

As a result of various constraints, it may sometimes be necessary in the early stages to choose between textbooks for pupils and teachers'
guides. In such cases, experience would tend to favour the production of teachers' guides over textbooks for the following reasons:

**Pedagogical considerations**
Most introductory classes (in reading, writing, arithmetic, etc.) are done at the board, using local materials. During this initial phase, it is the teacher's methodological approach and teaching ability which are crucial for the child's acquisition of the basic skills.

**Practical considerations**
Even when the pupil is provided with a textbook, it is rarely the case that he or she takes it home (fear of damage, lack of light at home for doing homework, etc.). On the whole, textbooks in Africa remain stored at the school.

**Economic considerations**
At the beginning of an educational reform, it is often more realistic to budget for the production and distribution of 100 teachers' guides rather than 7,000 textbooks for an equal number of schools.

Whether or not there is a need to create teaching materials rapidly in fact depends on the teaching functions allocated to the African teaching language in a given education system. One of the most common initial objectives assigned to the teaching language is that of giving the child access to basic functional skills. This means that the teachers should have teaching guides and textbooks for learning and improving reading, writing, arithmetic and language skills.

It should be stressed that an attractive presentation of such materials should never be considered a needless luxury. The appearance of African language textbooks is all too often neglected. They frequently consist of shoddy photocopies with few or no illustrations. Teachers agree unanimously that hard-bound European books with coloured illustrations delight pupils and inspire them to learn. Furthermore, parents often take such unattractive unbound teaching materials as symbolic of the limited usefulness of the national languages; clearly, this does little to strengthen their support for the teaching language reform.

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1. For the criterion of pedagogical role, see the introduction to this guide, "The approach based on educational psychology and its implications ...".
4. CAN WORKING TEACHERS HELP TO ASSESS THE EFFECTIVENESS OF THESE MATERIALS?

There is no better training programme than to involve users of textbooks directly in their design and evaluation.

Application of this principle is not only desirable, but also feasible.

Below are two examples of action taken by primary-level teachers to evaluate the teaching materials provided to them.

1. Assessment of the methodological effectiveness of a reading primer for French building on acquisition of basic reading skills in the national language, Sango

Tests were administered by teachers of the experimental classes and headmasters. Analysis of the data was also carried out by them, and checked by the teacher-training institute team involved in the project. The instructive results of this survey of 12 classes totalling 651 pupils follows:

<table>
<thead>
<tr>
<th>Able to decode in French</th>
<th>Unable to decode in French</th>
</tr>
</thead>
<tbody>
<tr>
<td>544</td>
<td>83.6%</td>
</tr>
<tr>
<td>107</td>
<td>16.4%</td>
</tr>
</tbody>
</table>

2. Assessment of the effectiveness of an introduction to reading in national languages following one year of experimental use (Moore, Jula, Fulfulde).

<table>
<thead>
<tr>
<th>Able to decode a text of medium difficulty easily</th>
<th>Moore</th>
<th>Jula</th>
<th>Fulfulde</th>
</tr>
</thead>
<tbody>
<tr>
<td>79.45%</td>
<td>89.12%</td>
<td>82.3%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Able to decode an intentionally difficult text easily</th>
<th>63%</th>
<th>52.11%</th>
<th>37%</th>
</tr>
</thead>
</table>

| Able to read easily and with understanding | 62% | 57.2% | 61.9% |
Administration and analysis of the tests (involving 1,643 pupils) was undertaken entirely by teachers in the field, under the supervision of district school officials and the Institut National d'Éducation.

The second sample involved analysis of more than 40,000 individual items, and could not have been done accurately and speedily without the active involvement of the teachers.