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Evaluation of the experimentation in national languages in primary education in the Republic of Mali

FINAL REPORT

Evaluation of the Experimentation in National Languages in Primary Education in the Republic of Mali

Prepared and translated by:

John Hutchison

Creative Associates International, Inc.
5301 Wisconsin Avenue,
Suite 700
Washington, DC 20015

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INTRODUCTION TO OUR EVALUATION

The origin of this evaluation.

For a long time Malians have been waiting for a definitive and summative evaluation of the national language experimental schools to be carried out. Our evaluation is thus expected. Even though it is not summative, it is at least formative, containing both quantitative and qualitative elements. It is based in instruments, including tests and questionnaires, which aim to comparatively measure what children have learned in the two types of school.

As a result of the request of the Ministry of National Education, and its concerned national departments, this evaluation was undertaken near the end of the 1989-90 school year. This timing was good with respect to the completion of the annual curriculum and the level of achievement of the children, but disadvantageous from the point of view of the flow and continuity of children's work in the various subject matters due to the impending completion of the school year. Site visits took place from the 17th to the 31st of May, 1990, after the pretest carried out in Bamako on the 16th of May. Under time pressure to complete the evaluation visits before the end of May, the work was often carried out under difficult conditions since our two evaluation teams sometimes had to visit two schools per day.

The evaluation teams.

The central evaluation team is an international team made up of an American, a Frenchman, and a Malian. This team began its collaboration in early May of 1990, and worked together intensively to elaborate the evaluation instruments, to visit the schools making up the sample, to calculate the results, and to write the final report up until the beginning of July, 1990. Complete collaboration was not always possible for personal reasons. The absence of the French member of the team was especially felt during the drafting of certain portions of the final report.

The central team:

John P. HUTCHISON. AID/Boston University

Abou DIARRA. Linguist. Head of the Division of Letters and Human Sciences. IPN

Joseph POTH. FAC. later replaced by M. FREIRO. FAC. Bamako

The central team was assisted by a devoted group of researchers and statisticiens, whose names follow. It is thanks to these people, who worked night and day in order to evaluate the enormous quantity of tests, that the results of the evaluation were produced:

Idrissa CISSE. Inspector in charge of Experimental Schools. DNEF

Cheikh Oumar COULIBALY. Researcher at USAID. Bamako

Nitié DIARRA. Research Linguist. DNAFLA

Kadiatou DOLO. DNAFLA

Kodjo KOUNGARMA. Head of the Linguistic Section. DNAFLA

Mamadou KOUYATE. DNEF

Mamadou NIAKATE. National Languages Section. IPN

Bakary S. TRAORE. National Languages Section. IPN

During the drafting of the final report we were assisted by the appreciable efforts of a statisticien from the Ministry of National Education. Mamadou Yorodian DIAKITE

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PART I:
THE EVALUATION

Chapter I - THE OBJECT OF THE EVALUATION

For more than a decade now the problem of the introduction of African languages into formal education in Africa has given rise to intense debates at the national, regional, and continental levels. This problem has been, and continues to be, the object of numerous meetings, seminars, and initiatives undertaken by various African research institutions in order to promote African languages through the realization of the following principal objectives:

- the description and transcription of national languages, through the elaboration of alphabets, rules of grammar, and specialized terminology;
- the use of these languages as true instruments of socio-economic, cultural, and political development by means of literacy instruction for young people and adults;
- the introduction of national languages into formal education as subjects and/or medium of instruction.

It is worth noting that the successes carried off here and there in the study and use of African languages in formal and/or non-formal education result from the application by the governments of the member states of the Organization of African Unity of an engagement taken as early as the Conference of Addis Ababa in 1961, and reiterated at the Harare conference (28 June through 3 July, 1982). These conferences, while making assessments of the accomplishments made at the level of the member states, also remembered and reaffirmed their willingness to achieve the democratization and renewal of education systems in pursuit of the global goal of universal education.

Among the strategies identified by the member states for the realization of this objective, a place of choice was given to the systematic study and utilisation of national languages as vehicles for the communication of knowledge in functional literacy campaigns as well as in the schools. In all cases, the results obtained in this area would not have been possible without thorough reforms of educational systems undertaken in the various countries. When it comes to Mali's experience with the introduction of national languages in formal and non-formal education, in order to better situate it in an educational context, we present a brief historical summary.

1. Historical overview of the Malian school system.

In order to better delimit the problems of education and teaching in Mali, it is worth going back to examine education during the colonial period. During the time which extended from the end of the 19th century into the second half of the 20th century, the French colonizers practiced a system of direct administration in which the French language was the only instrument of work and communication with the local populations. In this system of administration, local languages were given no official status, and were always considered unimportant. Thus their development was in no way encouraged. Schools were opened for the purpose of developing the human resources necessary to maintain colonial domination. These schools responded to very precise needs and pursued a clear and unequivocal mission, which earned them the title of "french schools" for the local populations. This expression signified that not only was the French language used in these schools, but that they also served as a vehicle for western culture and values, contrasting sharply with the surrounding milieu.

It was therefore not difficult to recognize that this preoccupation of colonial education was supported by France's blatant policy of assimilating the colonized peoples to the culture of the metropolis, with the language of education playing an essential role. This aspect of French colonialism was not overlooked by the authors of educational reform in Mali who were to intervene two years after Mali's accession to international sovereignty.

In fact, in Mali, as elsewhere in Africa, the accession to independence was accompanied by a general reform of the education system aiming essentially toward the adaptation of the school to national realities through:

- access to education for the maximum number of citizens possible;
- the orientation of education and training towards satisfying priority needs and for national restoration;
- the decolonization of the mind.

Thus from an instrument of colonization, the school was changed into an instrument of liberation and development.

"For the Republic of Mali, Pour la République du Mali, shortly after exercising its fundamental option on the 22nd of September, it became an anachronism to maintain in its structure and its aims, a teaching system handed down by the

colonizers. Reform was imperative, since a political, economic and social revolution could not be fully effective unless it went hand in hand with a consonant education policy."¹

The reform of 1962 facilitated the adaptation of the Mallan school to national realities through changes in both the structure and the content of the education as well as in the profile to be given to trainers, with the French language maintaining its privileged position of medium of instruction and official language of the country. However, particular stress was placed on the need to carry out research on national languages in an effort to describe them, to transcribe them, and to utilize them as a medium of instruction in adult literacy programs, and further, in the school system as soon as the conditions could be put in place to accomplish this.

The use of national languages in education was expected to facilitate the resolution of a certain number of problems, including:

- the problem of the democratization of education: the utilization of nationale languages, notably in functional literacy, would make it possible to reach a larger number of young and adult Mallians who had not previously had the opportunity to attend school and who, for the most part, lived in rural parts of the country;

- the problem of the need to reassert the value of the national cultural patrimony of which Mallian languages constitute the most important vehicle;

- the reconversion of people's mentality (decolonization of the mind), with language as an essential characteristic of the identity of an individual, and of a people, and in realizing the fact that following the example of French, Mali's national languages are equally capable of serving as a vehicle for all the concepts of the modern world; it follows therefore that Mallian languages should fully exercise the role which is theirs in the development of the country;

For these purposes the Education Center was created. In 1975 it became INAFLA, and later was renamed DNAFLA (Direction Nationale de l'Alphabétisation Fonctionnelle et de la Linguistique Appliquée), the National Direction for Functional Literacy and Applied Linguistics. The mission assigned to this institution was to study and research Mallian languages in order to transform them into true instruments of development and vital tools in the struggle against illiteracy.

¹Contact spécial no. 4: L'enseignement en République du Mali (dix ans après la réforme de 1962), édition IPN P. 26

2. Functional literacy and linguistic research.

In Mali, the concept of basic education teaching reading, writing, and mathematics in French to illiterate adults (from 1961-68), has progressively evolved into the present-day concept of functional literacy, as it was defined by the Conference of Ministers of Education of the member countries of UNESCO, held in Tehran, Iran from the 8th to the 13th of September, 1965. According to the recommendations which resulted from that conference, there are three essential characteristics involved in the concept of literacy, and thus literacy must be:

- functional, i.e. oriented toward development; education programs directed towards adults must primarily take into account the principal activities of the rural populations and the peasant:

- selective, since it must be oriented towards social groups which, by their activities and the structural framework in which they are placed, are likely to benefit the most:

- comprehensive, with a systematic plan of supervision utilizing all of the means available at the level of the Ministry of National Education and further at the level of other ministries concerned with literacy activities.

Given the analysis of the above-mentioned characteristics, it seems that the present orientation of literacy in Mali is for the entire population to participate in the global development of the country while mobilizing the available means in the various structures concerned. The strategy adopted in this operation has been to place emphasis on the concerns of the target zones. In Mali, as elsewhere, the difficulties inherent to literacy in the French language were quickly realized: the compounded difficulty of learning the written and the oral language simultaneously, and the psychological block of the learners, the impossibility for the learners to resolve their daily affairs without being obliged to resort to using the French language, the resulting lack of motivation, etc. In this way the need to use national languages in literacy and to create the conditions necessary to achieve this became clear. Since the time of the Tehran Conference there has been considerable progress made in the area of linguistic research. Already on the 26th of May, 1967, by the Government Decree No. 85/PG/RM, four Malian languages were endowed with an alphabet: Bamanankan, Fulfulde, Songhoy, and Tamasheq. This decree gave an important stimulus to linguistic research in the country. Now, all ten of the languages classified as national languages in Mali have been transcribed and have

orthographies, and among the ten five are used in adult literacy: Bamanankan, Fulfulde, Songhoy, Soninke, and Tamasheq.

Twelve years after the above-cited decree, the state of the advancement of research on the languages of literacy as well as the successes recorded in that area prepared the ground for the introduction of these languages into the formal education system.

This introduction of national languages, which had been foreseen for the intermediate-term according to the reform texts of 1962, was supposed to take place following the recommendations of the 2nd National Seminar on Education in December, 1978, which had just established an appraisal of the research which had been carried out on Malian languages and on their utilization in adult literacy.

3. The introduction of national languages into formal education: The Malian experience.

Given the enormous success recorded by DNAFLA in its literacy campaigns, the Second National Seminar on Education made the recommendation that national languages should be introduced into formal public education on an experimental basis. The result was the establishment of four experimental schools in the Bamanankan language in October of 1979 in the regions of Koulikoro and Ségou. Three national departments of the Ministry of Education were placed in charge of the implementation of this experimentation. The departments involved were: the Direction Nationale de l'Enseignement Fondamentale (DNEF), the Direction Nationale de l'Alphabétisation Fonctionnelle et de la Linguistique Appliquée (DNAFLA) and the Institut Pédagogique Nationale (IPN). Given that the early results of the experimentation were convincing, it was progressively extended to other linguistic zones (Fulfulde, Songhoy, and Tamasheq) therefore reaching all of the seven economic regions of Mali plus the District of Bamako. Today there are 104 experimental schools of which 83 are in Bamanankan, 6 are in Fulfulde, 6 in Songhoy, and 9 schools in Tamasheq.

In the following table a historical perspective on experimental school openings is presented. The openings of experimental schools took place according to the following calendar from 1979 to 1990:

<i>year</i>	79-80	80-1	81-2	82-3	83-4	84-5	85-6	86-7	87-8	88-9	89-90	<i>total</i>
<i>region/city</i>												
Kayes:	-	1	-	-	-	-	-	-	1	-	1	3
Koulikoro:	2	2	3	1	1	-	-	2	-	-	-	11
Sikasso:	-	1	2	3	-	-	1	2	2	5	12	28
Ségou:	2	-	-	4	29	3	2	-	-	-	-1	39
Mopti:	-	-	-	4	2	-	-	-	-	-	-	6
Tombouctou:	-	-	-	5	-	-	-	-	-	-	-	5
Gao:	-	-	-	5	1	-	-	-	2	-	2	10
Bamako:	-	-	-	2	-	-	-	-	-	-	-	2
<i>schools/year:</i>	4	4	5	24	33	3	3	4	5	5	14	104
<i>Number of experimental schools for each national language:</i>												
in Bamanankan:											83	
in Fulfulde											6	
in Songhoy											6	
in Tamasheq											9	
TOTAL											104	
<i>Number of experimental schools per region/district:</i>												
Kayes Region:											3 schools	
Koulikoro Region:											11 schools	
Ségou Region:											39 schools	
Sikasso Region:											28 schools	
Mopti Region:											6 schools	
Tombouctou Region:											5 schools	
Gao Region:											10 schools	
Bamako District (Lafiabougou and Guinzambougou):											2 schools	
TOTAL											104 schools	

In examining the history of experimental school openings, it is apparent that the successes recorded by these schools during the first three years of the experimentation resulted in a situation in which the attitudes toward this innovation favored a subsequent increase in the rate of new experimental school openings. We observe therefore a significant increase during the school years 1982-83 and 1983-84, with a strong concentration of new schools in the Ségou Region. This expansion

coincides with the beginning of the 3rd Education Project which began in 1982. The funds from this World Bank project allowed for a more comprehensive supervision of these schools and created a very favorable and optimistic context for the experimental schools.

With the introduction of the convergent methodology into certain schools of the city of Ségou, the training of the second generation of teachers for them, the supervision of all the other experimental schools of the region, and elsewhere, was less concentrated geographically and administratively than before. In comparison to the first three years of the experimentation, there was essentially a decentralization of all aspects of the management of these schools, including the supervision, teacher training, etc. It is important to note that the extension of the experimentation to several additional linguistic zones (Fulfulde, Songhoy, and Tamasheq), the multiplication of the experimental schools throughout the country, and the initiation of the convergent methodology (which captured significant attention from the authorities), all combined to reduce the amount of support and follow-up for the experimental schools of the first generation. They no longer enjoyed the same level of support and enthusiasm as at the beginning of the experimentation. It became more and more difficult for those in charge, the national language specialists and trainers, to invest themselves in the growing number of experimental schools due to the enlargement of the experimentation. With the end of the 3rd Education Project of the World Bank, there were no longer sufficient financial resources, and in short, there was no longer the same enthusiasm as at the beginning.

From the time of its conception, the experimental school program benefitted from neither a developed master plan, nor an appropriate curriculum and accompanying methodology for teaching in national languages. At the time of the decentralization of the supervision of the experimental schools, the lack of adequate human resources (i.e. DNAFLA language specialists) resulted in the experimental schools being unable to attain the same results that they had in the beginning on a smaller scale when concentrated in one homogenous region, with full supervision from the DNEF, the DNAFLA, and the IPN. What could be done on a smaller scale was no longer possible without the necessary support that would have been provided by an adequate master plan, directeur, etc.

3.1. The philosophy behind the introduction of national languages into formal education.

Mali's philosophy in introducing national languages into formal education is captured in two major ideas. I.e.:

- the promotion of national languages: the retarded development as written languages known by most African languages is generally due to the fact that they remained at the stage of orality for too long of a time, without being written. From this historical fact, it is apparent that they had not been required to serve as vehicles for the communication of numerous concepts of modern knowledge which are presently used in the so-called *international* languages.

- reassertion of the value of the cultural patrimony: During their period of domination, the colonizers assigned themselves the task of *civilizing* the African people, assuming naively that Africans had no history and were without their own cultural values. The colonial era was one during which the cultural values of African peoples were banished and branded as inferior. At the time of independence, African peoples had first to affirm themselves, to rehabilitate and revitalize their own values and to wean themselves from European models. This rehabilitation and self-affirmation had to happen through national languages which are the natural and legitimate supports of the culture. Indeed it is easily recognized that the language of the milieu is the one which translates faithfully the cultural elements of that milieu, and as a result, plays not only a communicative role but also a role in establishing the identity of the population speaking the language. Reasserting the value of the cultural patrimony of Mali's various language groups goes hand in hand with the promotion of national languages.

3.2. The policy of teaching of/in national languages.

Not all ten of Mali's languages have received equal attention in terms of linguistic research, description, and orthography development. It is important to realize that not all of the languages are at the same stage of development in this regard. Research on certain of the languages is far in advance over others due to the availability of technically qualified personnel. In particular, the languages for which research is further developed are those which were the object of study either during the colonial period or as a result of Decree number 85 of the 26th of May, 1967.

However, research is now being carried out on all of the other less-researched languages as well, and the current policy of the country dictates that every language should be given the maximum chance to develop itself in this way.

In Mali, teaching in national languages is not seen in terms of the choice of one language which is to be obligatorily taught in all the schools. The child must be taught in his/her maternal language as much as is possible, or at least, in the language which s/he speaks most fluently. At this level, it is a policy which is child-centered, the child to whom must be offered the best possible chance of firmly establishing his basic knowledge (reading, writing, and mathematics) in the language which s/he speaks in his family, and to assure, through the educational system, his or her normal and optimal cognitive and academic development - () which all of the children of the world ought to have the right.

3.3. The objectives of the introduction of national languages into formal education.

The objectives of the experimentation in national languages can be grouped according to four basic points, as follows:

- reduce the school dropout rate which, it seems, continues to rise due to children's weakness in French;
- facilitate the learning of the basic instrumental disciplines (reading, writing, and mathematics);
- facilitate the acquisition of the French language through the application of the mechanisms for reading, writing, and oral expression already acquired in and through the maternal language;
- achieve a better integration of the school to the milieu in which Malian children live.

The above-cited objectives were formulated on the basis of the modern theoretical tenets of the psychology of learning, bilingualism, and applied linguistics (see Chapter IV). They rest on the postulate that when a child, after having sufficiently mastered the learning mechanisms inherent to the basic instrumental disciplines in his or her maternal language, and once s/he has sufficiently developed from the academic and cognitive point of view, s/he can then apply the experience, aptitudes, and automatisms thus acquired to his or her advantage in the learning of a

second language, in particular, the French language. Such a system should lead to a higher level of performance in school. Consequently, because the child will have acquired the first skills via his or her own language, the result should be a more efficient and productive system of education.

One of the objectives of the present study is to verify the degree to which the initial objectives of this experimentation in national languages have been attained.

3.4. The status of the medium of instruction languages in the educational system.

The structure of the present examination system in primary education results in a situation where the teacher, the school, and the curriculum of both the experimental school and the classical school, in essence the entire system, which are offered to the child, are obligatorily linked to the learning of L2, French. During the six year primary cycle in the experimental schools, due to the French examination structure, the system is obliged to offer the same elements as offered in the classical curriculum. In this system, the national languages end up being merely a translated disguise of another curriculum, which is then viewed poorly by the population because the advantages which should be inherent to a maternal language curriculum cannot be realized under these conditions. In this context, national languages have not become legitimized and do not fulfill the role which they are capable of playing - in the best of circumstances they can only be temporary and transitional. How could one expect them to play a much greater role in a system which is little more than a translation of the classical system, and which aims at the present time only for a better learning of L2? A solution to this undesirable situation will be found at the level of the master plan which will eventually be developed by the Malian authorities.

Once a firm decision is taken to establish a curriculum which is truly suited to teaching in Mali's national languages, then the implication is that, by definition, the learning in the child's L1 and the development of his/her cognitive and academic skills in that language can no longer be tied directly to the learning of the L2, French. The L1 curriculum should not have a hidden agenda for the learning of L2, nor should it be a translation of the L2 curriculum. It is necessary therefore that a great deal more of the curriculum be devoted to developing the child's abilities through his maternal language, at least during the first three years of primary school, if not during the first four or five years. It is only in this way that the learning of L2

will be facilitated and improved.

All that is being proposed for the reform is a functional bilingualism, a school bilingualism, a true bilingualism. One of the biggest problems is that sadly, when it comes to the exit evaluations from the first cycle of primary education, we are dealing with a system which remains monolingual.

3.5. The Malian strategy for introducing national languages into formal education.

Mali's experimentation with national languages concerns the first primary cycle of Fondamental Teaching which covers grades one through six.

3.5.1. The curriculum for teaching in national languages.

With a curriculum which represents a sort of translation inspired by the French curriculum, the experimentation as it was conceived and has evolved has never been able to make possible the ideal transfer of a child's proficiency in the maternal language to the learning of the second language. This is because the translated system has never ceded enough of a role to the maternal language curriculum to make possible this transfer at the time of the transition from L1 to L2. At present, the curriculum as it manifests itself in the experimental schools is equivalent to a simple substitution of one linguistic system for another, with basically the same elements as in the French curriculum of the classical school. It is thus a simple change of medium.

For those who say that these national language schools have failed, the cause of that failure can be found in the curriculum, or rather, in the lack of a suitable and appropriate curriculum developed for the unique situation of the experimental schools. A curriculum must obviously take into account the evident differences between the level of a maternal (L1) language curriculum as opposed to the level of a L2 curriculum, with French, a foreign language, as subject and then medium of instruction.

With regard to the content of the experimental school curriculum it remains largely the same as that in effect in primary schools which are not part of the experimentation, the classical French-medium schools:

--1st and 2nd grades: the national language is the medium of instruction; oral

French is introduced as a subject beginning in the 2nd trimester of the second grade. However, beginning in 1984 a decision was already taken to modify the time for the introduction of oral French and it was subsequently introduced beginning during the second trimester of the first grade.²

- grades 3 and 4: the national language remains the medium of instruction: written French (in addition to oral French) is introduced beginning in the first trimester of the third year as a subject.

- grades 5 and 6: instruction is essentially given completely in French: the study of the national language, due to the absence of documents for this level and contrary to the structure which was originally planned, is no longer pursued.

Thus instruction is oriented towards a functional bilingualism, of which one end is the national language and the other, the French language. This is supposed to allow pupils to attain a perfect mastery of both French and the national language at the end of the primary cycle, at which point they present themselves for the cycle-final examination which they must take under the same conditions as their classical school counterparts.

3.5.2. The training of teachers for schools in national languages.

Implicit to the initiation, implementation, and the possible generalization of the experimentation in national languages is a teacher training program which includes linguistic, psycho-pedagogical, didactic, and culture-specific training. If this aspect of the innovation was one of the preoccupations of the experiment from the very beginning, it is worth noting that the solutions brought to this situation have evolved throughout its history.

At the beginning of the experimentation in October of 1979, twelve teachers, making up the first class, were initiated to the teaching of and in national languages. Their training was supervised and run by DNAFLA for a period of three months going from October to December, 1979. During this time, classes in the four experimental schools which had been open since October of 1979 were being taught by agents of DNAFLA. During the teacher training period, the trainees were paid, and their

²Instead of introducing French beginning with the 2nd trimester of the 2nd grade, oral French is today introduced beginning in the 1st grade. Thus the pupil is still confronted from the very beginning with the task of learning a foreign language while going through the initial acquisition of the basic disciplines of primary school in his or her maternal language.

living and travel expenses were covered also by DNAFLA. The teacher trainees were initiated in writing, reading and mathematics, in Bamanankan and the methodology for teaching these disciplines. They had to replace the agents of DNAFLA in the classrooms of the experimental schools immediately after their training program.

The second class of experimental school teachers was also trained by DNAFLA during a one month period, with DNAFLA covering their living and travel costs. After their training these teachers were to take over classes in the experimental schools opened in October of 1980.

As the number of experimental schools was increased, the greater demand for teachers trained in national languages put considerable pressure on the training resources of the system. In the face of this situation, DNAFLA could no longer be responsible for the travel and living expenses incurred by the trainees. For this reason, after the completion of the training of the second class of experimental school teachers that from 1981 on, the training programs would thereafter be organized to take place every year during the rainy season vacation in the regional capitols and in the District of Bamako. Later, the teacher trainees no longer benefited from reimbursement of their living expenses, and the duration of the training programs was reduced to two weeks with the same schedule consisting of a total of 108 course hours. Given that the expertise in the training of experimental school teachers was still developing, the result of this decentralization was an overall weakening in the quality of the training.

Beginning in 1985, the training of experimental school teachers was entrusted to the National Languages Section of the recently created Institut Pédagogique National (IPN).

3.5.3. Teacher training curriculum for the experimental schools.

At the beginning of the experimentation, the curriculum for the training of teachers consisted of an initiation to reading, writing and mathematics, and to certain specialized terminology.

It should be noted that this curriculum was not rigorously elaborated neither with regard to its contents for the teachers of various levels, nor in terms of the progression of the training. This explains the feeling of many of the teachers that after participating in two of the training programs that they were no longer learning anything new.

It is perhaps for this reason that it has been observed that in class, teachers often juxtapose teaching in the national language and teaching of the French language, without paying attention to the important factors of dosage of the two languages, and coordination of instruction carried out in the two languages.

Because of these problems, a Seminar on national languages was organized by the IPN from the 19th to the 24th of Mai, 1986, to address this situation. The seminar, among other things, made the following recommendations:

b) Concerning the practical organization of the training programs, supervision, and follow through, the seminar recommends:

- 1.- organizing training and retraining during the second half of the month of July for all national languages. In order to do this it is desirable that potential participants be informed well in advance.
- 2.- during the period between training programs, to establish an inventory of all of the necessary teaching materials and to communicate this inventory of needs to the IPN soon enough so that the staff of the IPN can take the steps necessary to guarantee the production and reproduction of the materials in question.
- 3.- to establish a training team for the training programs in order to facilitate an integrated and appropriate structure for curriculum of the training.
- 4.- to make the annual training/retraining program obligatory for all teachers retained by their inspectors for the experimental schools.
- 5.- to obtain from the financial services involved the permission to advance the salary for the month of the training program to both the trainees and the trainers who are involved.
- 6.- to involve to a greater degree both DNAFLA and the IPN in the supervision and evaluation of the experimentation.
- 7.- to establish an ongoing training system for all trainers who are partner to the experimentation in national languages (inspectors, regional directors, pedagogical counselors, etc.)

c) Concerning the structure and orientation of the experimentation and the content of the teacher training curriculum, the seminar recommends:

- 1.- to respect the initial strategy for the introduction of French in the

curriculum plan of the experimental schools, that is:

- introduction of oral French beginning in the 2nd trimester of the 2nd grade
 - introduction of written French beginning in the 1st trimester of the 3rd grade
- 2.- to pursue the teaching in/of national languages through the 6th grade and beyond.
- 3.- to make plans to introduce a national language component into the national examination for entry into the seventh grade for children who have been through the experimental schools in order to take into account and give them credit for their educational background.
- 4.- to introduce the teaching of national languages in a more systematic manner into the curriculum of the various training institutions (IPEG, ENSEC, ENSUP, etc.)³

To date, these recommendations have yet to be truly put into effect and applied. With regard to the curriculum for the training of the teacher trainees, a curriculum was elaborated for each level of training, see *Rapport au séminaire tenu en juillet 1989 dans l'enceinte de l'ancien IPEG de Bamako*.⁴

The problems which have been raised here continue to be problems at the time of this writing: the teachers still lack motivation and incentive, the curriculum for the teacher training programs does not have the same content in all of the training centers, and the schools continue to suffer severely from a lack of teaching materials. Such problems result from the lack of a master plan, and the lack of a national commitment to teaching in national languages. These problems were significantly aggravated following the decentralization of the teacher training programs.

The objective of the curricular reform which is currently being carried out at the Center for Permanent Training of the IPN is to translate the curriculum for each primary year of the classical school into pedagogical objectives for teachers. This is in order to replace the previous curriculum which has consisted simply of a list of

³République du Mali, Ministère de l'Éducation Nationale, IPN, 1986. *Séminaire sur les Langues Nationales*, 19-24 mai 1986. Bamako, pages 5-6.

⁴République du Mali, Ministère de l'Éducation Nationale, IPN, 1986. *Séminaire sur l'harmonisation des programmes de stage en langues nationales*, Bamako, pages 1-8.

subjects and areas of interest. We feel that this reform effort will contribute to a long-term improvement in curricular content and will greatly facilitate the task of elaborating the new curriculum for teacher training. Eventually, in keeping with the new master plan, it will be necessary to carry out the same exercise for the experimental school curriculum. A curriculum must be more than a simple list of subjects and areas of interest. The objective-oriented approach will certainly have to be applied in the development of the curriculum of the national language schools - a curriculum that is unique and suitably adapted to the needs of these innovative schools.

It is important to be aware that in the pedagogical institutes for general education (IPEG), where teachers of the first six year primary cycle receive their initial training, that national languages are already taught to them in order to better prepare them for their eventual assignment to the experimental schools. Also in the secondary schools, national languages are being taught in the language and literatures sections. This is justified by the fact that lycée students will very likely have some need for dealing in and with national languages in their future professional lives.

3.5.4. Teaching materials in national languages.

In the context of Mali's experimentation in national languages, the elaboration of teaching materials and other pedagogical documents for formal education was guaranteed by DNAFLA from the beginning of the experiment in 1979 until 1985, and later, from 1986 onward, by the National Languages Section of the IPN. In most cases, those responsible for this task received no training relevant to teaching in national languages, and in some cases, they had not had primary school teaching experience. This explains the inadequacy of the teaching materials which have been made available to teachers and pupils in the experimental schools. Similarly, not only are the materials inadequate in terms of their quality, but there is a general lack or insufficiency of all pedagogical documentation in the schools. In brief, the problem of teaching materials and textbook publication in general, remains one of the essential obstacles for this pedagogical innovation.

3.5.5. Heightening the awareness of teachers and the population to the implementation of the experimentation.

The strategy for heightening public awareness and sensitivity in relation to the implementation of the use of national languages in the formal education system has generally been articulated as a number of motivating factors, including: information on the character of this pedagogical innovation, on its objectives and the means employed; direct participation in the process to which all are committed at different levels for teachers and parents; and finally, interest in the future development of this innovation.

Though the above-cited factors may have preoccupied the original promoters of the experimentation in national languages, it must nevertheless be recognized that the job of heightening public awareness is one that has only begun, and which cannot be abandoned. Because, if in fact many teachers and parents are today favorable to the utilization of national languages in formal education, there are nevertheless certain elements of the population who remain quite skeptical as to the capacity of national languages to transmit concepts of the modern world and to furnish the means necessary to facilitate the innovation.

Linked to this question of heightening people's awareness of the importance of national languages is the often cited task of reasserting the value of Mali's national languages and cultures. This problem could be at least partially resolved by elements of a new master plan with a language policy for education which specifies the status and the roles which will be enjoyed by the national languages at every level of Malian society.

3.5.6. Research relevant to the establishment of an appropriate methodology: The convergent methodology.

Before taking the decision to initiate an experiment with the convergent methodology, Malian authorities spent three years (1984-87) studying the methodology in order to evaluate it in terms of Malian needs. It is called the convergent methodology because it is applied to the bilingualism necessary for the Malian education system, thus it refers to the convergence of two languages and their linguistic systems. In fact it is a methodology of innovative pedagogy which could be applied in almost any context, i.e. its application is not limited exclusively to multilingual situations though it does lend itself very well to such situations.

The experimentation of this convergent methodology for teaching in

Bamanankan (L1) and French (L2) was begun in October of 1987 in two primary experimental schools in Ségou. Language-wise, it is as innovative in the teaching methodology in L1 as it is in the learning methodology for L2. In both cases, a global approach to learning is involved, whether it be learning in a language the child already knows, or the learning of a foreign language. The articulation of the dosage of the two languages is oriented towards a transfer rather than a simple transition, without abandon of L1, and also it is oriented towards a better development of the academic and cognitive aptitudes of the child.

The convergent methodology is based in the essence of language itself, since language is not only the means of communication and expression but also an instrument for the structuring of thought and of personality. The method also gives a great deal of importance to a knowledge of one's maternal language, which is a precondition for the efficient learning of the second language, French.

Given these observations, during the first three years of schooling the maternal language serves as both medium and subject of instruction. French, which is introduced during the second grade in the form of oral expression, becomes a concomitant language of instruction together with the national maternal language of the child during the fourth grade. At this level, the pupil evolves toward a functional bilingualism.

3.5.6.1. Basic principles of the convergent methodology.

The basic principles of this methodology constitute a veritable transformation of the act of instruction. They require:

- teaching which places more importance on the act of learning than on the act of teaching, with the pupil becoming the primary artisan of his or her own learning (working together in a workshop environment on various projects);

- teaching centered on the learner and on communication. Motivating situations are created and techniques are imagined which make it possible to institute exchanges (role-playing);

- teaching which involves the arousal of sensitivity relying on the rhythms of the body, musical rhythm, and favoring the liberation of the individual, opening him up towards his environment (rhythmic);

- teaching which involves a stimulation of the imagination and creativity through dramatization, story telling, drawing, and doing it yourself, etc.:
- teaching which involves the development of a spirit of autonomy and responsibility while taking into account the various learning situations (individual and group learning):
- teaching which involves success flowing from reasonable expectations, and from a receptive, encouraging and supportive attitude on the part of the teacher.

3.5.6.2. Pedagogical approach.

In practice, the teacher must do everything possible to above all create conditions that are favorable to communication, while freeing the children of their inhibitions and of their fantasies. Learning situations are as numerous as they are varied (audio-visual situations, folktales and stories, games, group work, etc.), and help to alternate moments of freedom and of structured activities for the children.

Given the importance of oral expression in the early stages of learning, a pedagogical unit for both L1 and L2 is made up of the following progression of activities:

1) the dialogue whose objective it is to make the students talk while acting or role playing. Oral expression is activated by progression of images corresponding to the different replies involved in the exchanges of the dialogue. Through the use of silent dramatization (mime) and verbal dramatization (words and gestures), the imagination and creativity of the children are developed, and also the basis for written expression is established:

2) oral discourse is produced by the pupils on the basis of the dialogue which they have already worked on with the teacher. (In L2, the first oral texts are produced by the teacher himself while waiting for the pupils to acquire sufficient linguistic proficiency in L2 to do it themselves). The objective of oral discourse is to render each child capable of telling a coherent story, which at the same time prepares the child for the production of written discourse:

3) written discourse, produced first by the teacher is a transcription of a narrative version of the story as told by the pupils. The text is constructed from one or from several of the dialogues already studied. The different texts that are written

in this way are each posted on separate sheets in the classroom and come to make up what is called the *memory* of the class:

4) the aural comprehension text involves a transcription of an oral text. Here the object is to teach the children to grasp and retain, through listening well, the general meaning of a message (global understanding), or a series of relevant points of information (selective understanding), or the total contents of the message (acute and detailed understanding):

5) the reading text is built from several earlier discussions among the teacher and pupils and sets the stage for research and information gathering exercises (reading-discovery exercises). (Later, functional reading allows the pupil to carry out various tasks based on written instructions.):

6) the tale, powerful means for creative work, is for the children an immersion in the language and a stimulus for oral expression. It is also an excellent exercise for developing children's imagination and creativity.

A certain number of activities (short tale, drawing, rhythm, writing, project, etc.) find a place between the sequences so defined. The elements of the pedagogical unit are not timed, with the barometer being the level of interest manifested by the pupils for each of the activities involved.

The climate in the convergent methodology classroom is striking to the outsider with regard to the great diversity of learning activities and the organization of the learning space. The spatial organization of the classroom allows for and encourages the easy movement of the pupils or of their group depending on the circumstances involved (rhythmic exercises, workshop activities, etc.). The various spaces in the room are set up for a certain number of activities.

- the classroom resources file serves as a reference source for the pupils so that they can gather information on an unknown word (thematic file) or on a grammatical form which they have yet to master (grammar file):

- the library (books and various clippings and writing) in order to get them used to reading and writing, before it later becomes a place of documentation for them:

- news box is a gathering place for the various writings of the pupils in the class or for letters and signs sent by correspondants from other classrooms, or from

outside the school:

- the memory of the class or collection of the different texts developed by the class and posted on the walls of the classroom.

3.5.6.3. Pedagogical materials.

For the implementation of this experiment, turning to the resources available in the local environment has always been the priority in developing pedagogical materials. A number of ingenious devices have been developed locally, at relatively low cost.

The team in charge of the experimental schools at the Regional Department of education elaborates the necessary documents for the classes in national languages, and conceives and produces the necessary supporting materials for the audio-visual situations. As for the documents in French, they are conceived and elaborated by the Centre International Audio-Visuel d'Etudes et de Recherches (CIAVER) in Saint-Ghislain in Belgium. But prior to their being elaborated in Belgium, the themes to be studied and developed in the documents are selected and recommended by the Malian team. This approach allows for the adaptation of the socio-cultural content of the manuals and other materials to the children's milieu.

Instead of a real video recorder/projector, a wooden case with an opening in the form of a screen is installed. With a crank to activate the roller on which the visual illustrations are mounted, the images are run through the screen in the correct progression. Instead of a television set, a carton without a back is used in which the pupil inserts his head and appears through the screen-like opening in the front, appearing as if on a television screen.

3.5.6.4. Conclusion.

✕ Contrary to what was indicated in the terms of reference for our evaluation, the convergent methodology of teaching in national languages and in French was not the subject of a comparative evaluation, with tests comparing the two schools with the regular experimental schools and the classical schools. The reason for this is that the methods of learning and teaching practiced in the convergent methodology differ greatly from those of their more traditional counterparts. As a result, the

instruments developed for testing children's abilities in the experimental and classical schools were unsuitable for classes using the convergent methodology - the progression of skill acquisition is quite different. Nevertheless, we present the convergent methodology for teaching in national languages and French, the principles which underly it, the recommended pedagogical methodology, as well as the results which have been obtained in those classes practicing the methodology. Our observations with regard to this methodology are based on a day-long visit to the two schools in Ségou.

3.6. The results of previous evaluations.

It is important to point out that there has not been a summative evaluation of the experimentation in the past. However partial comparative studies have most often indicated a clearly superior academic performance on the part of the pupils from the experimental schools over their counterparts in the classical schools.

The study which appears, in our opinion, to be significantly revealing of children's performance in the two types of schools is the one carried out by the Regional Education Department (DRE) of Ségou⁵, which was completed the 24th of August, 1985.

The main objective of this evaluation was to compare the historical evolution of the experimental school classes of Banankoroni and Zanabougou with those of three classical schools of the city of Ségou, including the schools of Group I, Group II, and Group III, for the period from October of 1979 (the year of the opening of the first experimental schools in the Bamanan language) through June of 1985 (the year in which the first class of pupils had completed the six-year cycle and took the examination for entrance into the seventh grade).

The parameters which were considered relevant to the framework of this study were:

- the rate of advancement from one year to the next through the system, considered in each case in relation to the original beginning enrollment figure for the two types of schools: an analysis, according to this parameter should make it

⁵Direction Régionale de l'Education de Ségou, 1985: Etude comparée, l'évolution d'octobre 1979 à juin 1985 des effectifs des promotions de 1979-1980 des écoles expérimentales de Banankoroni et Zanabougou et de trois écoles classiques témoins dénommées: Groupe I, Groupe II, Groupe III.

possible to determine the rate of success, repeating, and dropout of pupils: in other words, to evaluate the advancement rate and dropout rate comparatively, for boys, girls, and globally in the two types of schools:

- the evolution of the rate of retention of girls at the different levels of the system:
- school and study conditions: reading manuals, quality of teaching personnel:
- attendance rates.

Zanabougou and Banankoroni are experimental schools in Bamanankan and in keeping with the original experimentation strategy, the Bamanan language is used as the medium of instruction for the first three years. French is introduced beginning in the second trimester of the second year. During the third year, written French, in addition to oral French, is introduced as a subject. Beginning with the fourth year and up until the end of the sixth year, French becomes the medium of instruction and Bamanankan then becomes a subject.

In the classical schools, the French language is taught exclusively from the beginning of the first grade: this is the case for the schools of Group I, Group II, and Group III of the city of Ségou.

With regard to the rate of advancement through the system, the analysis from the above-cited document shows the following results:

- Banankoroni, 41.37% of the enrollments recruited in 1979-80 reached the sixth grade without repeating a single year: 27.58% of this enrollment successfully passed the examination for entrance into the seventh grade in June of 1985.

- at Zanabougou, 50.87 % of the enrollments recruited in 1979-80 reached the sixth grade without repeating a single year: 17.54% of this enrollment successfully passed the examination for entrance into the seventh grade in June of 1985.

Thus, for the two experimental schools, from an initial enrollment of 115 pupils in 1979-80, 53 pupils, or 46.08% reached the sixth grade without repeating a single year, 26 pupils, or 22.60%, of this enrollment successfully passed the examination for entrance into the seventh grade in June of 1985.

- In the Group I school, 7.86% of the enrollments recruited in 1979-80 reached the sixth grade without repeating a single year: 5.88% of this enrollment

successfully passed the examination for entrance into the seventh grade in June of 1985..

* Au Groupe II. 9.55% of the enrollments recruited in 1979-80 reached the sixth grade without repeating a single year; 5.88% of this enrollment successfully passed the examination for entrance into the seventh grade in June of 1985.

* In the Group III school. 3.47% of the enrollments recruited in 1979-80 reached the sixth grade without repeating a single year; 2.60% of this enrollment successfully passed the examination for entrance into the seventh grade in June of 1985.

Thus for these three classical schools, out of an enrollment of 340 pupils recruited in 1979-80, 24 pupils or 7.05% reached the seventh grade without repeating a single year. Fourteen pupils from this enrollment, or 4.11% passed the examination for entrance into the seventh grade in June of 1985. What comes out of these results is that the final performances of pupils in the experimental schools clearly surpasses those realized in the classical schools: 22.6% final success rate in the experimental schools against 4.11% in the classical schools.

With regard to the rate of increase in the number of girls attending in the evolution of the initial enrollments, the study shows that the level of attendance by girls in the two types of school is similar: at Banankoroni and Zanabougou which are experimental schools, the evolution of the enrollment figure for girls is characterized by a constant decline; this decline is extremely important when compared with the enrollment figures for boys: in Group I, Group II, and Group III, on the contrary, the curve illustrating the evolution of the enrollment figure for girls is sometimes rising (as in Group I), sometimes falling, but in an irregular manner (as in Group II), and sometimes a concave curve (as in Group III).

The inferences that can be drawn from this data show basically the influence that the milieu can have on the school. The two experimental schools are located in rural areas where the girls are engaged to be married at a very early age. Thus at a very early age the influence of the girl's fiancé backed up by parental pressure, causes the girls caught in this chain of circumstances to lose their attraction to school. In fact the status which this rural milieu accords women does not encourage them to study for a very long time, since school, and a continuation of one's studies run the risk of facilitating the escape of young girls from the community. As for the three classical schools, they are located in urban areas. There the more traditional

understanding of a woman's place and her role is questioned by a more modern concept of relations between men and women. The discrimination which handicaps a girl's opportunity to get an education is far less apparent in the urban milieu to the point that it is almost no longer an issue and girls there have just as much of a right to an education as do they boys. This of course explains the relatively high enrollment rate for girls in the classical schools which were considered in this study, by comparison to the rate at Banankoroni and Zanabougou: 47.05% and 30.43% of the respective enrollments of the two types of schools.

It is important to point out that the study conditions in the schools explain in part the better performances achieved by pupils in the experimental schools: maternal language, equipping with materials, and the frequent checking of teachers. The textbooks and manuals used in these schools are conceived by Malian research teams and are adapted to the new situation inherent to the innovation; their cost is quite reasonable. Furthermore, it appears that the experimental school teachers received more intense scrutiny and supervision than did their classical school counterparts.

In conclusion, a clear superiority of the experimental schools over the classical schools is the result of the various analyses made in this study.

However, if in 1985 the experimental schools were sufficiently equipped with schools furnishing (books, notebooks, pens, etc.) and well supervised by the administrative authorities of the schools, it must be noted that this is no longer the case. Today, the experimental schools are very poorly equipped: lack of books and other teaching materials, lack of notebooks, and lack of many other materials which should be considered basic to the work of the school. Given these observations, are the superior performances recorded by the experimental schools in 1985 still being achieved today?

The study carried out by the IPN's⁶ Office of Study and Evaluation consisted of evaluating "the influence of the maternal language as medium of instruction on the performance levels of pupils in mathematics in the classes of the first primary cycle: a comparative study between the experimental school classes in Bamanankan and French-medium classes in Mali".

⁶Bureau d'Etude et d'Evaluation de l'IPN, 1985: l'influence de la langue maternelle comme langue d'enseignement sur les performances des élèves en mathématiques dans les classes du premier cycle: une étude comparative entre les classes expérimentales en langue bamanan et les classes en langue

The original hypothesis for this study was to prove whether yes or no, the introduction of Bamanankan into formal education had a positive influence on the performances of pupils in mathematics, by comparison with French which was currently being used in the schools; in other words, the study's authors wanted to find out if experimental school pupils performed better in mathematics than their counterparts in the French-medium schools.

The study which was carried out on the basis of 614 subjects in the experimental schools and 583 subjects in the classical schools made possible the following conclusion: overall the pupils of the experimental school classes achieved a high level of performance in all subject areas: speaking collectively, it can be said that the experimental schools pupils in Bamanankan were superior to their counterparts in the classical schools. This superiority of the experimental schools was again confirmed and corroborated by our own study, at least during the first three grades of primary school when the two different language groups are still on an equal footing, linguistically speaking - prior to the transition.

In the framework of the research carried out on master's theses at the Ecole Normale Supérieure in Bamako, a thesis was presented in 1986 and defended with the title: "Comparative evaluation of the attitudes and the learning in the Bamanankan-medium experimental schools and in the French-medium classical schools: the case of reading, oral expression, and written expression"⁷.

The essential objective of this exercise was to proceed towards a "formative exterior evaluation", that is:

- to evaluate the attitudes and aptitudes of the pupils in the experimental schools in Bamanankan, and those of their counterparts in the classical schools in the French language;

- to then compare the results attained in both types of school: this comparison ought to allow one to respond as to whether yes or not, the attitudes and aptitudes acquired in reading, in oral and written expression in Bamanankan were transferable at the time of the learning of the French languages.

With regard to oral expression, globally, one result of this analysis is that the

française au Mali.

⁷Moussa Sissoko et Yamoussa Malé Sissoko, 1986: Evaluation comparée des attitudes et acquisitions scolaires dans les écoles expérimentales en langue bamanan et dans les écoles en langue française: le cas de la lecture, de l'expression orale et de l'expression écrite.

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best performance was recorded by the experimental schools. However a lowering of the level of these same pupils is recorded beginning with the fifth grade. This lower level of performance is even more noticeable in the sixth grade.

As for written expression, the pupils of the third grade in the experimental schools demonstrated nearly the same level of performance in French as their classical school counterparts: 12.94% versus 14.17% respectively in the two types of schools. In the fifth and sixth grades, there was a clear superiority of experimental over classical schools.

As far as the transfer into French of the academic skills acquired in the maternal language, evidence gathered from teachers and inspectors indicates that it is not always carried out happily nor with optimal success. Whereas the transition made with transfer of skills constitutes one of the rudimentary elements of the experimentation in national languages. Thus the use of the maternal language alone is certainly not sufficient; the methodology adopted for teaching and learning must be efficient and effective in relation to the two languages which are partners in the bilingualism.

The study carried out by Louis-Jean Calvet⁸ did not reveal any new results other than those already cited above.

The last study carried out by the IPN in 1989 dealt with the "Study of the impact of teaching in national languages on the performances of primary school pupils in French (the case of the Bamanankan-medium schools in Mali)".⁹ This study sought to achieve the following two objectives:

- to verify if the objective according to which teaching in national languages should contribute to a higher academic success rate in the French language at the time when pupils prepare to take their final (end of first cycle) primary school exam (principal objective).
- to analyze factors relevant to the establishment of new schools (secondary objective but it allows one to explain quite well some of the results).

The results obtained at the end of this study attest that the pupils of the classical schools were superior in academic performance to their counterparts from

⁸Louis-Jean Calvet, 1988. Evaluation des classes expérimentales en Bambara dans la région de Ségou.

⁹République du Mali. Ministère de l'Éducation Nationale. IPN. 1989. L'Étude de l'impact de l'Enseignement en Langue Nationale sur les Performances des Élèves du Premier Cycle en français (cas des écoles en langue bamanan au Mali). Bamako.

the experimental schools. Though at first this seems surprising, in fact, it can be explained mostly by factors tied to the conditions under which the experimentation has been implemented. But at the same time the data are interesting in the sense that they should allow those in charge of education as well as researchers to focus their attention on what seems to be the weakness of this very important pedagogical innovation. When it comes to these factors, here is how the authors of the cited study describe them:

The factors which seem to have played an important role in the performance levels realized here and there by the pupils and which, at the same time that they constitute a burden in the results of the pupils of the experimental school group, acted as a positive factor in the results of the classical school group.. These are: the experience of the locality of the school with adult literacy programs, the style or method of teaching used by the teacher, the number of pupils in the class, the profession of the father, and the length of teaching experience of the teacher.¹⁰

The problems which were addressed in the recommendations of this study are:

- the problem of the training of personnel.
- the problem of school textbooks.
- the problem of curriculum for training and teaching.
- the problem of the lack of an appropriate methodology.

What comes out of these different evaluations of the experimentation in national languages is that the longer the experimentation continues, the less distinct become the significantly different results which were enjoyed in its earlier years. Thus the earlier difference in results and in children's performances between the two types of schools have diminished the longer it continues in its present form with the advantage once enjoyed by the experimental schools no insignificant.

3.7. The difficulties.

To date, the various inspection missions and partial evaluations of the two

¹⁰idem P. 61.

primary school types, with the exception of the 1989 IPN evaluation, have unanimously attested to the superiority of pupils in the experimental schools over those of their counterpart classical schools. This outcome has even been confirmed and corroborated by the results achieved by the first graduates of the experimental school system when they took the 7th grade qualification examination: the percentage of those qualifying from the experimental schools was clearly superior to the percentage from classical schools, as indicated in the following passage:

The results of the first evaluations highlighted the veritable mutation of the pedagogical relationship in the sense of an improved relation and a liberation of the initiatives taken by teachers and pupils. They have already begun to produce an inkling of the elements necessary to solve the multiple problems posed by teaching in the French language, notably those of psychological blocks, high rate of dropout, massive repeating, the excessive cost of training, the social inadaptation of the school, etc.¹¹

However this tendency needs to be safeguarded and protected in the future and as the experimentation is pursued in its present form will be threatened by difficulties of several different kinds:

- **Economic problems:** the training of teachers and the elaboration and printing of textbooks, the production of various pedagogical materials, and the purchase of equipment for typing and reproduction, which are necessary for the continuation and/or the generalization of the experimentation, require investments which are very often beyond the means placed at the disposition of those locally responsible for its implementation.

- **Pedagogical problems:** in order for the introduction of national languages into formal education to be carried out properly, among the required prerequisites are an adequate curriculum, the researching and elaboration of a methodology suited to the appropriate curriculum, and above all the conception of the various pedagogical documents necessary to support instruction. In the case of Mali, it is not certain that all of these parameters were sufficiently considered when the experimentation in national languages began.

- **Social problems:** As is the case with any innovation, experimenting with teaching in national languages should be preceded by an effort to raise the

¹¹cf. IPN, 1989: Etude de l'impact de l'enseignement en langue nationale sur les performances des élèves du premier cycle en français (cas des élèves en langue bamanan au Mali.) P. 9

consciousness of the situation for the various parties involved, especially the parents, whether they be in urban or rural circumstances. In Mali, even though attempts were made in this direction, it cannot be affirmed that all reticence had dissipated. Apparently, the urban population, as well as the rural population, view this educational innovation as a risky adventure producing a cheap and watered-down form of education, either because they are comparing the innovation to their vision of the advantages of the traditional classical system which always used French, the official language of the country, or simply because they do not believe that the conditions necessary for implementing the innovation were sufficiently in place. This remark appeared in Mali's report presented to the subregional workshop/seminar on the research and use of national languages, held in Bamako from the 10th to the 14th of November, 1986:

The classical French school has long been, and remains, the uncontested master of the educational arena. It has acquired immense prestige and is known as the only means for achieving the way to instruction. It is thus natural that parents and workers, especially those in urban areas and relatively well cultivated in French, prefer it over teaching in national languages which they consider to be a second rate, watered-down form of education.¹²

What comes out of this report is that the personnel and the parents need to have a more heightened awareness in order that their support for and adherence to the experimentation might be better obtained. These are factors which are crucial to the success of the innovation.

After all of the analyses made of the above-cited difficulties which persist up until the present day, certain questions survive with regard to the very establishment of the experimentation. In other words, considering the very real difficulties which have been cited above, might it not be necessary to re-examine the conditions of the implementation of the experimentation which certainly are relevant when it comes to researching solutions which would allow for the success of the innovation? By proceeding in this way, after more than a decade of experimentation, it would be possible to discover the weak links in the experimentation, and to better clarify the results of the research, and to furnish the decision-makers with suggestions and

¹²Rapport du Mali présenté au séminaire atelier sous-régional sur la recherche et l'utilisation des langues nationales, tenu à Bamako du 10 au 14 novembre 1986.

recommendations which would be likely to better orient this commitment in the direction of the assigned objectives.

Chapter II - TERMS OF REFERENCE OF THE PRESENT STUDY

1. Introduction:

According to the terms of reference for the evaluation of the experimentation of teaching in national languages in the Malian education system, the present evaluation should make it possible to:

- verify the degree to which the initial objectives of the experimentation of teaching in maternal languages have been met:
- identify the problems facing this experimentation:
- recommend means to resolve the problems being encountered:
- identify and recommend necessary measures to be taken in order to progressively generalize the experimentation in maternal languages.

In order to fulfill this, the evaluation team will:

a. evaluate the experimentation in half of the national language schools in comparison to a control group of the same number of classical schools in the zone covered by the project in the following domains:

1). Pupils:

- retention rate:
- repeater rate:
- enrollment rate:
- attitude towards school (integration into the milieu):
- academic achievement in at least two different grades (3rd and 6th)

2). Teachers:

- adequacy of training:
- attitude towards the experimentation.

3). Parents and community:

- attitude towards the school (integration into the milieu):

- attitude towards the experimentation.

b. Compare the efficiency of various approaches to the experimentation in maternal languages (*convergent methodology*, traditional method, etc.) and facilitate the search for a new integrated methodology for teaching in national languages and for the teaching of French; and

c. on the basis of data collected, make precise recommendations on methods to follow in order to:

1) have only one methodology;

2) develop the experimentation in maternal languages for the adoption of a generalization plan for teaching maternal languages in the Malian education system;

3) evaluate the experimental program for teaching in maternal languages and French in order to determine its efficiency in light of the objective of reducing dropout rates; and

4) determine the efficiency of a program in maternal languages over the first, second, third, fourth, fifth, and sixth grades of the primary curriculum based on the academic quality of pupil achievement and on the cost of such a program.

Context and justification.

One of the main goals of Malian primary education policy is to provide for each Malian the possibility not only of learning to read, write, and count, but to acquire as well a minimum of knowledge allowing him or her to be a free producer in the society. But increasingly, among those who attend school, a significant number drops out or repeats before reaching the fourth or the fifth grade, which is the level generally considered to lead to permanent literacy.

When comparing, for example, the averages rates for repeating, dropping out, and passing for the period ~~going~~ from 1969 to 1972 to that ~~going~~ from 1975 to 1979, slow progress is noticed as shown by statistics from the Ministry of National Education (MEN). For 1969 to 1972, there is a 28.2% repeater rate, a 9.9% dropout rate, and a 61.9% promotion rate as compared with 1975 to 1979 which had respective rates of 26.5%, 7.5 %, and 66% from the first to the fifth grades. In the fifth grade, there was a repeater rate of 45% during 1969 to 1972, and a repeater

rate of 28.4% during 1975 to 1979. These very high rates are indicators of an educational system in great difficulty. The high rate of dropout is perpetuated at the expense of today's Malian child and the children of generations to come. The economic, social, and human cost is thus inestimable.

Analysis of a fictive cohort group shows according to the same statistics a dropout rate of nearly 40% of pupils over the entire primary school cycle, with the majority of those dropping out returning to a permanent state of illiteracy. In spite of the improvement which was observed at an earlier period, this is a school system with a very weak rate of internal return, this being due to the high rates of repeating and abandonment. This high level of dropout is imputed to several factors of which the most frequently cited is that of the language of instruction being French, a foreign language for those learning it.

Malian authorities became increasingly conscious of this phenomenon and tried to circumscribe it by initiating some experiments in teaching French in a more progressive fashion, methods such as the BELC, the CLAD, and the GRP methods. Unfortunately, these experiments failed. At the same time, attempts to establish adult literacy programs in French had the same outcome. Attempts to conduct literacy programs in national languages however had an unprecedented success (witness the UNESCO Literacy Prize obtained by Mali). As a result, there was a temptation to extend this experiment in national languages to the formal education system. In 1979, one of Mali's national languages, Bamanankan, was introduced into the formal education system, followed in 1982 by three others including Fulfulde, Songhoy, and Tamasheq. This experimentation in national languages had as its objectives the resolution of two very serious problems of the Malian education system:

- the school dropout rate: the use of the maternal language in the first few years of learning should result in a more rapid acquisition of the mechanisms required for reading, writing, and mathematics, and lead to an improved mastery of French. This should produce better results for the school system and a reduction in the rates of repeating and expelling of pupils from school.

- the insuitability or mismatch of the school to the realities of the learners' milieu: the use of national languages in the school should help to integrate the school to its milieu.

The earlier cited evaluations confirm the superior level of academic

achievement obtained by pupils in schools using the national language as the medium of instruction over pupils in the classical French-medium schools, and that the rates of repeating and abandon are significantly lower in the experimental schools, in spite of conditions of operation which we consider to be inadequate.

But given that they were only partial in nature (covering only a few schools and focussing uniquely on academic performance), these evaluations do not allow for a global view of what has been accomplished and of the results attained since the initiation of the experimentation.

The present study is a formative evaluation of the experimentation in national languages initiated by the Ministry of National Education of the Republic of Mali in collaboration with USAID and the FAC, within the framework of the Fourth Education Project of the World Bank.

3 - Goals and objectives:

The present evaluation should make it possible to:

- to verify the degree to which the above-cited initial objectives of the experimentation of teaching in national languages have been attained:
- to identify the problems confronting the experimentation:
- to recommend the ways and means for resolving these problems; to propose the necessary path towards an eventual generalization of the experimentation.

Therefore, the study consisted of:

a) - evaluating the experimentation in half of the experimental schools in comparison with the same number of classical schools in the zone covered by the Project, in the following areas:

1. Pupils:

- class repeating rate:
- rate of abandon:
- rate of schooling SCOLARISATION:
- attitudes towards the school (integration with the milieu).

2. Teachers:

- quality of training:
- attitude towards the experimentation:

3. Parents and the community:

- attitude towards the school (integration with the milieu):
- attitude towards the experimentation:

b) - to compare the efficiency and effectiveness of the different methodological approaches possible to the experimentation in national languages (convergent methodology/traditional methodology):

c) - on the basis of the data gathered, to make precise recommendation on the method which should be followed in order to:

1. adopt only one unified methodology.
2. develop the experimentation in national languages toward the adoption of a plan for its generalization in the Malian school system.

The evaluation team is made up of a Malian expert, a French expert, and an American expert.

Chapter III - METHODOLOGY OF THE PRESENT STUDY

1. The sample.

For a number of reasons beyond the control of the team members, our evaluation could not be carried out until the second half of the month of May. This time factor had an impact on the selection of the sample of schools to be visited and evaluated, and also on the calendar and the rhythm of the team's work. The evaluation concerns the schools of the regions of Sikasso and Ségou, the two regions presently affected by the Fourth Education Project. Four of the schools in the District of Bamako were used as sites for a pretest of the team's instruments of evaluation. Our sample includes two groups: the experimental school group and the classical school control group. Our evaluation concerned the total enrollments of sixteen experimental schools (out of which four were in the Sikasso region and twelve were in the Ségou region) and sixteen classical schools as a control group (out of which four were in the Sikasso region and twelve were in the Ségou region). The list of schools selected is presented in the first Appendix following the body of this report. Two basic criteria guided our choice in selecting the samples:

a) - the inequality in terms of numbers of experimental schools in the various regions (Ségou has forty and Sikasso sixteen): this disproportion had to be taken into account in selecting a representative sample:

b) - the physical accessibility of the schools selected: the classical schools of the control group were chosen simply on the basis of their geographical proximity to the selected experimental schools, and on the similarity of their physical, social, and demographic characteristics with the counterpart experimental school.

The study concerned all of the pupils, boys and girls, of the first through sixth grades in the schools of the samples. In all, 7,036 pupils were subjects of our tests and other evaluation instruments.

For the experimental school group: 2700 subjects were tested in the following disciplines:

- 1st, 2nd, and 3rd grades: mathematics, dictation, reading in Bamanankan;
- 4th grade: sentence construction, mathematics, dictation in French;
- 5th and 6th grades: mathematics, writing, dictation in French.

For the classical school group: 4336 subjects were tested in the following disciplines:

- 1st, 2nd, and 3rd grades: mathematics, dictation in French, reading in French:

- 4th grade: sentence construction, mathematics, dictation in French:

- 5th and 6th grades: mathematics, writing, dictation in French (see the Appendices for the actual testing instruments and the grading system) The tests were taken by all of the pupils in each of these subjects, with the exception of the reading test which was administered to a random sample of 10 pupils in each class giving the time involved in recording each reading sample.

The size of our sample rises thus to 7.036 subjects.

The fact that a smaller number of subjects were tested in the experimental schools is the result of there not always being all six classes filled in a given experimental school. Recruitment for experimental schools is not always annual, and is more often every two years.

It should be noted that of the sixteen experimental schools selected for this evaluation, thirteen were located in rural areas and three in urban areas. This represents a statistical reflection of the distribution of experimental schools since these schools were first placed throughout rural areas before being placed in the cities.

2. The instruments of evaluation: Tests given to pupils.

Different types of instruments were elaborated to gather the information required by this study.

Tests designed for the pupils were made to allow us to measure their performance in the basic disciplines of mathematics, reading, and writing, in keeping with the relevant objective assigned to the experimentation in national languages. The tests were elaborated by the evaluation team on the basis of the official GOM curriculum for the primary schools (enseignement fondamental). They were designed to allow us to find out if the use of the national languages in the experimental schools has an impact on the pupils' performance levels in the basic disciplines on the one hand, and on the other hand to find out if learning in the

national languages results in a better learning of French subsequently.

Given that the national language is theoretically the medium of instruction from the first through the third grade, it was necessary that the tests for these three years be in Bamanankan in all of the basic disciplines, i.e. mathematics, dictation, and reading. In mathematics, pupils in both types of school had to take identical tests, though in a different language medium (Bamanankan for the experimental schools and French for the classical schools).

The reading and dictation exercises differed for the two types of schools since the medium of instruction is different and because a simple translation of the same content from one language to the other would not produce results which would be worthy of comparison. With distinct testing instruments it was felt that a better overall performance evaluation could be obtained to determine in which of the two languages, French or the national language, Bamanankan) the pupils perform better in these subjects. It should be pointed out that the texts for the dictation and reading tests in the national language were longer and more difficult than those conceived in French for the classical school pupils. They of course also differed in cultural content. For both school types, the tests from the fourth through the sixth grades were identical, and in French in all of the subjects tested (mathematics, dictation, sentence construction, and writing).

In order to illustrate what has just been said, below we present a table summarizing this information:

<i>experimental schools</i>	<i>classical schools</i>
1st year: dictation, mathematics, reading (Bamanankan)	1st year: dictation, mathematics, reading (French)
2nd year: dictation, mathematics, reading (Bamanankan)	2nd year: dictation, mathematics, reading (French)
3rd year: dictation, mathematics, reading (French)	3rd year: dictation, mathematics, reading (Bamanankan)
4th year: mathematics, sentence construction, reading (French)	4th year: mathematics, sentence reading (French)
5th year: dictation, mathematics, written expression (French)	5th year: dictation, mathematics, written expression (French)
6th year: dictation, mathematics, written expression (French)	6th year: dictation, mathematics, written expression (French)

In addition to these instruments, the recording reading tests were followed by oral questions to the pupils in order to gather information their attitudes about teaching in Bamanankan and in French in the two types of schools.

2.1. The grading system for our tests.

The tests which we administered are presented in full in the appendix entitled *Testing instruments and grading*. The points assigned to the various parts of each test are shown there. The total figures for the tests administered are shown in the tables which are presented beginning on page 68, with the enrollments tested in each subject, school by school.

With regard to the dictation part of our testing instruments, we began to grade them using the grading system which has traditionally been used throughout the school system, i.e. one grammatical error costs the pupil two points, and one usage error costs the pupil one point, out of a total of ten possible points. According to this system, a grade of five is passing. Using this grading system for the dictation, we soon realized that every pupil would have had a grade of zero, and thus would have failed the exam, whether from an experimental school or a classical school, and our evaluation in this area would give us no valid information. We do not believe that this result indicates that all of the pupils are incompetent in this subject and therefore deserving of a grade of zero. We would suggest instead that it is the grading system which is at fault, and in need of re-evaluation. The problem with this traditional system for the grading of the dictation is highlighted when we compare it with the system for other subjects. For the mathematics tests, for example, a value of ten is assigned to the entire test and it is clear from the outset the number of possible errors that a pupil can commit, and the cost in points of each error. For such a test, the worst possible grade is zero. In contrast, for the dictation, the number of possible errors is almost infinite by comparison, and with five grammatical errors or two usage errors, a pupil automatically receives a zero grade. Pupils are routinely failed in this subject area, without consideration of the number of possible errors on a given dictation, many of which have one hundred or more words and thus literally hundreds of possible error points. This is why we evaluated our dictations using another more equitable system, at least in our opinion, one which would give more comparable results across the different subjects tested. The principle of our grading system consists of evaluating the pupil's performance based on the number

of errors committed in relation to an estimate of the number of theoretically possible errors on the test. Knowing full well that there is certainly a possibility for making a great many more errors than there are words in a dictation. nevertheless. we took this figure. the number of words. as our basis for grading the different dictations. Below we present the grading system which we adopted for the correction of the dictation text of the third grade (34 words) and the sixth grade (49 words). to serve as examples of a suggested change in the system of evaluation.

<i>grade:</i>	<i>mistakes:</i>	
	<i>3rd grade (34 words)</i>	<i>6th grade (49 words)</i>
10	0-3.4	0-4.9
9	3.5-6.8	5.0-9.8
8	6.9-10.2	9.9-14.7
7	10.3-13.6	14.8-19.6
6	13.7-17	19.7-24.5
5	17.1-20.4	24.6-29.4
4	20.5-23.8	29.5-34.4
3	23.9-27.2	34.3-39.2
2	27.3-30.6	39.3-44.1
1	30.7-34	44.2-49
0	34.1+	49.1+

The reading test was graded according to the following parameters:

- fluent reading with understanding of the text:
- fluent reading skill without understanding of the text:
- syllabic reading without hesitation with understanding of the text:
- syllabic reading with hesitation and without understanding of the text:
- incapable of reading.

The analysis of the reading test. according to the parameters outlined here. should allow us to evaluate whether or not a given child has acquired the reading competence required to comply with the terms of reference of this study.

3. Evaluation instruments: Questionnaires.

The objective of the questions was to gather as much useful information as possible, relevant to the experimentation in national languages, from the teachers, schools directors, and parents. Nearly all of the questions were open questions, since we felt it important to provide the Malian authorities with a wealth of pertinent information. For the teachers, two different questionnaires were developed, with a more elaborated questionnaire for the experimental school teachers and a shorter one for the classical school teachers. This difference is due to the far greater experience with national languages that has been gained by the experimental school teachers. Furthermore, for the parents, only those with children in experimental schools were asked to complete the questionnaires. The complete versions of the questionnaires are presented in the appendices.

3.1. Questionnaires for the teachers.

Two different types of questionnaires were conceived, one intended for experimental school teachers and the other for the classical school teachers.

For the experimental school teachers: This questionnaire was designed to allow us to collect a body of information relating to the training of the teacher, his teaching methods, the curriculum for teaching in national languages, the teacher's experience, the teacher's attitude toward the experimentation, how well the teacher is equipped in terms of teaching materials for the national languages curriculum, and the kind of supervision and follow-up he receives from the various supervisory bodies, etc.

For the classical school teachers: here it is especially important to gather information relative to teachers' attitudes vis à vis the experimentation, and their degree of awareness in this regard.

In addition, the directors of each school involved should furnish us with information on the rate of promotion of pupils in their establishments. In all 187 teachers were concerned in this process, of which 84 were experimental school teachers and 103 were classical school teachers.

3.2. Questionnaires designed for parents.

For pupils' parents, only one questionnaire was developed for both types of school.

For the parents of pupils in the experimental schools, the questionnaire was designed to gather information relative to their attitude towards the experimentation, their degree of awareness of this pedagogical innovation, etc.

For the parents of pupils in the classical schools, our intention was to gather their opinions of and attitudes towards the experimentation.

In all 65 pupils' parents from divers socio-professional categories were involved in this study (see the evaluation instruments in the appendices following the body of this report).

4. The plan of analysis and the statistical treatment of the results.

Taking all of the earlier mentioned objectives into account, we will use first use the children's results on our tests (averages and percentages) in order to compare the performances from the two types of schools. The two types of schools will be compared on the basis of the terms of reference for this study; subsequently the results will be analyzed with a commentary, and recommendations and suggestions will be made in the hope of providing a strategy for the redynamization of certain aspects which seem to constitute the weak areas of the experimentation in national languages (chapter V).

Chapter IV. - THEORETICAL CONSIDERATIONS PERTAINING TO BILINGUAL EDUCATION

1. Introduction.

As evaluators, a secondary task which we assigned ourselves was to furnish, through this evaluation, as much information as possible which might be useful to Malian authorities involved in the process of developing a master plan for the eventual generalization of a linguistic and cultural reform of the educational system. In this light, we present not only supplementary ideas which have come directly from our evaluation, but also, in the present chapter, we offer a theoretical section explaining certain basic notions which are relevant to a thorough understanding of what is involved in bilingual education and educational bilingualism. Here we cite the results of psychological, linguistic, psycho-pedagogical, and purely pedagogical research which has been carried out in countries having a long experience with multilingual education. This information is offered for informative purposes.

2. The sociolinguistic situation vis-à-vis the educational system.

According to criteria established elsewhere in the world, an *official language* is a language indicated as official within a given political or administrative entity, a political jurisdiction, a nation, a state, or a province. An official language is established by the law so that it will be used in certain official functions such as elections, transportation, education, etc. However, a *national language* is a language in which the media and other institutions function. English in England, French in France, and Japanese in Japan, are examples of national languages which are intimately tied to their political entity, to such a degree that to designate them as official languages is not even necessary.

In francophone Africa languages which are called *national* are at the same time national, local, regional, minority, and ethnic: sometimes they are even majority languages, that is when a national language is spoken by the majority of the population of a given country, such as is the case for the Hausa language in Niger, or the Bamana language in Mali. In francophone Africa, an African language can thus have several different statuses, and can be almost anything except official. The history of francophone Africa shows us that a national language never becomes an

official language. There the label *national language* thus means, language which is not official: that is to say that there is some hesitation as to how to designate such languages. In order to be able to establish meaningful criteria on the basis of which the choice of an appropriate model for educational reform in francophone Africa can be adopted, it is worthwhile to examine first, and to clarify, the true status of the French language there. This is important because the status, role, percentage of speakers, and attitudes of the population toward the French language, among other factors, all combine to play an important role in the multilingual educational system, especially at the level of the education of the child who is acquiring French as L2.

In the case of Mali, we find an official language (French) which has no native speakers in the country, a majority national language (Bamanankan), and lots of other minority national languages. Although Bamanankan may be a language of public speaking and of some power, it has no official status, and thus its standing is less prestigious than that of the French language in many eyes. Elsewhere in the world, multilingual education begins with a minority language (L1) and then passes on to a language of wider communication (L2) within a given country. In several countries of francophone Africa the child begins with a national language, either majority or minority (L1) and then passes on to a foreign language (L2), which is not a language of wider communication inside of the country, but rather an international language which is known by approximately 10% of the population of the country. Thus a bilingualism based in a combination L1 (Bamanankan, Songhoi, Tamacheq, Peulh, Soninke, etc.) and L2 (French), in Mali, under present conditions, does not optimally benefit the population due to the lack of speakers and those literate in the French language.

It is also important to consider the everyday milieu outside of school where non-formal education takes place - the continuous, ongoing daily training which, in the case of the child, should complement the formal education system. From the linguistic point of view - the dynamics of languages - the child must have access to the necessary academic and cognitive stimulæ in the language which is medium of instruction in the school system in order to develop normally, especially during the period preceding and up to puberty. In the classical system with immersion in French beginning from day one, a system which has prevailed for an extremely long time, due to the status of French outside of the school, the child is placed in a situation where s/he cannot experience normal academic and cognitive development - without access to any kind of input in L2 outside of the school, the child is

condemned to failure - s/he naturally has recourse to his or her maternal language outside of the school, and this becomes the dominant medium in the non-formal sector. In the experimental school system, the child encounters a similar situation: without an official role and without an improvement in or a revalidation of their status since independence, a national language suffers the same fate since it also is incapable of providing the child with the necessary input for his or her normal development and growth during the critical period prior to puberty. We suggest that this is due to the lack of academic and cognitive stimulation in L1, as well as the lack of access to reading material in L1. In spite of these factors, the present experimental school system abandons the L1 as medium of instruction after only a few years. The transition takes place before the child has sufficiently developed his academic and cognitive proficiency in L1, and is thus confronted with the same situation encountered by the child who is a pupil in the classical school, the only difference being that the rapid transition and the harmful situation which it begets take place a few years later. With the present educational system, in addition to the sociolinguistic and cultural situation, the child is doubly damned, and thus prevented from being able to develop normally.

In a great many other bilingual education programs, the L2 is the maternal language of a certain percentage of the population, and is often the majority language of the population. In francophone Africa, since French is not an indigenous language to Africa, no group or portion of the population begins with an advantage in French over others, at least from the linguistic point of view. Everyone is equally disadvantaged. To quote a classical argument, French is the only language which is completely neutral, apolitical, without danger, at least from a *political* point of view in francophone Africa. But is it true that French is neutral? From the psychopedagogical point of view, in order to be able to respond to this question the authorities must ask themselves what the effect will be of a system which does not sufficiently develop proficiency in L1 on the African child.

2.1. How to make a bilingual education system succeed

The success of a linguistic and cultural reform based in a functional bilingualism depends on a great many factors which come into play reciprocally in a very complex manner, and which can play different roles in each multilingual situation. There are a number of obvious factors which are often cited in documents

dealing with bilingual education, such as for example: planification (the role of the master plan), the training of teachers, the development of teaching materials, etc. In addition, there are socio-cultural and socio-linguistic factors which also play an important role. The use of the school language in the home is extremely important, as is the status of each language used in the society and the culture. The attitude of the population toward the school, and toward the two languages which are partners in the bilingual educational system is of course another crucial and determining factor. The motivation and the family support of the child are based in the attitudes towards the languages and towards school instruction which s/he inherits and assimilates from his or her parents.

2.2. Can the multilingual education models used elsewhere in the world be applied in francophone Africa?

It has often been said that the installation of a bilingual education system in francophone Africa cannot rely on the successful experiences that have been lived elsewhere in the world, since the situations are so different in Africa, in comparison to North America, for example. While we do agree that the situations are quite different, we nevertheless argue that all other experiences are relevant and may have some bearing on the francophone African situation given the fact that children are universally the same, everywhere in the world, and thus the lessons learned elsewhere in the world are quite pertinent for the future of the linguistic and cultural reform of the educational system in the countries of francophone Africa, and thus, for the future of the child. Since it is known that all of the children in all the countries of the world are equal, equally intelligent, quick, alert, etc., before entering the school system, it cannot be said afterwards that in a given country where the dropout rate rises to a level of 35%, that the children are all stupid, whereas those of another country where the rate rises only to 5% are all very intelligent. Instead, where such differences exist, the fault must be sought in the structure of the education system in the 35% country in order to find a solution.

3. Education and the cognitive development of the child: the theories of Cummins.

At the beginning of the North American experience with bilingual education it was believed that bilingualism and bilingual education was harmful and handicapped

in a way the development of the child. This was due to the fact that the research carried out in the beginning was based on an evaluation of immigrant children uniquely in L2 when those children had not had the chance to sufficiently develop their proficiency in L1 prior to the transition. Using research such as this it is possible to demonstrate that bilingual education produces a negative effect on the development of the child, even if it is not the case in reality.

3.1. The threshold hypothesis (Cummins, 1979).

However, the research of a Canadian psycholinguist/psycho-pedagogue, James Cummins, has shown that the effect of educational bilingualism is based instead in the degree to which the child's proficiency is developed in the two partner languages. Cummins' work is today of fundamental importance since it constitutes the theoretical basis and touchstone for bilingual education in North America. Cummins provides us with a psycho-educational basis for bilingual education, containing elements which are applicable not only to the North American situation, but also elsewhere in the world. The hypotheses on which his theory is founded are presented in detail here because we feel that they are quite relevant to the francophone African situation.

Cummins suggests that it is the kind of bilingualism achieved which determines whether the effect of a bilingual education program will be positive or negative. In short, he proposes (Cummins, 1981) that three kinds of bilingualism exist: 1) limited, 2) partial, and 3) proficient. The Threshold Hypothesis assumes that those aspects of bilingualism that might positively influence cognitive growth are unlikely to come into effect until children have attained a certain minimum or threshold level of proficiency in the second language. Similarly, if bilingual children attain only a very low level of proficiency in one or both of their languages, their interaction with the environment through these languages both in terms of input and output, is likely to be impoverished (Cummins, 1981:38). The form of the Threshold Hypothesis that seems to be most consistent with the available data is that there are two thresholds. The attainment of a lower threshold level of bilingual proficiency would be sufficient to avoid any negative cognitive effects; the attainment of the second, higher level of bilingual proficiency might be necessary to lead to accelerated cognitive growth. The Threshold Hypothesis is illustrated below. In summary, Cummins suggests that limited bilingualism produces negative cognitive

consequences, whereas proficient bilingualism can produce positive cognitive consequences. Partial bilingualism thus has neither positive nor negative effects on the cognitive development of the child.

A certain number of studies support the idea that limited bilingualism has a negative effect. For example, the Swedish research carried out on Finnish immigrant children (Skutnabb-Kangas et Toukoma, 1976) shows that children enrolled in immersion programs in Swedish, end up without having developed their proficiency sufficiently neither in Finnish (L1) nor in Swedish (L2). They had a lower performance level than their monolingual counterparts, whether Finnish or Swedish.

<i>Type of bilingualism</i>	<i>Cognitive effect</i>	<i>threshold level</i>
<p><i>A. Proficient bilingualism</i></p> <p>High levels in both languages</p>	<p>Positive cognitive effects</p>	<p>higher threshold level of bilingual proficiency</p>
<p><i>B. partial bilingualism</i></p> <p>Native-speaker level in one of the languages</p>	<p>neither positive nor negative cognitive effects</p>	
<p><i>C. limited bilingualism</i></p> <p>proficiency</p> <p>Low level in both languages (may be balanced or dominant)</p>	<p>negative cognitive effects</p>	<p>lower threshold level of bilingual</p>

Cognitive effects of the different kinds of bilingualism (Cummins, 1981:39).

3.2. The hypothesis of the common underlying proficiency (Cummins, 1981).

This hypothesis states that "the level of L2 competence which a bilingual

child attains is partially a function of the type of competence the child has developed in L1 at the time when intensive exposure to L2 begins" (Cummins, 1979a:233). According to McGroarty (1988:302-303) research evidence in support of this hypothesis comes from several settings: studies of reading ability that show first and second language reading skills are highly correlated, and studies of minority language children with stronger L1 skills who surpass less proficient L1 peers in L2 schooling (Cummins, 1979b:234-235). In brief, a number of studies indicate that the level of proficiency in L1 is a crucially determinative factor in the success of the child in acquiring L2.

"While, as Cummins notes, motivational factors and features of the educational environment also make a difference in mediating the relationship between the two languages, there is ample reason to assume that the level of first language skills is one of the critical determinants of success in acquiring the second language. This is true for both majority and minority students. However, the social conditions surrounding the languages in question affect the degree to which the two languages should figure in educational programs. Cummins points out that in middle class majority language situations, such as most of the Canadian French immersion programs, the home language, English, "seems to be impervious to 'neglect' by the school" (1979b:233). In many minority language settings, ... there is a special reason for schools to concentrate efforts on L1 development. If the L1 is a minority language (one that is not used outside the home in a wider community and one that may not be supported by literacy activities in home, church, or community activities), the child may not have experience with the uses of language that facilitate ready acquisition of a second language and, consequently, normal educational progress through the L2 may be hindered, according to the hypothesis. While the social factors that impinge on language learning clearly play a role here, this formulation emphasizes the first language skills the student commands as one of the keys to second language success" (McGroarty, 1988:303)".

3.3. How can we characterize bilingual proficiency?

Related to the issue of linguistic interdependence is that of the nature of bilingual proficiency. The critical question here is whether a bilingual's two language systems represent manifestations of a separate underlying proficiency (SUP) or a common underlying proficiency (CUP) model (Cummins, 1981:22-34). The SUP

model assumes that proficiency in L1 is entirely separate from L2, and that content and skills learned in one language will not transfer to the other. Despite its common sense level of intuitive appeal, Cummins finds no evidence for the validity of the SUP construct. Basing support for the CUP model on evaluations of successful bilingual programs, studies relating age on arrival to second language acquisition, and research linking continued use of a primary language at home with improved school achievement in L2, Cummins concludes that children who experience extensive, natural first language development at home or in school tend to make better progress in school than comparable students whose L1 is not maintained. The inference is that skills learned in the first language transfer into the second, thus establishing the commonality of the underlying language proficiency. (McGroarty, 1988:303)

In order to determine which linguistic skills transfer from L1 to L2, Cummins proposes a descriptive framework which clarifies the different kinds of language utilized in contexts which are relevant to the cognitive development of the child. He suggests a distinction between the communicative sort of language which can be acquired in non-academic contexts spontaneously, as opposed to language which is typical of academic and cognitive proficiency, which is not acquired spontaneously and which must be learned in an academic setting. He distinguishes therefore between the aspects of linguistic proficiency which play a role in the acquisition of reading and writing, and the other aspects. He notes that those aspects which are relevant to literacy are interdependent across languages, and thus are manifestations of what he refers to as *common underlying proficiency*. (McGroarty, 1988:304-305) A similar distinction described by Genesee is quoted here:

One might expect the language-specific skills (those which are not easily transferable from language to language) to include the more technical aspects of language, such as spelling patterns or syntactic rules, whereas the transferable skills may be more in the nature of cognitive processes, such as the use of one's knowledge of the syntactic transitional probabilities of a language in reading. (Genesee 1979:74-75)

3.4. A framework for understanding what language proficiency is.

Cummins proposes a typology for distinguishing the various kinds of language proficiency. His first formulation of this typology was based on the distinction

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between language and speech at the surface level, which takes place in everyday communicative exchanges (*basic interpersonal communication skills, ou BICS*), and, on the other hand, the ability to function in decontextualized linguistic situations, as in an academic setting where the contextual use of language is not transparent (*cognitive academic language proficiency, ou CALP*) (Cummins, 1979b). He suggests that one of the factors which comes into play in the high rate of failure for minority student in North America is due at least in part to a dearth of experience with CALP-type skills in the home environment before entering the school. According to this formulation, children who seem to have an oral competence in L2 could still very well be in the process of developing the understanding and manipulation skills of the language which do not show up directly in interpersonal communication. (McGroarty, 1988:304)

3.5. The relevance of Cummins' ideas to the situation in francophone Africa.

So, according to Cummins, in order for an individual to experience a positive cognitive development, he must attain a higher proficiency threshold. The antithesis also follows therefore, that a lower threshold produces an equally low level of cognitive development. Bilingualism is additive at the higher threshold and beyond. The proficiency acquired and learned in L1 and L2 is a result of experience and studies which have been lived by the individual in a variety of contexts for a diverse range of reasons and purposes.

Subtractive bilingualism occurs when children are "deprived of a profound knowledge, linguistic, and conceptual base in a given language; bilingual children deprived in this way risk a lower rate of intellectual and educational progress." (McGroarty:301)

"... there may be threshold levels of linguistic competence which bilingual children must attain both in order to avoid cognitive deficits and to allow the potentially beneficial aspects of becoming bilingual to influence their cognitive growth." (Cummins, 1979a:229).

To avoid difficulties in linguistic development and to sustain normal cognitive growth, potentially bilingual children had to reach a native level of language skill in at least one of the two relevant languages. Failure to do so could result in such inadequate development of language that negative cognitive effects might ensue: if

the child did not possess age-appropriate skills in at least one of the two languages, neither language could then serve as a foundation for cognitive growth. This represents the lower threshold of bilingualism. Deprived of a strong linguistic and conceptual knowledge base in at least one language, bilingual children with this linguistic profile could be in jeopardy of lower intellectual and educational progress than unilingual peers. With inadequate levels of skill in both languages, such children might suffer the negative effects of semilingualism: they might experience "subtractive" bilingualism, in which loss of the first language retards mastery of the second. (Lambert 1981) (from McGroarty, 1988:300-301)

If we attempt to apply the notions expressed by Cummins and others to the situation in francophone Africa, it is clear from the outset that the omission of the L1 of the African child produces a negative effect on the cognitive development of that child. Such a curriculum is not only subtractive, but perhaps even destructive, especially when we take into consideration that the L2 is not widely spoken in the milieu, if at all. [The present model as practiced in Mali requires the child to carry out all of his or her cognitive and academic development in a totally foreign language, without first developing his cognitive and academic proficiency in the L1 in the school system.] In applying these same notions to the experimental school, it is clear that even though this very rapidly transitional system hinders the child's normal cognitive and academic development less than does the classical school, the final product is nevertheless a partial and a subtractive bilingualism to the detriment of all who participate in the educational process: this is due to the fact that the L2 is not normally spoken in the milieu of the school. The introduction of the French language during the second, third, or even the fourth year of primary school - let alone during the first year as is currently practiced in certain experimental schools of francophone Africa - is harmful and a waste of time and resources given the theoretical model for bilingual education which we have discussed above. Why? Because even though the child is first exposed to literacy in his or her L1, the experience is not sufficiently reinforced, nor is it in depth enough, to facilitate the transition to French without the child suffering negative cognitive effects. According to this theory then, the amount of curriculum time which is invested in L1 as medium of instruction is not time which is wasted in relation to the part of the curriculum reserved for L2 as medium of instruction.

In the Malian context, the academic and cognitive support that is required cannot be guaranteed outside of the school (in the classical system) in order to

complement the role of the school, i.e. the school, whatever its form or structure, must guarantee the normal academic and cognitive development of the child. In this system the attainment of the minimal threshold of proficiency in L2 cannot be guaranteed, since s/he has not developed it adequately in L1.

According to Cummins' work, the transition from L1 to L2 with maximal transfer of proficiency from L1 to L2 learning occurs optimally in an environment in which the child has equal access to the tools of literacy and to speakers of both L1 and L2. This accessibility to both languages must exist outside of the school in the milieu of the community in which the child lives. In order to attain a true bilingual proficiency with communicative, academic, and cognitive proficiency, the child must be stimulated and motivated by the environment outside of the school. Below we present a table of the situations in which the child is exposed to L1 and L2 in francophone Africa, and whether the situation is positive (+) or negative (-) for the child's development.

Contexts for the acquisition and learning of L1 and L2 in francophone Africa

	home	school	elsewhere
L1: social, informal, and communicative	+	+	+
literacy	-	+	-
academic/cognitive	-	+	-
L2: social, informal, and communicative	-	-	-
literacy	-	+	-
academic/cognitive	-	+	-

One of the greatest problems which becomes clear on the basis of this analysis is that in fact, outside of the school, there is almost no place where the child can at least maintain, if not improve, his or her literacy skills, neither for L1 nor for L2. We can surmise from this information that both L1 and L2 are at a disadvantage in a system like the present one in the Malian context, given the status and the roles of the various languages. The child's communicative competence is certainly well maintained in his life as a social being in the milieu where L1 is spoken almost uniquely - however for L2, this is not the case. The success of a multilingual educational system depends not only on the school itself, but also on the environment in which the school is located, the latter being a factor at nearly the same level of importance as the school itself.

Because of the historical (colonial) and present status of African languages in francophone Africa, it is apparent that the African child receives almost no cognitive or academic motivation in L1 outside of the school; the inverse is also true: the extremely low literacy rate in French results in the child receiving almost no stimulus in L2 (French) outside of the school, nor, for that matter, inside of the primary school. For most Malians, the only opportunity that the child has to naturally acquire L2 outside of school is by means of radio or television. Beyond the experimental school, and the adult literacy classes in national language, there is almost no valid motivation for the child who studies in his or her L1 to want to increase literacy skills in L1 or in other national languages. This can be explained by the fact that no public awareness campaign nor consciousness-raising aimed at re-establishing the value of national languages for their role in national affairs in the public eye has been undertaken. Nor has there been any effort to increase public awareness concerning the role which national languages might play in the future of

the country, once a system of education has been put in place which better reflects Malian realities.

In such a situation, the use of a non-maternal and non-national language can have effects other than those foreseen by the educator. If the proficiency of the child in L1 is developed up to the appropriate age-group level, the transition to L2 has no undesirable consequences. However, if the child's proficiency in L1 is not sufficiently developed when the transition to the official language is begun, the consequences are extremely negative, especially in a system which cannot guarantee the achievement of threshold proficiency in L2 which is necessary.

One of the implications of these observations would thus be that it would be better to postpone the beginning of the transfer to L2 until a level in the educational system where it can be guaranteed that the milieu offers sufficient motivation, stimulation, and encouragement to the child so that s/he can acquire L2 in a natural and fruitful manner, so that his knowledge in L2 can flourish in the same way as that which s/he acquired in L1. The conclusion that can be drawn is that miraculous results cannot be expected in an environment which does not favor the optimal acquisition of a language, neither from the social-communicative point of view, nor from the literacy or the academic-cognitive point of view, in any language. Academic-cognitive supports are required from the environment outside of the school in order to complement the efforts going on in the schools.

The fact that the child in francophone Africa does not receive sufficient stimulation, nor the opportunities necessary to acquire the skills which are relevant to his CALP is a factor which must be considered in establishing the dosage of languages in a bilingual educational system. In the family environment, the child does not have enough opportunity to increase his or her level of CALP, neither in L1 nor in L2, and at school, the child is not sufficiently exposed to activities which improve his or her level of CALP, neither in L1 or L2, with a curriculum like the one which presently exists (whether it be experimental or classic). From a linguistic point of view, the child is in a sense doubly damned: the child does not have access to the possibility of normal cognitive and academic development, neither in his or her L1, nor in the L2.

4. The testing and evaluation of the knowledge and learning of primary school pupils.

In the francophone African educational system, pupils are normally evaluated and tested uniquely in the L2 and rarely if ever in their L1, even if they have come out of an experimental school system using national languages like the one in Mali. The evaluation and testing of children in a reformed educational system must be seen as a multi-dimensional task. Tests should not be limited to an evaluation of their abilities uniquely in L2, and especially not in the manner currently practiced in francophone Africa. The current system is completely unfair to the child from the point of view of his or her cognitive development, especially when the discoveries which result from the work of Cummins are taken into consideration. The evaluation which results can only be an incomplete evaluation of the child which does not identify either the abilities or the weaknesses of the child. A lack of ability in L2 can be discovered in a child with extraordinary ability in L1. Testing and evaluation must also avoid any bias or cultural prejudice, in every sense of these terms.

The experimental school teacher, whatever might be his or her level, is very conscious of the fact that s/he will be judged according to the results obtained by his or her pupils on exams in L2, French. The teacher is thus obliged to rush the introduction of French to his or her pupils, because of this pressure. This tendency is exacerbated in a context in which pedagogical materials are lacking for the L1 curriculum, and are sufficient or even plentiful for the L2 curriculum. It is our belief that the period prior to the transition in the current experimental school curriculum is not sufficient to adequately develop the abilities of the child in the maternal language (L1). Such a model results in a subtractive form of bilingualism and bilingual education without the ideal transfer of the skills inherent to L1 proficiency to the learning of L2.

5. Acquisition or learning of L2?

It has often been said, and is believed by most people, that children learn a second language more easily and better than adults. The researcher Lenneberg (1967) upheld this notion when he proposed that L2 is better learned during the *critical period* between the age of two years and the beginning of puberty.

Specialists in second language learning/acquisition furnish us with information which is quite relevant to the situation in francophone Africa. Lily Wong Fillmore (1985) suggests that the three components necessary to produce an effective situation for the learning of L2 are:

- the learners
- the speakers of the language that the learner seeks to acquire
- the social context which brings together learners and speakers

She continues by showing that once the learners and the native speakers are together, three kinds of interaction will take place: 1) social processes, 2) linguistic processes, and 3) cognitive strategies employed by the learners to establish relations between what is happening and the language used in that context. The speakers must collaborate with the learners in the linguistic and cognitive process by furnishing speech which is easy to understand. The fact that in francophone Africa, except in the larger towns and cities, the L2, French, is not accessible to the majority of the population constitutes one of the major obstacles which must be overcome by the master plan adopted for bilingual education in Mali. A way must be found to guarantee this accessibility to speakers of the target L2 language for Malian children at the time that L2 is intensively introduced in the school system.

The research of the American professor Stephen Krashen on the ways in which L2 is acquired has resulted in his proposing a distinction between the notion of learning the L2 and the notion of acquiring the L2. According to him, acquisition is carried out unconsciously whereas learning is carried out consciously. For Krashen, people master an L2 optimally through the process of *acquisition* and not through the process of *learning*. For him, *acquisition* of L2 is nearly identical with the process by which people master their L1, the universal process of acquisition shared by all children - that is, even though the stages of acquisition might not be identical, the processes involved are the same. If we attempt to apply certain of Krashen's observations to the situation in francophone Africa, it can be said that process of the acquisition of proficiency in L1 is slowed down at the time that L2 is introduced. Subsequently, the child is expected to acquire L2 for the purpose of being able to function at the necessary academic and cognitive level appropriate to the child's age - in reality however, the natural acquisition of L2 of which Krashen speaks is not possible in this context, without motivation, stimulus, and what Krashen calls *comprehensible input*, etc. The ideal of an unconscious acquisition cannot be attained. French is therefore *learned* through a conscious effort on the part of the child, without any stimulus or motivation from the environment, be it within or outside of the school.

The ideas and points raised by these authors show us quite clearly some of the

disadvantages and handicaps which are inherent to today's school system in francophone Africa - be it the classical or the experimental school. Given these pedagogical disadvantages which are due largely to the choice of languages, without considering the other problems which arise at the level of other essential aspects of an appropriate master plan, it is easier to understand and to explain the inordinately high levels of dropout, abandon, and repeating in the school system.

6. The school and the population: public awareness and involvement.

The school must become the friend of the population - a productive alliance is necessary. The education system must be able to establish liaisons between the child and the child's parents with the school as the intermediary between the two. This is one of the crucial goals of development in general: to give a voice to each element of the population to such a point that each one feels that s/he is playing a role in the development of the country. Without the use of national languages, it cannot be said that all of the elements of the population are being empowered in this way. A sort of legitimization of the role and the level of each citizen is required. Every member of the population must feel that he can influence his or her own destiny. The entire population must be involved in the development process. In addition, the role and the voice of everyone should be felt at the national level. It is a question therefore of revalidating the normal, daily, historical, and traditional means of communication - the only viable means for the majority of the population - to improve it and to validate it in the context of the modern political state.

In the city of Boston today, among the immigrant populations, a new approach to literacy is being introduced on an experimental basis. The new approach is called *intergenerational literacy*. In this project, there are two criteria for the admission of parents into the courses involved: 1) a desire to improve their own literacy skills, 2) a promise to involve themselves in daily literacy activities together with their children.

In francophone Africa, in an effort to give an importance to every element of the population (as described above), literacy, indeed all instruction and teaching, may be inter-generational if it is done in national languages. Generally speaking, the parents of pupils cannot be involved in the educational system if the system remains monolingual, uniquely in French, nor for that matter, if the system passes quickly and transitionally into the French language after have transited via the national

languages. in a sort of educational lip-service.

Presently, bilingual education in francophone Africa is being managed in a way which is detrimental to the national language rather than beneficial to the languages and their speakers. This system subtracts rather than adds. What is done at the expense of the development of the Malian child's competence in his or her national language, is clearly done at the expense of that child in general: it follows that all of this is therefore done also to the detriment of the French portion of the curriculum, and so on - thus to the detriment of the entire educational system. To further perpetuate the monopoly of the French language in this system, whether transitionally (in the experimental school system) or through the immersion of the child (in the classical school system), is to deny reality: it is also to continue to create products of the educational system who are semi-competent in both languages, L1 and L2.

7. Conclusion.

From the outset, it should be pointed out that what is being described and proposed here is a bilingual, or multilingual, education system. Given the political sensitivities of this situation, it is not now, nor has it ever been, a question of proposing a monolingual education system based in the L1, the African language. It is now universally recognized that a monolingual system based in the L2, French, has demonstrated itself to be quite inadequate for francophone Africa. The use of an African language as medium of instruction at a given level of the system in no way presupposes the exclusion of L2, the language which has been used as medium or as a subject up to the time of the proposed reform. No one denies the importance of the French language for the Republic of Mali, and for *francophone* Africa in general - it is certainly not the purpose of this report to do so. However, given the perspective which has been gained in Africa and elsewhere in the world, it is now widely recognized that the L2 of any system of education must play a role which is secondary to L1 in order to guarantee the optimal and ideal development of the child.

Our goal has been instead to examine an exhaustive typology of the forms which this system might take, and to expose the theoretical and psycho-pedagogical bases of each possible structure. Given that a great many structures have been tested and evaluated in North America, and that, in brief, a great deal has been learned, we

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propose that this presentation is quite relevant to our evaluation of the Malian experimentation. \

In the present chapter we are therefore trying to facilitate the search for an ideal system for francophone Africa - a system which is optimal for the Malian child given the demands and the priorities of the Malian government, and of other francophone African governments, in order to encourage the self-development of the country. In the long run, it is the governments of the francophone African countries who must decide and determine their own future, in establishing the programs and the necessary curriculum, and in developing the appropriate and relevant educational materials. It is certainly high time that francophone African educational systems be based in a consideration of the future of the African child, rather than in other political considerations whether domestic or international.

Due to this, once it is decided to establish a new master plan of educational reform, it is important not to prejudice the eventual outcome of that research by stating at the outset the respective roles to be played by L1, L2, and even L3 and L4, throughout the duration of the educational system. Instead it should be stated that for the entire system there exist several levels at which the linguistic mixture and the dosage may vary, at the primary, secondary, technical, and university levels. The role of the various languages which are partner to a given multilingual system must be determined for each level, and for each year within a given level. The multilingualism which is implicit in this situation touches the entire educational system and does not stop at a certain level, for example during the primary years. There is no declaration that the final bilingualism of a given system must be completely achieved at such and such a level. From our point of view, functional bilingualism, or multilingualism, should continue throughout the entire system, and reflect Malian realities. Indeed the Malian child is destined to be multilingual throughout his or her life, and will need all of the languages with a role in the country. The reformed educational system which will be adopted for Mali cannot deny these and other African realities, but rather must be a reflection of these realities.

We hope that the material presented here for informative purposes, and in the hope of positively contributing to the linguistic reform of the education system in Mali, may be useful to all who are interested in this reform.

PART II:

RESULTS OF THE EVALUATION

Chapter V: PRESENTATION OF THE RESULTS

1. The gathering of the data.

In spite of the insufficient amount of time (two weeks very close to the end of the school year) allotted to the the evaluation team to carry out this substantial evaluation, the site visits were divided into two phases: the pretest and the evaluation itself.

The site visits for the pre-test of our evaluation instruments were carried out in the District of Bamako where two experimentals schools and two classical schools were visited. The pre-test took place on the 15th of May, 1990, in the four schools concerned. It enabled the team to verify the relevance and the effectiveness of the instruments which had been elaborated prior to producing them in their definitive form. The choice of the above-cited schools for the pre-test of our evaluation instruments can be explained by the fact that the field research for the evaluation had to be completed by the 30th of June, 1990 (the date of the formal closing of the schools for the long vacation), and thus the team did not have sufficient time to enable them to carry out the pre-test outside of Bamako. Further, these schools used for the pre-test responded perfectly to the characteristics desired for the purpose of the evaluation.

The analysis of the results of the pretest enabled the team to rectify certain aspects of the evaluation instruments, notably on the one hand the texts for the reading and dictation tests for the 1st, 2nd, and 3rd grades years in both types of school, and to polish up the questionnaires designed for teachers and parents on the other hand. The pretest also enabled us to realize that given the constraints on our time, it would be next to impossible to administer the recorded reading test to all of the pupils in each class.

1.1. The instruments used in the evaluation.

The instruments used in carrying out our evaluation were the following:

a) - For the pupils:

- Written expression: dictation, mathematics (1st, 2nd and 3rd grades);
dictation, sentence construction, mathematics (4th grade), creative writing,

dictation. and mathematics (5th and 6th grades):

- Oral expression: reading (1st. 2nd. 3th et 4th grades).

b) questionnaires intended for experimental school teachers:

c) questionnaires intended for classical school teachers:

d) questionnaires intended for the parents of children in the experimental schools:

e) questionnaires intended for the parents of children in the classical schools.

1.2. Information collected on the dropout rate in the school system.

In spite of the fact that certain of the earlier evaluations demonstrated that the dropout rate is significantly lower in the national language schools than in the classical French schools, we feel that these differences are not significant as long as this important innovation is not being practised in a way which is truly distinct from the former classical system.

The problems of absence, abandon, expelling, and repeating are so serious in the two types of schools that they serve to emphasize the great need for reform of the entire system - even though the advantage of the experimental school in this regard is significant, the dropout rate is certainly not admirable, especially given the economic and development priorities of the various partners to the experimentation. Nevertheless, we present the following statistics, for what it is worth, on the actual dropout rate in a sampling of experimental schools and classical schools to see what the present situation is:.

experimental schools: non-repeaters/ repeaters

	E1	E3	E6	E7	E11	E15	E16
1st	26/9	46/22	-	58/22	88/14	56/14	58/11
2nd	22/9	45/8	39/0	31/20	100/14	44/10	19/9
3rd	15/10	53/11	-	31/25	125/23	42/10	21/9
4th	12/22	45/6	-	20/13	73/10	39/12	16/6
5th	6/14	39/6	16/6	8/26	46/17	24/15	26/10
6th	12/5	22/5	10/8	8/11	68/29	13/3	12/14
total	93/69	250/58	65/14	156/117	500/107	218/64	152/59
%repeat	23%	19%	18%	43%	18%	29%	28%

classical schools: non-repeaters/repeaters

	C2	C5	C9	C10	C11	C12	C15
1st	48/22	54/88	45/20	38/32	37/40	60/11	68/6
2nd	67/5	98/78	55/13	53/16	59/37	66/27	46/6
3rd	59/9	88/67	48/9	48/12	28/24	50/34	50/15
4th	47/4	32/44	52/15	41/29	55/27	45/30	23/20
5th	33/18	-	35/16	42/14	38/29	46/18	20/43
6th	37/3	8/42	40/3	25/19	34/14	31/13	19/25
total	291/61	280/319	275/76	247/122	251/171	298/133	226/115
%repeat	17%	53%	28%	33%	41%	45%	34%

We observe that for this sample, the rate of repeat is extremely high in both types of schools, but that the average rate per school is significantly lower in the experimental schools than in the classical schools. Here are the average rates for each type of school based on this sample:

average percentage of repeating pupils for the sample of experimental schools:

25%

average percentage of repeating pupils for the sample of classical schools: 36%

1.3. Field work and field evaluation.

The evaluation itself took place from the 17th of May to the 1st of June, 1990, and concerned the pupils of sixteen experimental schools in Bamanankan in the Regions of Sikasso and Ségou, and of sixteen classical schools of the same two regions. Pupils from grades one through six were evaluated, as were teachers and parents in the concerned schools.

The experimental and classical schools which were randomly selected for this study are the following:

<i>experimental schools</i>	<i>classical schools</i>
E1 - Banankoroni	C1 - Bla
E2 - Bla	C2 - Centre Commercial (Ségou)
E3 - Cinzana	C3 - Djeli
E4 - Débèla	C4 - Finkolo
E5 - Kabogora	C5 - Hamdallaye A (Ségou)
E6 - Kanabougou	C6 - Kléla
E7 - Konobougou	C7 - Koutiala
E8 - Konodimini	C8 - Mamelon
E9 - Niasso	C9 - Markala II A
E10 - Péguéna	C10 - Markala II B
E11 - Groupe I (Ségou)	C11 - Niono I
E12 - Groupe III (Ségou)	C12 - Niono II
E13 - Sinsina	C13 - Baboudiori (San)
E14 - Thiomporosso	C14 - Santoro (San)
E15 - Touna	C15 - Ségou-Coura (Ségou)
E16 - Zanabougou	C16 - Yangasso

In all sixteen experimental schools and sixteen classical schools were involved in our evaluation. The written tests were taken by all of the pupils of the two groups of schools. As for oral expression, given the fact that it was recorded on cassettes and that it would have been difficult to test all of the pupils of our sample classes, it was agreed that a random selection of ten pupils per class would be selected from each class for this purpose. As is apparent from the tables we present, not all of the experimental schools have a complete set of the six classes of the six year fundamental cycle. This can be explained by the fact that in some of these schools, recruitment of pupils does not take place every year.

The following tables which we present are based on the total enrollment figures of pupils undergoing the tests. It should be noted that the letter *E* indicates an *experimental school*, and that the letter *C* indicates a *classical school*. The

numbers following these letters are the numbers assigned to the schools which are part of our sample. The master list of school names and numbers shown above is also reproduced in Appendix I. Where there is no entry for a given year on the tables normally indicates that the class for that year does not exist for the concerned school.

*enrollments in classes tested***EXPERIMENTAL SCHOOLS**

	E1	E2	E3	E4	E5	E6	E7	E8	E9	E10	E11	E12	E13*	E14	E15	E16	TOTAL
1st math	35	66	63	53	41		59	45	11			66	70	24	58	46	638
1st dictation	35	66	63	53	42		59	45	11			66	70	24	58	46	638
2nd math	32	47	46	40		33	48	48	25	24		69	73	22	50	20	577
2nd dictation	32	47	46	40			48	48	26	29		68	74	23	51	20	552
3rd math	24	44	58		49		56	35	24			39		21	48	23	421
3rd dictation	23	44	58		49		56	35	24			39			48	18	394
4th math	34		43				26	29	16		41	29		19	44	14	295
4th sentence construction	34	40	41				29	29	16		40	29		20	44	16	338
5th math	20	41	41	22	23	17	21	22	24	11	58	50		39	38	24	451
6th math	17	25	26		20	9	18	28	27	15	47	35		12	14	25	318
5th creative writing	20	40	41	22	23	17	21	26	24	11	51	23		39	38	32	408
6th creative writing	17	25	26	19	21	9	18	28	27	15	47	35		11	14	26	338

*enrollments in classes tested***CLASSICAL SCHOOLS**

	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
1st math	68	45	38	28	63	74	57	67	47	82	51	54	80	70	65	71
1st dictation	68	45	38	30	63	65	57	67	47	82	51	54	77	71	65	73
2nd math	43	64	58	35	61	66	90	64	62	68	59	59	64	61		52
2nd dictation	43	65	55	42		58	89	63	62	68		58	64	62	47	52
3rd math		69	40	24	27	58	77	54	54	50	53	49	27			
3rd dictation		66	40	24	27	58	76	54	54	51	54	37	32	56	61	
4th math	56	39		19	26	48	71	56	68	59	70	39	35	45	43	55
4th sentence construction	53	39	33	19	30	52	71	57	64	62	72	40	35	45	43	55
5th math	56	40	26	16		39	60	36	47	51	58	47	23	46	56	17
6th math	35	32	12	8	41	29	55	38	41	38	39	29	25	45	41	33
5th creative writing	63	41	26	9		39	71	35	47	51	56	48	23	45	56	17
6th creative writing	35	30	11	8	41	28	55	38	43	34	39	29	25	45	43	33

It is apparent from the statistics presented above that our sample was made up of 7.036 pupils. In all, 21.108 tests were administered in the schools which were part of this evaluation. In addition to the results from the tests, the evaluation also involved the filling out of questionnaires designed for teachers in both types of schools and for parents. In addition, the evaluators carried out interviews and/or conversations with teachers, parents and all those involved in the experimentation in national languages who were able to furnish useful information, or anything likely to clarify the results realized by children on the tests, to better appreciate the experimentation and to help us to make pertinent recommendations and suggestions aimed at revitalizing this significant pedagogical innovation.

2. A description of the sample.

It is worth pointing out that in the theory of evaluation of situations like the present one, a certain number of variables are likely to have an influence on the performance of the pupil as intermediary factors. These are: the age of the pupil, his/her gender, the number of years spent in school from the child's entry to the current year, his/her status in the present class, i.e. whether repeating or taking the class for the first time. Thus before proceeding to the results of our investigation it is important to see what the influence of such variables could be on our sample.

With regard to the above-mentioned characteristics, we would like to point out that our two comparison groups are for the most part homogeneous, as has been the case with previous evaluations..

The statistical data will give us a great deal more precision on this relative homogeneity. But in the meantime, we are confident that the samples are comparable and representative of the population from which they have been randomly selected, that is the population of all children of the classical and experimental primary schools of the first six-year cycle. Furthermore, there is little chance that these intermediate variables could have a significant impact on the performance of the pupils who hereafter constitute the focal point of our analysis. Therefore when a significant difference does result, the explanation should be sought at the level of the type of school involved, and other related factors such as the conditions of the

school, teaching methodology, the experience of the teacher, teacher training, the availability of teaching materials, etc.

3. Recalling the terms of reference.

This study aims essentially at evaluating the degree to which the initial objectives of the experimentation have been achieved, that is, the solution of the two most serious problems of the Malian educational system, which are, the dropout rate and the insuitability of the classical French-medium school as regards its adaptation to the milieu of the learners. In other words, has it been possible to confirm or disconfirm the hypothesis according to which the use of the maternal language in the first few years of learning is supposed to foster a rapid acquisition of the basic skills of reading and arithmetic, and lead to an improved mastery of French? Has this made it possible to improve levels of scholastic achievement and to appreciably reduce the dropout rate? In addition, has the use of national languages facilitated a better integration of the schools to the realities of the milieu of the learners? These are the questions to which the present study should bring answers.

4. Commentary on the results obtained.

4.1. Interpretation of the test results. We were concerned that our evaluation should test the knowledge of the basic notions of children from each year of the six-year primary cycle in order to be able to see, at the stage in which the experimentation finds itself, the levels of the children in national language schools before, during, and after the transition to French, in comparison with their counterparts from the classical schools. Thus, our results show comparative levels from the two types of schools at every grade level of the fundamental, primary system. Our evaluation produced substantial results for each year's class.

4.1.1. Pupils' test results.

In the following tables we present the test results, with average grade, percentage of pupils passing with a grade of 5, subject by subject, school by school.

EXPERIMENTAL SCHOOLS

	E1	E2	E3	E4	E5	E6	E7	E8	E9	E10	E11	E12	E13*	E14	E15	E16	
1st math																	
pupils	35	66	63	53	41	59	45	11				66	70	24	58	46	
points	175	468	474.5	358.5	331	337	273.5	42				388	442	182	243.5	233	
avr grd		5	7.09	7.53	6.76	8.07	5.71	6.08	3.82				5.79	6.31	7.58	4.20	5.07
% pass		56%	79%	84%	70%	90%	61%	67%	45%				68%	71%	79%	52%	59%
2nd math																	
pupils	32	47	46	40	33	48	48	25	24			69	73	22	50	20	
points	217	171	349.5	155	146.5	296.5	209.5	66	116			358	525	140	211	145	
avr grd		6.78	3.64	7.60	3.88	4.44	6.18	4.36	2.64	4.83			5.19	7.19	6.36	4.22	7.25
% pass		69%	28%	83%	35%	48%	67%	49%	20%	58%			52%	85%	68%	40%	80%
3rd math																	
pupils	24	44	58	49		56	35	24				39		21	48	23	
points	94	66	239.50		210.50			224	154.50		33.50				112		
		103.50	140.50		51.5												
avr grd		3.92	1.50	4.13	4.30		4	4.41	1.40				2.87		4.93	2.93	2.21
% pass		46%	5%	36%	37%		39%	43%	0%				18%		52%	13%	0%
4th math																	
pupils	34		43			26	29	16			41	29		19	44	14	
points	156.50			209			131.5	98.5	45			71	111.50			59.50	114
	54																
avr grd		4.60		4.86			5.06	3.40	2.81			1.73	3.84		3.13	2.59	3.86
% pass		44%		56%			58%	7%	0%			0%	28%		21%	0%	29%

5th math

pupils 20	41	41	22	23	17	21	22	24	11	58	50		39	38	24	
points 29	60	57	27	42	30	62	24	41	27.5	54	71.5		114	49	24	
avr grd	1.45	1.46	1.39	1.23	1.86	1.76	2.98	0.92	1.71	2.50	0.93	1.27		2.92	1.29	1.31
% pass	5%	2%	0%	0%	4%	0%	24%	4%	8%	9%	0%	0%		13%	0%	0%

6th math

pupils 17	25	26		20	9	18	28	27	15	47	35		12	14	25	
points 71	204	110		57.5	45	93.5	231	74	68.5	153.5	165.5		84	53	113.5	
avr grd	4.18	8.16	4.23		2.88	5	5.19	8.25	2.74	4.57	3.27	4.73		7	3.79	4.54
% pass	35%	96%	62%		0%	56%	56%	96%	15%	60%	11%	63%		75%	0%	60%

4th sentence construction

pupils 34	40	41			29	29	16		40	29			20	44	16	
points 54.50	97	29			157	29	21.50		73	39.50			28.50	27	43	
avr grd	1.60	2.43	0.71			5.41	1.00	1.34		1.83	1.36			1.43	0.61	2.69
% pass	3%	25%	2%			93%	7%	19%		3%	3%			15%	2%	2.5%

5th creative writing

pupils 20	40	41	22	23	17	21	26	24	11	51	23		39	38	32	
points 72.5	197.5	94	51.5	92.5	33.5	72	114.5	113.5	8	133	80.5		146.5	98.5	77.5	
avr grd	3.63	4.94	2.29	2.34	4.02	1.97	3.43	4.40	4.73	0.73	2.61	3.50		3.76	1.28	2.42
% pass	35%	48%	2%	14%	35%	0%	14%	42%	5%	0%	8%	13%		33%	5%	3%

6th creative writing

pupils 17	25	26	19	21	9	18	28	27	15	47	35		11	14		
points 92.5	90.5	90	68.5	99	36.5	84	119	105	47	234.5	137.5		66	46.5	112.5	
avr grd	5.44	3.62	3.46	3.61	4.71	4.06	4.64	4.25	3.89	3.13	4.99	3.93		6	3.32	4.33
% pass	82%	16%	19%	26%	43%	22%	67%	46%	30%	33%	60%	29%		82%	21%	35%

1st reading

pupils	10	10	10	10		10	10	10		10	10	10	10	10		
points	32	52.5	36	0	8.5		67	8.5	8.5		9	55	74	33	14	
avr grd	3.20	5.25	3.6	0	0.85			6.7	0.85	0.85		0.9	5.5	7.4	3.3	1.4
% pass	0%	70%	0%	0%	10%			90%	0%	0%		0%	60%	100%	40%	10%

2nd reading

pupils	10	10	9	10		10	10	9	10	10		10	10	10	10	
points	49	37	35	49		29.50	39	4.50	4.60	69.50		74.5	70	70	37	
avr grd	4.9	3.7	3.89	4.90			2.95	3.9	0.50	4.60	6.95		7.45	7	7	3.7
% pass	60%	30%	22%	60%			10%	90%	0%	80%	80%		90%	100%	70%	30%

3rd reading

pupils	10	10		10		10	10	10		10		10	10		
points	52	72	43		81.5		74	14.5	88.5		43		78	10	
avr grd	5.2	7.2	4.3			8.15		7.4	1.45	8.85		4.3		7.8	1
% pass	80%	100%	30%			100%		100%	0%	100%		50%		100%	1%

4th reading

pupils	10	10	9			10	10	6		10		10	10	
points	40	81.50	49			84	49	29		38		66.50	60	
avr grd	4		8.15	4.9			8.4	4.9	2.9		3.8		6.65	6.0%
% pass	30%	100%	78%				90%	78%	67%		20%		90%	80%

*school E13 has no 5th grade

CLASSICAL SCHOOLS

	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16	
1st math																	
pupils	68	45	38	28	63	74	57	67	47	82	51	54	80	70	65	71	
points	152.53		269	27	454	376	174	445	190.5	390	264.5	247	474	326.5	264	150.5	
avr grd		2.24	5.80	7.08	0.96	7.21	5.08	3.05	6.64	4.05	4.76	5.19	4.57	5.93	4.66	4.06	2.12
% pass		19%	67%	89%	4%	84%	59%	33%	76%	45%	51%	61%	54%	66%	53%	38%	24%
2nd math																	
pupils	43	64	58	35	61	66	90	64	62	68	59	59	64	61		52	
points	79.5	267.5	188	106	263	329.5	248.5	345	161	137	180	210	406	344		192	
avr grd		1.85	4.18	3.24	3.03	4.31	4.99	2.76	5.39	2.60	2.01	3.05	3.56	6.34	5.64		3.69
% pass		7%	48%	28%	26%	31%	47%	16%	59%	13%	4%	12%	29%	73%	74%		40%
3rd math																	
pupils		69	40	24	27	58	77	54	54	50	53	49	27	61			
points		178.5	76	33	89.50	278	122	227	92	125	134	287	64	203			
avr grd			2.39	1.90	1.38	3.31	4.79	1.58	4.20	1.70	2.50	2.58	5.86	2.37	3.33		
% pass			12%	13%	0%	22%	53%	8%	28%	9%	6%	17%	71%	11%	31%		
4th math																	
pupils	56	39		19	26	48	71	56	68	59	70	39	35	45	43	55	
points	159.50		164		93	76	236.50		150	214.50		204.50		140	149	121	133
	154.5	148.5	91														
avr grd		2.85	4.21		4.89	2.92	4.93	2.11	3.83	3.01	2.37	2.13	3.10	3.80	3.43	3.45	1.65
% pass		7%	41%		47%	12%	42%	1%	36%	3%	5%	1%	13%	34%	20%	21%	9%

4th construction de phrases

pupils	52	39	30	19	30	52	71	57	64	62	72	40	35	45	43	55	
points	185	113.5	113.5	80	136	266	271	313	231.50		164	212.50		157	145	134	158
avr grd		3.49	2.91	3.50	4.21	4.53	5.12	3.82	5.49	3.62	2.65	2.35	3.93	4.14	2.98	3.67	1.05
% pass		36%	8%	39%	37%	47%	58%	31%	67%	31%	27%	25%	38%	46%	29%	30%	9%

5th math

pupils	56	50	26	16		39	60	36	47	51	58	47	23	46	56	17	
points	83	48	60	39.5		155.5	149	97.5	54.5	28	165	286	150	125.5	93	16	
avr grd		1.49	1.56	2.33	2.47		3.99	2.48	2.36	1.16	0.55	2.89	6.09	6.52	2.73	2.45	0.94
% pass		0%	0%	4%	0%		36%	0%	8%	0%	0%	22%	74%	74%	0%	0%	0%

6th math

pupils	35	32	12	8	41	29	55	38	41	38	39	29	25	45	41	33	
points	166.5	131	64	35	152.5	223.5	257.5	128.5	219.5	188	180.5	163.5	111	205.5	191	114	
avr grd		4.76	4.09	5.33	4.38	3.72	7.71	4.68	3.38	5.35	4.95	4.63	5.64	4.44	4.57	4.66	3.45
% pass		46%	28%	83%	50%	34%	90%	60%	26%	76%	61%	49%	55%	44%	53%	54%	6%

5th creative writing

pupils	63	41	26	9		39	71	35	47	51	56	48	23	45	56	17	
points	335.5	164.5	108.5	33.5		183.5	291	116	101.5	42	92	263.5	107.5	153	195	10	
avr grd		5.33	4.01	4.17	3.72		6.12	4.10	3.31	2.16	0.82	1.64	5.49	4.67	3.40	3.48	0.59
% pass		67%	41%	46%	33%		36%	39%	14%	19%	0%	7%	81%	43%	20%	21%	0%

6th creative writing

pupils	35	30	11	8	41	28	55	38	43	34	39	29	25	45	43	33	
points	157.5	128.5	76	46.5	212.5	123	248	227.5	164.5	119.5	197	105	142.5	228	257.5	142	
avr grd		4.50	4.28	6.91	5.81	5.18	4.39	4.51	5.99	3.83	3.51	5.05	3.62	5.70	5.07	5.99	4.30
% pass		43%	33%	100%		73%	46%	35%	82%	21%	24%	74%	14%	68%	60%	74%	45%

1st reading

pupils 10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
points 4	32.5	67.5	12	5	45	0	0	25		11	9	20	62	12	51	
avr grd	0.4	3.25	6.75	1.2	0.5	4.5	0	0	2.5		1.1	0.9	2	6.2	1.2	5.1
% pass	0%	30%	70%	10%	0%	50%	0%	0%	20%		10%	0%	10%	60%	0%	80%

2nd reading

pupils 10	10	10	10	10	10	10	10	4	10	10	10	9	10	10	10	
points 0	29	50.5	31	30	44	47	40	0	24	38	24	26	33	19	44	
avr grd	0	2.9	5.05	3.10	3	4.4	4.7	4	0	2.4	3.8	2.4	2.89	3.3	1.9	4.4%
pupils 20%	60%	30%	10%	70%	50%	40%	0%	20%	30%	20%	33%	80%	20%	40%		

3rd reading

pupils 10	10	10	10	10	10	10	10	10	10	10	10	10	6	9	10	
points 72	34	54	43.5	29	70	48	60.50	0	23	44.5	47	28	32	21	24	
avr grd	7.2	3.4	5.4	4.35	2.9	7	4.8	6.05	0	2.3	4.45	4.7	2.8	3.2	2.1	2.4
% pass	90%	30%	60%	50%	0%	90%	50%	80%	0%	30%	60%	50%	40%	66%	11%	10%

4th reading

pupils 10	10	10	10	10	10	10	10	10	10	10	4	10	10	10	10	
points 82	56.5	71.5	67	54	70	46.5	81	43.5	34.5	65	24	38	56	49	69	
avr grd	8.2	5.65	7.15	6.7	5.4	7	4.65	8.1	4.35	3.45	6.5	2.4	3.8	5.6	4.9	6.9
% pass	60%	80%	80%	80%	80%	80%	67%	90%	50%	30%	60%	100%	40%	80%	50%	90%

Below we present the average grades for all of the subjects tested at each grade level.

AVERAGE GRADES BY SUBJECT MATTER:

	<i>experimental</i>	<i>classical</i>
1st mathematics	6.20	5.38
1st dictation		
1st reading	3.10	2.37
2nd mathematics	5.38	3.82
2nd dictation		
2nd reading	5.13	3.13
3rd mathematics	3.40	2.97
3rd dictation. average mistakes:	19.48	29.23
3ème lecture	5.57	4.07
4th mathematics	3.56	3.07
4th sentence construction	1.77	3.56
4th lecture	5.92	5.92
4th dictation		
5th mathematics	1.58	2.49
5th creative writing	3.24	3.50
5th dictation		
6th mathematics	4.79	4.68
6th creative writing	4.23	4.80
6th dictation. average mistakes:	24.77	25.39

On the basis of the results presented above, one of the possible interpretations is that the national language school does not produce results with enough of a significant difference in comparison to the classical schools of the control group to warrant consideration, and thus why continue this experimentation? One of the recurring themes of our evaluation is that given the many disadvantages in teaching materials, etc., that the advantages enjoyed at the beginning of the experimentation diminished over time. Here we again repeat that the present conditions under which the experimentation is being carried out are less than ideal and that given these conditions, the

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results that have been attained by the experimental schools should instead be praised, especially when one realizes the advantage enjoyed by the classical schools, for example, in teaching materials, or in a suitable curriculum, etc. We visited classes in the experimental schools in which the teacher had the unique national language textbook in the classroom, and even that copy sometimes incomplete, with pages missing. Such classes had a far greater supply of teaching materials in French. The temptation that is created by this inequality contributes to the tendency of the educational system to always have recourse to teaching in French: for example the far too early introduction of French during the first grade in the experimental schools, and the nearly complete abandon of the national language at various points during the last three years of the primary cycle - these things can at least in part be explained by the inequities in teaching materials between the two types of school.

For the tests involving the first three grades, as we have stated, except for mathematics, all tests were conceived at a more advanced level in the national language, and shorter and with a more controlled vocabulary in French. It is important to note that this difference which we feel is essential, is not presently taken into account in the curriculum of the two types of school. We suggest that had the testing instruments been identical, the superiority of the experimental school, at least during the first three years, would have been much more remarkable.

4.1.2. Mathematics.

The mathematics results show a clear superiority for the experimental schools in every grade except for the sixth grade where the two types of school have nearly the same results with a slightly higher grade recorded by the classical schools. Mathematics was the only subject in which the tests were identical for each of the six grades, except for the linguistic medium for the first three grades. Mathematics is the subject area which is the least foreign to the child who has recently entered the school given the child's prior experience. It seems to be quite clear, especially in the second grade, that the use of the national language facilitates greatly the acquisition of the basic notions of mathematics.

the average grade and the percentage of pupils who attained it:

	<i>experimental</i>	<i>classical</i>
1st	6.20 and 62%	5.38 and 51%
2nd	5.38 and 56%	3.82 and 34%
3rd	3.40 and 26%	2.97 and 22%
4th	3.56 and 24%	2.97 and 21%
5th	1.58 and 5%	2.49 and 15%
6th	4.79 and 49%	4.68 and 51%

4.1.3. Sentence construction.

With regard to sentence construction, a test taken by pupils of the fourth grade only, our results demonstrate a clear superiority on the part of pupils from the classical school. This could be explained by the fact that the fourth grade pupils of the classical school have reached a stage in the system where their acquisition of French, after nearly four years in the swim, is beginning to concretise, whereas the pupils of the experimental school find themselves at the beginning of their total transition to the French medium of instruction, in a system which we suggest has not sufficiently developed their proficiency in their L1 so that an optimal transfer of their L1 skills might take place to the advantage of the child.

average grade and percentages of pupils who attained it:

	<i>experimental</i>	<i>classical</i>
4th	1.77 and 24%	3.56 and 35%

4.1.4. Creative writing.

On the creative writing test the results demonstrated a slightly higher performance level by the classical school over the experimental school for both of the grades tested. This difference might also be explained by the fact that an adequate transfer of the knowledge acquired by the experimental

school pupils during the first three years from L1 to L2 was not achieved, due to the children's academic and cognitive skills not being sufficiently developed in their L1. In this case Bamanankan, as has been discussed earlier.

average grade and percentages of pupils who attained it:

	<i>experimental</i>	<i>classical</i>
5th	3.24 and 17%	3.50 and 31%
6th	4.23 and 39%	4.80 and 50%

4.1.5. Reading.

In reading, the performance of the experimental school pupils was clearly superior to that of their classical counterparts for the first three grades. The superiority is indeed significant when the fact that the texts for the national language reading test were pitched at a more difficult level and with a longer text is taken into consideration. For the fourth grade where the testing instruments were identical (in French) we observe a surprisingly identical performance on the part of the two types of school.

average grades and percentages of pupils who attained it:

	<i>experimental</i>	<i>classical</i>
1st	3.10 and 22%	2.37 and 23%
2nd	5.13 and 29%	3.13 and 38%
3rd	5.57 and 66%	4.07 and 45%
4th	5.92 and 70%	5.92 and 70%

4.1.6. Dictation.

The dictation was also based in longer and more difficult texts for the first three years. In dictation, the results show a clearly superior performance on the part of the experimental school pupils for the third grade. For the sixth grade the results show a slightly better performance on the part of the experimental schools. These results would seem to indicate that even under the present conditions, with evaluation and testing being carried out uniquely

in French. the experimental school pupils nevertheless show a slight advantage over their classical counterparts throughout the primary cycle in certain areas. having benefitted from beginning their schooling in the national language.

average number of mistakes

	<i>experimental</i>	<i>classical</i>
3rd	19.48	29.23
6th	24.77	25.39

4.1.7. Conclusion.

Our results have produced good and bad tendencies. in several senses. For certain grades it is clear that the results are superior for the school in national languages. and in other grades. the results are more favorable from the classical school. We feel that this mixed picture in terms of test results reflects the actual situation being experienced by the Malian school. whether classical or experimental. We believe that this inconsistency and variability of results between the two types of school. and even among schools of the same type. are due to the present condition of the Malian school. Earlier evaluations have produced results which have been favorable to one kind of school or the other - our evaluation demonstrates that over time. the longer the experimentation continues and as it is enlarged. the more the lack of a master plan and other essential and basic tools is felt: the more also is the enthusiasm which the teachers had in the beginning dimmed - this can be explained at least in part by the lack of an appropriate and suitable methodology for teaching in national languages. Given this void. little can be done to keep the curriculum of the experimental schools distinct from that of the classical schools since there is a strong tendency to rely on the classical tradition.

It should be pointed out that our evaluation could not take into account all of the minor changes in curriculum content which are carried out in a wide range of ways in each school - these minor changes are usually due to the lack of teaching materials in the national languages. The results of our

tests, especially those from the first three grades, are even more astonishing when it is realized that in certain schools the pupils were unable to read our testing instruments which had been typed or word processed with large and distinct letters. Even when some of our team members would write them on the blackboard they were still unable to read them since they were used to one unique form of graphic representation, which was the writing of their own teacher on the blackboard. In this way the impact of the severe paucity of teaching materials became very clear.

4.2. Interpretation of the results of the questionnaires designed for teachers and school directors.

The questionnaires designed for the teachers and directors, and for the parents, produced extremely interesting results which we summarize here, and in the following section in the form of a discussion of the major tendencies. In the light of the information gathered from the teachers, the principal agents of the experimentation, one is brought up to date on the actual state of the experimentation as it is currently being practiced. Their observations and remarks are concentrated around the major problems being encountered by the experimentation, some of which are indicated here:

- 1) the lack of an elaborated initial strategy and of a master plan
- 2) the lack of an appropriate curriculum and a suitable methodology
- 3) the problem of the strategy for the introduction of L2, French
- 4) the lack of adequate teacher training
- 5) the lack of teaching materials
- 6) the system of evaluation and testing at all levels
- 7) the dropout rates (abandon, expulsion, repeating)

<i>experimental school</i>	<i>questionnaires received</i>
1. Banankoroni	7
2. Bla	6
3. Cinzana	6
4. Débéla	4
5. Kabogora	5
6. Kanabougou	3
7. Konobougou	7
8. Konodimini	6
9. Niasso	4
10. Péguéna	3
11. (Ségou) Groupe I	8
12. (Ségou) Groupe III	6
13. Sinsina	2
14. Thiompouosso	6
15. Touna	6
16. Zanabougou	5
total	84

<i>classical schools:</i>	<i>questionnaires received:</i>
Bla	6
Centre Commercial	6
Djelli	7
Finkolo	7
Hamdallaye A	5
Kiela	6
Koutiala	6
Mamelon	6
Markala IIA	7
Markala IIB	6
Niono 1	10
Niono 2	6
San 1 (Baboudion)	6
San 2 (Santoro)	7
Segou Coura	6
Yangasso	6
total	103

4.2.1. Commentary on the results of the questionnaire designed for classical school teachers.

1. Problems relating to teaching materials.

In the classical schools, as in the experimental schools, the teachers questioned complained of the complete lack, or at least the insufficiency of, teaching materials for their classes. This problem was expressed in a general way by nearly everyone questioned.

2. Problems relating to the attitude of classical school teachers towards the experimentation.

The responses gathered to this question can be grouped into two important tendencies. The first is the answer of those who think that the experimentation in national languages leads to a watered down or second rate teaching system, because, according to this group, the national languages are not capable of communicating the concepts of modern science (physics, mathematics, etc.) Furthermore, this group contends that the use of national languages only slows down or limits the child's ability to master the French language. In their opinion, the experimentation is a risky adventure. The second group of teachers, in favor of the use of national languages, believes that the only valid kind of education system which is capable of training students who will be valuable for the future of Mali is one that is based in the child's maternal language, since it is in that language that s/he can learn more quickly and acquire a more lasting knowledge. But to do this, this group continues, adequate teacher training is one of the first priorities. In addition, they cite the importance of carrying out terminological research in national languages, the need to elaborate teaching materials as a basis for teaching, the need to adequately equip the school in national languages, and the need for a permanent system of follow-up and support for these schools.

What is apparent from the answers of both of these groups is the great need for an awareness campaign to raise the consciousness of all teachers (as well as the rest of the population) since they are the principal movers and shakers for the implementation of this important pedagogical innovation.

4.2.2. Commentary on the results of the questionnaire designed for experimental school teachers.

4.2.2.1. Problems relating to the master plan and an insufficient initial strategy.

Concerning the understanding of the initial strategy of the experimentation, 44% of the teachers said that they do know the initial strategy and 56% responded no, that they do not know it. Among those who answered yes, approximately one third demonstrated by their answer that in fact they had misunderstood the initial strategy. A misunderstanding of the initial strategy is apparent in an answer like this one: "I find it passable because after only the first few years I sense the abandon of the experimentation and the introduction and the adoption of the traditional." A criticism of the school is apparent in the following answer: "Before the fourth grade, the children are very strong. After that, not a single course in the national language and since they have no mastery of the French language, the teacher works all alone." One of the classical teachers answered this question as follows: "Yes, the initial strategy is good. Teaching of/in national languages would be better if it were extended to all the levels of the system".

In brief, we surmise that the initial strategy is much better understood by those who are practitioners of the experimentation, and less understood by those who do not practice it, the latter being the classical school teachers in this case. The initial strategy was not sufficiently elaborated in order to make it possible to establish a master plan with a curriculum adapted to the experimentation in national languages. Without its own appropriate curriculum, without adequate teacher training, and without its own appropriate methodology, people cannot be expected to understand and appreciate it. The experience that has been undergone by the practitioners of the experimentation has had a very positive result in that there now exists an important body of believers among the experimental school teachers who are capable of facilitating and contributing significantly to an eventual general reform of the education system. We will observe in what follows a remarkable sensitivity on the part of these teachers towards this innovation.

4.2.2.2. Problems relating to public awareness and the attitude of the population vis à vis the experimentation of teaching in national languages.

In general, the teachers across the board express the opinion that there is at times a skepticism, and even a complete mistrust on the part of the population vis à vis the experimentation. The reasons which are generally cited for this are the frequently cited argument that instruction in national languages results in a watered down or second rate form of education. Given the history of literacy programs in Mali, for them, teaching in national languages brings to mind adult education, adult literacy, *orbalikukalan*. French being the instrument of work in the employment market appears to the eyes of this group as the only linguistic medium which is capable of bringing to young people a high quality of education and the potential to be employable. This opinion is moreover shared by a significant number of teachers who think that, as has been the case with earlier pedagogical innovations, no linguistic and cultural reform of this kind can succeed in Mali, since such reforms are never properly followed up with the accompanying steps towards the establishment of a supportive infrastructure which are required. However in the opinion of some of the teachers interviewed, the populations of areas which are literate in national languages are far more favorable to the experimental schools than those of the zones which have not had literacy programs in national languages. In addition, we observe a negative attitude on the part of certain parents who are civil servants towards sending their children to experimental schools because they fear the difficulties which they may encounter when they are transferred to a different part of the country. In any event, it appears that the experimentation of teaching in national languages has not been sufficiently explained, and is not sufficiently understood, which explains the above-cited attitudes, thus underlining the urgent necessity for a real campaign for improving public awareness of the advantages inherent to the use of national languages.

With regard to issues pertaining to public consciousness raising and the recruitment of pupils, some responses touched on the problem of failure and dropout, and thus on the problem inherent to the system of evaluation and testing of pupils. These responses pertain to both types of school, and thus to the entire educational system in Mali. One teachers states that the attitude of the population is not favorable towards the school "In the face of

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the constant failures experienced after the examinations", and later, that the recruitment of pupils is not easy given the "hesitation of the parents in the face of an educational system which is preprogrammed for failure."

In this regard, certain teachers also believe that learning the basic elements of the curriculum in a Malian language weakens or simply limits the child's subsequent ability to learn the French language. One teacher states that the school in national languages "diminishes the knowledge of French." This is typical of the attitudes toward bilingual education not only in Mali, but almost everywhere that it is practiced in the world - it is a commonly held misunderstanding. There are many people who believe that every minute of the curriculum which is invested in the use of L1 as the medium of instruction essentially subtracts from the child's potential to master L2 and diminishes the time spent on L2. In fact the opposite is closer to the truth. In Mali, where the knowledge of the child in his or her L1 is not yet part of the evaluation and testing system and other educational rites of passage, these beliefs create an enormous and inordinate pressure on the system, in fact on the teacher, to produce pupils who perform at a superior level, but uniquely in their L2, French. In this context, the reaction of the educational system has been what one would expect - and French has been introduced already as early as the second trimester of the first year. According to our research, it is not true that the eventual level of the child in L2 will be lowered as the amount of time that s/he spends learning in his or her L1 is increased in the curriculum, as if by subtraction of the time spent in L1 diminishes his or her eventual level in L2. When we take into consideration the cognitive and academic development of the child over the long term, then the opposite is true. The child who goes through a fairly lengthy period with L1 as the medium of instruction and completes his normal academic and cognitive development in that language will have much greater facility when s/he reaches the moment of taking on the L2. In the long run, this child will have a proficiency level with accompanying skills far more developed in both of the languages due to his longer exposure to learning in his or her L1.

In this regard, one of the incessantly recurring interpretations of the experimentation is that the pupils will no longer have access to an international language, that is that the role of the French language will be diminished, if not threatened, by the national languages. They fear that the

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pupil will not have the possibility to pursue advanced studies afterwards because of having studied in a national rather than an international language. Others tell themselves that the Malian child already knows his or her maternal language and thus the child going to school should learn another language, an international language, rather than one which is already known. All of these themes reflect a certain naïveté concerning bilingual education and can all be grouped under the rubric headed lack of public awareness, lack of consciousness raising, and together they certainly underline the great need for the revitalization of national languages. With a fully elaborated program of reform according to the theoretical bases of bilingualism as is presented in this report, such myths will no longer persist in the mind of the population. One of the major reasons for the importance of the reform would be to guarantee an improvement in the learning of French, which has long been one of the priorities of all educational reform in Mali. The recommendations which we make are made with this priority in mind: to improve the acquisition of L2. In all of the earlier evaluations of the experimentation, there is universal recognition of the important role which the French language has to play in the educational system. French is certainly not threatened by proposals made in this area.

These remarks and observations are in clear opposition to the opinions gathered from the parents, who in large majority, greatly appreciate the utilization of national languages in teaching and the advantages presented by their use in comparison with the French language.

4.2.2.2.1. The attitudes of the teachers towards the two types of school.

In general, the observations of the teachers of the classical schools on their attitudes towards the schools in national languages are more positive than negative, and demonstrate on the one hand an open and receptive attitude which is at the same time quite naïve, which is certainly not their fault. The criticisms which are shared by teachers of both schools are the same as those that we have raised, and the same which have been raised by so many of the previous evaluations of the experimentation - touching on the curriculum, on teacher training, etc., thus "teaching by feeling one's way along", as it was expressed by one of the classical school teachers. In short,

their remarks cover globally everything which is holding back the experimentation.

Another teacher remarks, "The brutal termination of the starting language medium is a factor which in my opinion should not continue." Between a startup in L1 which is now mixed with the introduction of L2, followed by the "brutal termination" of the use of L1, what is left in terms of the espoused goal of revitalizing Mall's national languages as instruments vital to the development process? The L1 is the "patrimony of culture", and it cannot be abandoned after two or three years to then continue in a foreign language which is not spoken by the majority of the population.

Our evaluation indicates also that the experimentation is still in a sense victim of the classical French-based curriculum: the curriculum of the experimental school is inspired by the French-based curriculum of the classical school. From both the experimental school teacher and the classical school teacher, the body of teachers seems to share a rather myopic vision of the experimentation, and by this we mean that they see it only transitionally, as it has been practiced in Mall. Often times teachers of both kinds cannot speak of its value except in terms of the performance of their pupils in French. Once the first three years of primary school in the experimental school are completed, this vision reflects in fact the current state of the educational system. All of the symptoms inherent to this view reflect the present state of the education system, and the conditions under which this pedagogical innovation is being attempted. We have thus observed a tendency to introduce French as early as possible in the experimental curriculum which by our definition at once weakens the potential for learning in both L1 and L2, and thus also weakens the acquisition of the basic disciplines. It should not be forgotten that according to the initial strategy of the experimentation, better performance in learning the French language is only possible after the skills involved in the basic disciplines have been acquired in the national language. The early introduction of the French language in this context only leads to a negation of this objective.

There exists, to use the words of one of the teachers, a rivalry of sorts between the two types of school. Unfortunately this rivalry is based uniquely on pupils' performances in French. The same (classical) teacher added

therefore that the experimentation "is a good thing but what is needed is for children to begin learning to read and write French right from the beginning of the first grade." This vision of the experimentation tells us that this individual has misunderstood the goals of the innovation.

Overall, the teachers of the experimental schools and the teachers of the classical schools cited almost the same inventory of advantages and disadvantages of the two types of school.

4.2.2.2.2. The teachers' relationship with the population.

Concerning the contacts and relations between the school and the population (questions 8 (classical questionnaire) and 22 (experimental questionnaire)), and the questions concerning the raising of public consciousness to the experimentation, frequently we found that the responses are nearly identical from the two types of school. The majority of teachers speak of good relations with the parents in their community, even though their attitude is often passive, lukewarm, or even negligent. We take the fact that there does not seem to be a systematic difference between the attitude of parents toward the national language school in comparison to the attitude of parents toward the classical school as a sign of the often repeated lack of public consciousness raising on the subject of the experimental schools. We would have expected to find a systematically better attitude on the part of parents towards the experimental school, i.e. a sign of a better integration to the milieu. In fact, even from parents of experimental school pupils, we met a sometimes passive attitude, sometimes indifferent, and sometimes even hostile attitude. In certain cases we encountered a change or an evolution in the attitude of the parents of experimental school pupils (refer to the results of the questionnaire designed for pupils' parents). One teacher says, "skepticism at the beginning, now understanding, opening up, participation." In his way he is describing an ideal attitudinal progression on the part of the population as a result of consciousness raising through their experience with the experimental school. The problem of "misinformation" which was raised by one of the teachers is a general problem for the Malian school.

4.2.2.2.3. On the transformation of attitudes.

Among certain elements of the population, including some teachers, we discovered a mistrust of national languages which we feel is due to misinformation and misunderstanding, and to an ignorance of the potential of these languages in education. The answers which were received to question 24 (experimental) were impressive from the point of view of the transformation of teachers' attitudes through their experience as practitioners of the experimentation. Among the experimental school teachers, we found that many were converted to the use of national languages simply through their experience of using them in their classes, and thus, the desired improvement in public consciousness and awareness of the potential of their languages has been achieved spontaneously in this way. Many teachers spoke of their own evolution, their own awakening as far as national languages are concerned. Many were led to discover the value of Malian languages via the intermediary of the experimental school.

60% answered *yes*, that their attitude had changed, and thus 40% answered *no*. It should be pointed out that the *no* in response to this question is quite frequently a positive *no*, for those teachers who have believed in the experimentation from the beginning, and who still believe in it up until today. These answers, and the expressions therein of great confidence in the experimentation show that it is through this experience that one realizes the great capacity and richness of the national languages, and the unlimited potential of an educational system based in those languages.

4.2.2.3. Problems relating to the curriculum of the experimental schools.

With regard to their answers to the question on the teaching curriculum in national languages and the dosage relationship between the national language (L1) and the French language (L2), the teachers divide themselves into two groups. The first group is in favor of the curriculum which is currently being used in the experimental schools, that is, the curriculum which constitutes basically a translation or transposition of the official French language curriculum into the national languages. In terms of the dosage of the two languages, this group prefers that the L2 be introduced beginning in the first grade.

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In contrast, the second group of teachers has the opposite opinion. This group would prefer a longer and more through learning period in L1, with L2 being introduced considerably later. This opinion bears a much stronger resemblance to the basic ideas of modern-day theories of bilingual education as presented in Chapter IV of this report than does the opinion of the former group of teachers.

4.2.2.4. Problems relating to the teaching methodology in the national language schools.

While recognizing in a general way that the language of instruction in the experimental schools corresponds to the maternal languages of the pupils, the teachers do not have shared opinions when it comes to a teaching methodology to be practiced in the experimental schools, i.e. to teach the national languages in the same manner as French is taught. This result, although surprising (because naturally a second foreign language would never be taught in the same way as the maternal language, at least in certain respects), can be explained by the great difficulty which former classical teachers have encountered in trying to abandon their old entrenched ways that have become so reinforced by years of practice and to develop and use new methods appropriate to the teaching of L1 rather than L2. In contrast, 35.58% of the teachers questioned recommend a new active method much better suited to teaching in national languages and making possible a more optimal transfer of the academic and cognitive proficiency acquired through the L1 medium of instruction at the time of the introduction of L2. This second category of informant, even though in the minority in comparison to the first group, seems to us to be far more logical and convincing in their ideas. Certain of them who know already, through public awareness campaigns, the convergent methodology, suggest that this methodology be applied in other schools as well. Still, after an analysis of the results, it is clear that the present teaching methodology used in the majority of the experimental schools is clearly in difficulty and in need of reform.

4.2.2.5. Problems relating to teaching materials.

The teachers' answers to questions pertaining to teaching materials are of one voice and unanimously express a total lack, or at least a consistent insufficiency of teaching materials, textbooks, etc. All of the teachers questioned indicate that the crisis of teaching materials in the experimental schools constitutes perhaps the most critical problem currently being encountered by this innovation. In addition, it should be pointed out that the quality of those documents which are available is less than satisfactory.

It is often the case that teachers of grades one through three in the experimental schools have as many - if not more - teaching materials in French as in the Malian languages. The following observations can be related to the lack of teaching materials in national languages:

- the pupils do not have the possibility of reading at home
- instruction very rarely goes beyond reading and mathematics
- due to the lack of adequate materials, second grade teachers are frequently obliged to use materials designed for the first grade, third grade teachers use those for the second grade, and so on, which results in a progressive lowering of the level attained in national languages.
- there were often teachers of grades one through three in the experimental schools who could not name a single book in national languages which was available to them in their school.

4.2.2.6. Problems relating to the training of teachers.

With regard to training, approximately 45% of the teachers state that they have received training in national languages which covered the rules of transcription, teaching methodology, specialized educational terminology, linguistics, etc. However, it seems that the lack of control of the progression of the contents of their training during the training programs causes a great many of the them to lose interest in the training after having participated in it for two or three years. It should also be pointed out that the training programs are carried out under material and financial conditions which are difficult for the teacher trainees.

Approximately 37% of the teachers concerned by our investigation had not received any training in national languages. When this is combined with the critical lack of teaching materials and other supporting documents, it becomes clear that the problem of the initial and the continued training of teachers, which is certainly a crucial element to the eventual success of the experimentation, merits its own solution.

4.2.3. General problems. Out of this analysis of the responses of experimental and classical school teachers comes a certain number of general problems which are cited here:

- Insufficiency in the area of making teachers in both types of school aware of the *raison d'être* of the experimentation and the objectives of instruction in national languages.

- Total lack or insufficiency of suitable teaching materials in the two types of school: in other words, this problem does not concern uniquely the experimental schools but the entire Malian educational system.

- Insufficient teacher training in the area of pedagogical innovations both in national languages and in French.

For what it is worth, we observed a greater tendency to discover entire questionnaires which were identical, meaning that they were copied from one teacher by another, among the classical school teachers than among the experimental school teachers.

To question 25, 67% answered that yes, the national language which is the medium of instruction corresponded to the maternal language of all of their pupils. Among the 33% of those responding who said no, there are nine who said that yes, they do observe differences in the performance of pupils and ten who said no they do not. In the regions within the scope of this evaluation, we note that this problem is not as serious as it might be in other less homogeneous regions of the country.

4.3. Interpretation of the results of the questionnaires designed for the pupils' parents.

With regard to the maternal languages of those interviewed (question 5), the results show that the majority are native speakers of the language Bamanankan, that is 83.07%; 9.23% are native speakers of Mamara (Minianka) but are also speakers of Bamanankan. Among these populations the result is a highly developed bilingualism in Malian languages. All of the experimental schools which have been established in these areas are in the Bamanan language at the request of the local populations. The most interesting case is that of the Bamanan language schools situated in the Mamara region, where the populations want to become literate in the Bamanankan. This choice is certainly tied to the activities carried out by the Compagnie Malienne pour le Développement des Textiles (CMDT). This company which has been operating since the earliest years of independence has created a great many literacy centers and has initiated the peasants of the region in the techniques of cotton cultivation. Today these people handle all of their problems and business in the Bamanan language (commercialization campaign). Among those interviewed, 27.05% know how to read and write in Bamanankan, and 30.78% read and write in French. An environment such as this is extremely favorable to the establishment and development of the experimental school system.

As to why the parents decided to send their children to an experimental school, 80% of the responding population feel that children learn faster and better in their maternal language, and thus perform better academically in it. This indicates a clear preference for the experimental school over the classical school among the parents questioned. On the other hand, 6.15% of the parents questioned feel that sending their children to an experimental school was a decision which was taken by the authorities and in which they had no voice. To this can be added the 1.53% of the parents who believe that the decision was taken without the agreement of the population but who nevertheless approve the decision now. The same percentage of parents (1.53%) affirm having sent their children to the experimental school in order to make a comparison between the two types of school. Thus this group was still testing the waters in order to find the school which they thought would be best for their children. Even though this tendency does not reflect a majority opinion, it is clearly a manifestation of a lack of awareness of the value of the experimentation among certain elements of the population.

This situation should be immediately taken into consideration in order to assure that the experimentation in national languages progresses in a productive fashion.

As for the questions 6, 7, 9, and 12, pertaining to the advantages inherent to the use of national languages instead of French in the schools, the answers indicate that the majority of parents (approximately 88%) responding believe that the use of national languages in the formal education system results in far more advantages than does the use of French. Typical statements that they make in support of this position are shown here:

1) The local populations use the national languages more easily and better since it is in these languages that they take care of their daily business. Pupils learn faster and better in their maternal language.

2) The national languages are vehicles for the cultures of the population.

On the other hand, if approximately, 88% of the parents are favorable to the use of national languages in the school, about 2% of this group believe that French constitutes the major language which is the medium for working in the larger cities; this can be explained by the fact that the French language has played and continues to play the privileged role as the major instrument of work in the administration, the press, in brief, in the affairs of state.

In the final analysis, it appears that it will be crucial to carry out campaigns to heighten public awareness of the experimentation, and any more generalized form which the reform may take. Such campaigns should be backed up not only by public speeches, but also and especially by concrete actions which will lead to the revitalization of national languages in order that they may play the role which is theirs to play in the social, political, economic, and cultural development of the country.

The answers collected to questions 8, 11, and 13, pertaining to the degree to which parents were informed about the experimentation and their relationship with the experimental school indicate that 55% of the persons interviewed did not receive any information on the schools in national languages and that approximately the same percentage are ignorant of the activities and of the importance of the Association des Parents d'Elèves

(Parents and Teachers Association). Only around 24% of those questioned said that they have a good rapport with the director of their school and the teachers. Our conclusion in this regard is that the parents are inadequately informed concerning the experimentation and therefore not sufficiently involved in the education of their children.

With regard to the adaptation of instruction to the learners' milieu (question 19), approximately 54% of the parents interrogated feel that in the experimental school what their children are learning has a strong rapport with domestic activities. More than 67% of the people interviewed are of the opinion that the activities practiced in the school help the parents in their work at home. Certain of them even felt that the simple fact that pupils learn activities which are tied to the lives of the parents and in the language of the milieu can only give everyone increased confidence in this educational innovation.

PART III:

**CONCLUSIONS, RECOMMENDATIONS AND
SUGGESTIONS**

Chapitre V: CONCLUSIONS

If previous evaluations of the first three years of the experimentation resulted in the conclusion that pupils in the experimental schools enjoyed a relatively better academic performance than did their classical school counterparts, then the results obtained from the present evaluation would seem to indicate that overall the academic level in both types of school is essentially the same, without a significant difference.

In truth, the level of academic performance recorded in the first, second, and third grades of the experimental schools is slightly higher than the level of their counterparts in the classical schools. However from the fourth grade onwards, the difference in performance level is not significant between the two types of school. For the fifth and sixth grades the results are very slightly higher for the classical schools than for the experimental schools.

These results can be largely explained by factors linked to the implementation of the experimentation in national languages. It has been argued that teaching in national languages offers the solution to numerous problems that teachers and pupils encounter in the classical system - problems which dangerously undermine and jeopardize the quality of Malagasy education. If this hypothesis is true, then it is also true that the realization of the objectives of reducing the dropout rate, and of improving the internal productivity of the system through an improvement in the learning of French can only be achieved through the constant improvement of the conditions under which the experimentation is being practiced throughout Mali.

In this way the results obtained from this evaluation can be explained by factors linked to the basic equipping of the schools with teaching materials, to the teacher's methodology, to the teacher's experience in the teaching field, to the experience of the community around the school with adult literacy, to the number of pupils in the class, to the profession of the parents, etc. These factors seem to have played a very important role, in varying combinations in the schools evaluated, and contributed to poorer performance in the final results of the pupils of the experimental group, rather than had a more positive impact on the results of the classical group.

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Also, can the results recorded in the experimental schools be explained by the conditions under which the schools were established which did not conform to the kind of functioning desired by the various actors involved in the process, and above all by the teachers? Our evaluation would suggest that yes, the fact that there is no longer a significant difference between the results obtained in the two different kinds of school does not imply that a linguistic and cultural reform of the educational system does not have a tremendous potential for resolving the problems which the Malian child meets in the present school system. Our evaluation demonstrates that the present system is no longer viable, whether classical or experimental, and that the solution for the future lies in a true reform which is based in an educational system with bilingual education as a fundamental rudiment - and in the true sense of the word *bilingual*, as it has been described in the body of this report.

Concerning the development of a new education strategy, we cite the work of the Burkinabe intellectual, Joseph Ki Zerbo, who insists on a new educational reform in Africa, which would be composed of, "the integration of the physical and economic space, but also the African patrimony. ... That signifies that it is necessary to quickly Africanize the school and introduce African languages into education, even if the Africans have to, just as do all of the other inhabitants of the planet, master one or two international languages as well." Pertaining to languages, he believes that teaching in African languages should not be limited to two or three years. He cites the example of Tanzania where the introduction of African languages into the curriculum was not just a simple substitution of one "linguistic vehicle for another", but a "total psychological and cultural upheaval based in the fundamental particularities of people."

We remark that the experimental school in national languages as currently conceived and practiced in Mali is based in this kind of "simple substitution of one linguistic vehicle for another" to which Ki Zerbo refers, rather than in a suitable and well-adapted methodology.

The difficulties mentioned in this regard are the following:

1. The problem of the lack of a sufficiently elaborated master plan at the beginning.

The lack of an adequate master plan is a basic problem which is at the root of many of the other problems cited below. An adequate master plan will resolve a great many of these problems, including the problems of methodology, training, public awareness, publishing and teaching materials, among others.

2. The problem of the absence of a suitable adapted methodology.

As discussed above, the absence of an appropriate methodology for teaching in national languages constitutes one of the major weaknesses of the experimentation. Research and elaboration of an original methodology for this purpose is of the utmost urgency.

3. The problem of the curriculum.

In effect, the Malian strategy was the equivalent of transposing or even translating the French-based classical school curriculum in order to establish the experimental school curriculum. This seems to be somewhat of a paradox when one realizes that the rate of skill acquisition is clearly superior when the child learns in his or her maternal language. This is the equivalent of treating the child as a blank slate and ignoring the linguistic proficiency that the child has acquired in his or her maternal language between birth and the age of seven when the child is normally recruited for primary school. In the interest of the child, it would be perfectly appropriate that the curriculum and the content of instruction offered to him or her in the experimental school should certainly take into account his linguistic competence from the very beginning of instruction. In other words, it would be desirable to completely restructure the curriculum designed for the experimental schools in national languages while taking into account all of the implications of instruction in the maternal language. Educators need to be made aware of the specific differences inherent to learning in L1 rather than in L2. With the present curriculum, i.e. the lack of a suitably adapted curriculum, the real capacities of the child in the maternal language are not sufficiently exploited

and tested: at the time of this writing therefore in Mali, the experimentation in national languages has yet to allow the child to realize his or her full potential. It is from this basic problem of the curriculum that arises the worry held by a great many teachers concerning the transfer from L1 to L2 and the frequent wish to retain French in the curriculum of the first grade class.

4. The problem of teaching materials.

With the exception of the Ségou region where a team from the Regional Education Department was able to prepare pedagogical guides (fiches pédagogiques) and distribute them to the schools of the region, everywhere else the crisis in textbooks and other teaching materials for the experimental schools has become disastrous. This clearly constitutes another important problem for the experimentation and one which puts the experimental school at a great disadvantage vis à vis its classical counterpart.

5. The problem of educational publishing.

As far as educational publishing is concerned and the availability of suitably adapted teaching materials, the Malian school is in a state of crisis. This observation is applicable to both the experimental and the classical school. The school textbooks written and published outside of Mali by foreign authors are not always suited to the needs of the Malian educational system - such unsuitable materials are frequently used for lack of anything better. For the national language schools, the crisis is even more serious due to the complete lack of many pedagogical materials in national languages.

6. The problem of teacher training.

Teachers who have evolved within the experimental school system have not received appropriate and adequate training and as a result, their training differs very little from that of teachers trained for the classical school system, were it not for a few short-term training programs in which the transcription of the national language is taught, spelling and grammar rule are

taught, and trainees carry out certain exercises in dictation and reading. The result is a teacher without a solid background of training in the national language, and the results of this inadequate training are documented in the results of this evaluation. A related problem occurs when teaching personnel reassigned to a new teaching post at the local or national level and a teacher who has been teaching for some time in a classical school is invited to take on an experimental school without having undergone the necessary retraining - this also has a serious impact on the pupils who become the victim of this shortsightedness.

7. The problem of the adaptation and integration of the school to its milieu.

This problem is universally recognized by all who are partners to the education system in Mali, whether it be those who are partisan to the experimental schools or those partisan to a more classical curriculum. Regardless of how the mixture of language dosages will eventually be established in a new master plan for the Malian school, it is obligatory that this issue of adaptation and integration be addressed so that the new Malian school can better respond to the needs of the Malian government, and the needs of the Malian child.

3. The problem of heightening public consciousness of the experimentation.

In spite of everything that has been done in an effort to better inform the population of Mali on the well-foundedness of the experimentation, one cannot avoid the conclusion that the people have yet to be totally converted to the cause for the right reason, and a significant proportion of them still think that the experimentation results in a watered down inferior form of education. An educational innovation of such breadth and scope will certainly not be able to succeed without the support and adherence of the majority of the population.

The problem of research in the national languages of Mali.

Concerning the area of linguistic research, it should be pointed out that the state of advancement of the research and studies that have been carried out on Malian languages is quite limited in the face of the requirements necessary to furnish adequate training for teachers assigned to experimental school classes and to train specialists capable of conceiving and writing teaching materials in the national languages for a given specific need. This difficulty which is of significant proportions should be assigned as a high priority to the specialists trained in these areas who work at the DNAFLA and the IPN.

10. The problem of the evaluation and testing of the pupil and his knowledge.

One of the significant problems which we have noticed, which is a problem of all Malians who participate in one way or another in the experimentation in national languages, is that the success of everyone's efforts in national languages is only measured on the basis of achievement and progress in the French language! Thus, on all of our questionnaires, not a single teacher, director, inspector, or parent, ever made reference to the impressive level of children in their own national languages - all estimations and measure of success are tied to the French language alone.

Without changing the system of 1) grading and 2) examination, or even with a simple reworking of the present system, then there will always be a risk of repeating the same problems which the system is presently experiencing. The teacher of the school in national languages has been up to the present time, a victim of the curriculum and the examination and grading structures of the classical school. The success or the failure of the teacher in both types of school, both for the pupil and for the pupil's parents, is still measured by criteria which have nothing to do with all of the goals of instruction in the national languages. In order to "succeed", s/he must produce pupils who succeed on the French exam and pass into the seventh grade; it is quite clear. Period. In this context, it is not extremely fruitful to travel via the national languages in pursuit of this goal, if the evaluation of the system is only measured in terms of the French language. At the heart of the system of the experimental school lies the ideal of functional educational bilingualism. A bilingual education system must be capable of evaluating the

child's knowledge and skills both in his or her first language and in the second language. It is essential to consider therefore the development of a system of evaluation and testing in national languages, to work as an equal counterpart beside the system of evaluation and testing in the official language.

Out all that has been mentioned up to this point come the recommendations and suggestions resulting from our evaluation. These recommendations and suggestions, if applied, should make it possible to re-energize the experimentation, re-launching it in a far more productive direction.

Chapitre VI: RECOMMENDATIONS AND SUGGESTIONS TO BE CONSIDERED IN THE PERSPECTIVE OF AN EVENTUAL GENERALIZATION OF TEACHING IN NATIONAL LANGUAGES

The identification of the problems and needs at the present stage of development of the national linguistic reform points to the necessity to undertake as priorities a certain number of concrete tasks which can no longer be postponed and which we present here:

1. The problem of the lack of a master plan: Conceiving and elaborating a master plan of the linguistic reform which can serve as an operational tool for the management and regulation of this reform.

If the absence of an explicit and unificatory master plan was conceivable during the earlier stages of the reform, it is no longer tolerable after ten years of experience and after having reached a stage where the scope of the operation and the numbers of children and teachers concerned now demands a rigorous coordination of all of the steps which have already been taken and those which will need to be taken in the perspective of a pre-generalization, or a complete generalization, of educational bilingualism in primary education.

In specific terms, this master plan will have to explicitly elaborate the tasks for which programming is necessary to guarantee the success of the operation on the pedagogical, didactic, linguistic, administrative, legislative, and financial levels. The absence of such an important reference tool would make it extremely difficult to control the future dynamics of any actions undertaken, and would run the risk of producing an irregular and empirical progression, to the detriment of a rational management based in a global vision of the linguistic development of Mali.

The objectives which must be established by the plan should permit, at the time when the Malian government judges it opportune, the re-launching of the operation with the maximum of economy and efficiency and with methodological guarantees in rigorous conditions of application. In this way

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the regulation of the entire system and the evaluation of the various components of the process would be greatly facilitated.

The master plan should particularly elaborate in detail the following:

- The pedagogical status of the languages used in primary education in the perspective of the generalization of the experimentation.

The four national Maltese languages used in school and French are - for the moment and in an experimental context - both object of instruction and instructional medium: they offer themselves in a full pedagogical role but at different levels of the course of study. According to what distributional criteria were the contents of the curriculum initially established as far as the roles played by the national languages and by the French language? What methodology underlies this allocation of the different stages of the course of study? Before considering the possibility of generalizing the present dosages, would it not be appropriate to again look into the problem and to try to base this allocation on criteria rooted in pedagogical function which are likely to benefit from the foundations of an educational bilingualism which is truly functional and balanced?

- Ways for pursuing research on the Maltese teaching languages. How and at what level to involve the teachers and future teachers, and other field practitioners?

This involvement of the agents of the reform as "co-authors" of the innovation is indispensable for both ethical and technical reasons. As a speaker organically integrated to his or her milieu of origin, the teacher is better placed than anyone to collect authentic linguistic data. As a bilingual, s/he is at the center of the phenomena of interference and transfer from one language to another. As a pedagogue, s/he is designated to constantly favor the primacy of the psycho-pedagogical point of view in doing research. As a civil servant, s/he is a servant of the state and thus remains in the service of children throughout the year. As a user of research and a responsible teacher, it is s/he who holds in the final analysis, the keys to the success of the operation.

It is therefore not possible to operate a linguistic reform of national scope without the technical and moral support of a base of personnel

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recruited on site and from the normal schools. New audacious but realistic formulae should be found which will make possible the use of teachers as researchers, analysts, "animateurs", co-producers of curriculum and teaching materials, evaluators, etc.... the participatory tasks proposed to the on-site practitioners will not be considered as supplementary work, juxtaposed to their institutional activities of teaching and of professional improvement.

On the contrary, this direct connection to psycho-pedagogical, linguistic, and didactic research, because of being exercised on concrete and real problems, definitively constitutes, for present and future teachers, the most economical, efficient, and complete form of self-training in the professional arena. In effect, there does not exist a better training procedure than one which makes the future practitioners participate directly in the elaboration of the work instruments which are designed for them. We suggest therefore that an approach which consists of integrating the teachers, and if possible the parents also, in all phases of the linguistic reform, even if at an elementary level, constitutes one of the best guarantees for the success of the operation.

The master plan for the entire operation will have to spell out in detail the global methodological framework of the reform (the rhythm of the extension of the generalization, the experimental areas defined in the various stages, the duration of the stages, the criteria for the eventual selection of new experimental schools in view of the pre-generalization or the extension of the experimentation, actions to be taken to heighten public consciousness, training efforts, the tasks of conception and writing of manuals, guidebooks, and textbooks, necessary administrative, financial, and legislative actions to provide a judicial foundation for the reform, etc.).

One chapter of this master plan should be devoted to the framework for and the calendar of evaluation activities (who does what, why, how, at which time, at which level and with which result).

We should emphasize the point that it is not only the learning acquired by pupils or the curriculum for teacher training which should be the object of an evaluation. The operation itself must be evaluated in all of its essential components, thanks to a set of pertinent indicators which will have to be identified and specified beforehand.

The master plan will also treat the issue of the coordination and interaction of the reform of the primary school with the adult literacy programs, preschool education, professional education, secondary education, private education, and religious education, etc.

The conceiving and the drafting of an operational master plan constitute tasks which are likely to furnish the national linguistic reform with the unificatory methodological framework of reference which is presently lacking.

Moreover, the existence of a credible master plan which is easily accessible is an essential motivational factor for teachers and parents who then realize that the reform is well thought out and that it is not at all an adventure that is a high risk to children.

Furthermore, because the existence of such a support for the reform makes the self-regulation of the new system possible and allows for the establishment of proof of the necessary efficacy and the productivity to guarantee the continuation of the operation, it comes to constitute a strong stimulant for the purpose of obtaining - from the interior and the exterior of the country - the moral, political, financial, and technical support without which any wide-ranging linguistic reform cannot survive today.

RECOMMENDATION: In addition, we would suggest that the master plan for the reform of education in Mali should also touch on the roles which national languages are to play at each level of the formal education system. This official elaboration of the pedagogical status of the national languages would simultaneously contribute to the goal of heightening public consciousness in this regard and revitalizing the national languages.

2. The problem of a methodology: Reflection on the development of an appropriate Malian methodology.

As we have already stated, the instruments elaborated for our evaluation were not appropriate for the evaluation of pupils being taught according to the convergent methodology. Nevertheless, on the basis of the site visit and evaluation which we carried out, the convergent methodology seems to contain elements which are adapted to Malian conditions, and to

educational bilingualism in Mali, and especially, elements which respond to the needs of the Malian child, i.e. the child's need to achieve normal academic and cognitive development via the maternal language before the transfer of his proficiency to the learning of a second language.

The present state of the experimentation in Ségou authorizes a great deal of hope. The pupils participating in the convergent methodology experiment there, who are presently in their fourth year of schooling, have all achieved a normal progression without repeating. Evolving in school groups having a different type of class, these pupils distinguish themselves by their resourceful allure, their very positive attitude towards school and work. The children appear to feel very good about themselves, and to have a taste for learning. The director of the school informed us that their love for learning is becoming infectious in the community, spreading to other elements of the population to the extent that one even encounters certain adults who have become literate thanks to the enthusiasm of these children. The director added that the children have a strong desire to read at home, to do their homework at night, and that this enthusiasm for school is even infecting pupils in the traditional experimental schools of the area, who are beginning to manifest the same enthusiasm towards their studies. On a larger scale, this enthusiasm could contribute enormously to the revitalization of national languages which is one of the major goals of the authorities, and of course will also result in a subsequent improvement in the learning of the French language.

We also discovered with regard to this methodology that the Malian authorities had made a great effort to adapt it to local conditions in the Malian milieu. The success that these convergent methodology schools seem to have achieved, without an enormous quantity of new and costly teaching materials (in spite of the criticism which have been made in this respect) is indeed impressive.

One of these advantages is the fact that the methodology demands a curiosity and a researching spirit on the part of the child. The result of this is that many books and other printed materials which previously had no application in the school are now very useful, and serve as resource tools in which the child can carry out his personal research and other searches

assigned in the classroom. This invaluable pedagogical resource comes uniquely from books that are available in the milieu, from old newspapers, magazines, etc. In this way the child is exposed to a variety of forms of the written word very early in this system. Furthermore, this is done without there having to be a copy of a textbook in the hands of each pupil. In numerous other of the schools which we visited, we discovered that many children in the early classes could not make use of the photocopied testing instruments (with typed or word-processed written forms) which we distributed, nor could they make use of the same instruments when written on the blackboard by our evaluators. This was due to the fact that they had never read the written word in any other form than that of their own school teaching writing on the blackboard. Clearly these pupils had never seen a printed textbook either.

Our wish is that the Government of Mali continue to carry out similar searches so that in the near future they can develop their own methodology, the *Malian Methodology*. In the convergent methodology we find a great many elements which recommend it, which respond to several of the lacunae of the present system and which could contribute to an adequate reform of the system.

The experience of the (traditional) experimental school shows that is not sufficient to substitute one linguistic teaching medium for another medium in order to establish a new teaching methodology, in a reformed school, adapted to the milieu and to development goals. The utilization of national languages as only a step which is traversed on the way to a better learning of French is not sufficient. The result of this situation has been a rapid transition from L1 to L2, without true transfer of knowledge and proficiency skills.

RECOMMENDATION: We would wish that in the near future an evaluation of the schools using the convergent methodology be carried out to compare them to their more traditional experimental school and classical school counterparts, using suitable testing instruments to evaluate the child both in his maternal language, and in French in accordance with the grades in which the two languages are used. We would suggest that this evaluation should constitute a first step in the direction of developing the *Malian Methodology*.

Based on our visit and our evaluation of the convergent methodology, we remark that from the point of view of its efficiency, it is superior to that of the other experimental school classes. The excessive costs of the traditional system in human and financial resources due to the high rates of dropout and repeating, already constitute a very strong case in support of the need to establish a new methodology for both classical and experimental schools. At least in part, this problem is resolved by the convergent methodology.

3. The problem of an appropriate curriculum for the national language schools.

RECOMMENDATIONS: We would suggest that the new teaching curriculum for the bilingual system should constitute a base linked to other aspects of the reform of the educational system. The lack of a suitably adapted curriculum for teaching in national languages is one of the major defects of the experimentation as currently being practiced. A curriculum which takes into account the superior capacities of a child learning in his or her maternal language, and which is also suited to the needs of the Malian Government with regard to ruralization of the school, integration with the milieu, development goals, etc., will also have a significant effect on the curriculum for the learning of and in the French language. Once that the new master plan is established, it will be important that the new curriculum be established in keeping with that plan, and according to the new dosage between the two languages of instruction. All other aspects of the reform which relate to teacher training, educational publishing, and teaching materials, among others, must be carried out in keeping with the new curriculum.

If we believe in the theoretical bases of educational bilingualism (as they have been introduced in Chapter IV), we suggest that it is appropriate to consider a prolongation of the period of learning during which L1 functions as the medium of instruction, without the introduction of L2 during at least the first three, if not four or five years, before beginning the period of transfer of proficiency from one language to another. We reiterate the term *transfer*, and prefer it over the term *transition*, because we feel that the latter term denotes a subtractive program of bilingual education rather than the additive

one which we are proposing. *Transition* implies the abandoning of L1, whereas we believe in a maintenance system in which the national languages are maintained throughout the educational system. Educational and functional bilingualism, one of the goals of a linguistic and cultural reform, means that the school curriculum maintains and evaluates the abilities of the pupil in his maternal language throughout the system, side by side with his or her abilities in L2. This is done so that the educational system may remain always bilingual, thus guaranteeing the optimal growth and development of a child's proficiency in both languages. Every effort should be made to avoid a system in which the transition is rushed to the eventual detriment of the child's linguistic, cognitive, and academic development.

4. The problem of teaching materials: establishing a program for the conception, elaboration, and distribution of teaching materials for teachers and pupils in the new Malian school.

Among the major technical causes of the relative failure recorded by a certain number of now defunct linguistic reforms, the lack or at least the inadequacy of school textbooks, manuals, and guidebooks is perhaps the most commonly occurring. Experience shows that in effect the promoters of these reforms have sometimes underestimated the importance and the quality of the teaching materials with which it is appropriate and necessary to endow teachers and pupils.

The lessons of the past are particularly instructive in this regard and when the grievances of the practitioners in charge of the application of the new bilingual curriculum in whatever context are analyzed, one observes almost always that the quality (and of course the quantity) of the didactic materials proposed is to blame. This quality must moreover be researched not only for the obvious scientific and methodological reasons but it is also the indisputable proof that the promoters of the linguistic reform consider teaching of/in national languages to be a serious matter of the same level of importance as the teaching of French, and that is why it constitutes a condition which is essential to the adherence of pupils and their parents to the objectives of the innovation, just as it guarantees the enthusiasm and motivation of teachers towards the new bilingual curriculum.

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In the prospect of generalization, the setting up of a mechanism for the conception and elaboration of school textbooks both in national languages and in French (because the need for a coordinated methodology will involve a revision of the French textbooks as well) is an interdisciplinary exercise concerning specialists of varying abilities and specializations. Continuing with the purely technical aspects, the IPN (where the majority of authors are recruited) could take the initiative of organizing a workshop particularly centered on teaching in national languages during which operational and methodological approaches drawn out and recorded, which are likely to be useful in the principal stages of the publication process (which go from the search for and the identification of an author (individual or team) up to the ultimate stage of delivery to the schools).

This workshop of initiation to the conception and realization of school textbooks designed for the specialized teams of the IPN and for potential authors identified in other services and institutions would have as its objective to familiarize the participants with the techniques of writing manuscripts by leading them, through the expedient of practical activities, to activities which characterize the phases of conception, writing, experimentation, and evaluation of school textbooks. The workshop would make them aware of the importance which should be accorded to the important pedagogical functions of the textbook in Mali (the function of linkage between the school and the milieu, the function of tool for the acquisition of the earliest formal learning, the function of perfecting one's knowledge of things learned, and the function as vehicle of the culture and of national ethics, etc.) each of which involve methodological choices in the conception and internal organization of the publication.

Finally, this workshop should reserve a place, based in the projected manuals and textbooks in national languages, for the evaluation of the notebooks of the pedagogical (and technical) responsibilities, a task which has been foreseen but is too often neglected or omitted, and whose relevance is one of the conditioning factors determining the eventual efficacy of a school textbook. Here as an example and in order to be as concrete as possible, we present the principal stages involved in the realization of a school textbook which are crucial parts of a practical approach to the problem and should be included in the workshop mentioned above. The process which is indicated

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seems to us to be applicable to the Malian situation where the conception and elaboration school textbooks - as in many other countries -is not yet the concern of a developed educational industry.

	<u>Tasks of the author</u>	<u>Tasks of the supervisor of the publication</u>	<u>Tasks of the produc</u>
1. Search for an author		1	
2. Elaboration of the notebook of educational responsibilities	2	2	
3. Elaboration of the notebook of technical responsibilities		3	
4. Writing of the manuscript	4		
5. Checking of the manuscript	5	5	
6. Printing of sample copies for experimentation		6	6
7. On-site experimentation	7	7	
8. Ready to print	8	8	
9. Manufacture of the textbook			
10. Management of the inventory			
11. Distribution and delivery			

Beyond the imperus for this essential task which is provided by the keeping of a notebook of pedagogical responsibilities, the workshop should foresee an initiation to the problems inherent to the experimentation and the evaluation of the textbooks which have the precise function of verifying if the work corresponds correctly to the notebook of pedagogical responsibilities and if it also responds effectively to the expectations of the pupils and the teachers, respecting the prevailing curriculum. During this important phase, which is too often barely even sketched out (here we are talking of phase 7 of the preceding schema), it will be appropriate to sort out the major principles making up a methodology for experimentation and to identify some of the essential elements such as, for example:

- to determine the number of classes which will serve as the area of application for this experimentation (a number of around 25 classes is considered credible)
- to seriously consider the makeup of the teaching corps (If among 100 teachers in the concerned group there are 70 men and 30 women, then the distribution of men and women in the experimental group of classes should be in the same proportions, i.e. 17 men and 8 women. The experimentation will be carried out in cooperation with them.)
- to adjust proportionately for the percentage of schools in urban vs. rural milieus. (If this relation is equal to e.g. a fifth, then one urban school would be retained for every four rural schools for the purposes of the experimentation.)
- to take into consideration the significant age groups among the teaching corps and choose classes being taught by teachers who are e.g. 20-30 years of age, 30-40, 40-50, etc.

A number of other parameters can also be considered as relevant. The essential is that an adequate methodology for the elaboration of the notebook of pedagogical responsibilities and the experimentation of the textbook become familiar to the conception and elaboration teams of the IPN.

5. The problem of educational publishing: a note on the costs of the production of teaching materials.

For information purposes, we present below a table of information pertaining to the average costs of the production of school textbooks and other teaching materials according to experience based in countries who have faced this task. The authors have furnished the information in view of the financial and budgetary crisis presently confronting many countries of the world while at the same time enrollment figures only rise. They state that "the fiscal pressure on the availability of school textbooks is very important considering the fact that their availability is one of the most important determinants of the success of school children in the developing countries."¹³

Their calculations are presented in terms of American dollars which we have translated here into CFA francs at the exchange rate of 265 CFA francs per dollar. According to their arithmetic, they state for example that with an investment of 265 CFA per year per pupil the result is an inferior system with pupils obliged to memorize simple and inexact information, but that with an investment of approximately 800 CFA per pupil one can furnish a far more efficient system. Here is a summary of their observations:

¹³Farrell, Joseph P. and Stephen P. Heyneman. 1988. "Textbooks in developing countries: economic and pedagogical choices." dans Altbach, Phillip G. and Gail P. Kelly, eds. *Textbooks in the third world: policy, content, and context*. New York: Garland Publishin. Inc., pages 19-44

Table 2.1: Stages of Development in School Quality

Annual Cost/primary student in classroom materials (SUS)	Indicator	Product	Example
Less than \$1.00	One textbook/class with some exceptions the teacher has the only available book. Pupils expected to copy the text from the blackboard and memorize.	Rote memorization of unsophisticated and poorly interpreted information	Uganda Liberia Haiti
\$3.00	One textbook/student. Each student has access to one book in each subject. Comparatively little prerequisite teacher skills beyond those required at the above stage.	Major expansion information and the efficiency of presentation; little progress on self-generated skills of investigation.	Philippines People's Republic of China
\$40.00	Several different textbook titles available for each student; pupils in lower grades work on locally designed exercises. Teacher picks and chooses from among the best or most appropriate available materials. Requires significant intellectual independence on the part of teachers	Latitude of educational programs based upon individual student ability; significant increase in the mastery of cognitive skills.	Malaysia
\$200.00	Fifteen titles per student in supplementary reading material or forty books total per student in addition to a wide variety of curriculum packages, reference books, maps, dictionaries, film strips, lesson tapes, documentary films, and computer-assisted instruction. Significant managerial skills required on the part of teachers at all levels of education.	Self-generated habits of learning; ability to investigate new ideas and to recognize strong and weak supporting arguments; major improvement in cognitive creativity; wide exposure to culture as well as science.	Japan U.S.A. Sweden

Source: Stephen P. Heyneman (unpublished).

RECOMMENDATION: We would suggest an educational publishing policy which supports and encourages local researchers, writers, and other potential Malian authors, and which facilitates and encourages the development of a significant local educational publishing industry. The donors should consider projects which will lead to the creation of possibilities so that school textbooks and other instructional materials can be produced in Mali. This will result in the creation of a Malian publishing industry capable of responding to the needs of the educational system with educational materials adapted to the Malian context. This is especially relevant when it comes to producing educational publications in Malian languages.

When we speak of a linguistic and cultural reform of the educational system, we must also consider the need for a literary reform, that is, a reform which effects publishing in general. Such a reform should be based in a profound knowledge of the history of the publishing industry in general, and not uniquely based on the history of educational publishing.

The production of the pedagogical documentation for the new Malian school must be one of the principal preoccupations of any organism which plays a role touching in any way the reform of the school system. This production is both collective and individual.

The elaboration of the necessary pedagogical documentation must respond to the needs expressed in the documentation plan which is part of the master plan. Once the curriculum and the inventory of the needed pedagogical materials are established, the writing and elaboration of the pedagogical support documentation can begin. It involves a collaboration among inspectors, pedagogical advisors, and the teachers of the experimental school classes. In seminars at which all of these personnel with those responsible for conceiving and writing textbooks working together, it is possible to establish a fruitful collaboration. We would suggest that the experienced experimental school teacher should play a principal role as a consultant to the process of textbook elaboration. Ideally one would want to eventually offer a wide and diverse set of documents to the teacher.

In considering the requirements of a new curriculum for the new school in the area of pedagogical materials, it is necessary to elaborate a whole system of documentation meets the needs of all concerned parties, including

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teachers, pupils, parents, and the community. Needed are guidebooks for the training of teachers, general methodological guidebooks which explain the overall approach of the reform, and methodological guidebooks on each discipline including the general approach plus practical applied manuals, pupils manuals, and manuals and documents for the ongoing training of teachers. The latter should be full of enriching material, glossaries of technical and specialized vocabulary (monolingual and bilingual) for the teachers, glossaries of vocabulary for the pupils (monolingual and bilingual), etc. We believe that teaching materials which are conceived, written, edited, and published in Mali will better respond to the needs of the Malian school.

The experience with the convergent methodology has shown that the way in which the experimentation was originally conceived in fact underestimated the level and the potential of pupils under good conditions when learning in their maternal language. It is realized that because of the long tradition of teaching in a foreign language, the real level of work of which the students are capable is not known or understood. A readjustment will be necessary.

The same observation could be applied to the teaching materials used in the experimental schools (first group). There also, once the structure of the eventual reform is elaborated, a readjustment to the higher level of the pupils will be necessary. Parallel to this, as has been said by M. Poth, a consequent adjustment in the level of the materials in the French language will also be necessary. If the transfer of skills and proficiency level of the children from L1 to L2 is effected under ideal conditions, a readjustment in the level of those materials will be necessary due to the more advanced level of the children.

6. The problem of teacher training: The conception and elaboration of a curriculum for teacher training of present and future teachers for teaching of/in national language. The establishment of an information mechanism for those involved in "animation", supervision and inspection.

The meetings that we were able to have with experimental school teachers and their school directors tend to indicate that if the teaching of French is based on something already experienced and on a methodology

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already confirmed and established. (we observe again however, at the risk of repeating ourselves, that the institutionalization of bilingual education will unavoidably have an impact on the present methodology of teaching French) the training for the teaching of and in national languages could be further intensified if the ongoing activities of the on-site staff in charge of "animation", supervision, and inspection, as well as the effective backup support of the IPN, have already made it possible to considerably improve the situation.

The perspective of generalizing a reformed education system assumes of course that all the teachers and the perspective teachers be given training in the following areas: linguistics, psycho-pedagogy, teaching methodology, and culture specific training.

- The linguistic training will aim for an objective knowledge of the national language (mastery of the orthography, the grammar, the system of grammatical function and internal organization, the processes involved in the borrowing of foreign words and how they are changed in keeping with the phonological structure of the language, the processes of lexical creation, etc.) It will also be necessary to improve the teachers' subjective knowledge of the national language which they have acquired outside of the formal education system. (Perfection and deepening of the teachers' practical mastery of the national language, especially in the subject areas where the language will be used by the teachers as a medium for the introduction of instructional content.)

Naturally, deepening the objective linguistic knowledge will allow the teachers to speak and to write in a more effective, referential form of language, and to go beyond the norm to appropriate personal and original modes of expression. This can only have favorable consequences on the quantity and the quality of literary production in the national languages. (of which some may be used as object of study in the activities of the curriculum of the bilingual school).

The psycho-pedagogical training will help the teacher to resolve problems concerning the relation between the child and the national language, which, during a transitory period, will not be the maternal language of everyone. This training will as well equip the teacher to be able to face the difficulties which concern the pedagogy of teaching languages in contact (for example, the problem of linguistic interference) and also how to make the best of this contact situation (for example, the possibilities of transfer and borrowing from one system to the other).

Didactic training is articulated around the methodology and the conducting of lessons in national languages (for example: the methodology for lessons in initiation to reading, mathematics lessons, language lessons, etc.) in a tight relation with the teaching of French. Uniquely for informatoin purposes, an investigation which I (M. POTH) carried out in 1982 in Burkina Faso in 74 experimental schools, indicated that 81% of the teachers encountered considerable difficulties in teaching history, geography, and the observational sciences in national languages. 54% suffered difficulty in initiating pupils to mathematics, and especially to geometry. 30% of them experienced serious methodological problems in conducting their language and language use lessons. Curiously, the problems encountered in teaching reading were minimal, with each teacher applying straightaway a convergent methodology in national language and in French.

Experience has shown that providing teachers with self-teaching pedagogical data sheets often facilitates the appreciable long-term improvement of the situation inside the most neglected classrooms. In the present context characterized by the prospect of a future generalization of teaching of/in national languages in the Malian schools, the elaboration of such data sheets, conceived as reference tools and proposing didactic schemas for each type of lesson making up the national language and French curriculum would

undoubtedly greatly help teacher trainers in their work. It would help the least experienced of the trainees to avoid starting off on the wrong foot in their teaching and essentially keeping them on the right track. It should not be forgotten that at the time of the generalization, the pedagogical sustenance provided by the IPN will obligatorily be more diluted and that the teachers will have to be equipped with support documents.

Cultural training, the missing element from the curriculum, should give to present and future teachers the means to found their teaching on consistent references to the cultural patrimony and to national values because for teaching in national languages to be complete, it cannot exist without the mastery of the cultural values communicated through the language. The promotion of Malian languages would remain sterile and artificial without the accompanying promotion of the relevant elements of the rich and varied national culture of Mali.

The most accessible facets of this culture as far as training is concerned are probably oral traditions and the many art forms which exist. In the country of the bard (griot), the history of past empires is as well an inexhaustible source of themes, lessons, and subjects for reflection. It is the knowledge of the teachers in this vast and diversified domain which will make possible an effective reinvestment in the classes and which will facilitate the establishment of teaching of/in national languages and of French based in profound Malian realities (for example, through the selection of reading passages serving as exercises for textual explanation, through the selection of stories and tales to motivate and to enrich language lessons, through the choice of games to serve as take-off points for lessons on mathematics, etc.)

There is need to add that these different training axes are important as immediate priorities, not only for the teachers

and the future teachers, but also for the future supervisory and "animation" staff. Their relevance is easily demonstrated in the present context given the desire of the national authorities to proceed towards a phase of extending the experimentation, i.e. a pre-generalization or even a generalization of the reform.

7. The problem of the inadaptation of the school to its milieu: The relationship between the approach used in teaching national languages and practical work activities tied to the ruralization of the school.

It should be stated from the outset to avoid an eventual misunderstanding: The bringing to light of the organic link which should attach the productive activities involved in ruralization to the teaching of/in national languages does not at all imply that these languages are only suited to practical and concrete activities.

For obvious psycho-pedagogical reasons which will not be developed here, these languages must as well be used as supports for other practical activities and cognitive learning which the school strives to have the children acquire.

It is appropriate however to point out the internal coherence of the rapport which teaching in national languages bears with the ruralization activities, a rapport which unfortunately, is not explicitly taken advantage of in the pedagogical realm. The activities tied to the ruralization of the school essentially offer an opportunity to help pupils and teachers to perfect themselves using the linguistic tool which verbalizes these activities. To enliven the productive work activities via the intermediary of national languages is a potential force for accelerating the mastery of the national languages because it obliges the languages to respond with all of their lexical resources in subject areas which have been traditionally neglected by the educational system. In confronting new situations such as those involving technological transfer, a language demonstrates its creativity, its expressive potential, and facilitates the understanding of new concepts and the concretization of new ways of describing them. In this way, all progress made in the ruralization activities becomes progress made in the language, which continually enriches itself with new expressions and lexical innovations.

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Every new linguistic innovation results in better communication and then leads to an improved implementation and more productive exploitation of the ruralization activities.

The importance of studying the possibility of coordination of national language studies with practical ruralization activities is likely to lead to a reinforcement of the coefficient of pedagogical utilization of national languages. This arrangement might also help to complete the process of linguistic apprenticeship, which, to be complete should involve the concrete application of language to various functional situations.

All of these reasons militate in favor of an explicit functional elaboration linking the teaching of/in national languages to the practice of ruralization activities, and vice-versa. Who does not see that these two disciplines proceed from one and the same objective which is the promotion of the milieu of the Malian child and that it is therefore necessary to coordinate them in the pedagogical arena?

8. The problem of public awareness: Heightening the consciousness of teachers and of the population in view of the generalization of the reform.

If the teachers and the parents with whom we were able to meet are essentially favorable to teaching in national languages in a confirmed bilingual schooling context, this does not imply that there only remain technical and financial problems to resolve and that one should neglect therefore the tasks of raising public consciousness and motivating of teachers and of the population. The generalization of teaching of/in national languages may appeal to the interests of certain categories of the population who were not necessarily interested in the experimentation of teaching in national languages. The conception and installation of a permanent mechanism for raising public consciousness and motivating teachers, pupils, and parents to issues relevant to teaching in national languages and institutional educational bilingualism will become a necessity once the linguistic reformed takes on broader proportions.

The generalization of the reform will result in, for example for all of the teachers and educational personnel in the country, a more sustained

effort in the realm of professional training and an increased availability. Even if the stage of justification of an instructional system based on the needs and linguistic realities of the milieu now seems a thing of the past, it is nevertheless still necessary, at the dawn of generalization of the reform, to develop (indeed to arouse) active involvement, favorable to this reform which will involve a personal investment on the part of everyone. In this regard, reference to the linguistic reforms which have been effected in other African countries is necessary. If it was sometimes believed that the central political will, even when clearly affirmed, was sufficient to guarantee the acceptance of the generalization of the innovation by the population and the teaching corps, it is now known that the existence of this political willingness is a necessary but not sufficient condition in order to win people's hearts and minds.

The crucial elements of a strategy for raising public awareness are articulated generally around the three basic motivational forces which are 1) *information*, about the linguistic reform, its objectives, and its methods, 2) *direct participation* in the process which has been launched at different levels for the teachers and for the parents, and finally 3) *interest* in the development of the reform. It is certain that the IPN, with the help of the specialists which it has at its disposal, could take on the responsibility the preparation and organization of an initial seminar, designed for the training of staff responsible for the "animation" of public awareness campaigns to give a concrete and national content to the basic motivational forces cited above, and to identify the motivational axes for an ongoing and truly effective campaign in this domain.

When it comes to efforts to raise public awareness of the reform, one should think of the awareness of the entire population and not just of the parents of school children. One of the great disadvantages experienced by the experimentation has been the lack of appropriate campaigns for heightening public consciousness, the misinformation, and even the ignorance, which exist among all those who do not understand what is really involved - including children, parents, civil servants, teachers, inspectors, pedagogical advisors, to cite only a few categories. In the final accounting, there are very few elements of the population who truly understand this issue. No one is at fault in this regard. It is simply the result of a long history of use of a system based in the French language which makes it extremely difficult to

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appreciate and understand any new system, or even to try to develop a system which is truly independent of the former system. We observed that most of the parties to the experimentation are basically blind to any other measure of success except for success in French. To say in French that one would like to use Malian languages in the schools is not sufficient - one must live and breathe teaching in the school in Malian languages in order to understand it. The results of our questions to teachers are extremely encouraging because they show that many teachers, "through forging have become smiths" as the expression goes. Already, after only a decade, there already exists a pioneering group of teachers, experienced, and today devoted to value of teaching in national languages. On the part of the parents also we remarked the evolution of a very favorable attitude.

Through the experience of living with the new school, we observe that the immediate partners to this process, through a sort of experiential self-instruction, have become the most convinced and authoritative advocates of the innovation. Other partners to the experimentation, being further removed from this process, have not learned in the same way - it remains to demonstrate to these other elements the value of the efforts that have been invested. This is what remains as part of the task of heightening public awareness of this innovation.

Mali has already experienced the extreme importance of the integration of the school to its milieu. In the region of Sikasso where the CMDT has had a significant impact, the parents have a heightened awareness of the importance of learning in Malian languages as a result of the literacy efforts which have been carried out there. The good will and willingness of the parents which results from this foundation will contribute, in every sense of the term, to the future well being of the school based in national languages.

It has often been said that the presence of literacy programs in national languages greatly facilitates raising the public consciousness of a local population to educational innovation, and to the reform of the educational system. We note that there are both advantages and disadvantages to this popularly held belief. The experimentation in Mali was initially begun in villages where there already existed centers for adult literacy training. This greatly facilitated the introduction of the new school, but it also contributed

to the popular myth among those who are not literate: the myth which holds that the school in national languages is the equivalent of *balikukalan*, adult education, or a stereotypical term for a watered down, second rate form of education.

In order to better emphasize the importance owed to the integration of the school to its milieu and the involvement of the parents in the school system, we would like to quote a recent article which describes a new book written by Joseph KI ZERBO, a Burkinabe scholar, on education in Africa. He writes:

The civil war which bloodied Chad from 1979 to 1982 had, in numerous domains, very grave consequences, sometimes difficult to perceive. The central government disintegrated, provoking the EFFONDREMENT of the official educational system which had been in place since independence in 1960. Fleeing from danger, most of the families left the capitol and other major cities for the villages where schools did not exist - at least anymore. The teaching corps was dispersed.

It was in these circumstances that the parents of school-age children took over the role of the failed government and created schools for children from the ages of six to fourteen. At the beginning of each school year, meetings were organized to assure the proper financial and pedagogical management of this new school system: 3,500 classes were established in this way, the equivalent of one third of the educational needs of the entire country! Today, the Association of Pupils' Parents furnishes 90% of the budget supporting the functioning of the schools (370 million CFA francs).

"The case of Chad", KI ZERBO goes on to say, "is a glaring proof of the capacity of civilian society to take things into its own hands. Everyone should take consciousness of the fact that the true situation in our countries is the equivalent of a situation of war which requires that everyone take the initiative."

The involvement and the commitment of the parents is essential - the importance of this involvement has finally been recognized, even though historically speaking it has not been considered as a crucial element to a

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linguistic and cultural reform of the education system. We have the impression that there are strong bonds which will exist between schools and parents, especially when it comes to schools using the national language as medium of instruction. The existence of a school in national languages creates the perfect context for the automatic establishment of the kind of parental consciousness which is required for the success of the reform, and an improved integration of the school with its milieu.

Given this kind of self-instruction, the experience which has been gained, and the great successes that have been enjoyed by the schools in national languages, in spite of less than ideal conditions - Mali owes itself the right to continue the experimentation on a larger scale in order to see what these schools are capable of under better conditions.

RECOMMENDATION: The tasks of conducting campaigns to heighten public awareness and understanding of the reform, and the revitalization of Malian languages, are not simple ones which can be accomplished on a small scale through precise activities. All of the activities which are carried out in an effort to effect a linguistic and cultural reform and which through their effectiveness contribute to the improvement of the Malian school will also contribute indirectly to the achievement of these monumental tasks. In addition, more precise measures can also be taken, such as the following:

- a) utilisation of national languages both in their home geographical region and at the national level for the emblems and signs of stores and of other public buildings, for official identification documents (passports, ID cards, etc.), and in the publishing industry and the media.
- b) the introduction of national languages into the examination system both for competitive entry exams and regular end of year exams.
- c) utilisation of national languages in the official contacts of government agents and other officials with the masses.
- d) organize and encourage cultural creativity in national languages (literature contests with prizes, publications, increased radio and television broadcasting, etc.)

9. The problem of research in national languages.

RECOMMENDATION: We would suggest that a portion of the new master plan should be devoted to the elaboration of a research plan for the national languages, and that the proposed research should be oriented towards applied research relevant to the linguistic and cultural reform of the education system. This plan for applied research should be developed in keeping with the new teaching methodology, also part of the master plan, for the teaching and the linguistic dosage of the two languages of instruction which will be adopted. Eventually it will be necessary to establish an inventory of the linguistic and pedagogical materials which presently exist in each national language, to assess the value of each in terms of the new master plan, and to outline a plan for the preparation of those that still need to be written.

10. The problem of the evaluation and testing of the pupil and his knowledge.

It is imperative that national languages be recognized by the system for evaluation and testing of knowledge. If the idea of extending, pre-generalizing, and eventually generalizing the experimentation is a reality, children must be evaluated concerning their knowledge, and their academic and cognitive skills in the national languages, according to a system designed to encourage the child and the child's parents: a system is required which will cease to increase the dropout rate and which will contribute constructively and positively to the normal development of the child.

However, when it comes to the term *results*, we should not forget that in the present situation of the Malian school this term refers uniquely to results achieved in the French language. In this system the question is then: Does the Malian child coming out of the experimental school in national languages perform academically on the examinations of the classical French system as well as the child who has studied uniquely in French from the very beginning? This undesirable situation is due to the fact that this is really the only yardstick used in comparing the two types of schools. The Malian educational system, at the time of this writing, continues to evaluate and examine Malian children uniquely by the standards of the classical system.

RECOMMENDATION: We would suggest that there is a need to plan for thorough research for the development of examinations in national languages, for every level at which national languages constitute part of the curriculum. This procedure represents an absolute need of the new and reformed education system which will contribute at the same time to the revalidation of the prestige value of national languages, and thus to heightened public consciousness of their importance. This recommendation is made therefore for both sociological reasons as well as theoretical reasons, especially given the observations made in our Chapter IV concerning the interdependence of the child's proficiency in L1 with that in L2. A bilingual educational system must evaluate and test the child in both languages in order to be able to appraise his or her true abilities and knowledge, and his or her personal wellbeing.

Conclusion. Overall, we find that the experimental schools of Mali offer themselves as the better solution to adopt in order to render basic education in Mali pertinent and useful to the development of the country, and especially to the development of the Malian child. The risks involved for future generations of Malian children by a continuation of the present classical system are well known and are perhaps more important than many realize in light of the observations made in this report. The optimal and normal cognitive and academic development of the child is not guaranteed by the system involving the early introduction of French as is presently being practiced in the experimental schools with national language medium, let alone in the classical schools.

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