

Improving Educational Quality Project

Mali Final Status Report

Prepared for:

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Project undertaken by:

Institute for International Research
in collaboration with
Juárez and Associates, Inc.
and
The University of Pittsburgh

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STATUS REPORT

1. Summary of IEQ Objectives

The Improving Educational Quality (IEQ) Project is a five-year interdisciplinary endeavor conducted by the Institute for International Research (IIR), in collaboration with Juárez and Associates and the Institute for International Studies in Education at the University of Pittsburgh. IEQ aims to identify practical ways to improve learning outcomes through a better understanding of how learning takes place in schools and classrooms.

The rationale for IEQ operation as reflected in the core contract's C2 section is to

"build upon (...) research base on improving educational quality carried out by other donors, developing country researches, previous A.I.D. research projects (...) to improve learning [through] reliable and cost-effective interventions, within specific national contexts, that will make a difference at the classroom level."

In section C4.0, IEQ is mandated to develop activities based on analysis of classroom-level behavior and student achievement and introduce a process of improving educational achievement.

IEQ forms partnerships with developing countries which are implementing initiatives in basic education that seek to improve the quality of education. The Project complements basic education reforms in the countries by examining how the reform influences learning at the primary school level. IEQ's goal is to help the host country embody the principles that work to improve learning within specific national contexts in reliable interventions that will make a difference at the classroom level.

IEQ collaborates with a host country institution to design and implement classroom studies that generate information about the "workplace of learning". The Project introduces a process through which information on classroom level behavior and student achievement is collected and analyzed in order to craft innovations and pilot activities that will yield a positive change.

Local research teams conduct guided inquiry of classroom environments to better understand the dynamics and effects of these initiatives to improve instructional practice and pupil performance. This practical information is disseminated to educators for use in

planning programs, improving pupil performance, and allocating scarce resources. Feedback loops are then strengthened through workshops and conferences and testing of classroom innovations. Later assessment of student performance and classroom behaviors provides findings and useful feedback to both researchers and policy-makers. The finding suggested by this multi-disciplinary research shape dialogue at all levels of the educational system.

The IEQ Project strives to:

1. Understand how and why each country's classroom-based interventions influence pupil performance;
2. Demonstrate a process whereby findings from classroom research on improving educational quality are utilized by the educational system;
3. Create opportunities for dialogue and partnerships among researchers and educators who are seeking to improve educational quality at local, regional, national, and international levels;
4. Maintain an ongoing history of the project to document the rationales for choices made, opportunities and constraints encountered, and lessons learned.

Ghana, Guatemala, Mali, South Africa and Uganda were the hosts of IEQ collaborative projects.

2. Background

2.1. Status of Education in Mali

Mali is a large country in West Africa (478,764 square miles), with an estimated 8,000,000 people. Formerly colonized by France, Mali gained independence in 1960. A 1968 coup led by Moussa Traoré deposed President Modibo Keita, and Traoré's military government held power until 1991 when political unrest calling for democratic reform led to riots and the overthrow of the government. Amadou Toumani Touré who led the coup promised to step down a year later after clearing the way for democracy and kept his promise. A new democratically chosen government was installed on 8 June 1992.

In general, the Malian education system is characterized by poor quality, low productivity, high inefficiency and unequal enrollments. Competing problems of quantity and quality of education exist, as access to school is denied to a large percentage

of the population, and the schools that do exist are staffed by poorly trained teachers, and possess few textbooks and other materials. The system records a school attendance rate of less than 30% and a repetition rate oscillating between 27 and 37 percent, making it not only one of the highest repetition rates in West Africa but also one of the lowest school attendance rates in the World.

UNESCO statistics for 1985 give an overall illiteracy rate of 83.2% (3,604,000 persons), with 89.0% for women and 77.1% for men. There has been a slight increase in school enrollment every year since 1987, but percentages have fluctuated little between 63% and 64% for boys, and 33% and 34% for girls. A much greater male/female disparity in enrollment is seen in rural as opposed to urban areas; in large towns virtual parity in enrollment is often seen.

More than 84% of Mali's female population was still reported in 1992 to have never attended school. Of the 16% of girls who do start school --they comprise 37% of first cycle enrollment--, one-fifth drop out before completing elementary school. Approximately 33% of all primary school places are occupied by repeaters, and although the system is designed to provide services to the 7-12 years old range, 20% of primary school places are occupied by children over age 12.

There have been four Ministers of Education since Professor Alpha Oumar Konaré became President in 1992. Previously, there was only one Ministry of Education overseeing two Secretariats General (Basic Education and Secondary and Higher Education). The first reform split up the two Secretariats into two different departments. Mr. Moustapha Dicko was appointed Minister of Secondary, Higher Education and Scientific Research --that he still heads today-- and Ms. Fatoumata Camara Diallo Minister of Basic Education that she headed until early 1994 when she was replaced by Mr. Adama Samassékou. There is surely no need pointing out that with every change in leadership came changes in the administering of education. In Mali, the government not only subsidizes education a hundred per cent --even private schools do their best to be dubbed of "public interest" in order to receive government subsidies-- but also sets the policy and curriculum for all cycles of the Malian school system.

There are ten national languages in Mali, the following five of which are used in adult literacy training: Bambara (also called Bamanan or Bamanankan), Fulfulde, Songhoy, Tamasheq, and Soninke. French is the official language. In classical schools, the French language is taught exclusively (at least until Fall 1994) from the beginning of the first grade. As such French is both a discipline and a medium of instruction in the Malian school system.

There also exist experimental schools which introduce national languages into formal schooling. In 1990, there were 104 such experimental schools: 83 in Bambara, six in Fulfulde, six in Songhoy, and nine in Tamasheq. The experimental schools are based on the "méthodologie convergente", whereby the maternal language serves as both medium and subject of instruction during the first three years of schooling. French, which is introduced as a second language during the second grade, becomes a second language of instruction during the fourth grade.

2.2. Initiatives in Basic Education

In May 1989, the World Bank finalized its fourth Malian education Project. USAID will join this Project later on to focus on grades 1-6 (the Basic Education Expansion Project --BEEP). The Project's interventions occurred in the most populous regions of Mali (Bamako, Ségou, and Sikasso; Koulikoro would be added in 1991) reaching 75% of Malian children. Accomplishments included the provision of in-service training to all teachers in the Project area; the distribution by BEEP in October 1992 of 225,000 reading textbooks to first and second grade classrooms; and the distribution by the World Bank of reading textbooks to the third grade.

3. IEQ/Mali

The Improving Educational Quality Project (IEQ) is one of many innovations introduced in an effort to improve the educational system. Indeed, BEEP's evaluation of literacy achievement in the second grade revealed exceptionally low levels of student achievement. The evaluators found there was a correlation between the low literacy achievement and the high levels of repetition in grades one and two. With the Ministry of Education engaged in efforts to reform its primary education, IEQ's desire to include a francophone country, the country's apparent available research capacity, and the USAID Mission's expression of interest (July 1992), Mali fulfilled the criteria for an IEQ country as stipulated in the IEQ contract.

IEQ formed partnership with Malian educators to assist in improving the quality of basic education. With a view to reducing the high levels of dropout and repetition during the first two grades of primary school, IEQ focussed on finding ways to raise the low levels of achievement in reading and language. The IEQ work in Mali sought to gain a better understanding of how and why student learning outcomes relate to classroom practice and to factors that relate to a child's capacity to benefit from classroom activities. IEQ work in Mali aimed at encouraging a process whereby (a) classroom research on improving educational quality becomes integrated into the educational system and (b) the results of this research become important sources of information,

accessible at all levels of the educational system, for decision-making and implementing educational improvements.

When IEQ was asked to get involved in Mali, the request targeted a specific problem thus recognized by decision-makers and conveyed by USAID Mission: low performance of first and second grade pupils in the learning of French. But it was also a request for collaboration with Malians in their effort to not only identify solutions to the problem but also implement them. By accepting this proposal, IEQ had thus committed to working hand in hand with the Malians, basically consulting with them at all junctures of the endeavor but mostly responding to their needs and adapting to their changing environment.

3.1. Partner Institutions

IEQ worked with USAID's Basic Education Expansion Program (BEEP) and two Malian educational research organizations: the Institut Pédagogique National (IPN) and the Institut Supérieur de Formation et de Recherche Appliquée (ISFRA). IPN is the research branch of the Ministry of Basic Education with the overall responsibility of training teachers, conducting research, designing the curriculum, and evaluating student achievements. ISFRA is a multi-disciplinary research institution of the Ministry of Secondary, Higher Education and Scientific Research. The closest structure to a University in Mali, it conducts higher level training and research.

3.2. Phase I

During Phase I of the Research, IPN and ISFRA conducted field research on the learning process in the first two years of primary education. IPN examined classroom practices with respect to reading and language learning in grades one and two. ISFRA looked at the characteristics a child brings to school such as basic health and nutritional condition, motor skills, social skills, and cognitive skills. At the end of Phase I, IEQ/Mali convened in a national seminar local, regional, central and international educators, decision-makers, and donors to discuss issues specifically pertaining to language learning of French in grades one and two in light of IEQ research findings.

3.3. National Seminar

The seminar attracted large-scale participation from parents, teachers, and headmasters and incorporated their feedback into the Phase II workplan. Participants recommended a number of innovations that they regarded as crucial to improve the learning process in the Malian classroom. With technical assistance from one of the leading scholars on second language learning from the University of Pittsburgh, and

based on state-of-the-art international literature on language learning and acquisition, the IEQ research team crafted out of these recommendations five IEQ interventions: the strategic use of maternal languages, pedagogy of large groups, pedagogy of folktales and legends, creation and manipulation of didactic materials, and the introduction of community study centers.

The seminar decentralized the identification of interventions and implementation strategies; the participatory approach adopted served to involve field implementors in the design of these interventions.

3.4. The interventions

- (i) The Pedagogy of Large Groups. This technique is also known as the use of small groups. It is particularly important for the average class in Mali has more than 60 children (in some regions it is more or less 100 pupils). Small groups have the advantage of increasing student-student interactions, creativity and leadership initiatives as well as closer attention by the teacher to individual students.
- (ii) The Pedagogy of Folktales and Legends. This intervention helped the system make the classroom more relevant to the child's environment. This will in result improve the child's drive to learn and creativity of expression.
- (iii) The use of didactic materials. In the Malian context, this is an important innovation for it calls upon the teacher's creativity to use visuals and objects in the child's environment to supplement the scarcity of learning/instruction materials.
- (iv) The strategic use of national languages. State of the art theory of learning supports the idea that the learning of a second language and cognitive and academic development are closely related to solid grounding in the first language. Therefore, "the IEQ Project advocated the principled use of the mother tongue as a means of clarifying meaning, providing instructions and directions, and preparing students for comprehending oral and written texts in French.
- (v) Establishment of community study centers. State of the art literature stresses the effectiveness of community support to school. As very few Malian pupils have exposure to learning opportunities once they leave school, this extracurricular intervention is an essential contribution that could enhance the probability of academic success.

3.5. Phase II Training Approach

In Phase II, IEQ conducted training workshops in the four (4) regions of the Project, i.e. Kayes, Mopti, Segou, and Sikasso. Two hundred and fifty (250) parents, teachers, community development professionals, and school administrators partook in the workshop to train in their new roles as research-action partners in implementing the interventions. "Picking up from the fully inclusive process begun with the Seminar, [the IEQ/Mali researchers] developed a participatory training approach, engaging the [participants] actively in both the definition and design phases of the specific strategies". This heightened both the quality and the level of field practitioners' involvement in the Project.

3.6. Buy-In

In January '96, IEQ finalized discussions begun in March '95 with USAID/Mali on a buy-in funding for more activities within NEF (the new Ministry of Basic Education reform) schools. Buy-in scope of work included specifically:

- 3.6.1. completion of Core-funded activities, i.e analysis of classroom data collected in June '95 and the seminar of restitution of findings to education stakeholders in Mali to share with them classroom-based research findings supported by achievement tests results from schools implementing the interventions.
- 3.6.2. development of language learning tests in national languages for grades one and two and the administering of the tests in a number of NEF schools to assist in the implementation and expansion of the NEF reform.
- 3.6.3. strengthening of the IPN testing unit in qualitative research and testing in national languages.

4. Core Contractual Requirements

4.1. Introduce a process of improving educational achievement

Prior to IEQ: High concern over access to school, repetition, and dropouts.

Existing facts:

- About 30% of state expenditure goes to education
- About 33% of it spent on basic education

Yet:

- * About 30% of first and second year students repeat their class
- * About 70% of school-age children have no access to school
(schooling rate: 20% ; 30% with Medersa -- schools in Arabic)
- * School Dropouts experience a long period of unemployment
- * 84% of Mali's female population reported (1992) to have never attended school

Strategies tried:

improving school buildings, teacher training, and school administration

IEQ: Understand the cause of low achievement, repetition and dropouts in order to promote quality education

Informed decision:

BEEP evaluation of reading achievement in grade 2 revealed exceptionally low levels of student achievement, which contribute to high levels of repetition in first two grades.

IEQ funded a study by ISFRA on characteristics that children bring to primary school (basic health and nutritional condition; motor, social, and cognitive skills)

IEQ funded an observational study by IPN on classroom interactions during reading and language instruction.

In a report to IEQ, Far West Laboratory in the meantime stressed the significance of cognitive, cultural, and linguistic factors among factors that influence what the child brings to the classroom.

4.2. Carefully crafted pilot activities developed from analysis of classroom-level behavior and student achievement

4.2.1. IEQ held a training workshop in qualitative classroom observation for 21 IEQ researchers and other staff of IPN and ISFRA. (*Trip report # 12*)

4.2.2. Phase I classroom data collection -- conducted among 20 teachers, 108 pupils, 108 parents, and 12 headmasters. (*Phase I Research Report*)

4.2.3. Phase I national seminar for about 90 Mali educational stakeholders: feedback to policy-makers and actors of the Malian education. Interventions recommended by participants. (*Rapport du Séminaire de fin de la phase I du PAQE*)

4.2.4. Four regional training workshops in Ségou, Kayes, Mopti, and Sikasso – 250 participants. (*Rapports des ateliers de Kayes, Mopti, Ségou, et Sikasso*). Five Phase II interventions (four language learning pedagogical approaches and the initiation of community study centers) selected from seminar recommendations stressing learner-centered pedagogy, community participation, and ownership of research design by implementors.

The learner-centered pedagogy approach in opposition to the *pédagogie frontale* that was mostly in practice in the schools focusses attention onto the learner rather than the teacher. All five IEQ interventions, i.e. the pedagogy of large groups, the pedagogy of folktale and legends, the use of maternal languages, the manipulation of didactic materials, and the initiation of community study centers, place the pupil at the center of the learning activity. Teachers and other school administrators and parents are but the student's adjuvant in the activity. The training was an opportunity for teachers, parents, school principals, inspectors, and community development agents to simulate classroom activities which put the learner at the center of the learning experience. They practiced various techniques that would allow them to effectively manage their overcrowded classes, thus allowing better teacher/pupil and pupil/pupil interactions; various techniques that draw from the student's socio-cultural and linguistic background to enhance his learning.

Community participation. "Participation in the [workshops] extended beyond the teachers to include the full constellation of other education partners". The presence of parents and community leaders at the workshops and particularly the desire to create community study centers are a vital complement to school work. Workshop participants brainstormed on the initiation in the pupil's environment of structures conducive to learning.

Ownership of research design by implementors. The PAQE research design has favored the participatory approach to stand in contrast with past experiences in Mali that have ~~not~~ ignored field actors in the design of the work they were asked to implement. IEQ workshop participants not only contributed to the design of the way the interventions will be implemented in the classrooms and the community, but they were also trained in various techniques of data gathering to ensure proper monitoring of the learning process. Not only did this raise a high sense of ownership with its corollary of raising the degree of commitment by the participants to adoption and

successful application of the innovations, but it opened the way to a more reflective and critical execution by the implementors.

4.3. Monitoring and assessment of student achievement and classroom behavior

4.3.1. Field visits to observe and monitor classroom and community implementation of Phase II interventions -- 41 classes in 21 schools. (*Rapports de suivi et d'évaluation des interventions du PAQE dans les écoles de Kayes, Mopti, Ségou et Sikasso*)

Regions Interventions	Kayes	Mopti	Ségou	Sikasso
Ped. of Large Groups	implement. under way but teachers impeded by physical organization of classroom; also glimpse at gender discrimination	implemented but mechanically: no clear instructions or precise task. Groups were created but to serve no purpose associated with the technique.	implement. under way minor difficulties due to space organization, lack of clear instructions to groups	implementat. under way + strong pupil leadership but most teachers are still improvising. Necessity for prevision on the preparation sheet

Regions Interventions	Kayes	Mopti	Ségou	Sikasso
Ped. Folktale & Legends	implement under way but more effort needed to use folktale for the benefit of the lesson	used as a subject in CM schools while PAQE recommends it as a pedagogical technique	except in CM classes, folktales are used for entertainment only. Need to select the ones that can be integrated in citizenship and language lessons	implement under way good integration with ped. of folktale and legends but some teachers still need to rely on own creativity
Use of Matern. Lges	well implemented: used to check comprehension and explain difficult abstract notions	well implemented in CM classes Peulh is the only lge of instruction	Need to show on their preparation sheets when to <u>strategically</u> use them during French lessons	three tendencies observed: exclusive use of French; strategic use of national languages; abusive use of nat. lges
Manipulation of Didact. Materials	Teachers successfully creative in this respect, but need to utilize more traditional ones such as the blackboard.	no creative initiative; teachers complain about difficulty of implementing other interventions due to lack of didactic mat.	Very creative implementat. but more efforts needed at Boky Wèré (1st grade) and Ségou I-B (2nd grade)	timid implement. due to near absence of did. mat.; lack of teacher's creative initiative; 1 to 4 rate of textbook availability.

Regions Interventions	Kayes	Mopti	Ségou	Sikasso
Community Study Centers	Most schools are still at the growing public awareness stage	Model initiative at Kori Kori despite lack of means	not implemented despite strong parental interest. 2 schools (Tominian & Bla II) could be models in the region.	Sido and Koumantou organizes by the school. Sido reported success story but abruptly stopped; Loulouni had very original structure (at school, at homes, in the community) - light and "trust" problems; Faraba A struggling to start.

Monitoring field visits (four in total: two in '95 and two in '96) were an opportunity for the PAQE research team to identify the degree of implementation of the interventions, identify areas of difficulty for individual implementors, and help improve those shortcomings.

4.3.2. Phase II data collection -- Qualitative research was carried in 24 classes (12 schools out of the 42 IEQ sample). In each class researchers identified four pupils (2 boys and 2 girls) and interviewed them and their parents using the Parent and Student Interview Guides developed by the team. A total of 96 students and 96 parents were interviewed.¹ 71 headmasters and 110 teachers responded to questionnaires developed by the IEQ research team.

¹The choice of these students was done under the following criteria: two good, two "weak", and gender equity. Researchers also strove to have gender equity among the parents interviewee.

Student performance tests were also conducted in 110 first and second grade classes (69 schools).² Among them, there were 39 PAQE schools of which 19 use the convergent methodology. 30 out of the 69 schools constituted the control group of which eight (8) were NEF schools, i.e. using the convergent methodology. A total of 1520 pupils were assessed.

5. Some Core Activities Accomplishments:

- * In Mali classrooms, the most used teaching method is known as *la pedagogie frontale* i.e. the teaching technique in which the teacher stands in front of the class and lectures to the children. In this type of pedagogy, the teacher is the center of the learning activity. In IEQ [PAQE in French] schools, we have been engaged in activities to move people's learning attitudes from teacher- to learner-centered, from teaching concerned with pedagogical recipes to participation. Expressions of excitement and enthusiasm among teachers and pupils spread from pilot classes (1st and 2nd grades) to non-IEQ classes and schools. Participation was also fostered in classrooms and communities. Data of qualitative research and monitoring reports of field visits document teachers' and parents' feedback to researchers. (*Trip report #30; "Rapports des ateliers de conception et planification des interventions du PAQE dans les regions de Segou, Kayes, Mopti et Sikasso"; Rapports des visites de suivi des interventions du PAQE dans les regions de Kayes, Mopti, segou et Sikasso"*)

- * We encouraged the application of active learning methodologies that result in and contribute to the socio-cognitive development of the pupils. At a given age, children are interested in and like to engage in a certain type of activities. So when instruction banks on that and when it is further tailored to children's environment, children become more creative and eagerly participate in the learning activity. Pupils in PAQE schools have displayed leadership abilities in learning endeavors, originality of thoughts and free expression, and a surprisingly (even to their own parents) high level of curiosity and academic interest. Emphasis on the pedagogy of large groups and folktale, instruction in children's native language, increased and better utilization of didactic materials, and the initiation of community study centers fostered among pupils participatory behaviors and interest in school. (*"Rapport du seminaire de fin de la phase I du PAQE"*;

² Only 25 first grade classes were assessed in national languages since this was only the first year of implementation for NEF schools. As for French, tests were administered in 34 first grade classes and 51 second grade classes.

"Rapports de conception ..."; Rapports des visites de suivi..." Establishing Connections with National Educational Reform in Trip Report #30)

- * In training workshops, we stressed the relevance of working with instructional materials related to children's environment. They are useful in the sense that they build on children's culture and previous knowledge and maximize their participation while making it easy to comprehend and absorb new concepts. Besides, because instruction builds around what children are familiar with, parents and teachers of children in PAQE schools report that the children are challenging them to better preparations and supervision. Even though not every teacher sees it as a positive point, both parents and teachers reported that children have grown more talkative and more inquisitive. (*Trip Report #30; Rapports de conception...; Rapports de suivi...*)
- * In Mali where the concept of participation is still new to many teachers, pupils and teachers alike are still discovering the wonders of active learning. For some teachers, it is a real challenge to move away from instruction based on pedagogical recipes or to face children addressing an aspect of the problem the teacher has not considered. For others, it is a golden opportunity to decentralize classrooms and allow peer instruction. (*Rapports de suivi...*)
- * PAQE has extended the concept of participation from the schools to the community, thus making the program a big ally of the new basic education reform initiative under way in Mali. Through the association of parents and community development technicians in the design of approaches to quality education, and the initiation of community study centers, PAQE has introduced what the Ministry of Basic Education looks at as the model for community participation and a first step toward decentralization and responsibility sharing with the community. Retired civil servants, army veterans, older students as well as teachers and parents are reported to enthusiastically volunteer their time as tutors after school or offer other kinds of contributions. (*Trip Report #30; Rapports de conception...; Rapports de suivi...; Trip Report #66; "Le Cercle d'Etude Communautaire: Impact dans les ecoles PAQE au Mali"*)
- * PAQE has designed and conducted widespread training of teachers in four selected regions (Kayes, Mopti, Segou and Sikasso) introducing a participatory model of collaboration between parents, school, and community that caught the attention of the Ministry. The Research Team has been invited to expand the application of this training approach to more schools within the reform. (*Trip*

Report #66; "La place du Projet d'Amelioration de la Qualite de l'Education dans la Nouvelle Ecole Fondamentale")

- * Field reports credit PAQE innovations for increased interest in learning not only among pupils of PAQE pilot classes but also among older students (grades 3 through 6). Teachers from non-PAQE classes are reported to voluntarily join in discussions that followed classroom observation to learn more about PAQE interventions. (*Rapports de suivi...*)

6. Buy-In Activities Accomplishments:

Activity 1: Analysis of Classroom Data Collected in June '95.

The HCRT in collaboration with the IPN testing unit conducted classroom observations and student assessment tests of grades 1 and 2 reading, writing, and language comprehension in French, Bambara, and Fulfulde. Analysis of the data examined the correlation between the reported interest and excitement resulting from PAQE's active learning methodologies and actual academic performance. *Rapports d'analyse des donnees qualitatives sur les ecoles PAQE - Juin 1995*(Kayes, Mopti, Segou, Sikasso; *Rapport de recherche - Juin 1995*)

Activity 2: Monitoring Field Visits

In March '96, in follow-up to Alimasi's field visits to some schools and communities in the regions of Segou and Sikasso, the team went back to the field for a monitoring visit of IEQ schools. (Schools in the region of Sikasso were not visited because the two researchers assigned to this region were in the US for presentations at the CIES conference.) The goal was to make a general assessment of which schools have continued with the implementation of IEQ interventions in the second year, and identify and document impediments and/or reasons where the implementation has been discontinued. Secondly, the researchers documented (with verifiable data) the impact of the community study centers on classroom work. *Monographies du suivi des ecoles PAQE (Segou, Mopti, Kayes); Le Cercle d'Etude Communautaire: Impact dans les ecoles PAQE au Mali.*

Activity 3: Development of Tests in National Languages

During his field visit in Mali, Alimasi and the team collected various documents including the convergent methodology curriculum in use in NEF schools, texts created by teachers, and tests used by teachers to assess student performance to use them in the construction of test items in national languages. Brehima Tounkara and Sekou Diarra, two IEQ/Mali representatives at the CIES conference in March '96, subsequently traveled to Pittsburgh where they worked with Professors Rick Donato (University of Pittsburgh) and John Hutchison (Boston University) on the analysis of the curriculum

and the development of a bank of model test items in Bambara. They created a table of competencies and items as related to the general and specific objectives of the learning of Bambara in Convergent Methodology grades 1 and 2. They developed items for pre-reading, reading, grammar, writing, and oral and written comprehension and production. *Trip Report #66; Rapport de Mission - Mars 1996; Consultant's Report of Work with PAQE Team at the University of Pittsburgh.*

Back in Mali, the two gathered with the entire team and researchers from IPN's Testing Unit to complete the development of the tests in Bambara and Fulfulde. They also developed testing and correction instructions and prepared for the piloting of the tests. To provide for comparison data, they further constructed assessment tests in French.

Activity 4: Pilot Testing and Revision of Items

Because IEQ/Mali proposes to assist the Ministry of Basic Education in identifying strategies of achieving functional bilingualism through classroom applications of the convergent methodology, IEQ researchers opted for associating qualitative research to performance assessment in order to complete and enrich data collected through testing. After pilot-testing performance tests for reliability and grade level appropriateness in schools around Bamako, the research team revised the items and updated qualitative research instruments. Through interviews and questionnaire responses, the researchers will be able to enlist opinions and information from actual classroom actors and beneficiaries. Still, through classroom observations, they will be able to see through the biases likely to be conveyed in other people's accounts of classroom interactions. *Rapport technique de validation des tests en langues nationales - 1ere et 2eme annees*

Activity 5: Baseline Data Collection

The HCRT went in the field to collect baseline data in NEF schools through classroom qualitative research and performance assessment. A sample of 62 schools has been selected (42 pilot and 20 control schools), of which 34 are NEF schools or convergent methodology schools. 22 out of the 42 pilot are convergent methodology schools and 20 are classic, i.e. French is the sole language of instruction. Among the control group, 12 out of the 20 are NEF schools. [Although not part of the buy-in scope of work, classic schools have been added to the sample to provide comparison data in assessing the quality of learning in NEF classrooms.] The sample reflects IEQ/Mali's desire to serve the new basic education reform by providing documented data on the introduction of the convergent methodology in language learning/teaching to improve the quality of education in Malian classrooms.

Schools	Pilot		Control	
	NEF	CLASSIC	NEF	CLASSIC
Number of schools	22	20	12	8

Qualitative Research was carried in 12 schools (2 classes per school). During classroom observation, researchers identified 4 pupils (2 boys, 2 girls) and interviewed the students and their parents using the parents and students interview guides developed by the team. Researchers further collected data from target school headmasters and grades 1 and 2 teachers using the headmaster and teacher questionnaires developed by the team.
Monographies de la recherche qualitative dans les ecoles PAQE - Segou, Mopti, Kayes, Sikasso

Student Performance Assessment consisted of the administration of tests in Bamanankan (Kayes, Segou, Sikasso) and Fulfulde (Mopti) in NEF schools and in French in classic schools. *Rapport de recherche - Juin 1996*

Activity 6: Strengthening IPN's Testing Unit

The HCRT has been working in close collaboration with the IPN Testing Unit. Members of the unit partook in every step of the pilot testing. The baseline data collection was also conducted in collaboration with the Testing Unit: four people among whom two members of the unit and two local agents (one from the Regional Education Directorate + the pedagogic advisor in charge of IEQ at the inspectorate) were in charge of administering the tests. (In Mali, only IPN is entitled to administer such large-scale testing.) *Rapport relatif a l'association de la cellule de testing aux activites d'elaboration, de pretest et d'administration des tests de 1ere et 2e annees*

Activity 7: Dissemination and Dialogue with Policy-makers

Presentation at CIES Conference: Two Malian HCRT representatives attended and made panel presentations at CIES sessions on the IEQ work and the involvement of the community in efforts to improve the quality of learning in Mali. Upon their return to Bamako, S. Diarra and B. Tounkara debriefed USAID Mission's education officers on their accomplishments during their working visit in the United States and produced a trip report of their working visit in the US.

"Bulletin and Reseau PAQE": The HCRT has launched the publication of a newsletter "Bulletin PAQE" that will be used as an information sharing tool among all IEQ schools and between field practitioners and policy-makers. IEQ schools which will make up the IEQ network (or "Reseau PAQE") will use the newsletter to share with one another some aspects of their respective implementation processes. The newsletter will

also provide a forum for the NEF to disseminate to schools and the communities the fundamentals of the reform.

The National Seminar: The HCRT will be bring together for three days all educational stakeholders in Mali for a "restitution seminar" during which they will share and discuss with parents, research colleagues, educators, and policy-makers the IEQ research findings from baseline data collected in June '95 and June '96. The activity intended to mark the closing of the IEQ project in Mali and the launching of post-IEQ activities was scheduled initially for September 16 - 18, 1996. To date, it has been postponed twice [first to September 23 - 25; then to the end of October] at the request of the Ministry of Basic Education directly to the USAID Mission in Mali. The latest communication from Mali (see Sept. 19 fax) reports that the Mission and the top officials of the Ministry of Basic Education concurred to the importance of this dissemination event and that the Mission shall provide the necessary funding and logistics for it.

7. PRODUCTS (according to Buy-in Workplan Tasks):

1. Planning Meeting (Mali)
All the meetings between Alimasi, the research team, the administration of IPN and ISFRA and the AID Mission in Mali.
Product: Trip Report #66.
2. Clarifying the NEF Status + Link to IEQ
After discussions between Alimasi and the research team, it was decided to produce a document that can clarify the role and status of the IEQ in the NEF. This document must be written by the research team and presented during the national seminar to decision-makers.
Product: La place du projet d'amelioration de la qualite de l'education (PAQE) dans la Nouvelle Ecole Fondamentale (NEF) [D. Coulibaly & I. Songore]
3. Developing the Workplan
The team reviewed and updated the document prepared by the IEQ/Mali Coordinator at IIR to produce the workplan.
Product: Workplan [in trip report #66 - attachment #1]
4. Designing the Research
The research design is the technical description of all the phases and procedures of the research to be done. This document emphasizes the methodology of collecting and analyzing data. It was later decided to incorporate the dissemination plan into this document.

Product: Plan de recherche pour l'évaluation du rendement des élèves en langue nationale dans le cadre de l'évaluation de la NEF + Plan de dissemination des resultats de la recherche-action dans le cadre de l'amélioration de la qualité de l'éducation [B. Tounkara]

5. Follow-up / Monitoring Field Visits

This activity was added to the workplan in February at the request of the IEQ/Mali COTR at USAID/Mali. The team returned to the field and conducted in three regions (Kayes, Mopti, Segou) follow-up assessments of the implementation of IEQ interventions during the second year.

Product: Monographies du suivi des ecoles PAQE - Regions de Kayes, Mopti, Segou [PAQE Team]

As the result of these visits, it was decided to elaborate a Teacher's Guide to assist teachers in their implementation of IEQ innovations. *Synthese des rapports de mission de suivi dans les ecoles PAQE et de la mission de deux membres de l'équipe PAQE aux USA [M. Lam & I. Songore]; Le Guide du Maitre [PAQE Team]*

6. Developing Qualitative Instruments

The research team updated the instruments they used the previous year.

Product: Qualitative Research Instruments [available at IPN]

7. Developing Tests

Research team representatives worked at the University of Pittsburgh with two consultants from the University of Pittsburgh and Boston University and developed a bank of model test items in national languages (Bambara, Fulfulde) for grades 1 and 2.

Research team representatives with the two consultants further analyzed the convergent methodology "curriculum" and produced a working document outlining the convergent methodology objectives, competencies and items for 1st and 2nd grade level.

Product: Rapport de mission - Mars 1996 [S. Diarra & B. Tounkara]; Consultant's Report of Work with PAQE Team at the University of Pittsburgh [J. Hutchison]; "Linking Literacy Assessment and the Curriculum in the Malian School" [J. Hutchison]

The PAQE team used the models developed at the University of Pittsburgh to construct achievement assessment tests in Bamanankan (Bambara) and Fulfulde for the classes (1st and 2nd grades) of the sample that are taught in these languages. They further developed tests in French for the schools of the sample whose language of instruction is French (1st and 2nd grades).

Product: Classroom Achievement Assessment Tests [available at IIR, IPN, ISFRA: Bambara -1st and 2nd grade; French - 1st and 2nd grade]

8. Pilot-testing Instruments

Three or more items were generated to measure each objective of the curriculum. The pilot-test activity's objective was to measure the psychometric quality of the items generated. To reach their objective, the research team applied the items to a sample of schools in rural and urban areas (around Bamako) to obtain information on the level of difficulty (measured by the percentage of student success) and the reliability rate (measured by the R.bis [ANITEM]). The pilot-testing further provided information on the time needed to complete the test. This information was included in the examiner's instructions upon data collection.

9. Revision of Instruments

The pilot-testing generated a sample of valid items from which the research team selected final test items. The team also changed instructions as well as those of the items that showed to be problematic during the pilot-test.

10. Multiplication of Instruments

This activity involves editing and proof-reading the instruments. Because of logistical difficulties and costs, this has always been a huge task. Researchers have to make sure there is no mistake overlooked.

Product [8,9,10]: Rapport technique de validation des tests en langue nationale - 1ere et 2eme anneex [B. Tounkara, M. Kone, S. Diarra]

11. Collection of Baseline Data

The research team collaborated with IPN's Testing Unit and local researchers (supervisors, pedagogic advisors, and DRE staff) to apply the tests and collect quantitative data in NEF schools. Two classes per school (in the sample) were assessed. In each class, a sample of 14 pupils was randomly selected and tested. Research team members conducted the qualitative research and collected schooling-related data. They also gathered personal and family characteristics on each pupil in the sample.

Product: Rapport d'analyse des donnees qualitatives sur les ecoles PAQE - Juin 1996 ; Rapports de recherche; Synthese des rapports qualitatifs et quantitatifs [PAQE Team]

12. Strengthening IPN Testing Unit

PAQE research team has involved IPN testing unit members in most of their conception, training and data collection activities. Starting with the core-funded training in SPSS, PAQE members have sought to build the capacity of the testing unit in qualitative research. The team further involved their IPN colleagues in the development of tests in national languages. They also plan to conduct a training workshop at IPN.

Product: Rapport relatif a l'association de la cellule de testing aux activites d'elaboration, de pretest et d'administration des tests de 1ere et 2e annees [D. Coulibaly]

13. Analysis of Existing Data

Qualitative and quantitative data from last year have been analyzed. The final product will be a combination in a single report of the qualitative and quantitative analyses. This report will be presented during the final seminar of PAQE/Mali (together with the other report on research findings within NEF schools).

Products: Monographies de recherche qualitative dans les ecoles PAQE - Juin 1995; Rapports de recherche + Synthese des rapports qualitatifs et quantitatifs [PAQE Team]

Other products include:

1. *Le Guide du Maitre*. Teachers' Guide to IEQ interventions. Includes papers by Aida Pasigna on the management of large classrooms; Rick Donato on the pedagogy of tales; and a photo-documentary of the application of IEQ interventions in schools by U. Dembele, S. Diarra, and N. Alimasi.
2. The production of the "Bulletin PAQE" and the establishing the PAQE Network.

CONCLUSION

As reflected in the core contract, section C4.0, IEQ is mandated to develop activities based on analysis of classroom-level behavior and student achievement and introduce a process of improving educational achievement.

In Mali, IEQ worked with Malian educators to assist in improving the quality of basic education. With a view to reducing the high levels of dropout and repetition during the first two grades of primary school, IEQ focussed on finding ways to raise the low levels of achievement in reading and language.

When the USAID Mission asked IEQ to get involved in Mali, the request targeted a specific problem thus recognized by decision-makers. As UNESCO statistics for 1985 reported, the country counted an overall illiteracy rate of 83.2% (3,604,000 persons), with 89.0% for women and 77.1% for men. More than 84% of Mali's female population was still reported in 1992 to have never attended school. Of the 16% of girls who do start school --they comprise 37% of first cycle enrollment--, one-fifth drop out before completing elementary school. Approximately 33% of all primary school places are occupied by repeaters, and although the system is designed to provide services to the

7-12 years old range, 20% of primary school places are occupied by children over age 12.

In general, the Malian education system is characterized by poor quality, low productivity, high inefficiency and unequal enrollments. Competing problems of quantity and quality of education exist, as access to school is denied to a large percentage of the population, and the schools that do exist are staffed by poorly trained teachers, and few textbooks and other materials.

That was the situation BEEP was struggling to improve; and that was the situation to which IEQ was asked to contribute. By accepting the proposal, IEQ thence committed to working hand in hand with the Malians. It was a commitment to consult with them at all junctures of the endeavor, and IEQ strove all along the life of the Project to honor that commitment and mostly respond to their needs and adapt to their changing environment.

IEQ's work in Mali drew from research data from the World Bank's Fourth Education Project, USAID's Basic Education Expansion Project, and studies by two Malian research institutions (IPN and ISFRA) to craft innovative classroom and community activities to improve learning in first and second grades in Malian schools.

IEQ introduced a process through which information on classroom level behavior and student achievement was collected and analyzed in order to craft innovations and pilot activities that will yield a positive change. Indeed, during Phase I, ISFRA researchers conducted a study of the basic characteristics a child brings to primary school while IPN looked at classroom behavior during reading and language instruction. The idea was to identify from this initial activity the causes for the poor outcomes in reading and language learning --and therefore poor achievements-- in the early years of school. Then, IEQ could take on the challenge to develop and propose strategies for improving the quality of learning outcomes in the area of reading and language learning in the early grades.

At the completion of the studies, IEQ convened a national seminar in Bamako that brought together Malian educational stakeholders to discuss the findings of the studies. In a symbolic show of support, the Ministers of Basic Education and Secondary, Higher Education and Scientific Research addressed the attenders at the opening and closing ceremonies. At the end of the seminar, the eighty-plus group composed of teachers, parents, principals, community leaders, and decision-makers had identified and proposed a number of interventions that will contribute to the improvement of the quality of education of Malian children in grades one and two.

All recommendations revolved around the three major themes of the seminar: 1) *the condition of the child*, 2) *the context of learning and teaching*, and 3) *teaching strategies*. It was clear, however, that the limited IEQ resources could not possibly fund all the recommended activities. The HCRT commendably managed to craft out of them to a reasonable number of pedagogical and community-based activities that constituted the Phase II interventions of the Project. In the end, the HCRT on the basis of international literature on language learning reduced the recommendations to five interventions geared toward the provision of a better learning environment both in the classroom and the community. But even then, IEQ resources could still not cover their implementation without additional funds.

IEQ organized training workshops in the regions of Kayes, Mopti, Ségou, and Sikasso to popularize the interventions. The two hundred and fifty participants (parents, community development technicians, teachers, principals, pedagogic advisors, inspectors and regional education directors) discussed strategies to introduce IEQ interventions in the 42 schools of their districts selected to carry the pilot programs for about five thousand pupils in 84 first and second grades.

The HCRT completed monitoring observations of classroom and community implementation of the five strategies, and reported a very high level of excitement and interest among the beneficiary population. Later assessment of student performance and classroom behaviors provided findings and useful feedback to both researchers and policy-makers. It was initially hoped that IEQ would implement more of the extra-curricular initiatives recommended by the participants at the national Seminar.

However, even with the reduction of the recommendation to five interventions and the availability of Buy-in funds, the resources available to IEQ did not permit any tangible efforts. Classroom support in such basics as textbooks, teachers' manuals and desks is crucial but was beyond the scope of work of IEQ. Actually, the state of education is such in Mali that all the recommended interventions are a necessity. To bring about a difference in the performance of Malian pupils, supplemental funding and a broader scope of work was necessary to implement the school canteens and transport of students so strongly embraced by the seminar participants, or else to support the Save The Children's successful but research-starved "Village School" initiative.

The IEQ path in Mali has been one of many hurdles which, as they were overcome one after another, ultimately constituted the many unforeseen successes of the project. Among others, obstacles were encountered in the processes leading to the signing of cooperative agreements and the collaboration between IPN and ISFRA: administrative challenges, a late school opening and strikes within the Ministry of Basic Education (MEB, formerly MEN) as well as the cancellation of the school year were -

serious impediments on the road to IEQ's goals. Even changes of leadership at MEB and the current *Nouvelle Ecole Fondamentale (NEF)* reform, despite their positive benefits to the Malian school system, were realities, unforeseen, that profoundly affected the IEQ journey in Mali.

Furthermore, IEQ has contributed to the development of the research capacity of ISFRA and IPN in qualitative research, the Statistical Package for Social Sciences (SPSS) treatment of research data, development of assessment instruments in national languages. The IEQ training approach is hailed by the Malian educational authority who has recommended its expansion in the NEF schools; teachers and students in the IEQ classrooms as well as in other classes and schools have reported that the pedagogical techniques introduced by IEQ have made a difference; and finally the community has rallied and more and more participate in the life of the school.

As Freda White-Henry --at the time USAID/Mali HRDO-- stated, "many IEQ successes are not included in the Project's scope of work." IEQ has successfully moved from two strongly distinct teams with "no hope of ever working together" to a team "reflecting a single voice" that scored a landmark grand premiere in the history of different ministries' collaboration in Mali. Further, by fostering the participatory approach, IEQ has not only drawn decision-makers' and the community's attention on the question of language learning and child-centered pedagogy but it is part of a broader nationwide discussion on a decentralized qualitative education. The prevailing sentiment was summed up by one parent who declared in an interview after the Seminar,

This project is no longer your project, it's our project -- all of us-- because we have reflected together. We have together identified what is good for the learning of our children...

In this respect, IEQ interventions not only provided an impetus to the quality improvement effort in Mali but they are also a step further toward more decentralization and community participation in education that both the Ministry of Basic Education and USAID/Mali are currently advocating. Although IEQ resources, and maybe time, proved ultimately to be too scarce to support this huge and important endeavor, IEQ closes to the beat of the Regional Education Director of Sikasso address at the end of the training workshop in his jurisdiction:

Some among us were wondering what IEQ was all about. Today, [we] know (...) it is ownership of the school by the community; it is the fact that every person -- pupils as well as teachers -- is the artisan of their own education; it is perhaps, the long awaited identification and implementation of the school we need.