

**POLICY—PRACTICE—RESEARCH—  
DISSEMINATION/DIALOGUE SPIRALS  
IN IMPROVING EDUCATIONAL QUALITY**

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**POLICY—PRACTICE—RESEARCH—  
DISSEMINATION/DIALOGUE  
SPIRALS IN IMPROVING  
EDUCATIONAL QUALITY:  
AN INTRODUCTION**

*Donald K. Adams and Mark B. Ginsburg*

**POLICY—PRACTICE—RESEARCH—DISSEMINATION/DIALOGUE SPIRALS  
IN IMPROVING EDUCATIONAL QUALITY:  
AN INTRODUCTION<sup>1</sup>**

**Donald K. Adams and Mark B. Ginsburg<sup>2</sup>**

**Introduction**

The 1980s and 1990s have witnessed increased international concern for educational quality (Chapman and Carrier, 1990; Fuller, 1987 and 1994; Hallak, 1990; Heyneman and Loxley, 1983; Ross and Mahlck, 1990). This renewed attention on quality, to some extent, has shifted the focus of educational debates and reforms from educational growth to the discovery of those combinations of inputs, processes, and outputs which are assumed to define or cohere to improved patterns of education for all children (e.g., Inter-Agency Commission, 1990).

In this period educational quality has been generally defined in terms outputs such as cognitive measures of student achievement, although non-cognitive output measures, outcome measures (such as post-school occupational and citizen achievements) could also be considered. Moreover, as Adams (1993) discusses, there are also other definitions of educational quality, including reputation, resources and inputs, process, content, and added value.

This increased interest in educational quality has taken place during a period of ripples of optimism flowing from two bodies of empirical research literature. Such school effects and effective school research suggests that certain manipulatable school inputs can affect average student achievement and that the characteristics of high quality schools are not only known, but to a degree, are common across a range of cultures. At the same time such approaches to studying and improving school quality have been criticized, and alternative models for linking research to educational policy and practice has been proposed and pursued. Rather than making policy and practice decisions centrally based on a single, large-scale study, the alternative models promote a more iterative and decentralized process -- a series of studies conducted at the classroom, school, community, and national level being linked with a series of decisions to revise or refine educational policy and practice. These proposed alternative models have affinities to two dynamics with respect to administrative structures and policy planning and implementation procedures within educational systems.

The first dynamic consists of increased experimentation with various forms and meanings of educational decentralization and center-local partnerships (Adams, 1994; Bray and Lillis, 1988; Cummings, 1992; Moyle and Pongturlan, 1992; Special Issues on Education, 1992; Tyack, 1993).

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<sup>2</sup> This paper builds in part other work (Adams et al., 1995; Campbell, 1994; Ginsburg et al., 1996). The authors also wish to thank Ray Chesterfield, Tom Clayton, Martha Mantilla, Beatrice Okeyere, Jane Schubert, Judy Sylvester and Yidan Wang for their comments and suggestions.

Although counter moves have also occurred, rhetoric and action have promoted downward shift in responsibilities has meant increased involvement of lower governmental echelons, school administrators and, at times, teachers and parents, as participants in making decisions about educational policy and practice (Ginsburg 1991; McGinn, 1992). This trend away from an exclusive reliance on detailed educational plans and mandates from the center is partly in response to the perceived weaknesses of top-down policies and attempts at expert-driven, programmatic development of educational reform. It is argued that although inputs of technology, equipment, curricular materials, staff development designed and implemented in the center have in some cases improved school quality, often such center-orchestrated efforts have marginal impact on the way teachers and students operate in classrooms and schools.

The second dynamic entails a move away from technicist approaches to planning and implementing changes in educational policy and practices. Thus, the traditional linear planning sequence (i.e., goal setting--needs assessment--program specification--target identification--evaluation) has become less favored compared to iterative, participatory process of initiating and sustaining educational change. The latter process involves, and preferably begins with, critique, evaluation, analysis and feedback at the school and local levels.

This is the context in which the Improving Educational Quality (IEQ) project was conceived and implemented. Initiated in 1991 as a five-year, USAID-funded project, IEQ's main objective was to design practical ways to improve learning in classrooms and schools within the context of national educational reforms in selected developing countries. Four principles underlay the IEQ Project. IEQ is designed to define and improve educational quality by (see Schubert 1994):

1. forming partnerships between teachers, researchers and other stakeholders,
2. focusing research on school and classroom performance and experience,
3. connecting research to reform priorities in each country, and
4. measuring the value of research by its utility in achieving specified quality objectives.

In the three countries supported under the core contract -- Ghana, Guatemala, and Mali -- IEQ has formed partnerships with one or more host-country institutions to: assist in the enhancement of country research capacity and application; collaboratively design and implement classroom research at the primary school level; and link findings to practice and policy at various levels (from classrooms to national ministries) of the educational systems. Research teams composed of local researchers and, over time, teachers, develop their capacity and are empowered to collect, analyze, and interpret data in the context of classroom-anchored research. IEQ studies examine how children of different characteristics (gender, language proficiency, ethnicity) interact with ongoing or modified school practice. Additionally, the types of data collected lead to profiles of more and less effective classrooms.

Knowing how individual pupils perform is a necessary but insufficient condition for identifying, developing and sustaining changes that improve educational quality. Thus, IEQ also stresses feedback to, and dialogue with, teachers, head teachers, district level supervisors, and parents as being integral to the research process; and, as appropriate, teachers from other regions and officials from the Ministry of Education become actively involved in reviewing and analyzing the process and results. The project accepts the assumption that quality can and does exist in (rural and urban) schools, and through the action-research, classroom-focused process in which IEQ is engaged, teachers and headmasters will be able to improve the educational quality of their classrooms by using existing resources in new and different ways.



## **Research on Educational Quality**

Traditionally, research on educational quality may be categorized roughly in two methodological and conceptually distinct approaches: school effects and effective schools. *School effects* research, often using large sample sizes, attempts to examine the impact of a number of in-school and out-of-school variables hypothesized to be significant determinants of student achievement. Frequently, this approach employs multiple regression analyses to investigate linear and additive relationships between a set of explanatory variables (e.g., per-pupil expenditure, class size, teacher and administrator background, economic level of the community, parental educational attainment and income) and a standardized measure of students' achievement outcomes. This approach to the study of educational quality is built on a variety of assumptions, the most relevant ones for this paper are: (1) many educational objectives are the same from one school to another and even from one country to another and (2) much of the educational process linking inputs to student performance is universal rather than situation specific (Hanushek, 1994; Heyneman and White, 1986). Under these assumptions, results from empirical studies, replicated in multiple countries, warrant generalization and thereby have both theoretical and policy implications.

Perceived limitations of the school effects research approach (Riddell, 1989) and the widespread belief among educators that some schools are demonstrably more successful than others, stimulated interest in a school-focused approach to the study of pupil achievement and performance. Commonly known as *effective schools* research, this approach reflects an underlying assumption that the organization and culture of the school and the behavior of the teachers and administrators do affect student performance. Performance remains mostly defined as achievement on standardized tests although some attention is given to curriculum-based assessments. Factors of effectiveness typically included: instructional leadership by the principal, an emphasis on basic skill areas (i.e., reading and mathematics), high expectations for pupils by teachers, enhanced time on task by pupils, an orderly school environment, and frequent assessment of pupil progress (see Bashi and Sass, 1992; Edmunds, 1979; Lezotte, 1989; Mortimer, 1988; Rutter et al., 1979; Scheerens et al., 1989; Williams and Jacobson, 1992).

Critics have noted the following limitations of both the school effects and the effective schools research approaches: a) standardized measures of pupil achievement are not as sensitive to quality improvement efforts as curriculum-based assessments; b) indicators other student cognitive achievement measures (e.g., student self concept, student behavior in school and in the community, student retention, teacher attitudes, and teacher behavior) are needed to provide a more comprehensive understanding of educational quality improvement; c) using school level indicators or aggregating student data to the school level can mask differential effects of factors on different groups of students (e.g., gender, ethnic, and social class differences) in the same school; d) the research is unlikely to provide prescriptions readily adaptable across societies, regions or even school sites; and e) the research says little directly about the process of improving education, that is, implementing the policies and practices derived from such research activities.

In response to the latter criticism, particularly, researchers have developed different models for linking (qualitative and quantitative) research to educational policy and practice.

## **Linking Research to Educational Policy and Practice**

Too often research conceived of in relation to efforts to shape or improve educational policy and practice is done by researchers (in isolation from policy makers and practitioners) and the

findings from such research are disseminated through conference presentations, research reports, articles, or books (targeted primarily to an audience of other researchers). The assumption seems to be that "good science" (Whyte, 1991, p. 8) will "trickle down to the level of practice and inform practitioners on what to do and what not to do" (Gitlin et al., 1992, p. 25). However, in recent years educational researchers in conjunction with policy makers, administrators, and teachers have sought to employ (and write about) strategies for strengthening the links between research and educational policy and practice. Here we will describe three models: decision-oriented research, collaborative action research, and research as collective praxis. These models differ with respect to the nature of the roles played by "researchers" and educational "policy makers" and "practitioners."<sup>3</sup> Thus, the models are built on different notions of what constitutes collaboration and empowerment (see Kreisberg, 1992) of researchers, policy makers, practitioners.

In their book on the subject, Cooley and Bickel (1986, p. 3) describe *decision-oriented educational research* (DOER) as "research designed to help educators as they consider issues surrounding educational policy, as they establish priorities for improving educational systems, or as they engage in the day-to-day management of educational systems." A key element in this model from the researcher's standpoint is a "client orientation," operationalized through an "on-going educational dialogue" (p. 27) in which the researcher "works hard at trying to understand the information needs of the client and to meet those needs" (p. 36). Within the DOER model the researcher works with a client (usually defined as policy makers or administrators, though there is no logical reason to exclude teachers, students, parents, etc.) to provide "facts" about education and society, whether based on quantitative or qualitative data, needed by the client to make certain decisions. The researcher is in dialogue with the client, but each has his or her own specified and fairly distinct role: researcher and policy maker or practitioner. The researchers are not directly engaged in the making policy or educational practice, and the policy makers and practitioners are not active participants in the research process.

Similar to the DOER model, *collaborative action research* (see Stenhouse, 1975)<sup>4</sup> concerned with enhancing the use of research by educational policy makers and practitioners. However, in contrast to the DOER model, collaborative action research model entails not only dialogue about, but also joint participation in, research by "researchers" and "educators" (usually defined as teachers, although there is no logical reason to exclude educational administrators, policy

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<sup>3</sup> Arguably, these three models of linking research to educational policy and practice have closer affinities with three scientific paradigms (see Ginsburg et al., 1996). Thus, although proponents of each model subscribe to some form of methodological eclecticism -- usually framed as using quantitative and qualitative data, it seems like the decision-oriented research model fits best with positivist science, collaborative action research with interpretivist science, and research as critical practice with critical science (for descriptions of these scientific paradigms see Popkewitz, 1981).

<sup>4</sup> Although Stenhouse (1975) and his colleagues at the University of East Anglia in England popularized and legitimized collaborative action research in education, Corey (1953), drawing on ideas of Dewey (1947) and Lewin (1946) -- who coined the term, action research, may have been the first to promote this approach in education through his book, *Action Research to Improve School Practices*. Proponents of collaborative action research go beyond the Richardson's (1994, p. 5) conclusion that "practical inquiry undertaken by practitioners in improving their practice ... is more likely than formal research [undertaken to contribute to an established and general knowledge base] to lead to immediate classroom change" to argue that practical inquiry should be undertaken by researchers as well as practitioners (and policy makers).

makers, etc.). This model builds on the notion that educational practitioners are normally engage in inquiry and that their practice can be enhanced by making it possible for them to commit more time and energy to a more systematically planned and implemented process of research (Brause and Mayher, 1991; Kincheloe, 1991; Wagner, 1990). Nonetheless, a division of labor still seems to exist. Even though the "practitioner" assumes rights and responsibilities in the research process, the "researcher" is involved primarily as a collaborator in research design, data collection, and data analysis, remaining somewhat detached from the "professional" and "political" activity of educational policy making and practice (see Whyte, 1991).

The third model, *research as collective praxis*, shares some of the elements with, but is also framed in contrast to, the other two models. In her chapter on "Research as Praxis" Lather (1991, p. 56) comments that: "I am arguing for an approach that goes well beyond the action research concept. ... The vast majority of this work operates from an ahistorical, apolitical value system" (see also Bodemann, 1978; Carr and Kemmis, 1986; Gitlin et al., 1992). Similarly, McTaggart (1991, p. 176) describes a "process of using critical intelligence to inform action, and developing it so that social action becomes praxis through which people may consistently live their social values." Crucial to the model of research as collective praxis is the researcher acknowledging and acting upon her or his political commitments in the context of theorizing and practice with others -- collective praxis -- in a settings including "non-professionals" such as students and community members (Fine, 1989; Gitlin, et al., 1992; Reinharz, 1984; Vio Bossi and de Wit, 1981). In this way the line between "researcher" and "policy maker" or "practitioner" becomes blurred as those who identify (or are typified) primarily as in one of these roles, in fact, play both. Not only do policy makers, administrators, teachers, students, and community members participate in research, but "researchers" become active participants in the settings working with others to understand and change schools and society.

### **Planning, Initiating and Sustaining Research-Based Educational Change**

Paralleling and reinforced by the frequently unsuccessful attempts to translate studies of educational quality and effectiveness into policies and programs has been an attempt to reconceptualize the process of initiating and sustaining educational change. Traditionally in most countries, and particularly in developing countries, the linkages are weak between educational research and practice and also between research and planning. Research is often said to generate knowledge whereas those engaged in practice and planning are seen as applying knowledge. These linkages are constrained by a typical division of roles and responsibilities wherein the central educational authorities are expected to initiate reforms and innovations and local schools are expected to participate, largely as implementers.

Those who seek to build a new model try to avoid what they see as two important weaknesses of past approaches to planned educational innovations and reform:

- (1) top-down or centrist-led reform, although potentially important in developing a supporting context for policy and planning, by itself usually does not come to grips with basic issues of how learning takes place; and
- (2) reform exclusively defined at the national level may successfully demand compliance but often fails to gain commitment from administrators and teachers, let alone students and parents. Under such reforms lower echelon administrators and

teachers may be asked to follow without question the educational and political agendas and interpretations of a few policy makers, fostering further deskilling of teachers and what has been called a "culture of dependence."

The following assumptions characterize the newer approach to initiating and sustaining educational change:

- (1) lasting improvement in educational quality requires knowledge and insights of those professionals closest to the processes of teaching and learning, i.e., teachers, head teachers, local supervisors;
- (2) local level personnel and institutions by themselves often lack fiscal and technical resources to effect continuing change;
- (3) sustained improvement in educational quality requires involvement of actors from different levels of the system; and
- (4) parental and community involvement are necessary in both the planning and implementation of successful educational change.

Traditional planning of educational change has tended to ignore uncertainties and complexities and focus instead on simplifying and standardizing innovations for quick dissemination. The newer approach draws from the extensive local and regional experiences of many countries in initiating and implementing school and classroom level innovations (see Buckley and Schubert, 1983). Successful educational change recognizes the complexity of developing viable change and gives less attention to rigid plans or outcomes. Such planned change is assumed to "begin with a few readiness principles" (e.g., adequate resources, acceptance of validity of the new practice), require "pressure" (from below), "support" (from above), and "continuous negotiation" (between system levels). Specific, detailed, centralized plans are devalued as initial guides to new practice because "plans follow culture" and "mission follows (rather than precedes) enactment of principles."

### **Policy--Practice--Research--Dissemination/Dialogue Spirals**

The Policy--Practice--Research--Dissemination/Dialogue (PPRD/D) spiral is an orienting concept or a heuristic device that we employed in analyzing the activity undertaken within the three centrally-funded "core" countries of the IEQ Project (see Figure 1). This spiral concept orients us to examine what is considered, planned, and accomplished by various individuals and groups with respect to each of the following components:

- *Policy* (i.e., policy statements and plans for action at the national, regional, local, and school levels as well as the activities of educational administrators at the national, regional, local, school, and [particularly] classroom levels that may or may not constitute the implementation of policy statements and plans for action);
- *Practice* (i.e., classroom organization, instructional materials, and instructional activities and other teacher behaviors);
- *Research* (i.e., the process of designing and conducting studies -- framing research questions, selecting samples, developing instruments and other methods of gathering data, collecting data, analyzing data, identifying and interpreting findings); and
- *Dissemination/Dialogue* (i.e., the processes of researchers reporting to or discussing with policy makers, administrators, supervisors, teachers, and parents the results of the

research, the implications the research has for educational policy and practice, and future interventions and research that should be undertaken to improve educational quality).

The PPRD/D spiral concept orients us to the possibility of linkages between these components. For instance, we can investigate how research is shaped by existing educational policy and practice, how research is drawn upon in dialogue/dissemination activities, and how ideas for improving educational quality are constructed during the process of research-related dialogue/dissemination. It should be noted that, while employing the spiral concept, we can also examine breaks in the spiral (e.g., when something other than the dissemination of or dialogue about research findings shapes educational policy and practice initiatives). Indeed, such breaks in the "ideal type" spiral are an important focus of our investigation. Additionally, the research spiral concept does not require us to consider only people or institutions endogenous to each of the countries. Thus, in addition to focusing on government ministries in Ghana, Guatemala, and Mali, we examine the activity of USAID (and other international organizations and bilateral aid agencies) in relation to each country. And besides highlighting the work of Ghanaian, Guatemalan, and Malian researchers (who are members of the respective Host Country Research Teams), we pay attention to what U.S. consultants (who are designated as members of the U.S. Research Support Teams).

### **Design of the Documentation Research Project**

As Clark (1988) conceives of it, documentation is "the careful and systematic monitoring of appropriate components, processes, and interactions of program [planning and] implementation" (p. 21) and ideally involves "a dynamic, evolutionary activity that provides for broad, continuous data collection (in contrast to pre- and post- of change), data analysis, and feedback" (p. 22). While time and financial constraints meant that IEQ documentation research did not replicate the ideal described by Clark, considerable effort was expended on this activity.

For the most part the members of the documentation team at the University of Pittsburgh (Don Adams, Tom Clayton, Mark Ginsburg, Martha Mantilla, Judy Sylvester, and Yidan Wang) were not in a position to engage in first-hand documentation of the IEQ Project components, processes, and interactions. Instead, a variety of documents were analyzed and key participants in the IEQ project in each country were interviewed.

The following types of documents and other artifacts were examined: technical proposals; weekly, monthly, semi-annual, and annual reports prepared by IIR with input from other (U.S. and non-U.S.) members of the project team; IEQ project newsletters; trip reports prepared by U.S. consultants upon their return from one or more of the core countries; research reports, other documents, and videos of schools and classrooms produced by members of the Host Country Research Team in each core country (Ghana, Guatemala, and Mali).

In addition, beginning in March, 1994, interviews were conducted with the Project Director Jane Schubert and the majority of U.S. consultants involved in IEQ and a sample of the key members of the Host Country Research Teams from the three core countries. These interviews were conducted face-to-face, by telephone, fax, regular mail, and via e-mail. Through these mechanisms information was gathered to clarify and augment what was included in the documents, to focus informants' feedback on drafts of the respective stories, and to identify new activities or themes to explore.

The data gathered from documents and from interviews were used to address the following general, cross-country comparative research question: What are the similarities and

differences in policy--practice---research--dialogue/dissemination cycles across countries (and across time or settings within countries)? In order to get to the point that this cross-country comparative question could be answered, a qualitative form of content analysis was undertaken in order to describe the “IEQ story” in each society, particularly as it pertained to planning and conducting classroom-anchored research and trying to link such research to educational policy and practice at the classroom, school, regional, and national levels.

To document the story in each core country answers were sought to the following general, within-cycle and within-country research questions, organized around the key components of the heuristic model used to guide the research: policy, practice, research, and dialogue/dissemination:

- *Policy:* What is the content of national, regional, or local educational policies that shape or are informed by IEQ research and dialogue/dissemination activities? Who is involved in determining such policies and what information do they draw upon in their decision making? What features of the social context enable or constrain their decisions?
- *Practice:* What are the curriculum-in-use, instructional resources, pedagogical approaches, evaluation strategies, student attitudes and behaviors, administrator and supervisor actions that shape or are informed by IEQ research and dialogue/dissemination activities? Who is involved (at the classroom, school, community, national, and international level) in determining these educational practices and what information do they draw upon in their decision-making? What features of the social context enable or constrain their decisions?
- *Research:* What research questions, theoretical perspectives, methodological approaches, sampling strategies, data collection procedures, data analysis techniques, and processes for interpreting findings are employed in IEQ research studies? Who is involved in planning, conducting, and evaluating the studies and what information informs their work? What features of the social context enable or constrain their work?
- *Dialogue/Dissemination:* What strategies (written documents, audiovisuals, meetings) are employed to disseminate research findings or to involve policy makers, practitioners, parents, and other citizens in a dialogue about the interpretation(s) and implications of the research findings? Who is involved in planning and participating in the dissemination or dialogue? What information is exchanged via dissemination or dialogue and does such information inform subsequent policy making, educational practice, or research efforts? What features of the social context enable or constrain the dialogue/dissemination process?

## **Conclusion**

In this introductory chapter of the monograph we have discussed different approaches to research on educational quality; different models for linking research to educational policy and practice; different conceptions of planning, initiating, and sustaining research-based educational change; the heuristic framework, “Policy--Practice--Research--Dialogue/Dissemination Spirals,” developed to help us document and analyze the activities in the three core countries involved in the project; and the procedures employed in gathering and analyzing data. We are now ready to tell the “stories” of the IEQ experience in Ghana, Guatemala, and Mali. The stories presented in chapters 2-4 will then be drawn on in the final chapter where we discuss some cross-country comparisons of efforts to link research to educational policy and practice in relation to issues discussed in this introductory chapter.

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# **The IEQ Story in Ghana**

**Judy Sylvester**

**with the assistance of**

**Francis Amedahe, Abigail Harris,  
Beatrice Okyere, Aida Pasigna,  
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# THE IEQ STORY IN GHANA<sup>1</sup>

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## Introduction

This chapter analyzes the history of the Improving Educational Quality (IEQ) Project in Ghana through a review of IEQ documents, published and unpublished,<sup>2</sup> and interviews with consultants and HCRT members<sup>3</sup> to identify the rationales for choices made, opportunities and constraints encountered, and lessons learned. The chapter begins by discussing the social, political and educational context in Ghana and continues with a description of each of the four phases that occurred over the five-year life of the Project, including the research design, process, findings, dissemination of information and dialogue, and the impact that each phase of IEQ research had on educational policy and planning.

## Social and Economic Context in Ghana

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<sup>1</sup> The documentation research presented here was conducted under the generous guidance of Mark Ginsburg and Don Adams, University of Pittsburgh. Feedback on earlier drafts was also graciously provided by Thomas Clayton, Martha Mantilla and Yidan Wang.

<sup>2</sup> In developing this case study of the IEQ Project in Ghana, the following documents were analyzed: technical proposals (2); weekly, monthly and quarterly reports (8); semi-annual and annual reports (6); trip reports (16); research reports (31); data collection instruments (7) summaries of research findings (16); memoranda (33); conference/seminar reports (15); government reports (3); and newsletters (6). These documents have been catalogued at the University of Pittsburgh, School of Education, using a "Chronological Index of IEQ Documentation" dated 1.9.97 by J. Sylvester.

<sup>3</sup> During my research I held interviews with the following people: (1) San Diego, CA, site of the April 1994 annual meeting of the Comparative and International Education Society (CIES)-- with Dr. Jane Schubert, IEQ Project Director; (2) University of Pittsburgh, Pittsburgh, PA -- with Mr. Francis Amedahe, former Team Leader of the host country research team (HCRT) in Ghana, at the School of Education, February, March and August 1995 and March 1996; (3) Boston, MA, site of the April 1995 annual meeting of CIES -- with Jane Schubert, IEQ Project Director, Dr. Beatrice Okyere, Coordinator of the HCRT, Mr. E. Bartels and Mr. Amedahe, HCRT members, and Dr. Abigail Harris, IIR consultant; (4) Williamsburg, VA, site of the March 1996 annual meeting of CIES -- with Mr. Mitch Kirby, Acting Education Officer, USAID/Accra. Telephone interviews were held with Dr. Aida Pasiona and Dr. Harris in 1996 and on Feb. 7, 1997.

Ghana is a coastal country located along the South Atlantic Ocean in western Africa with a population of about 17 million (*World Bank Atlas*, 1996). The estimated per capita gross domestic product (GDP) in 1990 was US\$400 (Glewwe and Twum-Baah, 1991). Ghana gained independence from Britain on 6 March 1957, becoming the first African nation south of the Sahara to emerge from colonial rule. Because Ghana has a broad range of natural resources,<sup>4</sup> the economy has traditionally depended on agriculture and mineral production and exports. The agricultural sector,<sup>5</sup> together with forestry and fishing, employs about two-thirds of the labor force and accounts for about half of the total annual output (Glewwe and Twum-Baah, 1991). At the time of independence, Ghana's economy was linked to the world economy through heavy dependence upon external sources for its imports of petroleum, machinery and manufactured items. In its first 25 years Ghana experienced political instability; during this period the government changed six times.<sup>6</sup> The policy of industrialization in the 1960s was based on import substitution rather than the utilization of available raw materials to develop industries for export. Consequently, factories were built with capital spent to import raw materials at a time when the finished products could be purchased cheaply on the world market.<sup>7</sup> From 1974 to the early 1980s the Ghanaian economy experienced a severe decline. Real gross domestic product (GDP) fell by as much as 15% between 1974 and 1981 as the decline in production of Ghana's major exports – cocoa, gold, diamonds and timber – was accompanied by an even sharper drop in the prices for these commodities on the world market.<sup>8</sup>

Although Ghana is richly endowed with resources, the resources were not distributed equitably (Glewwe and Twum-Baah, 1991) as evidenced by the dual structure of the economy and society: between urban and rural areas, between the north and the south, and between the

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<sup>4</sup> The major resources found in Ghana's four main geographic areas (coastal savannah grassland, southwestern equatorial rainforest, west and middle semi-equatorial forest and hot savannah woodland in the northern part of the country) include arable lands, forest and sizable deposits of gold, diamonds and minerals.

<sup>5</sup> Ghana ranks among the world's largest producers and exporters of cocoa even though it has recently dropped from long-held first place to third, behind Cote d'Ivoire and Brazil.

<sup>6</sup> The Nkrumah government (1957-1966); National Liberation Council (1966-70); Progress Party Government (1970-72); Supreme Military Council (1972-79); Limann's Administration (1979-1981); Jerry Rawlings and the Provisional National Defence Council Government (PNDC) (since 1981).

<sup>7</sup> This policy discouraged local industry and initiative from developing the material base and encouraged an affinity for imported goods, as well (Agbodeka, 1992)

<sup>8</sup> In less than a decade cocoa production fell from 385,000 tons in 1974 to 180,000 tons in 1980/81. Cocoa exports normally accounted for 60% of foreign exchange revenues. By 1981 the cost of crude oil represented 45.17% of export earnings. There was not enough money for other essential commodities, which resulted in acute shortages (D. Rothchild, ed. 1991).

formal, modern wage sector and the informal, traditional subsistence sector. Research findings from the first year of the Ghana Living Standards Survey (GLSS)<sup>9</sup> in 1987/88 showed the persistence of a nutritional disadvantage for children born in the rural savannah. It confirmed regional patterns of inequity first observed in nationwide surveys in the early 1960s.<sup>10</sup>

Between 1972-1980 Government measures to alleviate the impact of high prices of consumer goods were offset by the global oil crisis of 1973-74 which, in turn, was followed by crop failures in 1975-76 due to severe drought. Another bad drought followed between 1981 and 1983, with consequent low crop yields, which led to the most acute shortage of food and essential commodities in Ghana's recent history. Also in 1983 over 1 million Ghanaians were expelled from Nigeria and sent back to Ghana, straining an already precarious situation.<sup>11</sup> In the following year the drought spawned bush fires all over the country, wiping out many farms.

The crises impacted on income levels across a wide spectrum of Ghanaian society as real per capita income declined by more than 23.1% between 1979 and 1983 (Roe and Schneider, 1992), with the GDP reaching the lowest level since 1969 (M. Huq, 1989). Household expenditure for food was averaging between 62% and 75% of earned income (Glewwe and Twum-Baah, 1991). Ghana's investment in health also declined in the 1970s and early 1980s. Total government expenditure on health as a percentage of GDP went from 1.6 percent in 1965 to around 1.0 percent by 1980 (M. Huq, 1989).

External debt rose tenfold between 1974 and 1981.<sup>12</sup> In April 1983 the PNDC formerly

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<sup>9</sup> The Government of Ghana wanted to identify the vulnerable groups as well as factors that adversely affected their ability to cope with the structural adjustment process in the short term. In 1987 the Government launched the GLSS with its objective to improve knowledge of the nature and distribution of poverty in the country (see footnote 14 regarding Ghana's experience with Structural Adjustment).

<sup>10</sup> A study on the distribution of welfare in Ghana as measured by consumption expenditures carried out by the World Bank at the same time as the GLSS also demonstrated that the poorest group of residents lived in the rural savannah (Alderman, 1990, p. 28).

<sup>11</sup> The repatriation experience of the 1 million Ghanaians expelled from Nigeria in 1983 sheds light on the strong kinship ties that bind all Ghanaians, kinship ties so strong that most Ghanaians trace descent to a common ancestor, whether matrilineal or patrilineal (Oppong and Abu, 1987). All people belonging to the same clan, whether related by blood or not, are seen as members of the same *abusua* (family) and are required to extend a hand of welcome and assistance to one another. This social network acts as social security and an economic support mechanism. Within a matter of days after these Ghanaians were returned to Ghana, they had been absorbed back into the social fabric, either having been picked up by or having found their way to relations and friends who welcomed them back home (Agbodeka, 1992).

<sup>12</sup> During Limann's Administration (1979-1981) finding capital to pursue industrialization was a priority that resulted in a legislated Investment Code to attract foreign capital.

launched its Economic Recovery Program (ERP),<sup>13</sup> looking to financial assistance from “external sources... on a bilateral as well as multilateral basis.” With the ERP in place, IMF and the World Bank granted initial loans and drawing rights of some \$359 million and \$65 million, respectively, encouraging Ghana to adopt a Structural Adjustment Program (Republic of Ghana, *National Programme for Economic Development*. 1987. Accra: Ghana Publishing Corporation, p.3; quoted in Rothchild, 1991, p.8).<sup>14</sup>

In 1984 real GDP increased by 9%, the first substantial growth since 1978. Recovery was particularly apparent in the agricultural sector with a 14% increase in output over 1983 as a result of increased production of food crops (Roe and Schneider, 1992). The Ghanaian experience points to a limited economic recovery, a considerable feat after the ruinous financial situation of the 1970s and early 1980s. Yet the economic benefits were not shared equitably. Women constitute 51 percent of Ghana’s total population and 51 percent of the country’s workforce. Ghanaian women are a major force in agriculture, where farming is their main occupation in the rural areas. Nevertheless, while women are an important force in Ghana they do not share equally the benefits accrued from overall national efforts in agricultural extension, access to capital, and education (Sarris and Shams, 1991).

### **Educational Development**

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<sup>13</sup> The first phase of the program (1983-1986) concentrated on halting the decline in industrial production and commodity exports; the second phase (1987-1989) focused on economic development. The program had as its guiding objective “the realignment of the price and incentive system in the economy in favour of the productive, particularly the export, sectors.”(Rothchild, pp. 8-9). The PNDC sought to improve the country’s productive base, allocating increased resources to the agricultural sector, raising the producer prices of such export crops as cocoa, taking steps to rehabilitate the mining industry and to negotiate oil-prospecting concessions, and making efforts to provide a greater array of consumer goods in the rural areas.

<sup>14</sup> Ghana’s experience with Structural Adjustment is deemed not easily transferable to other African countries due to its unique social characteristics and political and economic history. Given the substantial shocks to the economy (severe drought and repatriation of 1 million Ghanaians in 1983), according to some researchers, it is difficult to indicate which part of the overall macro-economic improvement was due to the ERP (Sarris and Sams, 1991, p. 92). Smallholders and the rural poor were “most likely not benefitting” from the ERP in the short term since availability of both economic and social services declined for the smallholder under the ERP. Because of sector employment cutbacks under the SAP, an increasing number of workers had no alternative to self-employment. At the same time, weak purchasing power among the lower-income population constrained the prospects for individual micro-enterprises. On the positive side, liberalization had somewhat improved the availability of rural consumer goods (Sarris and Shams, 1991). However, cocoa production was clearly favored under the ERP compared to food crops, and while the government had as an objective to increase the production of staple foods, the decrease in the Ministry of Agriculture’s budget under ERP crippled the Government’s efforts in this area (Sarris and Shams, p. 15).

The successive governments in Ghana since its independence in 1957 have stated commitments to educational development. The Education Act of 1961 provided free and compulsory education to primary school-age children. In 1971 the national government established a policy of using the local languages as the medium of instruction from primary grades 1 through 3, but to facilitate communication and commerce, English is used as the language of instruction starting in primary grade 4.<sup>15</sup> Up until the mid-1970s Ghana had one of the most advanced educational systems in west Africa, with an estimated enrollment rate of 75% of children aged 6-14 years. However, during the nearly two decades of severe economic depression beginning from the late 1960s that Ghana endured, investment in education also dropped drastically, plunging the system into a crisis. Public expenditure on education fell from 6.4 percent of GDP in 1976 to only 1.5 percent in 1983 (USAID/Accra *Country Overview*, 1996). Some schools did not have pupils' desks and teachers tables and some did not even have chalk. During this time almost no instructional materials were purchased (Wolf, 1995, p. 12). Basic textbooks were either totally unavailable or, when available, were in such shortfall as to be barely useful.

As a result of the high rate of inflation during the 1970s and early 1980s, an exodus occurred of trained and skilled labor, including teachers (Sarris and Shams, 1991). Teachers' salaries during this time plummeted and were so unviable that thousands of teachers deserted the classrooms. Some found other jobs inside Ghana, while many others went to Nigeria and other neighboring countries in search of better paying jobs (Yeboah, 1992; World Bank Paper #132, 1990; Haddad, 1990; *Year One Outcomes, IEQ*, Nov. 16, 1992). As trained teachers left the profession to work abroad or to pursue other careers in Ghana, it was necessary to deploy an "emergency," less-than-optimally trained teaching force which is now gradually being replaced (*Ghana's Policy Adjustment Initiative: Opportunity for Renewal*, World Bank Paper #132, 1992; *Case Study 3: Ghana and Cote D'Ivoire*). Approximately 70 percent of the Ghanaian population lives in rural areas; in the Northern region, the rural dwellers account for 85 percent of the total population.

There is a strong relationship between poverty, lack of education and low school attendance (Yeboah, 1992; "Case Study 3: Ghana and Cote D'Ivoire," *World Bank Development Review*, pp 117-123, 1990; 1992 PC Globe, Inc., Tempe, Arizona; Haddad, 1990). The effect of

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<sup>15</sup> There are at least 44 indigenous languages throughout Ghana, most of which belong to one of 13 major language groups (*IEQ Biennial Report #3*, January 1997, p. 5). Most children enter school speaking little or no English. While the vernacular is used in the early primary grades (P1-P3), by P-4 pupils are expected to be able to: (1) comprehend lessons taught using oral English; (2) respond in class using oral and written English; and, (3) read from textbooks written in English in core subjects such as English, mathematics, science and social studies (Hall, 1983; cited in *The Quality Link*, No. 5, Spring 1996, p. 5, "Assessment in Ghana," by Abigail Harris.) Although she had never seen the actual language policy regarding the switchover to English in P-4, Abigail Harris, IIR consultant from Fordham University, stated that when she participated in teacher workshops in Ghana, "It was clear that everyone knew this policy" (Memo, 10 Jan. 1997, from Harris to Sylvester).

education on household welfare appeared quite strong according to the GLSS in 1987/88. Households whose head had no education were among the poorest in the country, while those in which the head had a university or other type of higher education were disproportionately found among the top two quintiles. However, because teachers were among the lowest paid workers in Ghana, people who lived in households headed by someone with a teacher training education were only slightly better off than those in households headed by people with only a primary school education (Sarris and Shams, 1991, p. 65).

By 1990, the literacy level of the population had declined to 60 percent (World Bank Development Data Bank, 1995). Following the 1991 World Summit on Children, Ghana developed a National Program of Action (NPA, 1992), a declaration of the Government's recognition of the importance of human development in the overall process of economic progress and national growth. The NPA states that providing basic education for all is still to be realized in Ghana, especially for children from low-income and rural families (*Ghana 2000 and Beyond: Setting the Stage for Accelerated and Equitable Growth*, "Executive Summary," September 10, 1992).

Despite policy aspirations, educational resources remain inequitably distributed across regions and gender to the almost 2 million primary pupils in Ghana. When the quality of the educational system deteriorated during the economic decline, the impact was especially acute in the regions located on the periphery of the society as conditions in some regions were far worse than in others (Wolf, 1995, p. 11) <sup>16</sup> More than 50 percent of the villages have no schools. In rural areas, where the enrollment rate in primary school has climbed back up to 75%, only 85% of those who start school complete grade 6 (P6). Up to 80% of all educational facilities are located in the southern half of the country where enrollment ratios are double those of the northern half (North, Upper East and Upper West Regions).

The unequal distribution of resources is further exacerbated by a rapidly increasing school-age population (6 - 15 year olds constituted 47% of Ghana's population in 1992) and by limited funds available over-all for education (*Year One Outcomes*, Nov. 16, 1992). Additionally, enrollment of girls in all levels of education lags behind that of boys, in part

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<sup>16</sup> According to Wolf, these regional inequities have a long history rooted in Ghana's colonial past, when the policies and actions of the British colonizers only magnified the wide range of ethnic diversity in the region through continued differential treatment of the various ethnic groups. "Although the British annexed the entire coastal region of Ghana in 1874, the British administration only exported labor from the northern region" having little else to do with that area until 1900. Meanwhile, as Western education became established among the southern people along the Ghanaian coastline, changes occurred in Ghana's developing economy which reinforced the apparent benefits of such a Western education to the southern population. Demand for education remained low, however, in the middle and northern regions of the country, even where schools did exist, due to a lack of perceived relationship to either economic or governmental opportunity as a result of decades of isolation and disconnection from Ghanaian development by the colonialists. In 1948 the proportion of the population with six years of education or more stood at 5.8 percent in the southern region, 3.9 percent in the Ashanti middle region, and 0.21 percent in the northern region (Forster, 1962; cited by Wolf, 1995).

because distance to a primary school has a larger effect on the schooling of girls than of boys, especially in the northern regions (Wolf, 1995, p. 12).

In July 1991, the Government of Ghana launched the Primary Education Program (PREP) for the purpose of: (a) developing Criterion-Referenced Testing (CRT) for Grade 6 in English and math; (b) developing a comprehensive in-service training program for some 30,000 primary teachers; and (c) distributing instructional materials, specifically textbooks, to schools in Ghana for 1.8 million school children (*IEQ Annual Report*, December 1992; *Classroom Profiles as a Stimulus for Improved Policy and Practice*, J. Schubert, Dec. 1994). PREP received financial support from USAID to "strengthen the policy and institutional framework required to insure a quality, effective, equitable and financially sustainable primary education system in Ghana by the year 2000" ("Executive Summary," *Ghana Primary Education Program (PREP)*, Sept. 10, 1992; *The Improving Educational Quality Project*, Nov. 1992).<sup>17</sup>

To accomplish PREP's objective to promote the equitable distribution and use of instructional materials in the primary schools,<sup>18</sup> the Government of Ghana needed comprehensive and current data reflecting what was happening in the primary school classrooms, particularly on the status of the primary school reform effort: the programs being implemented, student characteristics, teacher-student discourse, and parents' expectations (*IEQ in Ghana*, July 1993). A major question the government of Ghana had about PREP was, "To what extent does the national reform improve the quality of primary education?" Particular attention was to be paid to equity issues, e.g., the equitable distribution and use of materials in the primary schools (*Annual Report*, "Progress Report," December 1992, p.2). Research on the classroom environment -- whether and how learning was taking place -- was, thus, a government priority as USAID initiated its multi-national project on Improving Educational Quality (IEQ).

### **IEQ and Its Institutional Partners in Ghana**

The partnership between the IEQ Project, USAID/Accra and the Government of Ghana developed as a result of a combination of factors. The Institute for International Research (IIR), the prime contractor of the IEQ Project, had visited a number of African countries to explain the purpose and goals<sup>19</sup> of the IEQ Project and to invite the United States Agency for International

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<sup>17</sup>PREP is implemented within the Ministry of Education (MOE) through the Project Management Unit (PMU) (*Overview: Core Country Activity*, September 19, 1995).

<sup>18</sup> In PREP's "Plan to Provide Instructional Resources to Primary School Pupils," under the direction of the Ghana Education Service (GES), the stated goal was to increase the access of Ghanaian primary school children to instructional materials and textbooks from 5-10% in 1989 to 90% by 1995. Also, within the Equity Improvement Program (EIP) component of PREP, one of the ongoing eight pilot activities was to provide all pupils in grades 1-6 (P1-P6) with a free set of basic learning materials (*Annual Report, December 1992; Year One Outcomes*, Nov. 1992).

<sup>19</sup> The Improving Educational Quality Project was conducted by IIR in collaboration with Juarez and Associates and the University of Pittsburgh. The Project sought to provide practical guidance and help to developing countries which are implementing initiatives that seek to

Development (USAID) missions to participate. Then IIR received a cable from USAID/Accra soliciting expressions of interest in support of the PREP effort. IIR responded with the suggestion that IEQ's classroom-based research approach, looking for "practical ways to improve learning outcomes through a better understanding of how learning takes place in schools and classrooms," (*Quality Link*, #1, Fall 1993) was congruent with the needs of the Ghanaian Ministry of Education's PREP program. As a result of IIR's cable and some preliminary discussions, IEQ was invited by USAID/Accra to come to Ghana in April 1992 to discuss how the IEQ Project could best fit into the Ghanaian national reform context.

IEQ Project Director, Jane Schubert, said that after an initial discussion about project goals and project management, "the pieces fell into place very quickly. USAID/Washington, IIR and USAID/Ghana saw a match between IEQ's classroom-based research and the (PREP) educational reform effort in Ghana," and IIR was asked to design a project which would link IEQ's research activity with PREP (*Design Brief: IEQ in Ghana*, July 1993). Thus, Ghana became one of the centrally-funded countries in the IEQ Project.

In 1991, the Vice-Chancellor at the University of Cape Coast (UCC), Dr. S. J. Adjepong, new to the position at that time, demonstrated a willingness to collaborate with donor agencies. The Dean of the Faculty of Education at UCC, then Dr. N.K. Pecku, also showed an enthusiasm for improving teaching and learning in primary classrooms. Together these educators, supported by the Faculty of Education at UCC, worked to foster a growing partnership between IIR and UCC (Amedahe, University of Pittsburgh, August 1995).

In October 1992, the Cooperative Agreement between IIR and the University of Cape Coast was signed, with UCC being designated as the in-country institutional partner of the IEQ project. The partnership resulted in the creation of the Centre for Research in Improving Quality of Primary Education in Ghana (CRIQPEG) which has primary responsibility for carrying out IEQ research in Ghana. CRIQPEG was comprised of faculty members and advanced-level graduate students from several departments within the Faculty of Education, who formed the host country research team (HCRT) (J. Schubert, *Classroom Profiles as a Stimulus for Improved Policy and Practice*, December 1994). The CRIQPEG researchers represented diverse fields of expertise, including math and science education, special education, educational administration and educational measurement and evaluation. As evidence of its commitment to quality primary education, UCC established a unit within the Faculty of Education to train primary school leaders, teachers and administrators ("IEQ in Ghana," *The Quality Link*, No.2, Spring 1994).

The Dean of the Faculty of Education at UCC and his assistant selected six faculty members who were experienced or already engaged in research work to be team leaders, one of

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improve the quality of education. IEQ's four goals are to: (1) understand how and why each country's classroom-based interventions influence pupil performance; (2) demonstrate a process whereby IEQ classroom research on improving educational quality is integrated in to 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 rationale for choices made, opportunities and constraints encountered, and lessons learned.

whom was then designated Research Coordinator of CRIQPEG.<sup>20</sup> The team leaders were each responsible for leading the research to be undertaken at one of the six participating school sites that were selected to be studied in the initial pilot phase, Phase I, and report preparation. Each team leader selected his or her own three team members. The criteria for selection of team members, according to one former CRIQPEG team leader, was: familiarity with research work; knowledge about teaching and learning; knowledge of and experience with primary schools; and industriousness and willingness. The latter two characteristics were particularly important in the selection process since the CRIQPEG members were expected to carry out the IEQ Project's research in addition to their full-time obligations as either members of the Faculty of Education or graduate students at UCC (Amedahe, University of Pittsburgh, February 1995; *Annual Report, Dec. 1992*, p.5).<sup>21</sup>

In addition to the Ghanaian-based researchers, a U.S. research support team, comprised of technical advisers primarily from IIR/Washington, the University of Pittsburgh and Fordham University, offered technical training and support as needed to CRIQPEG (*Classroom Profiles...*, Dec. 1994; *Annual Report*, Dec.1992).

In July 1992 the USAID Mission/Accra (represented by Habib Khan, at that time), offered to provide three sources of support to complement the establishment of IEQ in Ghana: (1) the creation of a unit on Early Childhood Education in the School of Education at the UCC to train primary school leaders; (2) one faculty member to be trained in Early Childhood Education in the U.S.; and, (3) funds to cover the costs of dissemination of Ghanaian "research products" written by CRIQPEG (Trip Report #5, Schubert/Anzalone, July-August 1992).

In compliance with the terms of the contractual agreement for the IEQ Project in Ghana, the Project Director agreed to have CRIQPEG help form an IEQ Project National Advisory Board by inviting representatives from each of the major stakeholder groups in primary education reform in Ghana to become members of the Board. Some of the names put forward for the Advisory Board were suggested by the USAID Mission and other were nominated by the Ministry of Education (Schubert, Boston, Massachusetts, April 1, 1995). It was envisioned that the Board would be comprised of potential users of data, who would represent an advocacy group for CRIQPEG's research findings, and of potential shapers of research from IEQ's classroom

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<sup>20</sup> The six initial Ghanaian research team leaders were: Dr. Joseph Mbawine Yakubu (the first Research Coordinator), Dr. Beatrice Adwoa Okyere (who later replaced Dr. Yakubu as Research Coordinator), Dr. Benjamin Asuantse Eshun; Mr. Henry Fram Akplu; Mr. Francis K. Amedahe; and Mr. Joseph Mensa Dzingla (Trip Report #6, October 1992).

<sup>21</sup> Dr. Jane Schubert, the IEQ Project Director, says, "CRIQPEG leads the pack in looking at classroom data, and is collecting valuable data in the context of the next steps of the PREP educational reform." The Project Director described CRIQPEG as the "action research component" of the PREP, which has developed a model of assessing performance, assimilating the data within the researchers and potential users and then acting upon the information. The IEQ Project promoted capacity-building for the CRIQPEG team as an integral element in IEQ's goal to support partnerships with local researchers towards project sustainability (Trip Report #33, Schubert, "Jane's Journal").

study. An Advisory Board composed of people involved at the national level in discussions regarding the new conceptual framework for the educational reform effort would assure the IEQ Project of a place in the on-going national dialogue on educational reform. Due to various delays in establishing its membership, however, the National Advisory Board did not meet for the first time until April 1995, more than two years after the IEQ project was initiated in Ghana.<sup>22</sup> The IEQ Project Director, Jane Schubert, noted that while parents and local representatives of the educational system, e.g., school administrators, head teachers and circuit supervisors, were missing from the original list of the Advisory Board members and from the Board's first meeting in April 1995, they were potential committee members for future Boards (*Design Brief*, July 1993).<sup>23</sup>

### **Research Activity: Phase I<sup>24</sup>**

IEQ research consisted of four phases: Phase I examined the availability, source and use of instructional materials in 6 schools in the Central Region.<sup>25</sup> Phase II focused on the use of instructional materials and strategies in English language learning and on pupils' proficiency in writing, reading and oral English by examining classroom context in 14 schools in the Central and Western Regions and classroom feedback into the educational system. Phase III focused on school and classroom changes in the 14 sample schools and in pupil performance in English language proficiency as a result of classroom interventions, and strengthening the feedback loop at the regional, school and classroom levels. Phase IV, although originally intended to focus on shifting responsibility over to the local researchers and educators, became an extension and strengthening of Phase III, designated as a separate "phase" primarily for a chronological dating of the project's progression (*Memo: Notes on telephone discussion with Abi Harris*, Sylvester, Oct. 1995).

Initial discussions between representatives of UCC, the Ministry of Education, USAID and IIR resulted in an agreement to launch the IEQ Project in Ghana via a national conference

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<sup>22</sup> Although the Advisory Board did not meet officially until April 1995, many of the Board members, as educational stakeholders in Ghana, participated in CRIQPEG conferences prior to that time.

<sup>23</sup> By the third meeting of the National Advisory Board, in October 1995, a parent representative had been appointed to the Board. During that third Board meeting, the parent representative was asked by the other Board members "to invite other parents whose children participate in the intensive schools to brief the Board on what CRIQPEG's involvement has meant to families and the differences (if any) in their children's participation and performance in school" (Trip Report #51, Schubert, p. 7).

<sup>24</sup> Phase I of IEQ lasted from July 1992 through September 1993.

<sup>25</sup> It was decided to do the pilot study in the Central Region, actually located in the south-central part of the country, because of its accessibility to the UCC researchers and because it had a sample of both rural and urban schools.

covered by the national media (press and television). Therefore, on October 6, 1992, as the Memo of Understanding between the USAID Mission in Ghana and IIR was being finalized, the CRIQPEG Research Team Leaders at UCC organized and hosted the First National Conference on Improving Educational Quality of Primary Schools in Ghana (see Trip Report #6, Schubert, *et al.*, October 1992).<sup>26</sup> This event was attended by more than 50 people including educational stakeholders from the Ministry of Education, the Ghana Education Service (GES), the University of Cape Coast, UNICEF, the Overseas Development Association, USAID/Accra, local educators and parents of school children. "The Seminar provided a renewed opportunity for UCC to join the dialogue on educational issues with many national stakeholders" (Trip Report #6 to Ghana and Mali, Schubert *et al.*, 16 October 1992).<sup>27</sup> Directly following the First National Conference, a three-day planning seminar for CRIQPEG members was held at UCC to design Phase I of the IEQ Project and to discuss classroom research for the CRIQPEG team who were in the process of preparing instruments for use in the data collection (Trip Report #1005, Schubert & Anzalone, 26 October 1992).

A "consensus"<sup>28</sup> had been forming among the educational stakeholders in Ghana (*Year One Outcomes*, Nov. 16, 1992) that IEQ research in the pilot phase, Phase I, should focus on the level of instructional materials available and the level of their utilization in English, math and science primary school classes since PREP had a need for such baseline data to measure the impact of its own reform efforts on primary school classrooms. Such research was also congruous with the IEQ Project's approach to shed light on the dynamics of the teaching/learning relationship.<sup>29</sup>

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<sup>26</sup> The decision to choose a national conference on improving educational quality of primary schools as the vehicle by which to officially launch the IEQ Project in Ghana was arrived at by the MOE, USAID, UCC and IEQ during discussions with the IEQ Project Director, Dr. Jane Schubert, and Dr. Steve Anzalone, an IIR staff member in the early period of the project, during their visit to Ghana between July 25 and August 12, 1992 (Trip Report #5, October 1992).

<sup>27</sup> At the Conference the general goals and objectives of the IEQ Project were officially introduced to the educational stakeholders. Other seminar presentations described programs and projects directed at improving primary school education in Ghana (e.g., the PREP, teacher training and staff development, the Equity Improvement Program, Criterion Reference Testing -- the latter two being part of the PREP).

<sup>28</sup> Consensus was reached among the MOE, USAID/Accra, the IEQ Project Director, Jane Schubert, and the University of Cape Coast (see *Annual Report*, "Progress Report," Doc. #0002, December 1992, p. 2). The University of Cape Coast was chosen to be IEQ's institutional partner in Ghana -- see discussion following.

<sup>29</sup> "As part of PREP, multiple forms of multiple choice tests in reading and mathematics were developed and administered by PMU to a large, carefully-selected sample of entering P-6 pupils throughout Ghana. Performance on the test was disappointing and difficult to interpret. The Ministry of Education and USAID then asked the CRIQPEG researchers to collect data to explore these results" (*IEQ Biennial Report* #3, p. 5).

### Research Questions: Phase I

In order to study PREP's impact on primary classrooms in Ghana, it was necessary to understand the classroom environment, both through researching the availability and use of instructional materials and by focusing on "human development in the classroom" (Trip Report #6, October 26, 1992).<sup>30</sup> The following research questions for Phase I were developed by the CRIQPEG team members, in collaboration with the IEQ Project Director:

- a. What materials are available for English, mathematics and science instruction?
- b. What are the sources of these materials?
- c. How are instructional materials used by the teachers and pupils?
- d. What are the implications of the findings for teaching and learning English, math and science in the classroom and for subsequent IEQ research? (TR # 9 (A); TR#13).

### Sample: Phase I

To determine of the sample to be researched during the pilot phase, discussions were held during October 1992 about the number of schools, their resources, and the funding for the research (Amedahe, Pittsburgh, March 1995). The CRIQPEG team leaders and the Project Director, Jane Schubert, were joined by a representative from the Ministry of Education, who brought demographic data on the various primary schools in Ghana. A sample of six schools (see **Table 1**) was selected from among the primary schools in the Central region based on geographical spread (district); type of education unit (whether managed by religious affiliations or district councils); rural/urban location (2 urban and 4 rural); and, enrollment rates (high, medium, low). Three classrooms were visited in each of the 6 primary schools (*Ghana Trip Report #13; CRIQPEG Research Project on Improving Quality: Final Report of the Atwereboanda Research Team*, April 30, 1993, p. 3).

**Table 1: Six Schools Selected for the Phase I Pilot Study**

SCHOOL	DISTRICT	UNIT	LOCATION	ENROLLMENT
A.M.E. Zion Primary, C/C	Cape Coast	A.M.E. Zion	Urban	240
Swedru ADC Primary C	Agona-Swedru	DC	Urban	438
Moree Methodist Primary	Abura-Asebu	Methodist	Rural	331
Babinso DC Primary	Lower-Denkyira	DC	Rural	93
Atwereboanda DC Primary	Lower-Denkyira	DC	Rural	145

<sup>30</sup> At the earlier professional development workshop in October 1992, CRIQPEG members discussed the most useful and appropriate activities to begin IEQ research in Ghana, issues regarding content in studying a classroom, and the development of a plan for an introductory six-month study. This preliminary phase of research, which was carried out between November 1992 and March 1993, would also serve to test methodological approaches to classroom data collection for the IEQ research teams (Trip Report #6, Schubert et al., October 1992).

Brofeyedur Catholic	Gomoa	Catholic	Rural	211
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(Final Report of the Atwereboanda Research Team, April 30, 1993.)

### Data Collection: Phase I

Three sets of visits were made to the schools between November 1992 and April 1993. The first visits, called "introductory visits," were undertaken by the CRIQPEG team leaders to their designated schools during November and December 1992. These visits enabled the team leaders to locate the school and become acquainted with the school staff and the local community leaders. In order to construct a profile of each school in this pilot phase, the observers collected general information on the schools, including, geographical location of the school, school buildings, condition of the school, furniture, pupil demographics, teacher and community characteristics (*Final Report of the Atwereboanda Research Team*, 30 April 1993).

The second set of visits, termed "exploratory," occurred in December 1992 and January 1993 and involved the team leaders accompanied by their three CRIQPEG team members to acquaint all the researchers with their schools and to give them firsthand experience in classroom observation.<sup>31</sup>

The third set of visits to the 6 sample schools occurred during February-April 1993 when the 4-member teams each observed classes, interviewed teachers, pupils, parents and community leaders and inventoried the instructional resources available in English, science and math classes. "Each pair of researchers observed each of the three classes for four days, gaining familiarity with the context within which the data were interpreted" (*Classroom Profiles as a Stimulus for Improved Policy and Practice*, Dec. 1994). The two observers, while noting what went on generally in the classrooms, focused on the use of instructional materials by both the teacher and pupils. "In each of the classrooms studied one observer focused on the teacher, while the other focused on four pupils (two boys and two girls). These same four pupils were consistently observed even when observers rotated from class to class (Akplu et al., *Final Report of the Atwereboanda Research Team*, April 1993; *First International Exchange on Educational Quality*, 23-24 Sept. 1993). At the end of each day the observers met to compare notes (*Annual Report*, "Progress Report," Dec. 1992, p.2). After each classroom observation, the CRIQPEG team held individual interviews with teachers, pupils, parents and community leaders (viz., PTA executive members) using the instruments they had developed (*Classroom Profiles as a Stimulus...*, Dec. 1994).

Each visit to the 18 classrooms lasted from the commencement of the day until closing time, four hours, over a period of 4 days, giving a total of 16 hours of observation per classroom (Dr. Yakubu's *Executive Summary* to the Phase I Research Report, June 1993; A. Harris e-mail

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<sup>31</sup> After undertaking the introductory and exploratory visits, the CRIQPEG team members, as part of their professional development training in classroom observation, participated in a 4-day workshop (January 24-28, 1993) at UCC conducted by the IEQ Project Director, Jane Schubert, to try out and refine their data collection instruments and to finalize plans and procedures for the third set of visits to the 18 classrooms in the 6 schools in the Central Region (Trip Report #9, Feb. 19, 1993).

memo, 10 Jan. 1997; *First International Exchange on Educational Quality*, 23-24 September 1993).

Each team collected a common core of data relevant to the research questions through classroom and pupil observations and interviews. In addition, each team identified one other educational issue to explore during the visits: for example, one team examined how time was used during the entire school day; another team prepared brief case studies of two students to build a profile of a pupil's life in school (Trip Report #9, Schubert, Feb. 1993).

### **Data Coding and Analysis: Phase I**

After collecting the interview and observation data, the CRIQPEG research teams from each of the six schools began their analysis of the data by first holding inter-team discussions of their findings. In preparation for a professional development seminar in May 1993, each CRIQPEG school team produced a preliminary report on its school (profile of the school/classes, purpose, methodology, findings, issues for main study) before comparing their findings across schools with the IEQ Project Director and two visiting members from the U.S. technical support team, Drs. Don Adams, University of Pittsburgh and Abigail Harris of Fordham University. Based on their data analysis of the research findings in this preliminary study, CRIQPEG identified three key areas they wished to discuss further with the visiting support team: (1) methods for analyzing and presenting data; (2) reliability and validity issues; and, (3) laying the theoretical groundwork for the more comprehensive study to follow (Akplu, *et al*, April 1993; Trip Report #13, June 1993). As Abigail Harris reported, they “wanted insight into the knowledge base that supports the IEQ research focus in Ghana” (Harris memo, Jan. 1997).

As part of the May professional development workshop, the U.S. team members worked with the CRIQPEG researchers to encourage them to utilize a qualitative analysis of their data which could lead to a list of preliminary findings aggregated across all six schools. After the May workshop, further data analyses continued, including triangulation and looking at critical incidents. By July 1993 the CRIQPEG team leaders had prepared a summary report of Phase I that aggregated data across all schools (e.g., by class, subject, gender) and clarified the issues that needed to be addressed in designing the subsequent research activity for Phase II (Trip Report#13, Schubert, June 1993).

### **Research Findings in Phase I**

In Phase I during the 288 hours of classroom observation and numerous interviews of teachers, pupils, parents and community and school leaders, the CRIQPEG research team acquired considerable insight into the processes of classroom instruction, the allocation of teachers' time, the characteristics of curriculum and the distribution and use of instructional materials (*IEQ in Ghana*, July 1995). The findings of CRIQPEG's Phase I research are summarized in Table 2 under three categories: availability and source of instructional materials, utilization of materials, and timetable. In summary, the preliminary study suggested that many Ghanaian pupils may not have had the opportunity in school to acquire even basic English language skills because pupils were generally not interacting with the teacher, classmates, or written materials in ways that would promote English language fluency and literacy. Therefore, in grades P3-P6, where English becomes the language of instruction, pupils were constrained

from understanding their classes in mathematics, science, etc.

One of the results of the findings of the Phase I research was particularly surprising to PREP, namely, the limited use of textbooks in classroom instruction. Where textbooks were getting out to the rural distribution points, they were often not getting into the actual schools, because the head teachers were being held responsible for picking the books up from the distribution points, a journey of some considerable distance for most of them and one which would entail more time to carry out than they had. Furthermore, even when the books did make it into the schools and the teachers had the textbooks, teachers were not sharing the books with the students.

**Table 2: Findings of Phase I Research**

<b>Availability and Source of Instructional Materials</b>	
➤	Most schools were supplied with enough textbooks to provide approximately one textbook for every two pupils across subject, grade and location. (With one exception, where parents provided a small number of textbooks to a P5 English class, all books were provided by the Government of Ghana);
➤	Not all textbooks were distributed to the pupils, even when available in sufficient numbers;
➤	Every classroom observed had at least one chalkboard provided by the community;
➤	Many students did not have pens or pencils;
➤	The teachers had access to teacher's guides in 46 out of 54 English, math, and science lessons;
➤	Ad hoc materials provided by both pupils and teachers were available in most math and science classes, e.g. bottle tops, match boxes, sasparillo seeds, pebbles;
➤	Instructional charts were visible on the walls of only one classroom.
<b>Utilization of Instructional Materials</b>	
➤	The chalkboard was the instructional material most frequently used by teachers;
➤	Teachers integrated textbooks into instruction by copying passages and exercises from the books onto the chalkboard or by referring to diagrams in the book;
➤	On the part of the pupils, exercise books and pens/pencils were the most frequently used instructional materials;
➤	Ad hoc materials were used in lower primary math classes; they were also used in most science classes but never in English;
<b>Timetable<sup>32</sup></b>	
➤	Teachers often did not teach according to the timetable. Of the three observed subjects, English, math and science, the least amount of teaching time was given to science;
➤	Subjects such as life skills, agriculture and physical education were seldom taught;
➤	Much of the time in school was idle wherein no subjects were taught. Children spent this time playing.

<sup>32</sup> According to the Atwereboanda Team's report on their research on 'Actual Time Allocated to Subjects by Teachers,' "By far the most striking feature observed in the classrooms during the study was the vast discrepancy between the official timetable and the teacher's own work schedule for the day." On 5 out of the 8 days' of intensive observation, the pupils in P1 actually received instruction less than 45% of the time scheduled for instruction, and P3 students received instruction during less than 40% of their scheduled instructional time." The research team concluded that not only did teachers not teach certain subjects on the timetable, but also the teachers deviated at an alarming rate from the timetable (*Final Report of the Atwereboanda Research Team*, April 30 1993).

sleeping, or amusing themselves in other ways.

(Source: *IEQ Project Activities in Ghana*, 22.9.93; Trip Report #13, Attachment #4.)

Although PREP was providing enough textbooks for approximately every two pupils to share one between them, the textbooks were generally not being distributed for the pupils to use. Instead, they were locked up in teachers' cupboards or stored in boxes. Thus, students were not allowed to use textbooks either in the classroom or at home (*First International Exchange on Educational Quality*, 23-24 Sept. 1993). When they were interviewed, teachers gave several reasons for their practice of withholding textbooks, including: (1) the textbooks were too difficult for the children; (2) the contents of some of the books did not agree with the syllabus; and, (3) they wanted to prevent the books from getting damaged since, according to the Ministry's policy, the teachers were held responsible if the books needed to be replaced or repaired (*CRIQPEG Newsletter*, Volume 1, January 1996).

### **Dialogue and Dissemination of Information: Phase I**

The IEQ Project in Ghana has engaged in various exchanges of information to create opportunities for dialogue and partnerships among researchers, educators and policy makers from the local to the national level.

At the local level members of the host country research team, its team leaders and the Research Coordinator were drawn together with the head teachers from the six sample schools and their circuit supervisors during the bi-weekly CRIQPEG visits to the six schools to observe classroom interactions. Following each visit, the CRIQPEG researchers held a meeting with the classroom teachers in the presence of the head teacher for an exchange of ideas about instructional strategies and classroom behaviors.

At the national (and international) level the Second Annual National Conference on Improving Educational Quality in Primary Schools in Ghana was held in October, 1993, hosted by CRIQPEG. The Conference began with the formal opening of the CRIQPEG office occasioned by key addresses by the newly-appointed Minister of Education, the Vice Chancellor of the UCC, and the USAID Mission Director. Other representatives of the Ministry of Education and PREP, along with more than 50 people including district educators, head teachers, teachers and parents, attended subsequent presentations and discussions of CRIQPEG's research findings from Phase I (Trip Report #16, 1993).

Also, as a result of the Atwereboanda Research Team's special interest in and research on the amount of teachers' time devoted to subjects, the high degree of teacher deviation from the timetable became public knowledge. That knowledge then precipitated a dialogue which grew from the local to the national level, as the CRIQPEG team recommended that a large-scale study be undertaken to investigate teacher time allocation to all subjects so that policy makers could be advised and appropriate solutions could be found (*CRIQPEG Research Project on Improving Quality of Primary Education in Ghana: Final Report of the Atwereboanda Research Team*).

Eventually, the team's research findings from Phase I were included in a special report presented by John K. Nimo, Department of Primary Education, UCC, at the Inaugural Meeting of the IEQ Project National Advisory Board in Accra on 25 April 1995.

Following the collection of the preliminary data between January and April 1993,

research findings for Phase I were summarized in an Executive Summary Report published in June 1993 and distributed both inside and outside of Ghana.

In Washington, D.C. on 23-24 September, 1993 the First International Exchange on Educational Quality was hosted by IEQ. Three CRIQPEG team members, Henry Akplu, Joseph Dzinyela and Beatrice Okyere, and the Deputy Director General of the Ghana Education Service, John Atta-Quayson, attended this international colloquium which also included members of host country research teams from IEQ projects in Guatemala and Mali (*First International Exchange on Educational Quality*, 23-24 September 1993).

Prior to going to Washington for the International Exchange, the Ghana team was invited to visit Fordham University in New York City for in-depth discussions with Abigail Harris and Jane Schubert regarding the research design for Phase II of the project,<sup>33</sup> and to attend a professional development seminar on second language acquisition.<sup>34</sup> There were opportunities at Fordham for the Ghana team to dialogue with Fordham faculty and, at a reception hosted by Fordham, to meet Fordham's Dean of Education.

The International Exchange was followed by an IEQ Retreat at Harper's Ferry for a more informal discussion of Project goals and a comprehensive exchange of information among the visiting host country researchers from the IEQ Project core countries, IIR members and consultants working on IEQ, and representatives from the University of Pittsburgh and Juarez & Associates. Both the Exchange and the Retreat provided opportunities for CRIQPEG team members to formally and informally interact with a key Ghanaian educational policy maker as they shared the preliminary results of their Phase I research and discussed the implications of the research for future policy and practice.

### **Impact on Policy and Practice: Phase I<sup>35</sup>**

The findings of CRIQPEG's Phase I research have resulted in proposals for changes in policy and practice throughout the entire educational system in Ghana. For example, CRIQPEG's disclosure, first reported in June 1993, that teachers were not using textbooks in their classrooms because they were held responsible for whatever damage might befall them strongly influenced a change in national policy: to allow pupils to take home textbooks without holding teachers accountable for any soil or damage to the books. Also, CRIQPEG's finding that head teachers

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<sup>33</sup> These meetings introduced the visiting Ghanaian researchers to the design shift proposed for Phase II, namely focusing the research only on English language learning (Harris memo of Jan. 1997).

<sup>34</sup> The seminar at Fordham was conducted by Dr. Angela Carrasquillo, an internationally recognized expert in the field on second language acquisition.

<sup>35</sup> IEQ research was having an impact on the educational practice of the researchers as well. During early 1993 the HCRT was polled weekly on "how the experience in CRIQPEG had changed their lives." At the third professional development seminar held at UCC in May 1993, CRIQPEG team members discussed how the IEQ experience had affected their lives and their teaching practices (Trip Report #13, 4 June 1993).

were not provided incentives to travel to the distribution centers to pick up the textbooks spurred a reconsideration of that policy, leading to a new policy that required the government to pay transportation costs for head teachers to go to district offices to collect the textbooks. (*Memo, IEQ in Ghana*, Schubert, April 1995 ). These liberating policies, operationalized in 1995, have affected educational practice by encouraging teachers to use textbooks in class and to assign textbook “homework,” which encourages, in turn, students to study longer by taking their books home with them (*Memo, IEQ in Ghana*, Schubert, April 1995).

### **Research: Phase II (A)**

The goal of the Phase II research, which occurred from October 1993 through September 1994, was to apply what was learned from the Phase I findings to identify instructional strategies (interventions) associated with improved English language competence, to introduce those interventions back into the classroom, and then to measure their impact on teacher/pupil behavior and pupil performance as the research spiral continued.

There were two distinct segments of research that occurred during Phase II: Phase II (A), which took place between October 1993 through March 1994, was designed to establish a baseline of data by which to develop profiles of pupils’ English language proficiency (oral, written and reading) in grades P2 - P5 and Phase II (B), which occurred from March 1994 through August 1994, involved the introduction of instructional strategies (interventions) into classes to improve the teaching and learning of English, followed by the measurement of the impact of those strategies on pupil/teacher behavior. Thus, while attention was given during Phase II (A) to the conditions and activities related to establishing the level of English proficiency in grades P2 - P5, in Phase II (B) increased attention was given to translating research findings into interventions to be introduced into the classroom, a process termed the “feedback loop.”<sup>36</sup>

IIR called several design meetings over the course of the summer in 1993, as the CRIQPEG team members in Ghana and the IIR consultants wrestled with how to design the Phase II research. Dr. Abigail Harris, IIR consultant, redesigned the research plan several times (Harris, Jan. 1997).<sup>37</sup> By September the math and science focus had been dropped in favor of concentrating IEQ’s research solely on English language learning.<sup>38</sup>

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<sup>36</sup> “Immediate feedback of information (research findings) to individual teachers and groups of teachers is an integral part of the research design” (Schubert, Trip Report #16, p. 14).

<sup>37</sup> As late as July 1993, the research design proposal being worked on by Dr. Harris included a study of the math and science instruction and learning as well as the English-language, as evidenced by one of the research questions included in the design of the research at that time: What is the relationship or match between the skill levels required in Ghanaian English, Math and Science textbooks and pupil skill levels (*IEQ in Ghana*, July 1993)?

<sup>38</sup> In Ghana students make a considerable transition between P3 and P4 when the language of instruction shifts from the vernacular, used in the early primary grades (P1-P3), to English in the upper primary grades (P4-P6). The stronger their English language skills in the early primary grades, the more success the students have in the upper primary grades.

The IEQ Project Director, Jane Schubert, attributes the change in the focus of the IEQ research to several factors. First, results from CRIQPEG's Phase I study suggested that a majority of Ghanaian pupils were experiencing difficulty in meeting the Government's expectations that by P4 they would be able to understand oral English, use written and oral English in class and be able to read English in subject textbooks. Discussions among CRIQPEG researchers, and with educational leaders and policy makers over the summer in 1993 revealed an emerging concern that English language learning was key to improving the quality of education in Ghana and that IEQ research should focus on English language learning and on the factors affecting language learning inside and outside of the classroom (Harris, *IEQ/Ghana*, 16 Feb. 1995; Harris memo, Jan. 1997; *The Quality Link*, Spring 1996, No.5).

In discussions during the professional development seminar in May 1993 between IIR consultant, Don Adams, and CRIQPEG, research team members offered that they wanted their research to make a difference in the schools. The team members pondered why they had observed so few textbooks being used and they noted that progress in covering the units was very slow. "They lamented that teachers relied on rote learning from the chalkboards and didn't make the pupils speak English all the time like they (the researchers) had done when they were in school" (Harris, Jan. 1997). CRIQPEG's classroom observations showed that communication between pupils and teachers was almost non-existent, further constraining the teaching/learning dynamic. CRIQPEG's Phase I Report produced in June 1993 noted that students could not speak English. While the focus of the Phase I research was on more effective use of instructional materials, "the CRIQPEG findings were suggesting that language was key" (Harris, memo, Jan. 1997). This suggested that CRIQPEG needed to know more about students' literacy skills.

Second, in the spring of 1993, the results of the student performances in the criterion-referenced tests (CRTs) administered by PREP to a sample of P6 pupils revealed such a low level of English literacy that the pupils' scores were equivalent to what would be expected by chance.<sup>39</sup>

(Mr. Adu of PREP commented that many of the level 6 pupils who took this end-cycle exam could not write their names.) While initially praising the quality of CRIQPEG's report on the Phase I findings, with the qualification that he found "little new information," Dr. Habib Khan, then Head of USAID/Accra, said that he hoped that the "next phase" would lead to the "identification of new instructional strategies which might be used nationwide." It was clear that Dr. Khan's interest was in immediate interventions (Harris, January 1977). Dr. Khan and the USAID Mission Director, Joseph B. Goodwin, met with the IEQ Project Director, Jane Schubert, and visiting consultant, Don Adams, from the University of Pittsburgh, during their September 1993 trip to Ghana, to urge adjustments be made to the research design "to make IEQ more directly supportive of the work in criterion-referenced testing. Specifically, USAID recommended research be included in the upper primary grades which might help explain the CRT findings of low achievement among P6 pupils. Habib requested a clearer expression of IEQ's relation to PREP" (Trip Report #16, Schubert, et al, November 1993).

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<sup>39</sup> It was felt that the poor results of the criterion-referenced tests (CRTs) across the board in P-6 reflected a general lack of understanding English, the language of instruction and testing. The poor showing in the CRT was of great concern to USAID/Accra, as reflected by Habib Khan's comments to Jane Schubert and Don Adams during their visit to Ghana in September 1993 (Trip Report #16, Sept.-Oct. 1993).

Third, by the fall of 1993 the results of a Senior Secondary School examination showed that 95% of the candidates could not qualify to take the university entrance examination. "Understanding language is the core of classroom learning, and a prerequisite to understanding [literature, science or math] textbooks is understanding language" (Schubert, Dec. 1994).

An opportunity to continue the dialogue and consensus building on the research design for Phase II occurred when the Ghana team came to the U.S. in September, to meet Dr. Harris at Fordham University for several days of discussion and attend a seminar conducted by Dr. Carrasquillo (of Fordham University), an internationally recognized expert on second language acquisition. "Initially, the visiting CRIQPEG members wanted to do everything -- focus on language and on learning math and science, and on promoting active teaching, etc. They were concerned that team members not participating in the discussions would resist the change, particularly dropping math and science" (Harris, 1997). However, limited resources and the constraints of attempting to design a feasible study made doing everything impossible (Harris, memo, Jan. 1997) .

When the Ghanaian team returned to Ghana, they shared with the other team members the decisions made while they were in the U.S. to change the research design for Phase II. The change in the research focus marked a turning point for the CRIQPEG team in their conceptualization of the project.<sup>40</sup> At that point the centrality of the project appeared to be researching pupil performance in reading, writing, speaking and understanding English, "with an emphasis on lower primary -- if choices had to be made" (Harris, January 1977). "For purposes of this research, educational quality is operationally defined as language competence. A goal of Phase II will be to identify interventions that are associated with improved English language competence" (Trip Report #16, Appendix, p.2).

At the Second Annual Conference on Improving Educational Quality of Primary Schools in Ghana in October 1993 the plans for research activities in Phase II were introduced and discussed. Following the Second Annual Conference, CRIQPEG's Research Coordinator, Beatrice Okyere, sent a letter dated 4 November 1993 to IEQ Project Director Jane Schubert, summarizing three recent trips she had made to Accra to discuss the design of the Phase II research with Dr. Habib Khan:

Dr. Khan is in favour of interventions that will quickly solve problems that have been identified, the approach being different from our design for Phase II. Colleagues and I had a lengthy discussion on this and ... I could clearly see the similarities and differences between Dr. Khan's approach and ours. My last meeting with him on the design turned out to be an oral defence of our design. He invited three (3) USAID officials, two of whom have been on the team conducting the mid-term evaluation of PREP, Dr. Snyder of Ohio University being one of them. I made a presentation of the study for Phase II, stressing why we have decided on Language Proficiency and the study design. Some

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<sup>40</sup> According to a former CRIQPEG Team Leader who remained in Ghana during the summer of 1993, the first that the CRIQPEG team in Ghana heard about the change in research focus to English-language learning/teaching was upon the return to Cape Coast of their CRIQPEG colleagues from their trip to Washington, D.C. and New York (F. Amedahe, University of Pittsburgh, July 1995).

questions were asked after the presentation. No changes were suggested though, except a recommendation that we include four equity schools in our sample of fourteen schools (letter of Nov. 4, 1993, from Beatrice Okeyere at UCC to Jane Schubert).

"In response to USAID suggestions and after extended discussions, CRIQPEG decided that Phase II research should include classroom studies of language in primary grades 2 through 5" (Schubert, Trip Report #16, p. 13). This adjustment allows examination of the transition from the types of materials and instruction provided when English is taught as a second language, P2 and P3, through two years, P4 and P5, when English is the language of instruction. "Earlier discussions had focused only on lower primary grades" (Schubert, Trip Report #16, Nov. 1993).

Again, in November 1993, Dr. Habib Khan, USAID/Ghana, voiced his concerns, this time to Dr. Aida Pasigna, a visiting IIR consultant, about the IEQ Phase II research design, the Project's emphasis on data collection and what he perceived to be the project's slowness in introducing the necessary interventions to improve instruction in the schools. He believed that "we already know what the problems are" (Trip Report #19). In reply, Dr. Pasigna stressed "that the intervention(s) must be relevant to the actual needs of the teachers and the students, and that the individualized testing, interviews, and observations that are planned for January's collection of baseline data will add another dimension to whatever other data already exists on student performance and perceived problems in the primary schools and thereby provide IEQ with a stronger rationale for the selection of the most appropriate intervention(s) to try out" (Trip Report # 19, p.4). CRIQPEG's research efforts were geared towards optimizing the continuous process of testing, providing feedback, implementing interventions and evaluating the impact of the interventions at staff development seminars and in follow-up and supervisory visits with the head teachers and circuit supervisors of the intervention schools.

### **Research Questions: Phase II (A)**

The poor CRT results raised questions: "What is happening with the textbooks in primary school classrooms? What factors affect oral, written and reading language learning? What were the pupils' experiences with learning the English language? What changes were necessary to enable teachers to use instructional materials effectively to promote English language competence?" (Schubert, *Classroom Profiles as a Stimulus for Improved Policy and Practice*, Dec. 1994, p. 4).

The CRIQPEG team, with input from the IEQ Project Director, Jane Schubert, IEQ consultants Abi Harris and Aida Pasigna, and USAID/Accra, identified the following questions to guide the first cycle of Phase II research (Trip Report #16, Appendix, *Phase II Research Design*, p.1):

- What are the English language proficiency levels of Ghanaian primary pupils?
- What are the factors inside the classroom (e.g., teacher and pupil characteristics and behaviors) and outside (such as the influence of parents, community, educational officers, policy makers) that affect oral and written language learning?

### **Sample: Phase II (A)**

Dr. Habib Khan, USAID/Ghana, requested that IEQ expand the sample of schools to be studied in the second phase of the project because USAID was anxious to test the initial findings in a larger pool of schools (Trip Report #16, November 1993; Schubert, Boston, April 1995).

CRIQPEG and the IEQ Project Director, Jane Schubert, agreed to the requested expansion. As a consequence, the research sample for Phase II focused on grades P2-P5 and was expanded to

include 14 schools in the Central and Western Regions: 7 in the Central Region – the original 6 pilot schools plus 1 new school (2 urban, 3 rural and 2 semi-urban) and 7 new schools in the Western Region (1 urban, 5 rural and 1 semi-urban); see Table 3 (*The English Language Proficiency of Selected Ghanaian Primary School Pupils: Phase II Research Report*, CRIQPEG, December 1994, p. 4). Considerations for the choice of region were not only geographic, but also linguistic. Although the Central and Western Regions share similar culture and languages, the Western Region has some unique dialects which not all the CRIQPEG team members could speak. Thus, each research team had to be sure that at least one of its members could speak the language of the local area to which the team was assigned.

**Table 3: Distribution of 14 Schools Selected for Phase II (and subsequent research)**

NAME OF SCHOOL	STATUS	CODE	LOCATION	REGION
Aboom A.M.E. Primary	Intervention	01	Urban	Central
Atwereboanda R.C. Primary	Intervention	02	Rural	Central
Babinso D/A Primary	Intervention	03	Rural	Central
Gomoa Brofoyedur R.C. Primary	Intervention	04	Rural	Central
Mando D/A Primary	Intervention	05	Semi-Urban	Central
Moree Methodist Primary	Intervention	06	Semi-Urban	Central
Nyinase Catholic Primary	Non-Intervention	07	Rural	Western
Swedru A.D.C. Primary	Intervention	08	Urban	Central
Archbishop Porter Primary 'B'	Non-Intervention	09	Urban	Western
Daboase United Primary	Non-Intervention	10	Rural	Western
Mporhor Methodist Primary	Non-Intervention	11	Semi-Urban	Western
Nyankrom STMA Primary	Non-Intervention	12	Rural	Western
Old Daboase Junction Primary	Non-Intervention	13	Rural	Western
Sekyere-Krobo D/C Primary	Non-Intervention	14	Rural	Western

Source: *Phase Two Research Report*, December 1994.

### **Data Collection: Phase II (A)**

Phase II (A) continued the mixed methodology design used in Phase I, a design that the IEQ Project Director believed, in addition to establishing a knowledge base, captured "emerging understanding" as the Project unfolded by combining the strengths of both the quantitative and

qualitative processes (*The Qualitative Link*, No. 3, Summer 1994). Quantitative and qualitative data were generated by assessing pupil performance, by classroom and pupil observations, and through interviews with pupils, parents of selected pupils, teachers, and local educators (head teachers and circuit supervisors) of the participating schools.

To establish a picture of current pupil performance, CRIQPEG, working with IIR consultants, Drs. Abigail Harris and Aida Pasigna of IIR, developed a Curriculum-Based Assessment (CBA) approach. CBA links the assessment process to local instruction by asking pupils to perform tasks selected from the national curriculum drawing directly from the Ghanaian syllabi and textbooks.<sup>41</sup> The specific tasks are selected, administered and scored using standardized procedures and the assessment results are used to adapt instruction to reflect the learners' needs (*Biennial Report #3*, p.4). Observation and interview schedules, teacher rating sheets and English proficiency tests using the syllabi and textbooks from Ghanaian primary schools were developed to collect the expanded baseline data for the Phase II (A) research cycle (*Biennial Report #3*, p. 5). "These parallel test forms were created to measure pupil proficiency levels that ranged in skills from very basic (e.g., copying letters and responding correctly to simple oral questions) to grade-level appropriate (e.g., reading a typical passage of average difficulty from the English textbook with a minimum of 70% accuracy)" (*IEQ Biennial Report #3*, p.6). Task groups composed of CRIQPEG researchers and IEQ consultants collaborated in the development, pilot testing, and revision of these instruments to measure pupil performance in each of the three areas being tested: English reading, writing and oral language proficiency (*Inaugural Meeting of the Advisory Board, Accra, April 1995*).<sup>42</sup> "The process began with a

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<sup>41</sup> Since no published tests were available to educators in Ghana at that time for assessing individual pupil performance or for providing classroom-level feedback on the national curriculum, in order to analyze the instructional needs of Ghanaian primary pupils, it was first necessary to develop assessment instruments that were directly relevant to the Ghanaian curriculum. At the same time that IEQ was "getting off the ground" in Ghana, criterion-referenced tests were being developed for national monitoring purposes. However, the CRT focused on the end-of-cycle performance of primary pupils and were never intended for monitoring individual performance or for providing immediate feedback to local educators. (*CBA and Improving the Quality of Primary Education in Ghana* from the *IEQ Biennial Report #3*, p. 5, January 1997).

<sup>42</sup> The skills assessed in each area ranged from very basic (e.g., letter recognition and responding to simple oral questions) to grade level appropriate (e.g., reading a passage of average difficulty from the English textbooks with at least 70% accuracy). IEQ's method of measuring pupil performance is directly linked to instructional improvement. "Curriculum-based assessment (CBA) links the assessment process to local instruction by asking pupils to perform tasks that are drawn from the curriculum specified for a particular class level. In Ghana the instruments were developed from the English syllabus and the English textbooks used in Ghanaian primary schools. Pupils may be asked to read from their textbooks or to answer questions about the story. What distinguishes CBA from informal assessment is that 'the specific tasks that pupils are asked to perform are selected, administered and scored using standardized procedures'" (*The Quality Link*, No.2). Pupil performance assessment may be used

review of the English language curriculum in Ghana. Using the English syllabus, the teacher guides and the textbooks, it was possible to identify the objectives and related skills that each pupil was expected to master at each level of primary education. This formed the basis for deciding what to measure. Major skills were identified and listed in the order in which they were represented in the instructional materials. For each language mode -- oral language (listening and speaking), reading, and writing -- specific tasks were developed to measure the skills identified in the Ghanaian language curriculum” (Harris, *Assessment in Ghana, The Quality Link*, Spring 1996, No. 5). Table 4 provides some examples of these tasks.<sup>43</sup>

**Table 4: Examples from Curriculum Based Assessment (CBA) Instruments in Ghana**

TASK	GR	WHAT IT MEASURES	SAMPLE QUESTION	SCORE	SAMPLE INTERPRETATION
<i>Oral Language</i>					
Listening Comprehension: P6 Passage	P6	Understanding a passage from the textbook that is read to the pupil.	Comprehension questions based on the passage, e.g. “What did Dede find out?”	% Correct	When a passage from the P6 textbook is read to the child, she demonstrates that she understood by responding correctly to more than 75% of the comprehension questions.
<i>Pre-Reading/Reading</i>					
Reading Passage from Textbook	P2-P6	Decoding accuracy	Passages selected from P2-P6 textbooks.	Words % Correct	For 25% of the pupils in this classroom, the passage is too difficult and consequently pupils will become frustrated and the learning will be inefficient.
<i>Writing</i>					
Writing Story	P6	Words spelled correctly in written expression	Ex. Most children in Ghana know Anansi stories. Write an Anansi story or some other kind of story	Words spelled correctly (#)	Of the 125 words that Akua wrote, 119 (95%) were spelled correctly.

to create profiles of abilities in reading, writing, listening and speaking by individuals, classrooms, schools and regions (*Types of Information CRIQPEG Collects*, Dec. 1994, p. 5).

<sup>43</sup> For each task described in Table 4, there is a description of “what it is intended to measure, sample questions to illustrate how the skill is measured, a brief statement of how it is scored, and illustrative examples of how the scores can be interpreted. In providing the sample interpretations, an attempt was made to show the range of possible ways the data can be used. Thus, some of the interpretations describe the performance of an individual pupil, some profile a class or group of children and some refer to interpretations such as are used in program evaluations” (A. Harris, “Assessment in Ghana,” *The Quality Link*, Spring 1996, No. 5).

The prototype versions of the data collection instruments, including interview and classroom observation forms, were reviewed and edited by Aida Pasiona, before they were pilot tested in the classrooms of one urban and one rural school between December 6 and 9, 1993.<sup>44</sup> A final revision of the instruments was developed following the pilot testing, and in February 1994 the Phase II (A) research began with the collection of baseline data on pupil performance in reading, writing and oral English language on 1,032 pupils from 56 classrooms, P2-P5, in the 14 participating schools in the Central and Western Regions. In addition, teacher ratings were collected on individual pupil performance and teacher backgrounds (*Notes for Abi ...* from Jane Schubert, April 28, 1995; *Biennial Report #3*, Jan. 1997, p. 4).

In March 1994 preliminary classroom observations began in all 14 schools (see Table 5) using a form developed by CRIQPEG to identify factors potentially affecting English language learning.<sup>45</sup> At the same time the CRIQPEG research teams conducted interviews with pupils, teachers, head teachers, circuit supervisors, parents and PTO (parent-teacher organization) members in the 14 schools. Individual results were aggregated by classroom and by school, as well as overall (Trip Report #19, Pasiona; Trip Report #27, June 1994).

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<sup>44</sup> “The pilot testing was conducted by two eight-member teams on 3 sets of a random sample of ability-grouped pupils in the two pilot schools: high (5), medium (5) and low (5). The grouping of the pupils was done by each teacher, based on his/her own assessment of the pupils' proficiency in English. The random selection of the pilot test sample from the three groups in each class was done by the examiner. The training of the pilot test team was conducted by the leaders of the four work groups (with assistance from Dr. Pasiona of IIR). When the trainees expressed their concern about the amount of time that the testing would take, it was decided that using a stratified random sample of pupils for the pilot testing would be more efficient than involving all the pupils in the selected classes of the pilot schools.” The data collection was followed by a feedback session with the entire CRIQPEG team and Dr. Aida Pasiona of IIR during which specific revisions on each test were discussed and agreed upon based on the pilot test experience (TR #19, Pasiona, Nov-Dec 1993).

<sup>45</sup> These open-ended instruments were used only this one time for data collection and were replaced by ones developed by IIR consultant, Abi Harris, in May, 1994, in a collaborative effort with the CRIQPEG team members to produce revised pupil and classroom observation forms that would monitor teacher efforts to link instruction to the instructional needs of the pupils and to monitor the implementation of the instructional strategies and materials (interventions) that were being introduced (Trip Report #27, p. 3). The pupil observation form uses a time sampling approach and is designed to monitor pupil exposure to and use of print and language usage in the classroom, instructional strategies, lessons offered, etc. This form was designed to identify intervention processes and move to incorporate them in the system (Telephone conversation with A. Harris, Feb. 7, 1997, J. Sylvester).

**Table 5: Phase II (A): Data Collection Schedule**

Date	Data Collected
Dec 1993	Prototypes of data collection instruments pilot-tested in one urban and one rural school.
January 1994	Baseline data of pupil proficiency in English language learning (oral, written and reading) begins along with classroom observations.
March	Pupil performance testing begun in January continues in March. Classroom observations undertaken, using a form developed by CRIQPEG, in the 7 intervention and 7 non-intervention schools. Interviews held concurrently by the CRIQPEG team with pupils, teachers, head teachers, circuit supervisors, parents, and PTO members in the 14 schools.
April	Classroom observations and interviews begun in March continue in April.
May	Data from March/April interviews and classroom observations completed and analyzed.

( Source: Pasiona/Harris, Trip Report #27; Pasiona, Trip Report #19; Harris, Jan. 1997.)

#### **Data Coding and Analysis: Phase II (A)**

The data collected between January and March were compiled into summary sheets for data processing and analysis. CRIQPEG members were trained by Dr. Aida Pasiona to code and enter data in the computer, using SPSS to analyze the baseline data generated by the pupil performance instruments for the 56 classes of grades P2-P5 in the 14 participating schools. During the next three months the research teams summarized the raw data and shared the results with the Ghanaian educational leaders (Trip Report #23, Pasiona, February-March 1994; *Biennial Report #3*, p. 6).

#### **Research Findings in Phase II (A)**

Pupil performance measured by the Curriculum Based Assessment (CBA) instruments revealed that the most common learning difficulties were in the areas of listening comprehension, oral and written expression, and reading<sup>46</sup> -- both decoding and comprehension (see Table 6).

The pupils' performance data seemed to reflect the instructional emphasis on copying and choral repetition as opposed to comprehension and open-ended oral or written expression. Thus, the students had little opportunity for individual recitation and there was little attempt made to ascertain whether the students understood what they were repeating. Results also indicated that most pupils had not mastered the language skills necessary for basic oral and written English

<sup>46</sup> "For various reasons the students get little practice in reading: libraries are rare; noise and work in home life prohibit reading; time after school is usually spent working for family; parental encouragement is often minimal because of their own illiteracy; and textbooks are in short supply" (Harris, 1994; *The Quality Link*, No. 3, Summer 1994).

communication at their grade levels. Pupils experienced the most difficulty on questions requiring them to express themselves orally. The pupil performances fell far short of general expectations of English mastery by the third grade (Doc #2608, Harris, 18 April 95). "This confirms the hypotheses generated by the Phase I research that children do not have the skills to use textbooks efficiently and that they need more opportunities to practice and apply beginning English skills" (*The Quality Link*, No. 3, Summer 1994, p.2). The CRIQPEG findings shed light on why the pupils experienced so much difficulty with the CRT: "Reading and comprehending multiple choice questions was beyond the reach of all but about 15% of the P-5 pupils tested in the 14 participating schools" (*IEQ Biennial Report #3*, Jan. 1997, p. 41).

**Table 6: Findings of Phase II (A) Research**

<b>English Language Proficiency Levels of Ghanaian Primary Pupils , P2-P5</b>	
<b>Oral</b>	<ul style="list-style-type: none"> <li>• Over 85% at all grade levels assessed performed at the non-mastery level and almost none (less than 2% overall) of the children performed at a full mastery level.</li> <li>• Pupils could comprehend only simple oral instructions (e.g., "sit down," "stand up").</li> <li>• Pupils were generally unable to respond correctly to oral directions requiring the use of vocabulary and pictures used in text books.</li> <li>• Pupils were unable to express themselves in English, often responding in the local language to questions asked in English.</li> </ul>
<b>Reading</b>	<ul style="list-style-type: none"> <li>• Substantial proportion of the children at all grade levels were nonliterate in English, i.e. unable to read 30% of the words in a primary school passage.</li> <li>• Pupils get little practice in reading.</li> <li>• Textbooks used in only 15% of the observed time.</li> </ul>
<b>Writing</b>	<ul style="list-style-type: none"> <li>• Most Ghanaian children could copy letters (93% by grade 3 and 99% by grade 4).</li> <li>• Most could write their names (60% by grade 3; 79% by grade 4; 95% by grade 5).</li> <li>• Fewer than 50% could write 15 or more English words.</li> </ul>
<b>Factors Inside the Classroom that affect oral and written English language learning</b>	
➤	Emphasis on copying not comprehension: teachers copied text directly from their own textbook on to the chalkboard and requested the students to recite in unison what was written on the board.
•	Emphasis on choral repetition not open-ended oral or written expression.
•	Little opportunity for individual recitation.
•	Little attempt made by the teachers to ascertain whether the students understood what they were repeating.
➤	Across all 14 schools, textbooks were used as part of English instruction only about 15% of the observed time (although textbooks were more accessible and used more often in the intervention schools.)
•	Creative writing and rhyming were generally not employed.
<b>Factors Outside the Classroom that affect oral and written English language learning</b>	
•	Pupils not encouraged to speak or use English outside the classroom because English was not spoken by their friends or family.
•	Pupils got little practice with reading English.

(Source: *Quality Link*, #3, Summer 1994, Harris; *Classroom Profiles*, Schubert, Dec. 1994; Harris, April 1995).

Observation and interview data confirmed what the pupil performance instruments measured: a substantial proportion of the children at all grade levels were nonliterate in English. Classroom observations and interviews with parents, pupils and teachers disclosed that speaking English was not encouraged. The students were unable to answer comprehension questions about passages from their English texts. Observations and interviews also disclosed that pupils, because of numerous constraints, got little practice with reading (see footnote 47). Further, observations evidenced that the practice of writing was usually relegated to a limited function: "the pupil takes dictation and the teacher looks at the sentence construction." The creative aspects of writing and rhyming were generally not employed, depriving the students of another potential tool for language learning<sup>47</sup> (*The Quality Link*, Number 3, Summer 1994; *Classroom Profiles as a Stimulus ...*, Schubert, December 1994).

### **Dialogue and Dissemination: Phase II (A)**

The findings that resulted from the baseline data collected from all 14 schools during the initial research activities in Phase II were shared in at least three ways: (1) with the classroom teachers and their supervisors to guide their efforts to improve learning among their students; (2) with national policy makers whose decisions affect the quality of primary education; and, (3) with the decision makers involved in the curriculum revision process (*Using CBA in Ghana: Assessment >Feedback >Improvement (Draft)*, A. Pasiona, *et al*, Feb. 1996).

At the local level, the dialogue and dissemination of information began at the 3-day professional development workshop for the CRIQPEG team members held in May 1994. The focus of the three-day seminar was, first, to make a determination of the interventions to be introduced into the English language classrooms in the 7 intensive schools and, second, to train the trainers (circuit supervisors and head teachers) how to implement these interventions in their respective schools in a way in which the training, itself, would become a model for the trainers to follow during Phase II (B) research activities. Following the seminar, the CRIQPEG team members and the local educators collaborated in presenting on-site school-level workshops where classroom teachers of the intervention schools were trained to introduce the following interventions into their classrooms:

- encourage practice with oral English: use English constantly to provide practice in both listening comprehension and oral expression;
- increase pupil exposure to print: surround the pupils with opportunities to read, e.g., printed labels on common objects found in the classroom, using textbooks frequently, allowing/encouraging pupils to take textbooks home with them, getting pupils to circle all the words they can read from newspapers, magazines, other forms of written text with which to make flash cards;

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<sup>47</sup> Motivated by this finding, the teachers in the 7 intervention schools requested of IEQ a professional development seminar on writing techniques which was conducted by Dr. Pasiona in January 1996 for all the teachers, head teachers and circuit supervisors of the 7 schools.

- adjust instructional practice to help all pupils become successful learners: provide timely and appropriate remedial help to ensure that learning really takes place for every student (*Trip Report # 27*, June 1994, p.5; *The Quality Link*, Summer 1994, No.3; *Biennial Report #3*, 1997).<sup>48</sup>

Circuit supervisors, head teachers, teachers, parents and CRIQPEG team members collaborated periodically over several months to promote these improvements in the 7 intervention schools (*IEQ Biennial Report*, Jan. 1997, p.6) The dialogue and dissemination of information continued during the weeks following the May development workshop when the CRIQPEG research teams traveled, in the company of the head teachers and circuit supervisors, to their respective intensive schools to train the classroom teachers in the use of the new instructional goals, strategies and materials developed during the May workshop.<sup>49</sup> Educators and parents from the other 7 (nonintensive) schools only participated in the research data collection activities.

From June through August 1994, weekly and biweekly visits were made by the CRIQPEG teams to the 7 intervention schools (also known as "intensive" schools), where the instructional interventions were introduced to share preliminary research ideas and observations with the head teachers and classroom teachers. After each observation session, the CRIQPEG team leader would meet with the head teacher of the school and the teachers of those classrooms that were being observed for an immediate exchange of information regarding the CRIQPEG member's observations of classroom behaviors and teaching strategies. A dialogue followed between the teachers and the researchers around suggested changes in teaching strategy to be tried out prior to the next CRIQPEG visit to that classroom in this on-going exchange.

The impact of the May 1994 workshop extended beyond the circle of the P2-P5 teachers in the intensive schools. When CRIQPEG visited the 7 intensive schools it was typical for other teachers in the school outside the P2-P5 (i.e., the P1 and P6) levels to request inclusion in the 2-day training even though they were not part of the research and knew that they would not receive their own set of instructional aids. The teachers' behavior reflected the impact that the

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<sup>48</sup> The third goal emphasizes that learning does, in fact, take place after initial instruction. Therefore, learning must be assessed during and after instruction, both informally and formally. This goal "borrows the basic concepts and teaching-learning philosophy from the mastery learning model – emphasizing the fact that the school and the teachers have as their main responsibility that all pupils are helped to learn and that all pupils should be given the opportunity to attain their fullest potential. It was emphasized that the only goal of instruction is learning and that, in the final analysis, the child is every educator's "boss" (TR #27, p. 5; Pasigna & Harris, June 1994).

<sup>49</sup> The new instructional goals encouraged teachers to develop new skills in teaching English by promoting interactive teaching methods, including modeling of sentences and word analysis, changes in classroom scenery via the introduction of labels and learning aids on the walls, and the use of teaching aids, such as puppets (in addition to textbooks and the chalkboard) to encourage pupils to use oral and written English (*Trip Report #27: Agenda for Teacher Training at Mondo Primary School*, Pasigna and Harris, June 1994).

dissemination of the IEQ information was having on the total school staff – there was an awareness of what was going on and a desire to be knowledgeable about it, even when some of the teachers could not officially participate in the study (Trip Report #27, June 1994, Pasigna/Harris).

At the national level, on October 25, 1994 at the Third Annual Conference on Improving Primary Schools in Ghana, CRIQPEG presented the results of the baseline data collected during the Phase II (A) research. Some 50 educators who attended the Conference included representatives of USAID, the Ministry of Education, Ghana Education Service, UCC, donor agencies, the local teacher training college, all 7 head teachers and 5 (out of 7) circuit supervisors from the 7 intensive schools, and the CRIQPEG researchers. For the first time regional and local participants (including parents and teachers) were involved in a panel. Two parents and two classroom teachers led a discussion about the influences of IEQ in their schools and on their work outside of the target schools (Trip Report #33, p.17). The panel's presentation was followed by a lively discussion on how and when local languages should be taught,<sup>50</sup> how and when English should be introduced, and what instructional materials should be introduced at what level (see Trip Report #33, Nov. 1994).<sup>51</sup>

### **Impact of Research on Policy and Practice: Phase II (A)**

IEQ research is a source of ideas which has had a widespread impact on educational practice. The research findings from the collection of baseline data during Phase II (A) impacted particularly on the educational practice in the 7 intervention schools participating in the IEQ study as instructional strategies to improve English language learning began to be adopted during the end of Phase II (A). Further, the host country research team members, circuit supervisors and head teachers received training at the professional development seminars to train, in turn, the classroom teachers of the intensive schools in the utilization of IEQ's Phase II teaching strategies.

### **Research Activity: Phase II (B)**

During Phase II (B) research activities (March 1994 - August 1994), the classroom teachers in the 7 intensive schools received "feedback" on understanding the findings of the initial Phase II (A) research as well as training in the introduction of instructional strategies, termed classroom interventions, which had been developed as a direct result of the research findings from Phase II (A). "The initial set of instructional interventions consisted of strategies and sample materials for teaching English to beginning learners and to the lower primary grades and remediation strategies to use with upper primary students with learning difficulties in oral language and reading as revealed by the baseline data" (Trip Report #33, p.22, October 1994,

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<sup>50</sup> The issue of when local languages should be taught was also a concern of educators and policy-makers in the other two IEQ Project core countries, Guatemala and Mali.

<sup>51</sup> At the international level the CRIQPEG Research Coordinator, accompanied by a team leader, traveled to San Diego, California, in March, 1994, to present a report on the IEQ Project in Ghana at the 1994

Schubert and Pasigna). The head teachers and circuit supervisors of the 7 intervention schools were also encouraged to carry out effective monitoring of the interventions in their schools through the use of an observation checklist and other job aids and to collect feedback on the effectiveness of the suggested interventions. The 7 non-intensive schools received only textbooks (see Trip Report #16, Schubert, September 26, 1993; *IEQ in Ghana*, July 1993; *Classroom Profiles as a Stimulus for Improved Policy and Practice*, Schubert, Dec. 1994). During their weekly visits to the 7 intervention school in June and July 1994, CRIQPEG members (along with the circuit supervisors and head teachers provided support to the classroom teachers who were implementing the instructional strategies. Also, between June and August 1994, CRIQPEG visited all the 14 participating schools to conduct pupil and classroom observations utilizing revised protocols created by the IIR consultant, Dr. Harris, during her May 1994 visit. Pupil performance data was also gathered in July on two relatively high and low achieving boys and girls per classroom in all 14 schools using instruments also created by Dr. Harris.

### **Research Question: Phase II (B)**

As a result of the findings gleaned from the baseline data gathered during Phase II (A) research, the CRIQPEG team identified the following question to guide Phase II (B) research :

- What changes are necessary to enable teachers to use instructional materials effectively to promote English language competence? (Trip Report #16, Appendix, *Phase II Research Design*, p.2).

### **Sample: Phase II (B)**

The sample for the Phase II (B) research activities remained the same as for the baseline [Phase II (A)] study (Harris, January, 1997), e.g., a maximum of 100 pupils in each of the 7 intensive schools – 25 students per level in P2-P5; and a maximum of 60 pupils in the 7 non-intensive schools – 15 students per level in P2-P5 (Trip Report #23, A. Pasigna, February-March 1994).

### **Data Collection: Phase II (B)**

During the Phase II (B) research, data were collected by the schedule shown in Table 7. Originally, as part of the baseline research planned for Phase II (A), pupil observations were to be undertaken in each classroom of a relatively high and low-performing boy and girl, based on pupil achievement results (CBA). However, no high and low performers were identified for the March classroom observations because the “pupil observation tool was developed by Dr. Harris during her May 1994 visit to reflect the interventions and by then it was too late to get back to the schools with the data instrument” before the teacher training for Phase II (B) was scheduled to begin at the school workshops (Harris, Jan. 1997). Consequently, the first pupil observations of high and low performers occurred in June 1994 in all 14 schools. During her May 1994 visit Dr. Harris also developed instructions on the use of the instrument and strategies for monitoring reliability.<sup>52</sup> Circuit supervisors and head teachers were asked to keep a log of

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<sup>52</sup> “The pupil observation form uses a time sampling approach and is designed to monitor

actions they performed in support of the interventions or that promoted language learning (Trip Report #27, Pasiona and Harris, June 1994).

**Table7: Phase II (B): Data Collection Schedule**

Date	Data Collected
June 1994	Visits begun in May to the 7 intensive schools for school workshops to introduce interventions to the participating classroom teachers in P2-P5 continue. Pupil observations (2 high and 2 low performers, one boy and one girl) begun in all 14 schools. Classroom observations using a revised form begun in all 14 schools. Interviews with teachers begun in all 14 schools.
July	Pupil observations (4 pupils in each class) done in all 14 schools; Classroom observations in all 14 schools to compare strategies used in teaching English; Critical incidents from participating teachers and local educators
August	Pupil observations and classroom observations begun in July continue in all 14 schools; Critical incidents gathered from participating teachers and local educators

( Source: Pasiona/Harris, Trip Report #27; Pasiona, Trip Report #19; Harris, Jan. 1997.)

In July and August 1994, CRIQPEG researchers spent several weeks observing English language lessons in all 14 schools. The seven intensive schools were just initiating the interventions following the training they had received from CRIQPEG members during their weekly visits to the schools in June and early July. The 7 control schools served as comparison schools. These classroom observations (which began in Phase II (B) and continued into November/December 1994, Phase III) focused on the three major instructional goals (interventions) that were first identified during the professional development seminar in May 1994. In all, over 170 English lessons were observed, representing a total of over 119 hours of English instruction (*Quality Link #3, Summer 1994*).

Also in July and August 1994, CRIQPEG collected critical incidents from the participating teachers and local educators.

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pupil exposure to and use of print and oral English. A high- and low-performing boy and girl in each classroom were targeted for observation. ... The pupil and classroom observation form was used to monitor teacher efforts to link instruction to the instructional needs of pupils. In each classroom, 4 pupils were identified for observation . At five minute intervals, pairs of researchers recorded what they observed regarding teaching style, availability and use of print materials, and languages used during instruction. Following the observations the researchers calculated the reliability of their observations and reconciled any differences. They also completed a more open-ended classroom observation questionnaire about how the lesson was presented and adapted for fast and slow learners” (*Trip Report #27, Pasiona and Harris, June 1994; Classroom Observations: Report on Ghana, 13 April 1995, by A. Harris*).



### **Data Coding and Analysis: Phase II (B)**

In Trip Report #33, p.16, the Project Director noted that it was difficult to “keep up” with the analytic demands of the data. (The baseline data that were collected in January and March were coded, analyzed, and reported on by September 1994, but already in July/August individual pupil and classroom observations were being collected with more scheduled to be collected in late November/December.

In order to strengthen their capabilities in data reduction and data analysis, the CRIQPEG research team was provided with training both on- and off-site by consultants specialized in quantitative and qualitative research methodology. In July 1994, IIR consultant, Dr. Harris, held training sessions at UCC with the CRIQPEG research team members to review coding, quality control issues and analysis of the interview and pupil observation data, including an overview on how the July 1994 pupil observation data was analyzed. The consultant discussed how to link classroom and pupil observation data and also how to link observation data across several rounds of observations. The goal of the discussion was to ensure that “each round of observation data would be analyzed using the exact same procedures, in order to chart changes in teacher/pupil behavior” (Trip Report #48, p.4).

By October 1994 the Project Director, Jane Schubert, noted that the analytic procedures “have been reorganized to improve the efficiency and to accelerate our capacity to report findings” (Schubert, Trip Report #33, p.16). At that time, during her October trip to Ghana, Schubert brought to the U.S. pupil and classroom observation raw data to review and recommend further analyses.

### **Research Findings in Phase II (B)**

The findings from Phase II (B) research are presented in Table 8, organized around the three research questions that were being addressed:

***What do teachers do during English lessons?*** When the interventions were first introduced into the classrooms in late May 1994, following the collaborative workshop, there was no significant difference between how class time was used by teachers in intervention versus comparison schools. More than anything else, 85-89% of the English instructional time, teachers lectured or led the whole class. It was extremely rare for pupils to be working independently in small groups or for the teacher to work with small groups of students. The second-most popular instructional style, followed by 6-10% of all teachers, was to assign the whole class seat work. However, after the teachers in the intensive schools were exposed to some instructional strategies in English language teaching, texts were used more frequently in schools in which teachers had participated in workshops and supervision visits related to this topic. There were signs that intervention teachers were trying other suggested approaches, as well, such as modeling of corrective techniques, positive reinforcement and the use of instant correction.

***Are pupils exposed to print during English lessons?*** The July/August 1994 observations of English lessons noted that English classroom teachers, on the whole, used chalkboards to teach English 95% of the time. However, teachers in the intervention schools were using the chalkboard in different ways from teachers in the comparison (nonintervention) schools. The typical pattern of teachers copying words, etc. from the book onto the chalkboard and asking pupils to read individually or chorally was followed in 90% of the lessons in the comparison



schools, but only about 36% of the lessons in the intervention schools, with teachers from the latter using the chalkboard in combination with other print material such as flash cards or the textbook. Children in intervention classrooms were 3 times more likely than comparison-school children to be exposed to visual aids (e.g., posters, labels) in the classroom (about 60% versus 20%) and to be in classrooms where teachers used the visual aids as part of English instruction (about 28% versus 9%). However, having access to printed materials (e.g., textbooks, exercise books) was not related to a pupil's achievement level or gender.

Textbooks were used infrequently, even when they were available in the hands of the pupils. However, texts were being used more frequently in those classes where the teachers had received some training in instructional strategies on improving English language learning. In the intervention schools 44% of the time children had hands-on access to a textbook as compared with the non-intervention schools where only 18% of the time pupils had a textbook or shared one. In the July-August 1994 observations, textbooks were used in only 3 instances in the non-intensive schools, and in one school there was only one textbook in the classroom (*IEQ/Ghana*, by A. Harris).<sup>53</sup>

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<sup>53</sup> During the summer of 1994 CRIQPEG and USAID made a special effort to insure that participating classrooms in all 14 intensive schools were supplied with textbooks so that future observations would be able to monitor how textbooks were actually used in the intensive and non-intensive schools and whether there were differences in textbook use at different grade levels and by high and low achieving boys and girls (*IEQ/Ghana*, 16 February 1995, by A. Harris). However, it should be noted that the textbooks arrived first for the 7 intensive schools. Textbooks did not arrive at the comparison schools until sometime between the June/July observations and the November/December observations, and, therefore, were less likely to be available in the comparison schools during the earlier observations. The delay occurred, apparently, because the initial request for textbooks had been made for only the intensive schools. When CRIQPEG noted that both the intensive and non-intensive schools had to have textbooks in order to carry out a valid comparison of the two samples, textbooks were ordered for the non-intensive schools, but their arrival was delayed. Thus, for some time, the observations at the non-intensive schools had to be made without the promised textbooks (Amedahe, Pittsburgh, July 1995). It should be noted that in Ghana schools go on break in August so part of the time nobody used the books. However, "since the June/July 1994 observations can not be considered baseline or even a fair comparison between intensive and non-intensive schools, reports of analyses of the June/July 1994 data from the 7 non-intensive schools refer to that data as quasi baseline and the 7 intensive schools as a description of what happens right after teacher training and an influx of books" (Harris, Jan. 1997).



**Table 8: Findings of Phase II (B) Research**

Research Questions	Non-Intervention Schools	Intervention Schools
<b>What do teachers do during English lessons?</b>		
<b>Before Interventions</b>	<ul style="list-style-type: none"> <li>&gt; 85-89% of English instructional time teachers lectured or led the whole class;</li> <li>&gt; 6-10% of instructional time on whole-class seat work;</li> <li>&gt; Rare to see students working in small groups;</li> <li>&gt; Textbooks rarely used in classroom.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; 85-89% of English instructional time teachers lectured or led the whole class;</li> <li>&gt; 6-10% of instructional time on whole-class seat work;</li> <li>&gt; Rare to see students working in small groups;</li> <li>&gt; Textbooks rarely used in classroom.</li> </ul>
<b>After Interventions</b>		<ul style="list-style-type: none"> <li>&gt; Textbooks used more frequently;</li> <li>&gt; Teachers using positive reinforcement;</li> <li>&gt; Teachers using instant correction.</li> </ul>
<b>Are pupils exposed to print during English lessons?</b>		
<b>Before Interventions</b>	<ul style="list-style-type: none"> <li>&gt; Chalkboards used to each English 95% of time, teacher copies word onto board and asks students to read the words individually or chorally;</li> <li>&gt; 20% of classrooms have printed materials;</li> <li>&gt; Classrooms usually not labelled;</li> <li>&gt; Teachers use visual aids as part of English instruction 9% of the time (posters, labels).</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Chalkboards used to each English 95% of time, teacher copies word onto board and asks students to read the words individually or chorally;</li> <li>&gt; 20% of classrooms have printed materials visible;</li> <li>&gt; Classrooms usually not labelled;</li> <li>&gt; Teachers use visual aids as part of English instruction 9% of the time.</li> </ul>
<b>After Interventions</b>		<ul style="list-style-type: none"> <li>&gt; Chalkboards still used 90% of time, but 30% of the time lessons using chalkboard in combination with other printed material, e.g. flash cards</li> <li>&gt; 60% of classrooms have visual aids</li> <li>&gt; Teachers use visual aids as part of English instruction 20% of the time</li> </ul>
<b>Do children have opportunities to hear and practice oral English during English</b>		
<b>Before Interventions</b>	<ul style="list-style-type: none"> <li>&gt; More like to see vernacular used by teachers -- 15-33% of the observed intervals;</li> <li>&gt; Students use Ghanaian language to one another 12% of the English class;</li> <li>&gt; Rare to observe pupils speaking English to each other during English class.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Teachers used vernacular 3% of the observed intervals;</li> </ul>
<b>After Interventions</b>		<ul style="list-style-type: none"> <li>&gt; Use of English during English instruction pervasive across levels and schools;</li> <li>&gt; Teachers using English during class: 85% in P2 to 95% in P5;</li> <li>&gt; Students respond orally in English to teachers in 50% of the observed intervals;</li> <li>&gt; Teachers use vernacular only 3% of the time.</li> </ul>

(Source: IEQ/Ghana, Harris; *The Readability of English Language Textbooks in Ghanaian Primary Schools*, Harris, 1995.)

*Do children have opportunities to hear and practice oral English during English instruction?* The post-training observations noted that the use of English during English lessons was pervasive across levels and schools.<sup>54</sup> Teachers' use of English ranged from 85% of the intervals observed in P-2 to 95% in P-5, and students responded in kind in over half of the observed intervals. High achieving boys and girls spoke English more often than low achieving boys and girls. The observed high achieving boys and girls spoke English (individually) to the teacher in about 20% of the intervals whereas the low achieving boys and girls spoke English to the teacher in only about 12% of the intervals. It was rare to observe pupils speaking English to each other, but when it did occur, they were more likely to be the relatively high achieving boys and girls. During English instruction, pupils in lower grades were as likely to speak English to the teacher as upper grade pupils.

Teachers in comparison schools were more likely than intervention teachers to use the vernacular during English instruction. (Teachers from non-intervention schools spoke the local language in 15-33% of the intervals, whereas teachers in the intervention schools used the vernacular in only 3% of the intervals.) Even during English instruction in the comparison schools, children spoke a local Ghanaian language to one another in 12% of the intervals (*The Readability of English Language Textbooks in Ghanaian Primary Schools*, 18 April, 1995, Harris).

#### **Dialogue/Dissemination: Phase II (B)**

Discussions about the interventions that developed out of the Phase II findings began at the local level during the May 1994 professional development seminar when the school- and regional-level participants (e.g., head teachers and circuit supervisors) reviewed how to implement the classroom interventions, how to train the participating classroom teachers to use the interventions, and how to provide ongoing feedback and supervisory support to the teachers (*Summary of CRIQPEG Discussions on Interventions*, March 1994).

Following the May/June teacher training at the school-based workshops, CRIQPEG team members made regular visits in June and July to the intervention schools to offer support and encouragement to the classroom teachers.<sup>55</sup> On August 18, 1994, after two months of

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<sup>54</sup> Nowhere in the report on classroom observations carried out in July and August of 1994 is any mention made of the level of the teachers' English proficiency in either the intensive or the non-intensive schools. However, the report of the field support visit by the team leader to Moree on January 27, 1995 states: "On the teachers themselves, a workshop has to be organized to improve their English proficiency since most of them were making simple grammatical errors. It is, therefore, useful that the Circuit Supervisor also sat in on the observed lesson and noted this down" (*Field Support Visit by Team Leader: A Report from Moree*, 27 January 1995).

<sup>55</sup> When, during the week following the Professional Development Seminar, the CRIQPEG research team, accompanied by the head teachers and circuit supervisors, traveled to the intensive school assigned to them to train the P2-P5 teachers in the use of the instructional strategies and materials, "it was typical for other teachers in the school to participate in the 2-day training even though they were not part of the research and knew that they would not receive their own set of the instructional aids" (Trip Report #27, p. 6).

implementing the interventions via school-level feedback sessions among teachers and trainers, CRIQPEG invited all the participating teachers to a full-day feedback seminar at the University of Cape Coast. During the feedback seminar the participants were given the opportunity to share their successes, struggles and the solutions they formulated.

The August feedback session was so successful that the Project Director encouraged the research team to maintain a regular schedule of providing field support, even as CRIQPEG had to phase out their own direct involvement in the schools, to ensure that the research-->feedback-->intervention-->evaluation cycle<sup>56</sup> would continue and to promote long-term sustainability of the research process as the head teachers' research and instructional leadership roles were increased (Schubert, Trip Report #33, Oct. 1994).

Later, on October 26/27, prior to their planned visits for early November to the P3-P6 classrooms in the 7 intensive schools, CRIQPEG held Professional Development Seminar #2, a one-and-a-half day session for the head teachers and circuit supervisors<sup>57</sup> of the 7 intervention schools to follow up on the three key intervention strategies and to discuss the needs these participants raised earlier, during their one-day feedback seminar in August (Trip Report #33, Oct. 1994).

### **Impact of Research from Phase II (B) on Educational Policy and Practice**

Comments by local educators involved in the IEQ Project reflect the impact that the IEQ research and training activities have had on their educational practice. Head teachers and circuit supervisors indicated that the knowledge of new instructional methods they received in the CRIQPEG workshops during Phase II (B) could be utilized in their future training of teachers and in teacher support (*The Quality Link*, No.3, Spring 1994). A Supervisor of Instruction in the District Education Office said:

I have started organizing seminars of some selected teachers in the District, with the theme: Promoting Reading -- A Challenge to the Classroom Teacher. Most of the intervention strategies learnt at the CRIQPEG Professional Development Seminars are being used. (*Quality Link*, #4, Spring 1995).

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<sup>56</sup> Following the August 1994 feedback session a report was produced of the teachers' own experiences in implementing the strategies at the 7 intervention schools which was combined with a collection of critical incidents culled from informal interviews that CRIQPEG had conducted with these same teachers on their perceptions of how their participation in the Project has influenced their work. This report, as part of the feedback process, illuminated the cyclical nature of the Project -- both representing research findings from one phase and providing direction for future research -- and helped guide the selection of the interventions for consideration in the next cycle.

<sup>57</sup> The IEQ Project Director, Jane Schubert, remarked in her report on this October trip to Ghana on the deep commitment the circuit supervisors and head teachers showed to the IEQ Project during the workshop. "We learned at the close of the sessions that most of them had to travel great distances each day to attend because lodging was not provided" (Trip Report #33, Schubert, Oct. 1994).

Circuit supervisors participating in the IEQ Project provided administrative sanction for teachers to deviate from the prescribed syllabi. During the school-level training of the English classroom teachers, the circuit supervisors were instrumental in responding to teacher concerns about implementing the intervention strategies. Initially, there was some concern among the classroom teachers regarding the IEQ Project's proposal to increase English language usage by promoting English for early primary instruction in subjects other than English, an idea which was interpreted as going against existing policy.<sup>58</sup> In response to their questions, the circuit supervisors who came from the same districts as the concerned teachers indicated that they would support the teachers in a systematic transition from vernacular to English. Also, one beginning teacher asked about whether his lesson plans would be evaluated critically if they focused on remediation rather than the lessons in the syllabi. In response to that question, the circuit supervisor said that if the teacher's lesson plans and the exercises in the exercise books reflected CRIQPEG's finding that students needed more help with basic skills, then the teacher would be praised rather than criticized for focusing on remediation (Trip Report #27, p.7, June 1994).

Head teachers appeared to appreciate their active role in the training of classroom teachers and the opportunity to hone their skills and serve as models for other teachers in their schools. They kept the classroom teachers alert to any planned training, which they then helped conduct.

#### **Research Activity: Phase III and Phase IV<sup>59</sup>**

The final research design plan for Phase III was drafted by Drs. Harris and Pasiona, during their September 1994 meeting at IIR. Subsequently, "Aida [Pasiona] and Jane [Schubert] carefully reviewed the plan (a few weeks later) with Beatrice (Okere), CRIQPEG Research Coordinator, and agreed to propose one critical design change to the Team Leaders. The recommendation was to follow the P5 pupils in the intervention schools to P6 rather than remaining with P2" (Trip Report #33, p. 16).

Selection of the interventions for inclusion in the cycle of research to be undertaken in Phase III was guided by a report that came out of the August 1994 feedback seminar at UCC (see footnote 56) and by the Phase II research findings. For Phases III and IV it was decided to reinforce the instructional goals introduced in Phase II (B) through more intervention strategies, such as pupil peer tutoring, to help teachers to manage teaching, remediation and enrichment within the same classroom.

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<sup>58</sup> The existing policy referred to here is, as stated earlier, that of using the local language in P1-P3 for all subjects other than English, with the switchover to all English as the language of instruction in P4-P6. Based on the research conducted in the context of the IEQ project, however, a change was being proposed: to expose the pupils to as much English usage as possible in the early grades to foster more successful language learning.

<sup>59</sup> As noted, the research design for Phases III and IV was essentially the same. This section discusses Phase III, which occurred from October 1994 through September 1995, and that part of Phase IV which occurred before January 1996.

In order to measure changes occurring in the classrooms resulting from the feedback loop, periodic observations of student/teacher behavior continued in collaboration with the local educators of the 7 intervention schools (*The Quality Link*, No. 4, Summer 1994; *IEQ Ghana*, A. Harris, Feb. 1995).

A follow-up assessment of pupils' proficiency in the English language was carried out in July/August 1995 (during Phase III) on pupils in P3-P6. When children from the January 1994 baseline sample were unavailable, the CRIQPEG researchers asked school personnel and community members about their whereabouts in order to track patterns of dropping out and transferring to other schools (*IEQ in Ghana*, Harris, Feb. 1995; *IEQ Biennial Report*, #3, Jan. 1997).

During the course of Phase III, as planned, CRIQPEG began to wind down its first-hand monitoring and school visits. Local and district supervisors stepped in and lent their support to the teachers by observing the continuing implementation of classroom interventions and providing the classroom teachers with feedback.

#### **Research Questions: Phase III and Phase IV**

The three main research questions addressed in Phase III and Phase IV were:

- How is language used in Ghanaian classrooms? (What is the language of instruction in Ghanaian classrooms?)
- Are there gender differences in language learning?
- What is the feedback process? Do teacher, circuit supervisor and pupil behavior change? (See *IEQ in Ghana*, pp 2-3, Harris, *et al*, Feb. 1995).

#### **Sample: Phase III and Phase IV**

The Work plan for Phase III included a "critical design change," namely, to study pupils in P3 to P6.<sup>60</sup> In order to construct a more in-depth study of the impact of the IEQ research, it was decided to follow the 1993-1994 cohort of P2 to P5 classes (and, hopefully, the same pupils) up to the next level in school year, thereby following the P5 pupils in the intensive schools to P6 rather than remaining at the P2 level (*IEQ in Ghana*, Harris; Trip Report #33). Although a shift<sup>61</sup>

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<sup>60</sup> Grades P2 to P5 were studied in Phase II and P1 to P6 were studied in Phase I. "Aida [Pasigna] and Jane [Schubert] carefully reviewed the plan (a few weeks later) with Beatrice (Okyere), CRIQPEG Research Coordinator, and agreed to propose one critical design change to the Team Leaders. The recommendation was to follow the P5 pupils in the intervention schools to P6 rather than remaining with P2" (Trip Report #33, p. 16).

<sup>61</sup> How did the CRIQPEG team respond to this "critical design change?" The IEQ Project Director, Jane Schubert, noted in her October 1994 trip report to Ghana that when the shift in research design was announced in October, it was greeted with applause by the CRIQPEG team because they thought it would facilitate a deeper understanding of the learning process for the individual students and how that process was occurring (Trip Report #33, Schubert, Oct. 1994). However, CRIQPEG's agreement came only after lengthy negotiations and explanations, according to an IIR consultant present at that time (Harris, Okyere, Amedahe and Bartels, at Boston, March/April 1995).



in the sample is not uncommon in a longitudinal study such as the IEQ Project in Ghana, the shift moved the researchers farther away from studying the early primary grades (P1 to P3), the population which some CRIQPEG team members early on had indicated they preferred to study. A shift into the upper primary grades, on the other hand, could potentially serve the interests of both USAID and the Government of Ghana, which wanted to learn why so few P-6 students were prepared to go on to secondary school.

Two important issues had to be resolved regarding the change effecting the P2 and P6 teachers. First, what would happen to the P2 teachers who had been involved in and had benefited from the CRIQPEG training and resources? It was decided that the only change to P2 would be to discontinue data collection in the classes. Therefore, the P2 teachers would not be asked to withdraw but, instead, would be welcome to continue attending the workshops given at their schools. Second, was IEQ/CRIQPEG prepared to offer appropriate strategies and resources to the new P6 teachers via a workshop with circuit supervisors and head teachers – scheduled to take place on October 26-27, 1994, in only one week's time? The P6 teachers could be accommodated at the workshop on such short notice because, although previously they were not part of the Project, they had participated, informally, at their own request, in the prior training seminar in June, 1994.<sup>62</sup> Therefore, while they did not have the direct field support that P2-P5 teachers had received in the previous summer, they had been introduced to the instructional strategies and were familiar with them (*IEQ in Ghana*, Harris, Feb. 1995).

When the second assessment of pupils' proficiency in the English language was carried out in July/August 1995, attempts were made to test all the children from the baseline group. When children from the baseline sample of January 1994 were not available 18 months later for the follow-up testing, replacement students were selected and tested. Replacement testing was done in an attempt to maintain sample sizes of 25 subjects in intervention classrooms and 15 subjects in comparison classrooms (*IEQ Biennial Report #3*, 1997, p.6). In all, 262 primary three (P3), 258 primary four (P4), 262 primary five (P5) and 316 primary six (P6) pupils were tested. Of the original 1032 pupils, 812 (or approximately 75% of the original sample) were located and reassessed using parallel forms of the achievement measures.

#### **Data Collection: Phase III and Phase IV**

In late November and early December 1994, following a revised work plan, the CRIQPEG researchers visited 3 English classes and 3 non-English classes in the 7 intervention schools, and 3 English classes in the 7 non-intervention schools to make classroom observations.

On the same days that classroom observations were made, the four pupils in each class designated for individual follow-up were also individually observed.<sup>63</sup> Pupil and classroom

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<sup>62</sup> This is another example of the high motivation of the teaching force on the periphery of the IEQ Project and further substantiates how much teachers wanted to be included in the IEQ sessions, even informally.

<sup>63</sup> The pupil and classroom observations were made by teams of two researchers in each classroom, with one observer focusing on the pupils and one observer focusing on the teacher (Trip Report #40, Schubert, June 1995, Appendix: "Revised Workplan," p. 15).

observations were made again between June 5-19, 1995, when CRIQPEG researchers returned to the classrooms to observe the 4 individual pupils in each class. Later, in July 1995, interviews were also conducted with teachers, parents and pupils.

During May 1995 the CRIQPEG team reviewed and pilot tested new instruments in writing and oral language which had been developed for P-6 by Dr. Harris. Guidelines were written up by the researchers for collecting the data efficiently and systematically across sites (Trip Report #48, Harris, August 1995, p.4). The second assessment of pupils' proficiency in the English language (reading/writing/oral) using CBA instruments was carried out beginning on 24 July 1995 for three weeks on pupils in P-3 through P-6 (Trip Report #48, p.4).<sup>64</sup> All pupils were tested using one of the parallel forms of instruments that had been developed prior to the baseline data collection(*Biennial Report #3*, 1997, p.6).<sup>65</sup>

During Phase III a questionnaire was designed to canvas parents' views and observations about various aspects of their children's English learning.

#### **Data Analysis: Phase III and Phase IV**

Data analysis continued to fall behind the growing data collection. Some Phase II data was still awaiting analysis while the collection of Phase III data was already beginning (Trip Report #33, p. 24).

Each of the seven research teams took responsibility for the reduction and analyses of the data collected from the schools assigned to them. They used data reduction sheets and analysis procedures developed in collaboration with Abi Harris.<sup>66</sup> From July 19-21 Dr. Harris led training at UCC with CRIQPEG on how to administer and score the pupil performance instruments that would be taken to the schools later in July and in August (Trip Report #48, Harris, p.4, ).

The results of the July/August 1995 pupil performance tests on P3-P6 could be compared

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<sup>64</sup> New, revised and expanded CBA instruments in writing and oral English proficiency had been developed by Dr. Harris to be used in comparison with the baseline data. The new instruments tested pupils' proficiency in spelling, dictation of sentences, and, in response to an increased emphasis on pupil writing, an exercise in story writing and letter writing (1 of each of the latter for P-6 only). (*Using CBA in Ghana*, Harris, 26 Feb. 1996; *Biennial Report #3*, p. 6).

<sup>65</sup> The process of development of the CBA instruments, their use, revision, and the feedback they provided to educators in the IEQ Project in Ghana is described in detail in the *IEQ Biennial Report #3*, January 1997, pp. 7-47.

<sup>66</sup> In order to strengthen the capabilities of the CRIQPEG researchers in data analysis, in March 1995 two of the senior staff of the CRIQPEG team who were making presentations at the 1995 CIES conference in Boston were invited to Fordham University, New York, for a few days of training under the tutelage of Dr. Abigail Harris. The U.S. training for the 2 visiting Ghanaians was followed by in-country training at the University of Cape Coast in April 1995 at a workshop on qualitative research methodology for the host country research team under the guidance of Dr. Diane Prouty, an IIR consultant.

to the pupil performance tests taken during the collection of baseline data on P2-P5 in January/February 1994. By July 1995 most of the students in the intervention schools had been with the Project at least a year and a half and had experienced the interventions for at least a year (since May/June 1994, Phase II (A), which increased the chances that the post-test results would reflect any effects that the classroom interventions had on educational practice (Trip Report #33, Schubert).

A training session was conducted on SPSS from October 12-17, 1995 (Trip Report #51, Schubert) in preparation for data entries to be made October 18 - 31, 1995 on observation and interview data collected in November/December 1994 and June 1995.

### Findings: Phase III and Phase IV

Were efforts to improve educational quality having an impact on pupil performance? According to the research findings from the second collection of pupil performance data, the pupils in the intensive schools were improving in reading, writing and oral proficiency. Table 9 summarizes the findings from the data collected via the pupil performance, classroom and pupil observation and interview instruments.<sup>67</sup>

**Table 9: Findings of Phase II (A) Research Compared to Findings of Phases III & IV**

English Language Proficiency of Pupils , P2-P5 January/February 1994	English Language Proficiency of Pupils , P3-P6 July/August 1995
Before Interventions	After Interventions
<p><b>Oral</b></p> <ul style="list-style-type: none"> <li>• Pupils unable to express themselves in English</li> <li>• Unable to respond correctly to oral directions regarding textbooks.</li> <li>• Over 85% at all grade levels assessed performed at the non-mastery level.</li> </ul> <p><b>Reading</b></p> <ul style="list-style-type: none"> <li>• Substantial proportion of the children at all grade levels were nonliterate in English, i.e. unable to read 30% of the words in a primary school passage.</li> <li>• Pupils get little practice in reading.</li> <li>• Textbooks used in only 15% of the observed time.</li> </ul> <p><b>Writing</b></p> <ul style="list-style-type: none"> <li>• Fewer than 50% could write 15 or more English words.</li> <li>• Most could write their names (60% by grade 3; 79% by grade 4; 95% by grade 5).</li> </ul>	<p><b>Oral</b></p> <ul style="list-style-type: none"> <li>• Pupils able to follow simple instructions.</li> <li>• Able to respond orally in English.</li> <li>• Pupils try to speak English outside the classroom, but mentioned the constraints.</li> </ul> <p><b>Reading</b></p> <ul style="list-style-type: none"> <li>• Recognized letters of the alphabet.</li> <li>• Pupils could read more than 1/3 of the words and passages of the testing materials, taken from their textbooks.</li> <li>• Pupils making an effort to read their textbooks at home between 1 and 7 times a week.</li> </ul> <p><b>Writing</b></p> <ul style="list-style-type: none"> <li>• More than 50% of the pupils could write 15 or more English words.</li> <li>• Pupils can write names without help</li> </ul>

<sup>67</sup> *Pupil Performance Assessment Results, March 1996.*

(Source: *Quality Link*, #3, Summer 1994. Harris; *Classroom Profiles*, Schubert, Dec. 1994; Harris, April 1995).

**Reading:** In reading the pupils recognized letters of the alphabet and could read more than 1/3 of the words and passages. Most of the pupils were making an effort to read their English textbooks at home. Pupils' reading habits at home ranged from one to seven times in a week. However, they read hardly any materials other than the English textbook. Most teachers gave pupils homework in English. The problem, however, was that the pupils did not understand what they were reading. Therefore, they could not do their homework without help. Parents and siblings tended to be the principal providers of assistance to pupils in their efforts to learn English at home.<sup>68</sup> The majority of pupils reported that they encountered interference in trying to do their work, including siblings playing in the same room where they were studying and unsuitable accommodations such as a lack of appropriate tables and chairs. When asked which aspect of written English they found the most difficult, most of the respondents from both groups of schools mentioned comprehension.

The majority of the students said they could remember words more easily when instructional materials (e.g., teaching-learning aids, puppets, flash cards, posters, labels and charts) were used in teaching them. Classroom observations showed that children were being exposed more frequently to print. Besides their readers, team leaders observed that the classrooms were well labeled for pupils to associate names and objects around them and the classrooms were filled with teaching and learning aids. The research showed that most pupils did not like sharing their English textbooks with other pupils since doing that disturbed their studies and thus retarded the progress of individuals.

**Writing:** The students were able to write their names without help, and more than 50% could now write 15 or more English words.

**Oral Proficiency:** In oral proficiency they were able to follow simple instructions and respond orally in English. Although 68% of the respondents from the intervention schools and 54% from the non-intensive schools indicated that they spoke English outside the classroom, they mentioned many factors that mitigated against their speaking English, including: *outside the classroom* -- fear of making mistakes, shyness, lack of vocabulary and inability to speak fluently, nobody to speak with because all their friends spoke the local language; and *inside the classroom* -- understanding of teachers' expressions, shyness, fear of making mistakes, lack of vocabulary, and they could articulate more accurately in the vernacular.

**Pupils' perceptions:** When pupils were asked directly whether they felt they had made any progress, 44% of the P-5 respondents in the intervention schools answered that they had developed ways that helped them to learn English better. 71% of the respondents in the intervention schools and 50% in the non-intensive schools stated that they had developed ways that helped them learn English better. Those who felt they had made some progress mentioned having adopted the following measures to aid their learning of English: learning to spell from memory, learning to do homework promptly, reading at home under the tutelage of family members (usually a sibling and friends), doing extra exercises at home, trying to speak English at

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<sup>68</sup> The level of social capital in the home may be a factor that facilitates pupils' learning of English. One shortcoming of the data, however, is that parents' education as well as age and education of siblings are not included.

home; making use of a dictionary and seeking help from parents and teachers.

**Local educators' perceptions:** Circuit supervisors reported that they visited schools on an average of three times a term to give demonstration lessons and hold discussions with teachers after observing their lessons. They also held meetings with head teachers on their over-all impressions. Circuit supervisors felt that pupils in the intensive schools were paying more attention, showing more enthusiasm and doing more work in their use of instructional time. Also, teachers were seen by circuit supervisors to be showing improvement in the use of instructional materials and in their encouragement of students. Within the last academic year, some circuit supervisors have organized between 1 and 4 in-service training programs focused on teaching English for their schools. As a result of the interventions there has been more interaction between circuit supervisors and their schools, and they are happier with their teachers because of the teachers' improved performance. Circuit supervisors report that teachers now borrow books other than the textbooks and read for supplementary information.

**Teachers' perceptions:** The teachers interviewed mentioned the importance of the training sessions and feedback they received from the CRIQPEG teams. The teachers said they were using the instructional interventions suggested. With regard to the goal of mastery learning, in all 14 schools observed there were attempts to adapt instruction to individual needs. Lessons were either adapted to the need of the high performers or to those of the low performers or to both ability groups. A large proportion of the teachers observed marked improvements in pupils' reading, writing and to some extent spoken English, although the teachers were worried that most of the students could not speak English. A major source of worry to the teachers was the fact that most of the pupils could not do assignments independently because they did not understand what they were trying to read.

**Parents' perceptions:** Parents saw the general academic progress of pupils as improving. Parents with children in the intensive schools reported remarkable improvements in their offsprings' performance in English. The majority of parents received feedback from the schools through reports sent to them at the end of each term. Parents of pupils in non-intensive schools also perceived that their children were improving in their use of English as evidenced by their display of understanding of what they read, their ability to communicate in simple functional expressions, their reading ahead of the class and their ability to memorize and recite portions of passages. Concerning the support parents gave to pupils in school, 88% indicated they provide learning materials including textbooks and exercise books; 6 % encourage their children to learn harder and be obedient to teachers; 3% ensured that pupils always went to school; and 2% did not offer any direct help since, they believed, it was the responsibility of the teachers to look after them.

It is interesting to note that parents did recognize the need to educate both sons and daughters, reasoning that both male and females could succeed through education. However, in spite of this finding, quite a large proportion of the parents stated they would give more support to their sons in learning English. The rate of selection of boys over girls rose to 54% of all parents of students in the P-6 level in both intensive and non-intensive schools. One rationale mentioned was that boys' education would benefit parents directly since sons tended to complete school, work, stay close to parents, and thereby support them when they became old and infirm. This contrasts with girls, it was believed, whose education would more likely accord benefits to

their husbands and in-laws. Another explanation for the preference for boys' learning English was that boys could go higher and get good jobs whereas girls might get pregnant and drop out of school. Other reasons cited included: a) boys are usually more intelligent; b) boys perform better than girls in school; c) boys can help their younger siblings to learn. In the case where there was a preference for girls' learning English, the explanation was that education would make them self-sufficient in the future and that English language learning holds the key to occupational success, and: 1) girls can do what boys can do; 2) girls will think about their nuclear families more than boys; 3) girls work better than boys. Those who felt both girls and boys needed to be educated indicated that both boys and girls needed to be prepared for the future and both could support their younger siblings and the family as a whole.

**Community members' perceptions:** PTA members interviewed reported that the attendance of pupils, teachers and head teachers had improved which they largely attributed to the motivation that was generated by "CRIQPEG's supply of textbooks," teaching-learning aids, library books and the introduction of the intervention strategies. To sustain the motivation in the community to continue its commitment to education, the PTA members interviewed said they were promoting levying school fees on parents and asking every pupil to provide poster sheets or cardboard to provide teaching and learning materials for the schools.

#### **Dialogue/ Dissemination in Phase III and Phase IV**

CRIQPEG researchers and their research became prominently visible in Ghana during Phase III.<sup>69</sup>

At the local level, discussion of Phase III research began during the 1-day "feedback" seminar in August 1994 at UCC. CRIQPEG invited all the participating teachers to prepare reports on their experiences with implementing the intervention strategies, after which the seminar participants were informally interviewed by CRIQPEG members for formative data that could help decide the nature of the interventions to be considered for Phase III of the Project.

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<sup>69</sup> In Trip Report #40, June 1995, Jane Schubert said that "CRIQPEG's reputation has grown to such a degree that conversations about CRIQPEG's research focus now on the "updates" rather than on the rationale and its mission" (TR# 40, Schubert, June 1995). At the international level, IEQ members participated in the Comparative and International Education Society (CIES) Annual Meeting in Boston, Massachusetts, March 28-April 2, 1995. As a planned part of the IEQ involvement at the conference, during the last 2 days individual members of the host country research teams from Ghana who were attending the conference, Beatrice Acari, Francis Amedahe and E.K.G. Bartels, met informally with other scholars to share information about the IEQ Project and their experiences. Later, in December, 1995, there was an exchange of information between IEQ/Ghana and IEQ/Uganda when Ugandan colleagues visited Ghana to discuss assessment issues and attend the CRIQPEG National Advisory Board discussions on continuous assessment. In March 1996, IEQ Project personnel and CRIQPEG presented a panel at the 40th CIES Annual Meeting in Williamsburg, Virginia, on the progress of the project in Ghana and the products that the Project is generating, including teaching/learning modules. IEQ also hosted a pre-conference workshop open to CIES members to participate in a working session on building instructional modules (Trip Report #51, October 1995).

The dialogue on the interventions for Phase III continued during later discussions on Oct 26-27, 1994 at the professional development seminar hosted by CRIQPEG for its research teams, head teachers and circuit supervisors of the 7 intervention schools who were scheduled to go out in November to conduct similar seminars for P3-P6 teachers in each of the intensive schools (Trip Report #33, p.20). Training in this October seminar focused on interventions that would promote meeting the three major goals earlier identified for the 7 intensive schools.<sup>70</sup>

Later, during Phase III, discussion of the research, its impact and its outcomes continued among the researchers and the local educators as CRIQPEG provided field support at the in-school feedback sessions (1 day/school) conducted first in January 1995, then again in March/April and in August 1995. Head teachers and circuit supervisors lent their own support to the classroom teachers of the intensive schools through monthly visits from June 1995 on (Trip Report #51, Appendix B, October 1995).

At the national level, CRIQPEG's research was brought into the center of the national dialogue with the appointment of CRIQPEG's Research Coordinator, Dr. Beatrice Okyere, to the Ministry of Education's Executive Committee to help draft the Government of Ghana's Strategic Plan for the next educational reform cycle (10 years),

When CRIQPEG's National Advisory Board met for the first time in Accra on 25 April 1995, between collection of the baseline data in January 1994 and the follow-up collection on July 1995, John K. Nimo, from the Department of Primary Education at UCC and one of CRIQPEG's Team Leaders, delivered a presentation informed by IEQ research on the "indispensable role of head teachers for improving quality and effective teaching and learning." His presentation directed this group of policy ++++++makers,<sup>71</sup> through IEQ's experience, to

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<sup>70</sup> The suggested interventions were both instructional and organizational in nature. The discussion was geared toward making the principles of language learning and teaching apply to experiences in both English and the Ghanaian languages. "This is in view of the fact that educational policies dictate ... that the Ghanaian student should first be literate in the mother tongue, and second, in English" (Trip Report #33, p. 21). Participants were taught additional strategies, tips and procedures for providing a "language-rich environment" in the classroom, with an emphasis on developing their own materials and aids, utilizing locally available materials, donations and resources.

<sup>71</sup> At the Advisory Board's Inaugural Meeting in April 1995, all major stakeholders were present.

The meeting was chaired by the Vice-Chancellor/UCC (S.J. Adjepong). Participants included Deputy Director-General/Ghana Education Services, PBME Head/Ministry of Education (Mr. Y. Dwomah); former Head of Basic Education/GES (Sarah Opong); Teachers Association of Ghana; Circuit Supervisor/Cape Coast; PREP Director (Stephen Manu) and PREP Assessment Officer (John Adu); Dean of UCC Faculty of Education (Josef Anamwah-Mensa); four CRIQPEG Team Leaders; CRIQPEG Coordinator (Beatrice Okyere); and IEQ Director, (Jane Schubert). Unable to attend were: Director of Teacher Education/GES (Elizabeth Adabor); Director-General/GES (John Atta-Quayson) and Director-General of the PMU (Mettle Nunoo). The new Director of Basic Education/GES (R.W. Asiedu) has been invited to join the Board. (Memo of 28 April 1995

the possibility of reform at the classroom level by tapping into the potential power of local resources (Trip Report #40).<sup>72</sup>

The National Advisory Board members agreed, during their inaugural meeting, that the work of CRIQPEG was unique in Ghana and that CRIQPEG's research findings needed to be incorporated into policy and practice at a broader level. Suggestions for outreach initiatives included publishing articles about CRIQPEG in Teachers' Association of Ghana; organizing a forum of practitioners, including the Institute for Education (preservice) and PREP (inservice), which would incorporate CRIQPEG's experiences in planning teacher training policy and programs; formalizing links with teacher training institutes; and developing a working relationship with the Government of Ghana's Panel that is producing materials for teaching English. The Board also approved CRIQPEG's participation in the MOE/Donor Education Sector Assessment, which would guide the next phase of the national educational reform, PREP2.

Following the suggestion of its National Advisory Board, during Phase III CRIQPEG began working on widening its outreach through publications. In December 1995 and in July 1996 CRIQPEG published two special editions of the UCC/Faculty of Education journal devoted to CRIQPEG's research.<sup>73</sup> The CRIQPEG Newsletter went into production at the end of 1995 and published its first issue in January 1996. Three more issues were planned for 1996. CRIQPEG also began the process of preparing "issue papers" to showcase special findings or characteristics of CRIQPEG research to be shared with both policy makers and practitioners. By the end of 1996 one issue paper, "What happens to the textbooks?" had been readied for publication and another paper, "Factors Affecting Language Learning," was under preparation.<sup>74</sup>

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from Jane Schubert, *Re: IEQ in Ghana -- Report for 20-30 April 1995 visit.*)

<sup>72</sup> CRIQPEG Team Leaders presented their research to the Inaugural Meeting of the Advisory Board under the title, "How We Found Them & How We Now See Them: Pupils & Parents, Head Teachers & Circuit Supervisors, and Teachers." (Messrs. J. Nimo, E. Atta, F. Godayll, and K. Anti) (TR #40, May 1995).

<sup>73</sup> Proposed titles for CRIQPEG articles in progress for publication in the UCC Journal include: "Classroom intervention strategies and their impact on the teaching and learning of English in selected primary schools in Ghana;" "Factors affecting the English language proficiency levels of selected Ghanaian primary school pupils: A comparative study of schools located in rural and urban areas;" "A survey of materials and equipment in selected Ghanaian primary schools;" "The attitude of teachers towards inservice training programs: The case of teachers in selected primary schools in Ghana;" "Language usage patterns in English lessons in selected primary schools in Ghana;" "Remediation strategies used by selected primary school teachers in the teaching and learning of English in Ghana."

<sup>74</sup> Additional papers under consideration for the Ghana Folio included the following titles: "What did CRIQPEG do to improve language learning?"; "What is the impact of IEQ on instructional practices?"; "What is the impact of IEQ on pupils?"; "What is the impact of IEQ at the national, regional and policy level?"; "Are schools with gender enrollments different from

CRIQPEG was also planning to prepare an article about its research and findings for the Ghana National Teachers Association (GNTA) (*Memo*: 29 April, 1995, p.4 from J. Schubert).

At its inaugural meeting in April 1995, CRIQPEG's National Advisory Board members requested that a Board session be scheduled on assessment<sup>75</sup> where instruments on pupil performance in reading, writing and oral proficiency could be examined for potential widespread application in Ghana (*Memo: IEQ in Ghana*, Schubert, April 1995). At the October 1995 Advisory Board meeting discussion continued regarding the CRIQPEG assessment instruments (those that were used to assess the reading, writing and oral proficiency in English of the pupils in P2-P5), as the Board members resumed an animated debate regarding the potential administration of these CBA instruments nationwide. The IEQ Project Director had to caution the members about the prematurity of nationwide distribution for CRIQPEG's CBA instruments, citing the additional consideration that the Government of Ghana was reviewing the possibility of introducing continuous assessment procedures at the primary level during its next reform cycle, PREP 2 (Trip Report #51, October 1995, p.8). Also, at the Board's October meeting it was announced that IIR consultant, Dr. Paigna, would conduct a seminar for PREP and the Primary Unit of the UCC Faculty of Education on CRIQPEG's CBA instruments (Trip Report #48, Harris, p.5, August 1995). Still, the Board wished to see a wider application of these assessment instruments, and formed a Subcommittee to develop a plan for the continued use of the achievement measures to be presented for its future consideration (Trip Report #48, p.5, Harris).

Also, during the October meeting of CRIQPEG's National Advisory Board, members asked the parent representative of the Board to invite other parents whose children participated in the intensive schools to brief the Board on what the CRIQPEG involvement meant to families and what differences they noted (if any) in their children's participation and performance in school (Trip Report, #51, October 1995). The IEQ Advisory Board met in December 1995, for Meeting #4, to discuss continuous assessment. The Board met again in March 1996 for Meeting #5. Three more Advisory Board meetings were planned to convene before the Project would officially conclude in September 1996.

### **Impact on Policy and on Practice: Phase III and Phase IV**

Collaborative efforts which were established during Phase II between the researchers and the local educators continued and strengthened during Phase III and Phase IV. Collaboration grew from the identification of classroom interventions to the training of classroom teachers in the use of those interventions and the documentation of feedback on the implementation of the interventions.

The IEQ Project has affected educational practice through the integration of local educators (head teachers and circuit supervisor) into the delivery of educational change and the feedback process. The close collaboration established between CRIQPEG members, head

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schools where boys outnumber the girls?"; "Can internationally used readability indices be helpful in Ghana?"

<sup>75</sup> The July 1995 Advisory Board meeting, (# 2) focused on assessment and Dr. Abigail Harris was invited to attend.

teachers and circuit supervisors during Phase II seemed to encourage the local educators to develop their own roles and responsibilities in their educational system. The head teachers and circuit supervisors provided invaluable local level initiative, support and continuity. As a result of their new responsibilities and changing roles, they have become change agents for other local educators (*The Quality Link*, No.3, Spring 1994).

Circuit supervisors are now included in PREP training – they were not before – “because of the success CRIQPEG has experienced with circuit supervisors who receive training on the interventions and begin serving as instructional support to the schools” (Trip Report #40, May 1995, p.3). The circuit supervisors see a shift in their roles:

I have been observing teachers with the CRIQPEG team every time they visit the school and, after, we normally meet with the teachers and discuss various points with them. A general consensus of the teachers is that they are all enthused about the programme and ready for innovations. My conversations with them give me a ray of hope for the future, that with time and with realistic teaching strategies, our children will perform. Through the meetings with the teachers I have learnt their problems and also possible solutions to these problems. I hope to use the information received from them to benefit other teachers during my school-based orientation and in-service training courses in the future (quote from a circuit supervisor in *Quality Link*, No.3, Spring 1994).

Visits to classrooms in the 7 intervention schools confirmed the impact that IEQ research and training were having on the classroom environment and on instructional strategies. During one CRIQPEG visit to a P-3 classroom at the Aboom A.M.E. Zion Primary School in Cape Coast on January 26, 1995, the CRIQPEG team noted:

New visual aids had come up on the walls . . . The teacher now uses signals for remediation and other instances when she wants the pupils to repeat a word. Different signals required different responses, such as repeating a word, or repeating a sentence, and repeating it once or twice. The adoption of the signaling technique has improved the attention of the pupils on the task being taught. Pupils seem to have become more alert now. Since they can not predict when the teacher will use any of these techniques, they are forced to focus their attention on the teacher (*Report on Field Support for Intervention Carried Out on the 26 January, 1995 by Team Leader to Aboom A.M.E. Zion Primary School, Cape Coast*).

Also, CRIQPEG teams that visited classrooms in the 7 intervention schools in January 1995, reported changes in teachers’ instructional practices, including the use of puppets for conversation around everyday life situations; telling a portion of a story or beginning a story and asking pupils to complete it; decorating the classroom walls with printed labels and messages to encourage reading; assigning children work in groups according to the principles of mastery learning; consciously encouraging the weaker pupils; introducing various games into the teaching and learning of English; and, encouraging pupils to write down their responses on sheets of paper for the teacher’s immediate inspection and feedback (*Gomoa Brofoyedur Primary School: Report on Field Support Visit - Monitoring the Intervention; Report of TL to Aboom, Cape Coast*).

The effect of CRIQPEG’s activities on those primary school teachers in the project is documented through classroom observations as well as interviews with teachers and their

supervisors (head teachers and circuit supervisors). According to head teachers, teacher preparation before teaching is far better now than ever before. As one teacher commented, "The intervention has made me prepare well each time before delivering my lesson." Many teachers use language games to help the children to speak English. Also, many teachers are observed in the classroom to speak English among themselves and to the children. "This attitude was absent in the baseline observation records of January 1994" (Document #6240, Jan. 1996). Teachers were observed to praise pupils who made the effort to speak English. As one teacher observed, "As a result of the IEQ project, I find teaching in the classroom very interesting as children participate very well. I am able to organize the children to read on their own in groups. Children are now interested in English."

The use of the chalkboard no longer predominates in the intensive schools.. With a good supply of English textbooks, the practice of copying passages on the chalkboard from the reader has been dramatically reduced. One classroom teacher observed, "The intervention makes me use more methods in teaching. It makes me apply teaching and learning materials, thereby encouraging pupils' active participation in the teaching and learning process."

Many teachers, according to the results of interviews held with them, now routinely use homework assignments. "Teachers now allow children to take their class readers home to do assignments and report the following morning. In this way, they have indirectly involved the parents and guardians in helping their sons and daughters through home supervision of children's work" (Document #6240, Jan. 1996).

The IEQ training has had a spillover effect also in the Junior Secondary schools which have been employing the instructional interventions that their teachers learned when they participated in the training sessions organized for the teachers of the intensive schools. For example, at the Junior Secondary school affiliated with the Aboom A.M.E. Zion Primary School in Cape Coast, teachers have introduced the "Let's find out Board" which is a board on which the various teachers set assignments far ahead of the lessons being taught and pupils must identify the group they belong to, find the assignment and get the assignment done. This is done on a weekly basis and the head teacher monitors to see which teachers are not following the instructions! The primary school has been encouraged to adopt the "Let's find out Board" taking into account the level of their pupils and appropriate tasks that can be monitored and assessed (*Report on Field Support...by Team Leader to Aboom A.M.E. Zion Primary School, Cape Coast, Jan. 1995*).

The IEQ Project has impacted in another way at the local level and that is with the parents. In fact, the parents are aware of the project and the part they are expected to play. On hearing of the supply of more government textbooks to the schools, parents have encouraged their children to borrow books for reading at home. Parents observed that the presence of CRIQPEG research teams have made teachers come to school early and regularly. They have become more serious with their teaching. Parents, therefore, appealed that the IEQ Project should continue for some time. They also called for the stepping up of supervision from the Ghana Education Service.

Parents in some schools have promised to introduce incentives for hardworking teachers and some parents wanted to empower teachers to resume or intensify the use of the cane on recalcitrant pupils. Parents promised that their children would watch only selected programs on

the TV. And parents have decided not to allow children to attend wake-keeping for funerals any longer, believing that the children would gain more by spending that time on studies and sound sleep.

The PTA of one of the schools has promised to provide accommodation and personnel for a library if the government would provide the books. To ensure that their children are well fed while in school, parents of a rural school have decided to pay a levy to raise funds to run a canteen in the school for the children.

Because of the success CRIQPEG has experienced with the use of circuit supervisors to provide instructional support to the schools and to act as trainers of classroom teachers in instructional strategies for the intervention schools, circuit supervisors are now included in PREP training (which was not earlier the case).

The CRIQPEG Research Coordinator's appointment to the Ministry of Education's Executive Committee also provided the potential opportunity for CRIQPEG to influence policy and the development of the Government of Ghana's Strategic Plan which will have an impact on the next educational reform phase, PREP 2 (Trip Report #51, October 1995). Three other CRIQPEG members were invited to participate in school sector studies conducted by the Ministry of Education and the donors as background for developing a draft of a plan for the next 10 years, called FCUBE (Free Compulsory Universal Basic Education).

The strong endorsement from the Deputy Director-General (GES), the Director of Basic Education (GES) and the MOE Secretariat regarding the value of CRIQPEG's research approach and its contribution to the thinking of the Government of Ghana's unfolding education reform plan; has led to an interest in expanding CRIQPEG beyond language learning to other basic subjects. This interest in broadening CRIQPEG's work and outreach provides a potential opportunity for CRIQPEG to impact on both policy and practice in the future of Ghana's education.

## **Conclusion**

The IEQ Project in Ghana is manifestly catalytic. The engagement of the local educators, teachers, head teachers and circuit supervisors, in this collaborative research effort over the life of the Project has resulted in a change of roles for them and brought a change in their perception of their roles. As the head teachers and circuit supervisors were drawn into designing the research, by prioritizing needs and identifying interventions to be introduced into the classrooms, they took on greater responsibility in the educational change effort and in their profession. The engagement of the head teachers and circuit supervisors became a catalyst for the engagement of the classroom teachers, which resulted, in turn, in a change in teacher behavior and a decline in teacher absenteeism. The engagement of the local educators led, also, to the engagement of the community, all of which ultimately had an impact on pupil behavior and pupil performance – pupil performance in the intervention schools did improve. It seems likely that teacher training was in some measure responsible for an increase in pupil performance.

The Project has been molded by many forces. Its initial course was set by the nature of the national reform effort, PREP, with which it shared certain features, e.g., classroom-level research. However, the articulation and projection of a specific "product" was slow to develop in the beginning. "It seemed to take many months for IEQ to get established and noticed in the

donor community" (J. Schubert, Trip Report #27). The lack of a formulated plan caused some confusion and consternation initially, particularly regarding the data collection procedure and instruments. In the absence of an articulated plan, the IEQ Project Director, Jane Schubert, worked during Phase I with CRIQPEG to develop a research design for carrying out the data collection and data analysis. The CRIQPEG-designed instruments for Phase I data collection were already being utilized in the field to collect data when it was decided to introduce a technical consultant who redesigned the research and the instruments. The change in their design instruments before Phase I research was completed was unsettling to the members of the CRIQPEG team.

Following the findings from the preliminary study carried out in Phase I, the research design was further refined to focus solely on English language learning. As the establishment of baseline data on pupil performance became the focus for the initial cycle of Phase II research, it appears that the pupil performance instruments became the domain of the IIR consultants, leaving the CRIQPEG team to work on the instruments for the collection of more qualitative data, e.g., interview protocols.

The aspects of research on classroom teaching/learning which have become the most carefully scrutinized in the IEQ Project in Ghana is how, to what extent and why pupil performance and classroom behavior have changed, with increasing emphasis, as the Project developed, on research into the change in pupil performance. Increasing focus on the assessment of pupil achievement seemed to result in a shift, if not in the Project goals, in the Project direction, towards the quantification of educational quality. CBA instrumentation, developed and refined by the IIR consultants throughout the Project, have been the lenses through which pupil performance has been scrutinized. The CRIQPEG Advisory Board has also demonstrated a particular interest in educational assessment. "The Board chose to have a special working session on assessment ... (expressing) an interest in reviewing the CBA instruments, particularly on pupil performance in reading and oral proficiency, for potential widespread application in Ghana" (Trip Report #40, April 1995). Jane Schubert wrote, "We view the methodology and the instruments of this curriculum-based assessment approach as a significant contribution to the "thinking" on assessment, not just in Ghana, but in the international professional community" (Trip Report #40, Schubert).

Other political considerations have also directed the course of the Project. The Vice-Chancellor of the University of Cape Coast has been extremely supportive of the IEQ Project from the beginning stating that IEQ's institutional partner was interested in "strengthening links between the Ministry/Ghana Education Service and the University." The IEQ Project Director, Jane Schubert, wrote, "In informal discussions with them (MOE/GES and the University) during a courtesy call at their office, the Vice-Chancellor and the Dean of the Faculty of Education (UCC) expressed their desire to explore ways in which the University might work more closely through the IEQ Project with the Ghana Education Service, in their role as a laboratory, where innovative ideas can be tried out to benefit the larger educational community in general" (Trip Report #19, p.1).

The IEQ Project in Ghana has brought the UCC and, in particular, the Faculty of Education, with its many members in CRIQPEG, into national prominence. Because CRIQPEG's National Advisory Board is comprised of representatives of every major educational

stakeholder in Ghana, discussions of CRIQPEG's activities provided an unparalleled opportunity for discussions of issues of national importance (*A Final Evaluation*, Appendix B, p.57). Therefore, perhaps it was not surprising when invitations were extended to several of its members to become involved in sector studies and to its Research Coordinator to sit on the Ministry of Education's Executive Planning Committee.

One of the unique characteristics of the IEQ Project, as described by the Project Director, Jane Schubert, is the Project's "collaborative" approach to improving educational quality in the classroom (J. Schubert Memo, *Key Characteristics of the IEQ Project*, 18 Sept. 1995). However, although the Project is catalytic, bringing together educators and noneducators from different levels of the system, how much of the project design and process is truly "collaborative"? While the host country researchers worked as a team, the decision-making process seemed to favor State-side collaboration among technical experts, who then, it appears, consulted the host country research team for approval. The research design efforts for the four Phases (I-IV) were extensively developed by IIR consultants, who then requested CRIQPEG's approval via their Research Coordinator.

IIR consultants, Drs. Paigna and Harris, wrote that it was a challenge in Ghana to maintain the balance between providing direction to CRIQPEG while simultaneously "empowering" the UCC researchers to assume ownership and responsibility for the research and its development in Ghana. A case in point:

When referring to how the research undertaken during Phase II and the consequent findings should be presented in the final Phase II report, Dr. Harris indicated that she would "discuss with Jane the audience and format for the P-II report." Input would then be provided to CRIQPEG (Trip Report #27, "Actions," p. 4).

In another example, an IIR consultant wrote in her trip report about how delicate the balance is between providing too much and too little direction:

When asked about the status of their report, CRIQPEG team leaders indicated that team reports had been drafted, with each report describing the findings in the two schools visited by the team. Suggested strategies for integrating the data analysis and reports had not been followed, principally because the ultimate choice had been left with CRIQPEG and the rationale for a combined report had not been explicitly discussed. A lesson to be learned is that the parameters of decision making need to be considered carefully. If CRIQPEG had been asked to decide, "What kind of report would be most useful?" would they have chosen to write 7 reports instead of one? If IEQ had clearly stated: "There is one research design, there should be one research report." would the teams have been able to produce one report that integrates the findings? (Trip Report #27, Paigna/Harris, 27 June 1994, p.9).

The implementation process seemed to work more collaboratively, as the CRIQPEG researchers, circuit supervisors and head teachers demonstrated continued enthusiastic commitment to the Project's spiraling research, interventions and feedback cycles. Educators met to learn about the research findings from the CRIQPEG team and then the researchers and educators subsequently worked *together* to act upon those findings by developing new and

improved instructional practices (Ellison, *Quality Link*, #4).

Researchers and educators work together to act upon the research findings by developing new and improved instructional practices, with the result that: (1) there is an increased interest on the part of pupils in their own learning; (2) the sustainability of the project is improved by the continuous feedback and discussions of the interventions which empower educators to sustain the learning process. The dynamic nature of the exchange encourages educators to build upon the interventions as the need arises (*Qual.Link*, # 4).

It seems clear also from critical incidents collected from educators and noneducators involved in the Project that both are deeply engaged in the process of working together and touched by an optimistic sense of change. However, “working together” and “collaborating” are different experiences. The IEQ research experience, including professional development training for the host country research team, bolstered the CRIQPEG team members’ efforts, in their quest as researchers, to generate accurate classroom data and, subsequently, to contribute to the improvement of educational quality, to interact and respond to the interests of stakeholders, and to test assumptions about the usefulness of classroom information on teacher/pupil interactions (*IEQ in Ghana*, July 1993, p.3). In turn the CRIQPEG team members constantly demonstrated their high level of commitment to the Project by working long hours on IEQ tasks in addition to their regular faculty responsibilities at the University of Cape Coast, even when hampered, as they were in the initial stages, by logistical problems.

The involvement of the local educators in the change process helped to develop the local leadership capacity and fostered human investment in the Project which, in turn, promoted sustainability of this change effort – sustainability of the process if not of the IEQ Project, itself. The work of the host country research teams helped develop knowledge which affected, in turn, the local behavior of participants, e.g., circuit supervisors, head teachers and teachers, who began to perceive a change in their own roles. Shifts in the roles of these institutional players on the ground may be more effective to the progress of the project than changes at the macro level. Contrast the initial observation of one CRIQPEG team member regarding the role of primary head teachers at the outset of the project:

My general observation is that most primary head teachers do not exercise their supervisory and instructional leadership role effectively because (i) they are not detached (i.e., free of their full-time teaching duties) -- they have their own full class teaching, and (ii) they are not perceived by teachers as possessing subject matter and method expertise necessary for helping them to improve. (excerpt from *Inaugural Meeting of the Advisory Board Accra: Presentations on IEQ in Ghana: The Head teacher*, by John Nimo, UCC, 25 April 1995)

with the comments of one circuit supervisor, a little more than one year into the program, regarding the role of teachers:

I have been observing teachers with the CRIQPEG team every time they visit the school, and after, we normally meet with the teachers and discuss various points with them. A general consensus of the teachers is that they are all enthused about the programme and ready for innovations. My conversations with them give me a ray of hope for the future, that with time and with realistic teaching strategies, our

children will perform. Through the meetings with the teachers I have learnt their problems and also possible solutions to these problems. I hope to use the information received from them to benefit other teachers during my school-based orientation and in-service training courses in the future (*The Quality Link*, No.4, Spring 1995).

Local investigation/reflection increases the capacity and acts as a catalyst for conversation about the need for reform. By engaging local researchers and educators into not only the project's activities but also the processes, waxing local commitment should replace waning donor support. This conclusion appears to be in line with a declaration made by the National Advisory Board at its April 1995 inaugural meeting to "set as its highest priority the extension of CRIQPEG's outreach" (Trip Report #40). By its declaration the Board joined its voice to a swelling chorus which seems to provide evidence of the strength of the IEQ classroom change model, the policy-practice-research-dialogue/dissemination spirals, to improve educational quality.

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# **THE IEQ STORY IN GUATEMALA**

**Martha E. Mantilla**

*with the assistance of*

**Yetilú de Baessa and Ray Chesterfield**

# THE IEQ STORY IN GUATEMALA<sup>1</sup>

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## Introduction

This story is the product of two years of documenting the Improving Educational Quality (IEQ) project as it has been carried out in Guatemala. As a note of clarification, it is important to point out that the primary author of this chapter has not been in Guatemala as part of the IEQ project. Therefore, there was not direct communication with some of the key actors in the country. For this reason, the information presented in this chapter is based primarily on an analysis of the documentation produced in the field<sup>2</sup> plus additional sources that helped to bring out the social setting in which the IEQ project is being implemented. In addition to the written information, personal and e-mail communication with the Guatemalan HCRT Coordinator, Yetilú de Baessa, and the US-IEQ consultant, Ray Chesterfield, provided additional information and clarification. In the relatively few cases where there were discrepancies between the IEQ documents and personal or e-mail information received by the IEQ team, "contextual inferences" were employed in the analysis presented here.<sup>3</sup>

## Social and Educational Context

Guatemala is the third largest and most populous Central American country. It was a Spanish colony until 1821 when, after a long and violent struggle, the whole Central American region got independence from Spain. Guatemala is largely an agricultural country with the principal crops of coffee, bananas, cotton and sugar supplying 62% of the export earnings. Among the 9.5 million inhabitants of Guatemala, 73% are rural dwellers engaged in agriculture as farmers and migratory workers. During the 1980s Guatemala city received 64,000 people a year due to rural migration. Population growth in Guatemala is 2.8%, and the country's population doubles every 25 years. In 1996 the minimum salary per day in 1996 was US \$2 and the exchange rate was \$6.10 quetzales to US \$1.00.

According to Jones,<sup>4</sup> "of the Guatemalan population, 50-60 percent is Indian although some estimates are as high as 70 percent" and there are twenty-two language subgroups of the Mayan.<sup>5</sup> The rest of the population are *ladinos*, Spanish-speaking descendants of white and Indian racial intermixing.

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<sup>1</sup>The documentation research reported here was conducted under the guidance of Mark Ginsburg and Don Adams. Feedback on earlier drafts of this chapter were also provided by the other members of Knowledge Building Team at the University of Pittsburgh: Thomas Clayton, Judy Sylvester, and Ydan Wang. This manuscript is a May 1997 revision of a October 1996 version of the IEQ documentation research report.

<sup>2</sup>For complete listing of documents and other references see Bibliography.

<sup>3</sup>Contextual inferences involve the process of arriving at some conclusion, which although not logically derivable from the premises, possesses some degree of probability relative to the set of circumstances or facts that surround a particular event or situation.

<sup>4</sup>Jones, Susanne. (1991)

<sup>5</sup>Five mother tongues are spoken by 80% of the indigenous population: Q'eqchí, K'echi, K'aqchiquel, Mam, and Pocomchi. A major aspect to be considered in Guatemala is the multiple languages and culture determining the educational spectrum of the country. This fact puts Guatemala in the core of the debate about the "ladinization" or cultural assimilation by which the Indians, not only in Guatemala but in Latin

The *Sistema Educativo Nacional* (SEN)<sup>6</sup> determines the educational policy that the Ministry of Education has to coordinate and implement. Its specific functions are to investigate, plan, organize, coordinate and evaluate the educational process at the national level. El SEN is participative, regionalized, and decentralized. This system is formed by the Ministry of Education, the educational community and the educational centers. The subsystems of *Educación Escolar* and *Educación Extraescolar* constitute the SEN.

The first subsystem is composed by the following levels: a) first level or initial education which goes until the child has four years of age; b) second level which includes the pre-school education, *párvulos* and pre pre-school bilingual; c) third level or primary education which includes six years of elementary school (usually for children between 7 to 12 years of age) with the main subjects taught reading, writing, mathematics, and geography and history of the departments of Guatemala,<sup>7</sup> the country, Central America, the American continent, and the world; d) fourth level or middle education, in which the subjects taught are Spanish, natural sciences, social sciences, mathematics, industrial arts, plastic arts and English; which can include two more years of vocational school to obtain baccalaureate degree or three more years to obtain an intermediate professional career such as industrial technician, elementary school teacher, agricultural technician, accountant and bilingual secretary.

The second subsystem includes five years of university, in which a general examination and a thesis are which make take up to one more year, are required to obtain the academic degree of "*licenciado*", which can be followed by a masters degree.

Guatemala has a very young population. Forty-six percent of the Guatemalans are below 15 years of age. The average age for the indigenous people is 20.9 and for the ladinos is 22 years of age. This fact makes education a multicultural and multilingual need for the country. According to the National Census, in 1993 the literacy<sup>8</sup> rate in Guatemala was 58.9%. The Instituto Nacional de Estadística estimates that in 1993 there were 2.3 millions of illiterates in Guatemala, which constitutes 41% of the population 15 years old or older. 23% of them lived in the urban areas and the remaining 77% lived in the rural regions of the country.<sup>9</sup> Approximately, 44% are males and 56% females. The departments with the highest illiteracy rate were the Quiché, Alta Verapaz, Huehuetenango, San Marcos, Totonicapán, Baja Verapaz, and Solola.<sup>10</sup> The language of instruction is basically Spanish although in the 1980s there was an increasing

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America in general, are losing their identity as the result of contact with the "modern" or "civilized" ladino world. The preservation of the mother tongues, customs and culture is a major concern in countries like Guatemala, which is one of the four Latin American Countries with the largest Amerindian population. The other three are Bolivia, Perú and Ecuador.

<sup>6</sup>The information in this section has been taken from a study conducted in the Universidad Rafael Landívar by Pinto Paiz (1994).

<sup>7</sup> Guatemala is composed by 22 departments and 306 municipalities.

<sup>8</sup>According to the National Committee for Literacy (CONALFA), an illiterate is the person, 15 years of age or older, who is not able to write or read Spanish.

<sup>9</sup>The rural dwellers engage in agriculture. They are farmers or migratory workers, who because of their precarious economic conditions, relative isolation and the country's political violence contribute to the low literacy rate of the country as a whole.

<sup>10</sup>Pinto Paiz. (1994). Note that two of the departments with the highest illiteracy rates (Alta Verapaz and Baja Verapaz) are included in the IEQ research discussed below.

effort to include the four main mother tongues as languages of instruction in the indigenous regions.<sup>11</sup>

Guatemala has one of the lowest literacy rates in Central America and the lowest percentage of pupils enrolled in the education system according to a 1987 UNICEF report.<sup>12</sup> Guatemala has 1,818 urban elementary schools (both private and public) and 7,544 rural elementary schools. Secondary schools are exceedingly rare in rural areas, with 205 of the 1,900 secondary schools being located in rural areas.<sup>13</sup> Of the approximately 1,800,000 children between the ages of 7 and 14 in 1992, 45% were enrolled in school. Seventy-nine percent of urban children were enrolled, whereas only 53% of rural children were in school. The relative frequency with which girls enroll (37%) is significantly lower than that of boys (47%). In largely indigenous areas, few girls attend school, accounting in part for the low overall percentage (35%) of children enrolled compared to 82% of all children in non-indigenous areas. Even for those children who are enrolled in the school, regular attendance is difficult and dropout and repetition are high, resulting in an average of 10 years of schooling to produce a sixth grade graduate and approximately 87% of the population without a complete primary school education.<sup>14</sup>

The high illiteracy rate, particularly among the Indian population, and the disparities in educational attainment by ethnicity, region and gender can be attributed to the convergence of different factors, one of them being pervasive poverty. According to CEPAL and USAID, 72% of the population in 1990 lived in extreme poverty, that is to be unable to afford the minimum diet. Guatemala has the highest number of infants with low birth weight in Latin America and malnutrition is common especially in rural areas. "A 1982 UNICEF study combining infant mortality, life expectancy, and literacy rates concluded that Guatemala had the "lowest physical quality" of life in Central America, third lowest in Latin America.<sup>15</sup>

Another factor tied to educational attainment in the rural areas has been the long-term social and political unrest, including a civil war Guatemala experienced during three decades (1960s-1990s).<sup>16</sup> One of the main reasons for this conflict was the increasing concentration of wealth amid pervasive poverty. According to Jones,<sup>17</sup> income distribution worsened significantly from 1970 to the mid-1980s. Guatemala land distribution is the most unequal in Latin America, with 54% of the farms occupying 4% of the land and 2% of the farms covering 65% of the land.<sup>18</sup> A third particularity of Guatemala is the ethnic component of poverty. By

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<sup>11</sup>In 1987 during the administration of Vinicio Cerezo the constitution of the country was translated to the four principal mother tongues.

<sup>12</sup>Hayes. (1993) p.8

<sup>13</sup>Hayes. (1993) p.2

<sup>14</sup>Chesterfield. (no date)

<sup>15</sup>Jones. (1991) p. 178

<sup>16</sup>Until the recent peace accord, Guatemala had the oldest guerrilla movement of Latin America which started in 1961. It is estimated that since 1954, after a coup d'etat and an invasion backed up by the United States, 100,000 people have died, 40,000 have disappeared and there are 150,000 widows and orphans, mainly among the indigenous population. Between 1980 and 1985 alone, one million people became missing due to the civil war. Thousands of Guatemalans became refugees in Mexico; by 1995, there were 42,000 Chiapas, plus others in Quintana Roo, Mérida, and Tabasco.

<sup>17</sup>Jones. (1991) p. 179

<sup>18</sup>Seligson (1982)

virtually all indicators, statistics for the indigenous population are far worse than the national average.

In the face of these educational and political challenges, the Guatemalan government (in cooperation with various international organizations and bilateral aid agencies, notably USAID) has developed several reform efforts.<sup>19</sup> The reform on which IEQ has come to focus its attention is the Basic Education Strengthening (BEST) project.<sup>20</sup> This is a seven-year, 1989-1996, project undertaken by the Ministry of Education and funded through a \$30 million grant by USAID.<sup>21</sup> The Academy for Educational Development (AED) had the contract with USAID to provide technical assistance to the BEST project.<sup>22</sup>

The Nueva Escuela Unitaria (NEU) is part of BEST and follows the Escuela Nueva (EU) model developed in Colombia. The NEU program in Guatemala is an integrated package of activities to assist teachers of multigrade classes to manage their classroom effectively. It is a pilot program that started being implemented in 1993 in 100 pilot schools in both indigenous and non-indigenous regions in Guatemala.<sup>23</sup> NEU allows flexible promotion and is based on active

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<sup>19</sup>These reform initiatives include: a) the expansion of the bilingual education program PRONEBI (Programa Nacional de Educación Bilingüe Intercultural) which started in 1979 and received funding from (BEST)-USAID between 1979 and 1985, when it became a Division of the Ministry of Education; b) the Guatemala Girls' Education Initiative, a five-year scholarship program that helps primary-age indigenous girls to stay in school. This is a pilot program in 36 communities testing different actions to promote girl's school retention, completion, and achievement, coordinated by a local NGO, IDEAS/Datapro, with technical and funding support from USAID; c) the NEUBI program, which is a UNICEF-funded effort in multigrade schooling being carried out -- under the coordination of Oscar Mogollón, who is also the NEU program consultant -- by Ministry personnel in 14 schools in the indigenous region of el Quiché, in which the armed conflict was very severe; d) the Don Bosco program is a Catholic project that has worked in Guatemala for almost 20 years in the Alta Verapaz Region, with a mission to impart secondary education to indigenous youth who have completed sixth grade and many of them are sent to work as bilingual teachers (or *promotores bilingües*) in isolated communities that have requested this service; e) private-sector sponsored projects that include such interventions as social promoters, community committees, small economic incentives, educational materials, and consciousness-raising campaigns; and f) reforms to strengthen instructional delivery through a teachers magazine and technical assistance to the supervisory system/alternative methodologies including piloting of techniques, and technical assistance to develop testing and educational management information systems.

<sup>20</sup>IEQ wanted to study an intervention that the Minister thought was important. Dr. Ray Chesterfield, Vice President of Juárez & Associates, and the Minister of Education at the time (1992), Maria Luisa Beltranena de Padilla, discussed which educational intervention should be the focus of IEQ. The Minister had just returned from Colombia where she saw Escuela Nueva (EU) and decided that IEQ could study the implementation process of the NEU project from the beginning. She wanted the IEQ research to consist of formative evaluation of the NEU project. At the time of the negotiations the NEU was beginning its materials development and planning. Thus, Nueva Escuela Unitaria (NEU) was chosen to be the focus of IEQ because in many instances, particularly the classroom-based research, NEU coincided with IEQ objectives.

<sup>21</sup>IEQ Semi-Annual Report: June, 1993 p.3

<sup>22</sup>Dr. Oscar Mogollón, the Colombian educator who implemented the Escuela Nueva model in Colombia, is the Academy for Educational Development consultant who provides technical assistance to the project.

<sup>23</sup>Decision to expand NEU to all of the more than 3,000 one-room schools in Guatemala was conceived from the beginning of the program. There were plans, in 1996, to expand NEU to the whole country subject to a loan from the World Bank. In conversations at the CIES in Williamsburg, VA. (March 8-10,

learning principles that stress collaborative learning, peer teaching, use of self-instructional guides, and participatory student government. The objectives of the primary level program include providing students the opportunity to complete sixth grade; creating flexible, life-long learners; and encouraging the formation of participatory, democratic behaviors<sup>24</sup> (see Appendices A and B for a more detailed summary of the Nueva Escuela Unitaria (NEU) and the Escuela Unitaria (EU) ).

When discussions about Guatemala's participation in IEQ were initiated, in 1992, most of BEST activities were well underway. However, after 16 months of project implementation no applied research had been undertaken because of difficulties encountered in contracting with local research organizations. The midterm evaluation of the BEST project, though, took place in August and September, 1992, just prior to representatives from IIR, Juárez and Associates, and USAID Washington engaging in intensive discussions (October, 1992)<sup>25</sup> with the Guatemalan USAID Mission and the Minister of Education, although the results of the evaluation were not disseminated until January 1993.

### **Institutional Participants and Relationships in Guatemala**

During the country selection trip to Guatemala in February, 1992, IEQ representatives<sup>26</sup> met with Ministry of Education personnel, USAID representatives,<sup>27</sup> university personnel,

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1996) however, the HCRT Coordinator, Dr. Yetilú de Baessa seemed to be skeptical of this possibility. She mentioned that the newly appointed Minister, Dr. Arabella de Camparini, seemed to have different priorities and projects (IEQ Semi-Annual Report: June 1993 p. 4).

<sup>24</sup>Chesterfield. (1994) p. i.

<sup>25</sup>Representatives of IEQ had initially visited Guatemala in February 1992, after receiving an expression of interest from the USAID mission to a cable inviting participation in IEQ. By October of 1992, discussion became focused on a draft of a Memorandum of Understanding, which was signed by representatives of the following institutions by December of 1992: 1) USAID/Washington; 2) USAID/Guatemala; 3) the Minister of Education of Guatemala; and 4) The Institute for International Research (prime contractor organization for IEQ). The goals of the project as stated in the Memorandum of Understanding are: 1) to contribute to the capacity of Guatemalan researchers to conduct systematic research on student achievement and educational practices 2) to build a body of practical information that will assist decision-makers to allocate existing resources in ways that will enhance student's opportunities for educational success.

<sup>26</sup>February 16-29, 1992 Jane Schubert, IEQ Project Director from the Institute for International Research, Ray Chesterfield, Deputy Project Director from Juárez & Associates, accompanied by Frank Method, the COTR conducted exploratory discussions in El Salvador, Guatemala and Honduras. Ray Chesterfield returned to Guatemala in May, 1992, to complete the groundwork for the Memorandum of Understanding (MOU) with the Ministry. He collaborated with Susan Clay, the AID Education Officer, to produce an implementation schedule to collect baseline data during the beginning of the 1993 school year (February-March). He also worked with the Ministry of Education officials on refining possible research topics and identifying potential HCRT and Advisory Board members (IEQ Nine Month Report October 1991 - June 1992 p.4).

<sup>27</sup>Since the beginning, the USAID Mission has played a significant role in the IEQ project. The first contact with the countries was made through the USAID Mission. The Technical Proposal (August 9, 1991, p. 18) states that: "As is significant in all S&T/ED projects, the willingness of the Mission to participate is critical. The readiness on the part of the USAID Mission to cooperate is the first criterion we are seeking in each of the three countries for pilot sites. The willingness of a Mission to cooperate will be established through prior consultation with S&T/ED". The Missions were consulted for the

members of the research community, and other donor organization representatives. Two universities were visited at that time. One of them was the Universidad Rafael Landívar, a private university founded in 1961 which has branches in Jutiapa and Santa Rosa, two of the departments in which IEQ subsequently focused its work. The other university visited was the Universidad del Valle, a small institution founded in 1967, which is funded by a Foundation and the Colegio Americano, and is perceived, in Guatemala, as "an American style" university.<sup>28</sup>

When the IEQ project was formalized in Guatemala in December 1992, a Host Country Research Team (HCRT) was created. The HCRT consisted of a Research Coordinator, Dr. Yetilú de Baessa;<sup>29</sup> two Regional Field Coordinators, one for each of the regions;<sup>30</sup> ten field researchers, five for each of the two regions who worked full time from February to September in 1993, 1994, and 1995 in data collection, interviewing and classroom observations; an accountant; and a secretary.<sup>31</sup>

Initially, the plan was for the HCRT to work closely with the office of the Vice-Minister of Education for Technical Affairs, particularly through his contact person the Licenciado Arnoldo Escobar, who was at the time responsible for the quality of instructional delivery. The HCRT would also have close contact with officials in the regional and departmental education offices in the two regions where the IEQ project was to be implemented. Moreover, the plan was for the HCRT to become affiliated to the new Institute for Educational Research, which was to become a legal entity of the Ministry of Education within a month or two after the IEQ team's initial visit to Guatemala.<sup>32</sup>

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selection of the countries: "We will work with S&T/ED to contact appropriate Mission personnel to confirm their interest to be considered. For Missions which express interest, we will ask for their assessment of the likelihood that the Ministry of Education would embrace the aims of IEQ... On the basis of Mission interest, we will winnow the list of six... During the course of this prioritization, we may, with the Mission's authorization, call and interview officials or other education professionals".

<sup>28</sup>Other universities in Guatemala are: 1) the Universidad de San Carlos, a public institution and one of the oldest universities of the country founded in 1776, which has branches in some of the regions where IEQ is operating: Jutiapa and Alta Verapaz; 2) the Universidad Francisco Marroquín, a conservative private University considered by Guatemalans to be the university for the elite; and 3) the Universidad Mariano Gálves, a private institution founded in 1966 which has a strong influence from Protestant groups.

<sup>29</sup>Dr. Baessa has a PhD. in Psychology of Education from the University of Texas, Austin. She worked full-time for the project while teaching one course at Universidad del Valle, the only university in Guatemala which gives courses and a masters degree in educational evaluation. Her responsibilities for the IEQ project included shaping the research design, training and supervising the field coordinators and researchers, developing and pilot-testing the research instruments, disseminating the research findings, and getting feedback.

<sup>30</sup>Some of the members of the HCRT in Guatemala changed during the course of the project. The first Regional Field Coordinators were Iván García Santiago, an anthropologist, and Rosa Girón Román, a social worker. Both of them had previous experience in carrying out field research.

<sup>31</sup>By 1996 the HCRT was composed by a small core staff of one research supervisor, an accountant, and a secretary. A second research supervisor was not replaced when she left the project in 1994. In Region II, where are many speakers of the Mayan language Q'eqchi', all five field workers understood the language and three spoke it well (Kerley, Janet. Appendix C: Guatemala p. 83).

<sup>32</sup>The IEQ team considered it a very promising opportunity for IEQ to strengthen applied research capacity through an affiliation with this planned Institute, which had been proposed by the Minister of

The Ministry's proposed Institute for Educational Research, however, was not created, and the HCRT remained an unaffiliated operation until February, 1996, when an agreement was reached for it to become formally a part of the Institute for Educational Research at the Universidad del Valle.<sup>33</sup> Support for the planned national Institute was reduced significantly when the Minister of Education, Maria Luisa Beltranena de Padilla, who had served as Minister of Education since January 1991, was replaced in May 1993., in the wake of a coup d'etat engineered by Jorge Serrano Elías, who had been elected as President of Guatemala in 1990. He suspended the Congress and Supreme Court and with the support of elements of the military, gave himself dictatorial powers. This action resulted in suspension of U.S. foreign aid until a "democratic" government was reestablished. The economic sanctions on the part of the U.S. and the European Community plus popular response against this move led to Serrano Elías' resignation within a three week period. Ramiro de León Carpio, a former human rights ombudsman, was elected president by the Congress and announced a 180-day plan that included educational initiatives for disenfranchised segments of the Guatemalan populace. He changed the Minister of Defense and several other hard-line military personnel who supported Serrano's coup attempt. He also appointed Lic. Alfredo Tay as Minister of Education, the first indigenous Minister in Guatemalan history.<sup>34</sup> The new Minister said that the new government was going to review all laws not yet enacted by the previous administration prior to making decisions about restructuring the Ministry and the creation of the Institute for Educational Research within the Ministry of Education. He also suggested that his office and the regional offices where NEU was being implemented should remain the institutional linkages for IEQ.

In order to maintain close liaison with national policy-makers, the IEQ project planned the creation of National Advisory Committees. After the Memorandum of Understanding was signed, planning was initiated for establishing a National Advisory Committee in Guatemala; several conversations were held with the Vice-Ministry of Technical Affairs as to the composition of the committee and scheduling of meetings. The committee was planned to include: users of the research results (e.g., the Director General of Education; the Deputy Director of SIMAC, members of a curriculum reform project of the Ministry of Education been financed by UNESCO and USAID/BEST; the Director of the Unidad Sectorial de Investigación y

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Education, Maria Luisa Beltranena de Padilla, after her appointment in January 1991. A conference to define the role of Guatemalan research organizations in relation to the new Institute was held in October, 1992, as negotiations for Guatemala's participation in IEQ were moving forward. The Minister and her advisors felt that IEQ could build research capacity within the Institute so that the Institute would become a mechanism for coordinating all educational research in Guatemala and a leader in designing classroom based research to inform policy decision-making. This, together with the interest in classroom-level research that exists in the Guatemalan education community and the USAID mission's investment in basic education provided an excellent fit with the goals of IEQ project (Trip Report #14. May 23-29, 1992 p.1).

<sup>33</sup>In 1995, negotiations started with the Universidad del Valle for IEQ's HCRT to be part of their University's Institute of Educational Research, which eventuated in an Agreement being signed in February, 1996 (see Phase IV Dissemination/Dialogue).

<sup>34</sup>Dr. Tay has worked in the area of education for many years in both the public and private sector. He received his master's degree from the Universidad del Valle in Guatemala, and attended Pennsylvania State University in the field of educational policy. His political affiliation was not the determining factor for his appointment, whereas being the first indigenous Minister in Guatemalan history became a political issue used by some of the politicians of the different parties.

Planificación Educativa (USIPE); the Advisor of the Ministry; and research specialists from research centers in Guatemala. It was decided that the Committee would meet three times a year. The Committee, however, was not in operation until 1995, in part due to the coup d'etat and the subsequent political difficulties. At the beginning of 1995, the Minister Alfredo Tay Coyoy successfully emerged from a vote of no confidence by the Congress and agreed to be on the IEQ Advisory Committee.<sup>35</sup>

The Minister of Education was again changed after January 7, 1996, when the Guatemalans elected new President, Alvaro Arzú.<sup>36</sup> He was installed on January 14, 1996 and appointed Arabella Castro de Camparini, a lawyer and former Congresswoman, as the new Minister of Education. The new Vice-Minister of Education, Roberto Moreno,<sup>37</sup> became part of the Advisory Committee for IEQ.

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<sup>35</sup>Since Mr. Tay was the first indigenous Minister and more than 55% of the population are Indians, the major political parties in Guatemala, El Frente Republicano Guatemalteco and the Alianza Política Nacional, which is composed of the Partido Socialista Democrático, the Democracia Cristiana, and the Union del Centro Nacional, supported Mr. Tay and thus blocked the no-confidence vote, which would have affected the elections that were going to be held on November 12, 1995, especially among the indigenous voters. These political events did not directly affect Ramiro de Leon Carpio. He did not have strong political ties to any of the parties since he was appointed by the Congress after the coup d'etat of May, 1993. Besides, his presidential period was coming to an end and according to the constitution of the country, he could not be re-elected.

<sup>36</sup>In the elections held on November 12, 1995, none of the 19 presidential candidates obtained more than 51 percent of the votes required to win the presidential elections. The two parties competing for the political event on January 7, 1996, on the second round, were the Party of National Advance (Partido de Avanzada Nacional) with Alvaro Arzú as candidate and the National Republican Front (Frente Nacional Republicano – FRN), whose historical leader is a former chief of state, Efraín Rios Montt. The FRN had as presidential candidate Alfonso Portillo an economist and former guerrilla sympathizer. The results of the elections gave Alvaro Arzú the majority of the votes (51.4%) against (49.7%) for Portillo. The main support of Arzú came from the capital and urban areas, whereas Portillo's support came from the rural areas. Arzú was installed on January 14, 1996 and was to remain in office until January 14, 2000. His party has 42 of 80 seats in the Congress. In the first round of elections, November 12 1995, Arzu received 38 percent of the votes, and Portillo obtained 21 percent. Arzú represented the "new right" in the Guatemalan political spectrum, that is a group claiming to be the national vanguard against corruption with strong technical support, especially in terms of neoliberal economics, and with the intention to go deep in the structural economic reform -- that is., privatization of public enterprises, higher taxes on consumption, less government expenditures, and an export leading macroeconomic policy. Portillo as a direct representative of Rios Montt, who was banned from running for president because of constitutional limitation of one term as president, represented the conservative option based on the "caudillo" alternative. Rios Montt was chief of state during the period from March 23, 1982 until August 8, 1983, in both dates coups d'etats occurred, the first one gave the political power to Rios, and the second one lead by general Victor Mejía was an overthrew the Rios Montt regime. Rios suppressed the judiciary legal system, and during his regime strong violations of humans rights were perpetrated, according to Amnesty International, America's Watch, and Guatemalan pro human rights groups. Order and law were the main slogans in Rios' party and this political entity appeared to have stronger organization in the countryside. Arzú, on the other hand, did not appear to have had significant organization in rural areas, but his triumph in the urban areas, especially in Guatemala City, was predicted by almost all the local political analysts (see Central American Report, Nov. 16, 23, 30, 1995).

<sup>37</sup>Mr. Roberto Moreno has a masters degree in Education from Stanford University.

## **IEQ Research Activity: Phase I<sup>38</sup>**

The study combined the utilization of quantitative instruments to measure the academic and social progress of the child with qualitative research through classroom observation, interviews with teachers and parents, and naturalistic observation of the community.

### **Research Questions (PHASE I)**

A series of general research questions were developed through discussions between the HCRT Coordinator, Yetilú de Baessa; the IEQ Deputy Director, Ray Chesterfield; the NEU School Specialist and consultant employed by the U.S.-based Academy for Educational Development (AED), Oscar Mogollón; and the regional and departmental educational administrators in the NEU activity. The research questions focused on the implementation of the NEU program at the classroom and community level and the relationship of different program components to the cognitive and socio-emotional development of children participating in the program.<sup>39</sup>

The four participant groups in the NEU program – teachers, students, community, and administrators – formed the basis for the research questions. Within each set of research questions, the emphasis was on assisting program managers to calibrate the implementation of the program in the pilot schools and to determine those elements of the program that, when fully implemented, were critical to student achievement. General research questions organized by the four participant groups in the program were:

#### Teachers

- What do teachers do in Unitary Schools (EU)<sup>40</sup> (schedule, types of activities, types of interactions with students of different genders and ages)?
- How do teachers' behaviors and attitudes change as a result of their participation in the NEU program?
- What are the effects of changes in teachers' attitudes and behaviors on students performance?

#### Students

- What do students learn through participation in the NEU program?
- How does the performance of NEU participants compare to that of similar students in unitary schools (EU) not participating in the program?
- Are there differences in student performance by age or gender?

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<sup>38</sup>For the purpose of this report, the term "Phases" will be understood as follows: Phase I correspond to the first year (1993) of IEQ activity; Phase II the second year (1994); and Phase III the third year (1995). The IEQ/Guatemala team designate Phase I as the IEQ activity undertaken from the beginning to the end of the project (September, 1992 – September, 1996) and Phase II the activity that would take place after the end of the USAID/IEQ project in September 1996.

<sup>39</sup>In studying the extent to which the NEU program had been implemented in different schools, information was gathered in four areas: schedule and organization; physical space; instructional materials; and instructional strategies. For description of the schools as well as detailed information on the level of NEU implementation see Appendix B of this Report and IEQ Guatemala, Research Report Phase I, Draft. (no date).

<sup>40</sup>Unitary Schools (EU) are the traditional schools where no NEU intervention has taken place.

- What elements of the NEU program (e.g., cooperative learning, individualized instruction, participation in student government, use of instructional materials, use of ancillary materials such as learning corners and library, parental involvement in school) are most strongly related to student performance?

### Community

- How do parents participate in the education of their children who attend schools?
- Do parents' attitudes and behaviors change as a result of their participation in the NEU program?
- What elements of the NEU program are related to change in parents' attitudes and behaviors?

### Practice<sup>41</sup>

- How do teachers use materials and organize space in NEU when compared to teachers in non-participating (EU) unitary schools?
- What is the relationship of use of space or materials to student performance?

### **Sample (PHASE I)**

During the 1993 school year, which corresponded to the first full year of the development of the NEU program, testing and classroom observations of first and second grade children were carried out by IEQ researchers at 10 experimental (NEU) schools and 10 comparison (EU) schools. These schools formed a 10% sample of the pilot program. The teachers who initially participated in the project were all volunteers employed by the Ministry of Education.

IEQ focused on the two regions, II and IV,<sup>42</sup> where the NEU pilot program was being implemented initially in 100 pilot schools. Region II, consisting of the departments of Alta Verapaz and Baja Verapaz. Alta Verapaz is populated almost exclusively by Q'eqchi speaking Mayans and the children who attend the schools in the sample in this region speak only Q'eqchi upon entering the schools. Baja Verapaz, has a population comprised mostly of Mayans who speak either Q'eqchí or Poqomchí, although in general, the children who attend the schools in the sample speak Spanish as their native language.<sup>43</sup> Region IV is made up of the departments of Jalapa, Jutiapa and Santa Rosa, which are fairly homogeneous in terms of both ethnicity and language with all the children being ladinos and native Spanish speakers.

The 10 EU schools, five in each region, were selected from the list provided by the supervisors with the criteria that they were comparable schools located near the NEU schools. Visits to the schools showed that most were not unitary or "one-room schoolhouses" but rather had at least two teachers working with multiple grades.<sup>44</sup>

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<sup>41</sup> At the classroom/community level, practice will be related to teachers' interactions with children and parents, as already indicated in their first three sets of questions. Additional questions relate to use of physical space and materials.

<sup>42</sup>In 1988, the Ministry of Education began a regionalization program, ostensibly to make education more responsive to the country's various target populations. According to this program there are eight educational regions in which Regions II and IV are probably the poorest regions of the country in terms of economic indicators. The NEU project was also being carried out in Totonicapan, a region in which IEQ was not involved.

<sup>43</sup>IEQ Guatemala Research Report Phase I. Draft (no date)

<sup>44</sup>IEQ Guatemala Trip Report #10 p. 2

Since one of the criteria for educational success was that the students were able to complete primary education in six years, the schools selected for inclusion in the IEQ research project were all "complete" schools, which means they had all six grades. Other issues considered for the choosing of the schools were low dropout rate, accessibility to the schools by IEQ fieldworkers and representatives, and low guerrilla interference<sup>45</sup> (see Appendix B and IEQ Guatemala Research Report, Phase I Draft for characteristics and description of the schools).

### **Data Collection (PHASE I)**

The design for answering the research questions during the first or pilot phase of research included a pre-post study of the academic performance and socio-emotional development of 506 children, at pretest composed of 259 participating in the NEU program and 247 in the traditional EU schools.<sup>46</sup> All of the children in five NEU schools and five comparison (EU) schools in each region were pre-tested on selected competency measures at the beginning of the pilot year (February 1993) and were post-tested at the conclusion of the pilot year (September-October 1993). Additionally, health status<sup>47</sup> and language proficiency<sup>48</sup> data were collected.

In-depth observations (using observations schedules and ethnographic techniques) were also planned to be carried out focusing on a subsample of children at three times during the school year, but because of the (above mentioned) coup d'etat in Guatemala and suspension of U.S. aid in May 1993, data were not collected in June/July of that year. Thus, in March and again in September-October 1993, six field researchers in each region spent two weeks at each

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<sup>45</sup>This struggle was not as intense in the two regions where IEQ was operating as it has been in other parts of the country. Jutiapa and Jalapa were fairly free from insurgent movements and Guatemalan military operations, although Jalapa had had strong problems due to land tenure. In Guatemala there have been several massacres against peasant population, like the one that occurred in 1973 in San Sirisay, and the one on March 30, 1978 in Panzón where large group of peasants were killed due to land disputes. A fraction of the Ejército Guerrillero de los Pobres operates in the Northeast of the country affecting portions of the Baja Verapaz region. The Fuerzas Armadas Rebeldes (FAR) operate in the north where Alta Verapaz is located and in the Peten region. There are two other fractions of the revolutionary movement: the Organización del Pueblo en Armas (ORPA) that operates in the Southwest of the country in a region where coffee is produced and the country has also a group of the Partido Guatemalteco del Trabajo (PGT) called the Directorio Nacional.

<sup>46</sup>Dr. Ray Chesterfield worked with Dr. Yetilú de Baessa, from January 27 to February 13, 1993, in the development, pilot testing, and revisions of a battery of instruments, including measures of self-esteem (based on the North York Board of Education's Primary Self Concept Inventory) and creativity (a simplified version of the Torrence Creativity test) as well as reading/language arts performance (developed from the Inter-American Reading Test) and mathematics achievement. The measures of achievement used by the Ministry of Education were reviewed and several discussions were held with the test developers. The difficulty in administration of the instruments with first graders beginning school led to the decision to employ a post-test only design for the reading and mathematics instruments with children at this grade level, while a pretest-posttest design was employed with second grade children in the sample. The self concept and creativity tests were used with both first and second graders.

<sup>47</sup>The nutritional data on age, weight and height were used to determine the health status of students in the sample as compared to the World Health Organization's international standards. The two indices used were height by age and weight by height to indicate the relative degree of chronic malnutrition as indicated by short stature or stunting, and acute malnutrition, also referred to as wasting.

<sup>48</sup>A language screening test was also developed for administration in the Alta Verapaz where the majority of the children come to school as monolingual Q'eqchi speakers.

school.<sup>49</sup> During field observation they assessed the degree of NEU implementation using the forms developed for that purpose<sup>50</sup> and conducted individual observations of a selected subsample of NEU and comparison (EU) school students. Observations combined the strategies of time and event sampling. Events that typify the school day (e.g., large group instruction, small group teaching, individual study/seatwork) were selected. Each child was observed for an equal amount of time in each event which is proportional to the length of the event in the daily schedule.<sup>51</sup>

Researchers spent the afternoon collecting information from teachers and community members on topics such as attitudes and knowledge about education, expectations and aspirations regarding the children's educational and occupational achievements, and their involvement in the children's learning experiences.

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<sup>49</sup>Visits to the schools included in the sample, showed that most were not unitary or "one-room schoolhouses" but rather had at least two teachers working with multiple grades. As the grades of interest were first and second, the schools chosen were those where the same teacher(s) was responsible for first and second grade.

<sup>50</sup>Drs. Chesterfield and Baessa developed prototype observational instruments, including checklists for examining materials used at various times during the day, running logs for observing teacher behavior and time and event sampling for examining the interaction of children in the classroom.

<sup>51</sup>Prior to the initial data collection in March 1993, field workers received a week-long training session in which they discussed problems and learned procedures. The definition and sequences of skills imparted were developed from the job description for research position and the prototype instruments. Fieldworkers were retrained before end-of year data collection began. Training included a full simulation which provided the opportunities for evaluation of fieldwork readiness to do their jobs and identify areas of difficulty. During the initial sessions trainees were introduced to checklist observation methods. Trainees were then introduced to increasingly more complex methods of ethnographic classroom observation, including writing and indexing of field note observations and interviewing techniques. Subsequently, meetings were held with the fieldworkers in schools with bilingual children. The importance of language use by the children was reiterated and fieldnotes were reviewed to assure that researchers always identified the language spoken, even if the content of the interaction was directly translated into Spanish

### Data Coding and Analysis (PHASE I)

By mid-September 1993, analysis of the pretest data collected in March-June, 1993 was completed.<sup>52</sup> The objective of the analyses was to determine base-line similarities and differences between the two sets of schools under study (NEU and EU). Additionally, the subsample of children being observed were compared to the total sample of children to determine the representativeness of the observation sample.

Qualitative data were aggregated and compared across programs in order to examine trends in the data as well as to determine the sensitivity of the behavioral coding system that had been developed. Dr. Baessa, the HCRT coordinator, together with Dr. Chesterfield and Dr. Kjell Enge<sup>53</sup> met several times with NEU developers to operationalize the key elements of the program in relation to expected observable behaviors of the students. Based on these discussions, additional codes were developed for occurrences of these behaviors in relation to major NEU components.<sup>54</sup>

Once the post-test data were collected and coded, analyses were conducted to determine if significant changes (pre-test versus post-test) had occurred for various subgroups of children. For those measures where only end-of-year data were collected (first grade reading, first and second grade math), comparisons of post-test means were made.<sup>55</sup> Trend data, in terms of change over time in the absolute and relative frequencies, were calculated for key classroom behaviors and these were correlated with test scores. Thus, changes in measures of nutritional status,<sup>56</sup> reading achievement (a total score as well as vocabulary and comprehension subscales), creativity, self-

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<sup>52</sup>Coded data of individual interactions, collected in 1993, were entered into the relational database Paradox for Windows. The use of database allowed segments of coded data to be aggregated and formed into arrays for analysis. The database files were then transferred to Quatro Pro for Windows spreadsheets and data were summarized for each child and grade. These data were organized into tabular form to examine individual and group interactions patterns. Additionally, the spreadsheet data were converted to an SPSS system file and correlations between school contexts and academic achievement were run. (Guatemala Trip Report #15 & 21).

<sup>53</sup>Dr. Kjell Enge from Juárez & Associates traveled to Guatemala from August 30 to September 15, 1993 and worked with Dr. Alfredo Tay, Dr. Oscar Mogollón, and other members of the NEU and IEQ team. He went also on July 17 to July 24, 1993 and worked with Yetilú de Baessa and Iván Garcia, field Supervisor.

<sup>54</sup>In order to facilitate the manipulation of the qualitative data and the integration of the qualitative data sets, Dr. Baessa was trained in the use of the relational database program, Paradox for Windows. The HCRT developed interaction codes and used them as a cross-reference device for field notes. These codes were transferred to Quatro Pro spreadsheets.

<sup>55</sup>Language proficiency and nutritional status were also used to stratify the subsample of children observed in the classroom. Those children falling two standard deviations below the mean were compared to remaining children within each type of school (NEU and EU) on test performance and classroom behavior.

<sup>56</sup>The nutritional data on height, weight and age were sent to the Centers for Disease Control Unit at the Universidad del Valle in Guatemala for analysis. The first priority was to see if appropriate nutritional standards exist for both the ladino and the Mayan population to determine whether or not the children in the sample could be classified according to the nutritional status using valid criteria for the specific populations and age groups under examination. EPINUT, a computer program provided by the Universidad de Valle, was employed to analyze the nutritional data.

esteem, and Spanish language proficiency<sup>57</sup> were compared between experimental schools (NEU) and control schools (EU). The gain scores were further examined for differences in terms of gender, grade level, repetition and across the five departments. Comparisons were also made of changes in behavior and attitudes of (NEU versus EU) parents and teachers over time.

### **Findings (PHASE I)<sup>58</sup>**

The results of the data analysis showed variation by region. In Region II, where the NEU program was fairly well implemented<sup>59</sup> in four of the five experimental schools, the significant differences in test scores favored the NEU children on eleven of twelve comparisons where significant differences were found. These results were consistent for schools in Alta Verapaz and Baja Verapaz. In Region IV, however, the NEU program was well implemented in only two of the five experimental schools. In that region, only four of the outcome measures were found to be significantly different between experimental and comparison children and only one of these four favored NEU. Furthermore, in the NEU schools the percentage of drop-outs was significantly lower when contrasted with the comparison schools.

The findings show that the well implemented NEU programs contribute to increasing cross-sex interactions and girls' achievement. In Region II, eight of the nine significant differences in outcome measures show NEU girls outperforming EU girls. In Region IV, there were only four significant differences between girls in NEU versus those in EU schools, with only one of those comparisons favoring NEU.

IEQ researchers calculated the frequencies of interactions with same and opposite sex peers to investigate the hypothesis that an active, decentralized learning program allows children of different sexes greater access to each other and thereby help to break down traditional gender divisions. The findings show that in Region II, girls in both first and second grade at each NEU school interacted with boys with greater frequency than girls in the corresponding comparison (EU) schools. In addition, girls in each NEU school interacted with boys with greater frequency than girls in all but one comparison school. This trend was not found in Region IV, however, where in general girls in both types of schools had similar levels of cross-gender interaction patterns. The fact that the NEU program was not as fully implemented in Region IV schools was seen again as the reason for the observed lack of difference between NEU and EU schools.

The use of both Mayan and Spanish by children whose dominant language is Mayan was found to be significantly related to achievement in NEU schools.<sup>60</sup> At the time of the pre-test,

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<sup>57</sup>Recall that only indigenous children in the department of Alta Verapaz took the oral Spanish proficiency test, and the reading tests were taken just by second grade students.

<sup>58</sup>This section is based on information taken from the Guatemala Research Report: Phase I Draft (no date).

<sup>59</sup>Level of implementation is a critical factor for the variation in the results. In analyzing the "Escuela Nueva" model, on which NEU is based, the authors "stress the importance of a well implemented program, if positive results are to be expected" (IEQ Research Report, Phase I, Draft. p. 6).

<sup>60</sup>Given the debate and shift in orientation concerning language-in-education policy in Mali, it is interesting to contrast it with the Guatemalan initiative. The government language education policy is to encourage, in the indigenous areas, the use of the mother tongue in the early grades, with gradual transition to Spanish. In this context, the NEU program promotes the learning process through the child's own experience; therefore, in the case of indigenous children, it is common that students and teachers use both languages to further their comprehension of the subject matter. For example, in Alta Verapaz it was

Mayan children participating in the NEU program were significantly less proficient in Spanish than the Mayan children in comparison schools. However, by the post-test, NEU children performed as well as the Mayan children in comparison schools on all Spanish reading measures. Despite similar overall patterns of language use, the relationship of language use to academic performance differed greatly in NEU and comparison schools. The use of Spanish was significantly correlated with vocabulary, comprehension, overall reading and mathematics at the first grade level in NEU schools. Spanish comprehension was also correlated with the use of Q'eqchi, suggesting that the opportunity given by NEU to construct and communicate knowledge in the native language aids children in understanding the content presented in a second language, at early levels of language acquisition.<sup>61</sup> No significant relationships were found between language use and achievement among first graders in comparison schools.

Both malnourished and well-nourished children participating in NEU schools, where the program was well implemented, had higher academic achievement than their counterparts in comparison (EU) schools. The relationship between nutrition and academic achievement differed in the two regions. In region II malnourished children and relatively well nourished children in NEU consistently performed better on achievement measures than the respective comparison group children. In region IV, malnourished children in NEU school were not observed to have greater opportunities for developing an emergent registrar.<sup>62</sup>

Additionally, it was found that parents of NEU children perceived that there was a favorable change in the school in a significantly greater proportion than those in the EU schools. These findings are perhaps even more noteworthy if one considers that the parents of the NEU schools have an average education significantly lower than that of the parents in the comparison schools.

### **Dialogue/Dissemination: Phase I**

There were a variety of efforts by IEQ to disseminate NEU project findings at the national, regional, and local levels.<sup>63</sup> Teachers, supervisors, and educational administrators had

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observed that the children often do not understand instructions, when given only in Spanish, and often ask for clarification.

<sup>61</sup>The decentralized constructivist approach of NEU has potential for aiding second language acquisition in rural schools serving indigenous populations. Young children were observed to use both languages to further their comprehension of subject matter in the NEU schools. The freedom to work with and alter the content and context of classroom discourse appears to aid in acquisition of both vocabulary and comprehension. Carrying out strategies that allow children to interact with teachers and peers to construct meaning appears to be essential to increased academic achievement. Children in well-implemented NEU classrooms were observed to generate knowledge with the assistance of their teachers in a decentralized manner. In less successful schools, the teacher usually initiated and evaluated the discourse related to knowledge acquisition. Thus, students were required to perform in ways that meet the expectations of the teachers. Students internalized knowledge through memorization but were not authorized to discover knowledge without teacher direction.

<sup>62</sup>IEQ Research Report. Year Two, Guatemala. Washington (no date)

<sup>63</sup>At the International level, Dr. Baessa presented a paper, at the American Psychological Association meeting in August, 1994 in Los Angeles, on the findings on the experience of children of different nutritional status in the NEU program. She also made a presentation on the project to a faculty colloquium at the University of Texas, in February, 1994. Additionally, Dr. Baessa participated with other IEQ countries in a presentation at the CIES conference in San Diego in March, 1994. Later in

the opportunity to learn about the research, give feedback and make recommendations. However, this occurred during the period when Phase II data were being collected. This is particularly important considering that, as we will discuss later, the findings in Phase II show that the practices in NEU schools seems to have fallen back on traditional instructional approaches during Year 2 of implementation.

At the regional and local dialogue/dissemination level, the IEQ team was invited to participate in NEU seminars on the achievements of the program in each region. The seminars were held in October 13-14, 1993 in Region II and October 20-21, 1993 in Region IV. They included teachers, parents, and students in each region. Dr. Baessa explained the IEQ project, showed participants the data collection instruments, presented a summary of the pretest findings, and explained the features of classroom interaction in NEU and EU schools.<sup>64</sup> At the national level Dr. Baessa participated in a national research forum at Rafael Landívar University on March 11, 1994, where she presented initial results of Phase I of the IEQ study in Guatemala.

As part of the dialogue/dissemination effort the Ministry of Education, Dr. Alfredo Tay participated in December, 1993 in the IEQ International Exchange in Washington, D.C. At this meeting Dr. Tay heard about and discussed the preliminary research findings from IEQ research in Guatemala (as well as Ghana and Mali) and was able to observe and participate in discussions (with a diverse, international group of scholars and educational officials) about the implications of the data for educational policy and practice.

During January-February, 1994, several meetings were held with Dr. Alfredo Tay, Minister of Education, who issued a formal request for IEQ to provide training in case study methods to ministry personnel.<sup>65</sup> The first workshop was carried out in Guatemala City, over a three-day period from February 1-4, 1994. Eleven educators representing different divisions of the Ministry and different institutes under the jurisdiction of the Ministry participated in the training sessions.<sup>66</sup> These workshops, although focused on developing research methods knowledge and skills, provided opportunities to disseminate and discuss policy and practice

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March, she summarized IEQ research in Guatemala at a symposium held at the University of Pittsburgh. When in Pittsburgh, she also shared information on research procedures and findings with representatives of HCRT from Ghana and Mali.

<sup>64</sup>IEQ Guatemala Trip Report #14 & 15. During the trip made on July 17-24, 1993, Drs. Enge, Mogollón and Chesterfield, and field coordinator Iván García visited the Escuela Paturro (NEU) and Escuela Ojo de Agua (EU) and made a video showing the contrast between the student and teacher activities in the two schools. During trip of August 30 - September 15, 1993, video recordings of the naturally occurring classroom activities were made in three NEU school in Region II and in one NEU and one EU (comparison) school in Region IV. The video segments focused on the classroom environment and the behaviors of first and second grade children who were participating in the IEQ study. The videos show a wide range of student and teacher activities, including the use of *palabras generadoras*, independent group seatwork, phonetic exercises with the sand box, and writing in the air and on each others back. The EU school was traditional in the sense that the teacher had one student at a time go to the board and write a single sentence, while the rest of the multigrade class sat in their seats involved in no apparent learning activities.

<sup>65</sup>The training was done in a series of workshops which emphasized hands-on practice in methodology through the use of videos and role-playing. The final products of the sessions were a manual on case study methodology and a series of prototype instruments to be used with different data sources in a case study investigation of low achievement students.

<sup>66</sup>IEQ Guatemala Trip Report #21 p..5

implications of the findings from Phase I of IEQ research activity with key educational administrators and policy makers.

In response to a Ministry request, and to further the dialogue about educational quality among members of the educational system in Guatemala, the HCRT worked with the developers of the Nueva Escuela Unitaria (NEU) to develop a series of workshops to encourage teachers, supervisors, and educational administrators to reflect on actual classroom situations that were observed in the NEU schools. During the workshops the attempt was made to use the same approach that the NEU program was implementing in the schools – that is, a participatory, decentralized, constructivist approach was used in the workshops. The objective was to reinforce the principles of the NEU program by building on the actual experience of the supervisors and especially the teachers.<sup>67</sup> In this way, not only did they receive feedback on the process of implementation of the program but they also had better opportunity to understand the theoretical basis of their teaching.

The participants in the workshops, held during four full-day sessions in August-September, 1994, included supervisors and educational authorities of both regions, such as regional directors, departmental directors, and teaching specialists. In the first workshop for supervisors, the coordinator of international programs for the Ministry of Education and the technical officer from USAID responsible for the NEU were also present. It is important to stress the fact that by this time the teachers who participated in these workshops had been using the NEU approach to teaching for almost a year.

The objectives of the workshops were a) to inform the participants about the Improving Educational Quality project; b) to inform participants about the results of the IEQ study conducted during the first year of IEQ (1993) and of the implementation of the NEU program; c) to encourage participants to reflect on their experience and their role in the NEU project and d) to offer suggestions on how the program could be improved and/or modified, if necessary. An additional objective related to the teachers was to encourage them to reflect on the pedagogical and theoretical aspects of the innovation that they were implementing, using the actual observations of teachers and students in the schools.

The workshops used different learning contexts so that participants could reflect on the themes presented both in small groups and with all participants. Examples taken from the fieldwork were then used in order to facilitate discussion and reflection among the participants about the NEU program. This allowed teachers, supervisors and educational administrators to reflect on such issues as utilizing small group and cooperative learning contexts in the classroom, stimulating creativity among students, meeting the needs of children whose mother tongue is not the language of instruction, and promoting cross-gender interaction among children.<sup>68</sup>

First, the IEQ Research Coordinator explained the design of the IEQ project, its objectives, and the countries in which the project was working. Second, she presented a brief discussion about the evaluation study,<sup>69</sup> including the different types of data collected and why

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<sup>67</sup>Baessa, Yetilú. Report on Workshops for Supervisors and Teachers. IEQ/Guatemala, 1994

<sup>68</sup>Baessa, Yetilú. Report on Workshops for Supervisors and Teachers. IEQ/Guatemala, 1994

<sup>69</sup>Prior to the workshops there was a general consensus among supervisors that the purpose of evaluation was to determine the academic progress of the students; after the workshops, more than half of the supervisors had a broader view of evaluation. They saw evaluation as a continuous process that involved both quantitative and qualitative aspects that could be used to provide feedback and to make decisions.

they were important both at the classroom level and at the program level. Subsequently, the results of the IEQ study were presented. These activities were done with the entire group of participants. Finally, examples taken from different classroom contexts (NEU and EU) were presented and were discussed in small groups by the participants. In many instances the teachers were confident and seemed to have a good understanding of elements of the NEU program.

The evaluation based on data collected from the supervisors and teachers who participated of these workshops was positive.<sup>70</sup> They stated that a) the utilization of real data from classroom observations through a variety of delivery strategies was a good way to encourage supervisors and teachers to reflect on the quality of education, b) they had a better understanding of the importance of the individual experience of each child in the classroom, c) the teaching-learning process and the experience of the children in the classroom should contribute to their socio-emotional development as well as their academic achievement, d) there was a better comprehension of the learning process among bilingual children and how NEU was in part helping to solve it, and e) there was a better understanding of the importance of trying to help girls to improve self-esteem.

At the workshops there were several examples that corroborated a positive attitude towards the elements of the NEU program. For example, after a discussion about a female group leader directing a boy in a small group activity without the teacher, the teachers agreed that it was possible to allow girls greater participation. In discussions of this type, there was a general consensus that developing cognitive skills of the children was not enough and that teachers also needed to focus on children's socio-emotional development.

Perhaps the impact of the workshops was greater on supervisors, helping them to clarify their role as well as their understanding of and support for the program itself. For example, the supervisors learned about the difficulties faced by the teachers in the rural schools. Also, after the workshops, supervisors took a much more active role in the preparation and development of the NEU program than they have had previously. Their participation in the workshops extended to some direct actions that contributed to the institutionalization of the NEU program.

The participation of national and regional authorities also permitted doubts among participants to be resolved immediately. This is reflected in an interaction between a supervisor and a representative of the Ministry of Education when the supervisor asked: "What will happen when there is no longer international financing [for the NEU program]?" The representative

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Also, workshop participants acquired a broader understanding of evaluation and its utility in the process of implementing an educational program (IEQ/Guatemala. Trip Report #14).

<sup>70</sup>The workshops were evaluated in several ways. First they were observed by one of the HCRT researchers, who took notes on the interactions among participants. Second, the workshops were evaluated through a diagnostic survey, applied at the beginning and at the end, which asked participants what they have learned in general, and specifically about the role of the IEQ project as well as about their own relationship with IEQ. Some of the recommendations made by the participants were: 1) future workshops should be held with the NEU teachers; 2) the workshops should be conducted at the start or in the middle of the year so that teachers could incorporate their action steps into their classroom work; 3) the results taken from the classroom should continue to be used as a starting point for participants to reflect on themes related to quality; 4) IEQ should incorporate the things that teachers say they are going to emphasize as a result of the workshops into the project research design; and 5) educational authorities at the departmental, regional, and central level should continue to be invited to participate in all future IEQ workshops.

from the Ministry stated: "I believe in NEU... Forget that doubt, these costs will be incorporated into the national budget."<sup>71</sup>

At one of the workshops it was decided that teachers should conduct an investigation as to how the parents, authorities and children perceive the self-instructional guides in Region IV. They developed surveys, applied them, and analyzed the data before the achievement and products workshops, where they presented the results using similar graphs to those which had been used to show the results from the overall evaluation study.<sup>72</sup>

### **Impact on Practice (Phase I)**

A year later, when data were collected during the 1995 workshops, the vast majority of the teachers who had also attended the 1994 workshops reported having made some type of change in their teaching. The 1994 workshops, according to the teachers' appraisal, had an impact on their work as teachers and on their comprehension of the process being implemented by NEU. The overall analysis of the questionnaires indicate that 79% of the teachers in the five departments reported having made some type of modification in the classroom related to developing the creativity of their students. Seventy-three percent reported having made changes related to small group work: they organized group better, served more as facilitator, and/or improved communication with students. Forty-four percent reported having made modifications with respect to work in small group without the teacher's presence. It was noted that teachers still had difficulties having children working in small groups and some of them stated that they had not begun to work with that instructional approach. The teachers reported that there was still a problem getting students to work in small groups without the teachers' constant supervision. This problem was most serious in the department of Alta Verapaz of region II and in Region IV generally. With respect to boys working together with girls, 30% of the teachers reported having made changes. In this respect, the teachers who did not make changes reported that they had never had problems integrating, they already had achieved a good integration or they found it difficult to work in mixed-sex groups due to the culture of the children.

Another impact of IEQ dissemination/dialogue activities on educational practice in classrooms in Guatemala occurred interestingly through an indirect process. At the end of 1994, the teachers who had been using the NEU methodology took the initiative of inviting and motivating teachers from nearby schools to adhere to the NEU initiative. The NEU teachers, who were in school governments by departments, planned and carried out a series of workshops throughout the year. The Coordinator of the HCRT, Yetilú de Baessa, participated in two of them: one held on May 30, 1995 in Region II and the other one held on June 2, 1995 in Region IV.<sup>73</sup> These workshops focused on NEU methodology and its basic principles; the role of the

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<sup>71</sup>Report on Workshops for Supervisors and Teachers. IEQ, 1994. p. iii

<sup>72</sup>Dr. Oscar Mogollón, NEU's Technical Adviser, comments that this constitutes an innovative way of evaluation, which had not been done before. In his experience, he says, the results obtained at the classroom level have normally only been shared among the project personnel but not with administrators, supervisors, and community in general (*El Enlace de la Calidad Boletín IEQ No. 4, Verano de 1994 p. 4*).

<sup>73</sup>Besides these two teacher workshops NEU personnel held several workshops throughout the year, including some focused on the use of the school library.

rural teacher<sup>74</sup> and the organization of the school government; the work with the local community; and the establishment of learning centers incorporating different aspects of the local culture.<sup>75</sup>

### **Research Activity: Phase II**

The results of the analyses of the Phase I data and – to some extent – the input received during the seminars, workshops, and meetings were drawn upon to plan the second phase of the research for the IEQ project.

In 1994 the NEU program was expanded, doubling to 200 the number of schools in the two regions where the pilot project is being carried out. At the end of 1994, NEU teachers suggested to the NEU officials which schools should be part of the NEU expansion and the number of teachers that needed to be trained in the NEU methodology. Workshops were organized and developed by the different school governments of each department with the help and supervision of the authorities of the NEU project (see discussion above). The NEU teachers planned the workshops and the teachers selected by their peers served as "multiplicadores" at the workshops, modeling the NEU scheme in the training of their colleagues.

### **Research Questions (PHASE II)**

In November 1993, Dr. Baessa met with Dr. Mogollón, Dr. Chesterfield and other members of the HCRT and NEU developers in order to determine the type of information that would be most useful in the coming year. The consensus was to continue to address the same questions, adding few new ones but examining changes over a two year period.<sup>76</sup> Thus the research questions were directed towards the experiences of three groups of participants: teachers, students and the community. Questions focused on the effect of classroom cooperative learning and student verbal interaction and collaborative behavior in the home and on teachers' perception of changes in student performance. The research was designed to examine the extent to which children's verbal interaction and collaborative behavior at home have increased by classroom-based interventions which stress cooperative learning.

### **Sample (PHASE II)**

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<sup>74</sup>Information about specific characteristics of the teachers has not been found in the documentation. However, a video made by IEQ shows a member of the military giving instruction in a EU school. Several questions arise: Is he a teacher? Are there teachers who are members of the military? Is that a common practice in EU and/or NEU schools in Guatemala? Knowing the tense political situation of Guatemala, the answers to these questions would shed light on issues like kid's attendance to school and parents' view of the instruction, among others. In a country that has experienced 35 years of internal conflict, the longest civil war in the Western hemisphere, the fact that a military official is taking the position of a teacher would seem to have a significant impact on the children's attendance and participation, the students' behavior, and the community social dynamics.

<sup>75</sup>An important aspect to understand the cultural and indigenous organizations of the communities is the "Cofradias," which are indigenous organizations mainly related to religious festivities. Some of their main activities are to preserve and carry out the culture and traditions of the community and to oversee community affairs such as education, business and trade, agriculture, etc. Acceptance of outsiders and innovations within the community are the responsibility of the leaders or higher levels of the *Cofradias* (Bockler, Carlos Gustavo, 1983).

<sup>76</sup>IEQ Guatemala Trip Report # 18 p.4

As a longitudinal design was chosen for this project, the same students from the previous year were selected for the Phase II sample, in other words, all of the second and third graders in the five experimental and five comparison schools in each of the educational regions.<sup>77</sup> The general sample consisted of 560 students. The children selected for the observation subsample in 1993 were also observed in 1994. As some of these students had left the schools, they were replaced by other children, of the same sex and in the same grade as the children who had left. Forty-two first graders (repeating), 87 second graders, and 106 third graders were observed, yielding a total of 235 observed children. The subsample consisted of a stratified, random sample of 12 children from each school: three boys and three girls from second grade and three boys and three girls from third grade.

Data were also collected from a sample of parents (a parent of each of the 235 students observed) – as well as from teachers – concerning children's use of classroom interaction strategies in out-of-school settings.

The sample for data collection concerning the teacher workshops, held in May and June of 1995, consisted on 17 NEU teachers, who had been using the NEU methodology for more than a year and who acted as "multiplicadores" or trainers. They included teachers from the five departments where NEU is being implemented.

### **Data Collection (PHASE II)**

During Phase II the same kinds of data were collected through tests, observation, questionnaires, and interviews to examine the effects of participating in a NEU's active learning model over two years. Quantitative and qualitative components were used, combining these two methodologies.

The tests of self-concept, creativity, reading and mathematics that were adapted and designed during Phase I (1993) were used in Phase II (1994). Therefore, the reading tests used for first and second grade were the same as in 1993; however, for third grade, Form A: Level 2 of the Inter-American Reading Series was used. Also naturalistic observations of teachers and students in the classroom were conducted at three points in time: at the beginning, the middle, and the end of the school year. The only instruments which were modified during 1994 were the teacher interview guides and the interview guides for parents whose children were included in the subsample.<sup>78</sup>

Members of the HCRT conceptualized and drafted questionnaires intended to assess the degree to which students' classroom participation has increased since the beginning of the project and the degree to which students' participation patterns were transferred from the classroom to the home. A related questionnaire was developed for teachers to examine, from their standpoint, changes in student performance (primarily communicative competence within classroom settings) over time.<sup>79</sup>

The Phase I post-test data collected at the end of the 1993 school year served as the baseline for Phase II. Therefore, children were tested only at the end of the 1994 school year.<sup>80</sup> Data were collected by a ten-member field staff, some of whom were new to the project.<sup>81</sup>

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<sup>77</sup>IEQ Guatemala Trip Report # 18.

<sup>78</sup>IEQ Research Report, Year Two, Guatemala. Washington. (no date).

<sup>79</sup>IEQ Guatemala Trip Report # 29.

<sup>80</sup>IEQ Guatemala Trip Report # 18.

The children in the subsample were observed during ten minute periods at different times during the day and on different days of the week until a full hour of observations had been completed in a combination of mathematics, Spanish language, and natural or social sciences.<sup>82</sup>

The NEU teachers who were serving as "*multiplicadores*" and the teachers who were receiving the training were asked to fill out a questionnaire before and after the workshops. To provide feedback on actual behaviors to trainers the workshops were also observed by IEQ personnel following the same methods used by the field workers in the in the observation of the NEU and EU classrooms.

The questionnaire filled out by the "*multiplicadores*" referred to the changes that they had made in the aspects that were emphasized in the workshops of the previous year (1994), such as encouraging the development of creativity in the children, working in groups with and without the teacher, and encouraging boys and girls to work together. As a second step, the teachers were asked to respond in a large group context and provide suggestions to the curriculum-based tests that had been designed by IEQ researchers for fourth, fifth, and sixth grades. The questionnaires for the "*multiplicadores*" also included data related to their gender, age, languages spoken, their feelings about being chosen as "*multiplicadores*", their experience in the classroom, how they were going to work with their peer, and how they thought the team work was going to work out.<sup>83</sup> The questionnaire at the end included questions about the workshop and how the teachers would monitor the results.

The questionnaires for the trainees included demographic data and aspects related to their perception of the primary rural school, their performance as teachers, and the didactic resources that they used. At the end of the workshops they asked the same questions focusing on how they planned to use the new knowledge to implement the NEU methodology. They were asked also to evaluate the workshops.

In Guatemala, videos have been an integral part of research process.<sup>84</sup> Videotapes made by IEQ in Guatemala provide a unique and rich record of student behavior in NEU and EU

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<sup>81</sup>The fieldworkers were retrained for Phase II of the project. In January of 1994, a four-day training session was carried out for the field researchers. Dr. Baessa took the lead in the training of the field staff with support of the two regional field coordinators. The initial day of training was devoted to discussing the project and research design. Then trainees were introduced to observation methods, beginning with the easiest to perform. Trainees then worked on more complex methods of ethnographic classroom observations, including writing and indexing of field note observations and interviewing techniques. Final training sessions were devoted to field logistics, quality control, and ethical issues. Sessions included: establishing themselves in the field, collecting observational data with standardized forms, collecting field notes on focused topics, and conducting observation of individual children through time and event sampling. Video of classroom interaction with exercises, discussions, and interview styles were used (Guatemala Trip Report #21).

<sup>82</sup>IEQ Research Report. Year Two, Guatemala. Washington. (no date)

<sup>83</sup>We should remember that the methodology used in these workshops resembles the one used in the NEU model: peer teaching, team work, active learning, etc. They organized small groups with and without the "*multiplicador*" being present, presentations made by the participants, and activities developed with self-instructional guides. The first activity was a visit to a NEU school where the trainee observed and asked questions based on a pre-designed questionnaire. The *multiplicadores* acted as facilitator and coordinators of all the activities.

<sup>84</sup>An effort was made to develop a checklist for the future videotaping of the schools, classrooms, and preselected individual students. This checklist was refined by the project coordinators, research

schools.<sup>85</sup> For example, in July 1994, video records were made in seven schools, four Escuelas Unitarias (EU) and three Nuevas Escuelas Unitarias (NEU).<sup>86</sup> They recorded predetermined aspects of each school, including the school's immediate environment, general classroom instructional activities, and the specific classroom behaviors of designated students under longitudinal observation.<sup>87</sup>

### **Data Coding and Analysis (PHASE II)**

In the same way as in 1993, the data were analyzed by region, by gender, and by language. The observations were coded using the codes developed in 1993, and the interaction codes were summarized to complete the data analysis. Several statistical techniques were used to analyze the data, such as two-tailed t-tests, analysis of covariance and chi square, depending on the type of data to be analyzed in each case.

After a review of the findings derived from the IEQ/Guatemala project staff's analysis of quantitative data, the IEQ/consultant team<sup>88</sup> began in June, 1995, the analysis of qualitative data to explore the classroom processes in order to explain the findings. Analysis of the qualitative data included the conduct of descriptive statistics with respect to several aspects, including: a) the context in which instruction occurs;<sup>89</sup> b) the types of interactions within classroom; and c) the types of instructional practices used in the different classrooms.<sup>90</sup>

Changes in scores (end of year 1993 to end of year 1994) were calculated to identify children who evidenced high positive changes, no change, or negative change. From these, three "high" children, two "no change" children and three "negative change" children from the experimental (NEU) group and from the comparison (EU) group were selected for further analysis. Field notes of observations of each child at each of the observation periods were reviewed to identify vignettes that served to illustrate the typical findings of the quantitative and qualitative analysis.

### **Findings (PHASE II)**

In both experimental and comparison schools, outcome measures show a marked improvement among all pupils. There were no significant differences between the pre- versus post-test gain scores in vocabulary and reading when comparing the experimental (NEU) and control (EU) children for schools in both Region II and Region IV. In mathematics the findings

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associates, camera operators, regional supervisors, and local fieldworkers. Familiarity with the checklist and basic videotaping techniques helped the local IEQ team in Guatemala standardize video record keeping throughout the project. (IEQ Guatemala Trip Report #29)

<sup>85</sup>Videos made in the schools were to be shown only in international conferences in order to keep the subjects of the study anonymous and excerpts of transcripts were used in the workshops and for training purposes; however, some of the trip reports mention videos used in workshops.

<sup>86</sup>In Region II: San Antonio (EU), Santa Marta (NEU), Sacanilla (NEU), Siguanha (EU). In Region IV: Tablones (NEU), Los Achotes (EU), Lazareto (EU).

<sup>87</sup>IEQ Guatemala Trip Report #29.

<sup>88</sup>During June 8 to June 30, 1995, Mr. Regino Chávez undertook a ten-day visit to Guatemala to conduct analysis of qualitative data during Year 2 of the study (Trip Report #43).

<sup>89</sup>Data were also analyzed to determine if the NEU model was implemented and which aspects of the model were being used.

<sup>90</sup>Field notes were analyzed to identify the type of instructional practice used in the classroom

favor the children in the EU schools in the third grade and the children in the NEU schools for second graders. In comprehension as well as vocabulary and reading the mean gain scores were similar for the third graders in the EU and NEU schools and the means gain scores were higher for the second grade children in two of the EU schools.

Analysis of the implementation<sup>91</sup> of the NEU model showed differences between the organizational settings of the NEU and EU schools, including the administration of the classrooms and their physical settings. Overall, EU schools tended to have a more rigid instruction which was perceived by the researchers as limiting the learning opportunities of the children. For example, in the NEU schools there was greater use of small groups for instruction compared to the EU schools. In general, however, teachers in the NEU schools seemed to have fallen back on traditional instructional approaches during the second year of the IEQ research. In both NEU and EU schools, the individual work of the children predominated over small group-work. It was also found that the learning experiences of NEU and EU children were similar in the sense that activities such as group repetition drills, copying, and reading aloud in group were pervasive in both EU and NEU schools, even in the small groups of the latter schools. Thus, the experience of the children in experimental schools paralleled that of those in the comparison schools with regard to the use of a traditional instructional approach that favors drills and memorization over skills building and more active learning pedagogies.

Given the incidence of individualized work shown in the field notes, it would appear that the NEU model may have been suffering due to the lack of structural reform (pay, student-teacher ratio, etc.).<sup>92</sup> Other factors – like lack of re-training, less supervision, the need to concentrate on the lower grades have been also considered to affect the implementation of the NEU methodology.<sup>93</sup> In order to ensure that the NEU practices have a long lasting effect it would be necessary to carry out the following activities:<sup>94</sup>

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<sup>91</sup>"The study of the implementation was based on the supposition that implementation is a continuous process. Therefore, it required an evaluation strategy parallel to the activities of the program under study through its entire period of implementation. The principal objective of studying the implementation process was to provide information on the possibility of successful expansion of the NEU program to other areas. In studying the extent to which NEU program has been implemented in different schools, information was gathered in four areas: schedule and organization; physical space; instructional materials; and instructional strategies. Schedule and organization refers to the way in which the class day is organized and to the structure of the school's decision-making process. Physical space refers to the relationship between the physical environment, including equipment and materials, and the goals and objectives of the program. Instructional materials consist of the texts and teaching materials, such as charts, flash cards and similar objects used in the teaching-learning process. Instructional strategies include the activities of the students as well as the teachers in the classroom and the specific elements of the NEU program such as self-instructional guides, significant expressions and the incorporation of the local culture into the classroom activities" (IEQ Research Report, Phase I, Draft (no date) p. 11).

<sup>92</sup>The lack of structural reform may be hampering the full implementation of the NEU methodology. The teachers do not see strong incentives, like promotions or increase in salaries, that motivate their additional efforts. The teachers seek parallel or marginal gains to the project such as money received for travels (viaticums) (Personal communication with Dr. Baessa at CIES, Williamsburg, VA. March 8-10, 1996).

<sup>93</sup>It is not clear in the documents if the statements about the lack of success implementing the NEU methodology are based on research findings or are comments derived from other sources. The only evidence associated with this issue is the "individualized work shown in the field notes"; however, there

- consistent and frequent training of the teachers focusing on the theory behind the practice as well as the modification of the practice in order to implement it in the local context;
- supervision of the teachers who serve as "consultants" to other teachers in the "learning with peers" process to reinforce this process as well as to give positive criticism instead of giving them the traditional form of supervision; and
- structural reforms including time planning, teacher-student ratio, and peer consultation.

The greatest impact of the NEU program in its second year of complete implementation was on the socio-emotional behavior of the children participating in the program. The children participating in the NEU program cooperated with their peers, provided guidance to other students, and participated in school government with significantly greater frequency than their counterparts in traditional schools. It was also found that NEU schools allowed the development of social skills such as tolerance and that NEU pupils demonstrated greater gains in indicators of democratic behavior. While the more extensive behavioral changes among NEU students were not associated with higher academic achievement, these classroom behaviors seemed to have been transferred to the home and community life. Parents of children who participated in the NEU program identified children's willingness to talk to adults and to ask questions about their reality as changes that had taken place in their children as a result of attending school, with significantly greater frequency than did parents of children in comparison schools. Teachers also identified a greater willingness among students to talk, to ask questions, and to interact with peers with consistently higher frequency than did the children in comparison schools.

The NEU program has had a significant effect on retaining children in school. In the two years of research, the NEU schools have had desertion or dropout rates significantly lower than those of the comparison schools for both boys and girls. The results also suggest that the NEU program may be encouraging children who drop out to return to school, as increases in the relative enrollment were consistently higher in NEU when compared to the EU schools.

Results also evidenced a much larger percentage of the NEU program parents reporting that they saw a positive change in the schools, in comparison to the parents from the EU schools. This perception, although not in line with the NEU-EU comparison on relative gains in test score performance, may be related to the lower dropout rate among children in the NEU schools compared to the EU schools. Parents satisfaction with the schools may also have helped increased the retention rate.

### **Dissemination/Dialogue (Phase II)**

In the evaluation of the workshops based on Phase I research the teachers suggested that it would be better if the groups were not so large and that, ideally, feedback would be given at the beginning of the year so that they could make any necessary changes in classroom processes. Taking into consideration these recommendations, the decision was made to hold the 1995 workshops in each department and in the month of April. Due to logistical problems, they were finally held on May 30, 1995 in Region II and on June 2, 1995 in Region IV.<sup>95</sup>

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is much more to the NEU methodology than the team work, such as active learning, cross-gender collaboration, diversified instructional activities, etc.

<sup>94</sup>These recommendations may stem from research findings or may have been suggested by the NEU and/or EU teachers, supervisors, or Ministry officials.

<sup>95</sup>IEQ Guatemala Report, *Nueva Escuela Unitaria* Teacher Workshops. Washington, 1995, p. 1

To disseminate classroom findings and to further the dialogue about educational quality among members of the educational system groups of teachers, supervisors, researchers and policy makers were brought together to workshops to discuss the research can help decision making among those involved in improving the quality of education. For example, the participants in the workshop<sup>96</sup> of May 30, 1995 were 32 teachers from Alta Verapaz and nine teachers from Baja Verapaz.<sup>97</sup> In region IV the workshop was held on June 2, 1995 and 36 teachers attended from the three departments as did the directors of the NEU project and some members of Socio Educativo Rural (the Rural Education Directorate of the Ministry). They included not only the supervisors of regions II and IV, where the program was being implemented, but also the educational authorities of both regions, such as regional directors, departmental directors, and teaching specialists. In the first workshop for supervisors, the coordinator of international programs for the Ministry of Education and the technical officer from USAID responsible for the NEU program were also present.

One of the objectives of the workshops was to obtain feedback on the newly designed tests with the purpose of incorporating the teacher's suggestions into the revisions. The teachers said that the level of difficulty was appropriate and that it was good as it would make the children think and that they were consistent with the NEU project's goals.

Responding to the NEU teachers' initiative, the NEU staff organized several workshops. Some of them were held for the teachers who were going to be part of the NEU expansion and others to reinforce the NEU methodology on some of the NEU teachers who were already part of NEU but have had difficulties implementing it. Field workers from IEQ participated in the workshops that were held for the NEU expansion. Personnel from the IEQ HCRT evaluated these workshops and their effect on the "*multiplicadores*" as well as on the teachers who were being trained. This information was planned to be used to adjust and modify the workshops based on the evaluations. The IEQ personnel discussed the objectives of the workshops with the personnel responsible of the NEU project and together the questionnaires for the evaluation were developed.<sup>98</sup>

The recommendations of the participants to the workshops were: a) an effort be made to hold separate workshops in each department so that a) the number of participants does not exceed 30 people; b) real examples taken from the observations be used to promote reflection on the process that may lead to changed behavior; c) make available and provide teachers with assistance in using the test developed in IEQ; d) continue to emphasize in training workshops for the use of small groups without a teacher's presence so that this context will be employed more frequently.

During July 2-10, 1995, Dr. Chesterfield assisted the HCRT in working with the research team for the UNICEF-sponsored multigrade pilot program, the Nueva Escuela Unitaria Bilingual

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<sup>96</sup>In relation to the teacher workshops the findings related to the "*multiplicadores*" show that their age varied between 24 and 49 years with a media of 33 years; 67% of them are males and 33% females; and 43% of them speak a Mayan language (Q'eqchi, Quiche, Pocomchi, and Achi). All the teachers came from the five departments in which NEU was being implemented. The teachers who were being trained were between 15 and 50 years old, with an average age of 32; 63% of them were males and 37% females. and 18% speak Q'eqchi and 9% Pocomchi.

<sup>97</sup>In that department there were difficulties in notifying the teachers about the workshops.

<sup>98</sup>The questionnaires used in the 1995 workshops were basically the same as the ones used in 1994.

(NEUBI) program, to develop a plan for providing feedback to teachers and supervisors on data collected on program implementation at the start of the school year.

A workshop was carried out over a three-day period from February 13 to February 15, 1995. Seven educators working with the Ministry of Education and two Unicef staff participated in the training sessions. This workshop, based on Phase II data, emphasized hands-on practice in methodology through the use of videos and role-playing. The final product was a manual for field research and a series of prototype instruments to be used in examining the NEUBI program.

Other activities were carried out as part of the national and international<sup>99</sup> dissemination/dialogue efforts. The Don Bosco organization<sup>100</sup> requested that NEU personnel train its teachers in the NEU methodology. NEU, in turn, requested that IEQ evaluate the training efforts. This training, carried out in November - December, 1994, was the first attempt of the NEU program to use teachers as facilitator or "multiplicadores",<sup>101</sup> the strategy that was used in NEU's own expansion efforts during the 1995 school year. Contacts were also made in order to contribute to the dissemination of the research findings.<sup>102</sup>

The Advisory Committee, which was organized to help strengthen and broaden the dissemination/dialogue efforts, finally held its initial meeting in September, 1995.<sup>103</sup> The Advisory Committee met a total of three times to confer and advise the Research Coordinator.

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<sup>99</sup>Dr. Yetilú de Baessa traveled to Puerto Rico from July 9 to 10, 1995, to participate in the XXV Interamerican Congress of Psychology. Based on the information and experience gained during Phase I and II of IEQ, Dr. Baessa presented a workshop about techniques and formats for classroom observations; made contacts with other educational researchers interested in qualitative research at the classroom level; and learned about other projects in which qualitative and quantitative methodologies are being used. During a two-hour workshop Dr. Baessa presented relevant aspects of classroom observation. The participants to the workshop from Peru, Venezuela, Brazil, Puerto Rico, Colombia and Panama, received a Manual of Techniques for Classroom Observation and were instructed on how to analyze, code and interpret data. From October 20 to 22, 1995, Dr. Baessa also participated in a Conference entitled "Aprendo 95" in Santo Domingo, organized by EDUCA and USAID. Using the information and experience from Phase I and II of IEQ she presented a workshop about techniques and formats for observations in the classroom; to present the active learning and democratic behavior of the NEU model as it is being carried out in Guatemala; to make contacts with other researchers in the field of qualitative research at the classroom level.

<sup>100</sup>IEQ Guatemala Trip Report #36 Anex E

<sup>101</sup>Fourty-one NEU teachers (multiplicadores) were used as trainers of 362 bilingual teachers (promotores bilingües).

<sup>102</sup>Dr. Yetilú de Baessa developed an article on girl's classroom participation and the development of creativity that was published in the *Quality Link*, the IEQ project newsletter. At the international level effort at dissemination/dialogue have included writing an article, about the first year findings, prepared and submitted to Dr. Pedro Turina of the Organization of American States for consideration in the journal, *La Educación*. The submission was the result of a suggestion made by Dr. Turina at the first IEQ Exchange.

<sup>103</sup> Dr. Ray Chesterfield had met with the Minister of Education during his trip July 2-10, 1995. The Minister suggested several candidates from key bureaus within the Ministry to form part of the Advisory Committee. It was attended by the Minister of Education, an official from the Vice-Rectorry of the Landivar University, the Director of the USIPE (Unidad de Investigación del Ministerio de Educación), and a representative of UNICEF. They discussed about what to do with the data collected and the instruments of IEQ when the project comes to an end and the organization of a Latin American Conference about classroom research.

The members of the Committee were the Vice Minister of Education for Technical Affairs, the Vice Rector of Landivar University, the Dean of the Faculty of Education at the University del Valle, an Adviser for Education Projects of UNICEF, the Education Specialist from USAID/Guatemala and the IEQ Coordinator.

### **Impact on Practice (PHASE II)**

The impact that IEQ had on the educational practices in the schools in Guatemala and the active role that the teachers played was reflected in the expansion of the NEU project.<sup>104</sup> The teachers that had been using the NEU methodology for two years, 1993 and 1994, visited their colleagues and talked to them about the NEU methodology and invited them to join the project.

It was found that serving as trainers strengthened teachers' commitment to and mastery of the NEU program and that the pairing of two multiplicadores was an effective training approach. The training was successful in helping participants understand different ways to organize their classroom, in showing them how local materials could be used as learning aides, and in understanding how to use the experience of the students in teaching. It was less successful in instilling in trainees a view of child-centered learning.

### **Research Activity: Phase III**

In the context of the above mentioned dialogue/dissemination efforts, Phase III research activity was planned and initiated. During this year (1995) the HCRT conducted two studies: the longitudinal study and a study of children in grades 4-6 in "complete" schools (i.e., schools which offered all six grades).

#### **Research Questions (Phase III)**

Considering that a major objective of the NEU program is to provide a complete primary education (first through sixth grades) to rural children, the program developers were concerned with issues related to student retention. These include: the numbers of children retained in the upper grades, the behaviors of the children in the classroom, and the utility of what is learned in the child's reality outside the classroom.

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<sup>104</sup>The expansion of NEU was conceived at the beginning of the project. The high level of participation of the teachers in the expansion process was perhaps a consequence of their motivation and satisfaction with their new teaching practices.

### Sample (PHASE III)

The longitudinal sample studied in Phases I and II continued to be monitored. Children who entered the program in the Phase I as first and second graders, who did not repeat a grade and remained in school, were in third and fourth grade during Phase III. Those children were again observed and tested. Since several traditional schools included in the NEU expansion had been part of the IEQ longitudinal sample (initially as comparison EU schools), it became possible to observe behavior change among teachers and students as a result of the training and other efforts to implement the NEU approach in the schools.

Additionally, a sample of 30 (NEU) experimental schools and 10 traditional (EU) schools in the two regions was selected for the study of the fourth, fifth and sixth graders and to query the parents and teachers about children's behavior and about the utility of what was being learned.

### Data Collection (PHASE III)

During July 2-10, 1995,<sup>105</sup> revisions were made by the HCRT in the curriculum-based assessment instruments as a result of teachers' comments and piloting of the instruments in schools with all six grades. In discussion with the IEQ team it was agreed that several additional items should be added to the tests for each grade level to assure sufficient ceiling for the instruments. The initial fieldnotes containing the intensive observations of individual children in the longitudinal study were also reviewed and several codes, such as working in dyads and producing summations of written passages, were added to capture additional behaviors that children were exhibiting at the higher grades. In order to evaluate learning and the utilization of self-instructional guides, curriculum-based tests were designed to be administered to fourth, fifth, and sixth graders.

Instruments were developed to observe classroom behavior of fourth, fifth and sixth graders and to query students, parents and teachers about children's behaviors and about the utility of what was being learned.<sup>106</sup>

For the expanded study of fifth and sixth graders, researchers<sup>107</sup> visited the schools during February-March, 1995, to collect baseline data on school enrollment. They returned in August-September, to examine retention trends and to interview teachers, students and parents about children's experiences.

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<sup>105</sup>IEQ Guatemala Trip Report #45.

<sup>106</sup>IEQ Guatemala Trip Report #36.

<sup>107</sup>For the third phase research the fieldworkers participated in training workshops in January 1995. Dr. Baessa conducted the training with the support of the two field supervisors as well as Dr. Ray Chesterfield and Ms. Pilar Martínez, a specialist in survey research who assisted in the data collection activities involving surveying of parents, teachers and students. The two first days of the four-day training session were limited to the new members of the HCRT in order to provide orientation to the IEQ project and the NEU intervention. They were also given practice in classroom observation, mapping, and interviewing. The final two days of training focused on the new data collection activities for the project. The entire 10-person field staff was trained in using the new instruments and in strategies for interviewing children. Trainees practiced using the observation instruments with IEQ training videos and engaged in a simulation of the actual research environment by spending a day using the instruments in a local school in Guatemala. Final training sessions were devoted to field logistics, quality control, and ethical issues.

Observational data for third and fourth graders, children who had entered the program in the first year of the IEQ research as first and second graders, were collected at a mid-point, June-July, 1995, in the school year rather than throughout the school year, as had taken place during Phase I and II.<sup>108</sup>

Instruments were developed and administered to teachers who were serving as "*multiplicadores*"<sup>109</sup> prior to the first training session and after the training was completed. The following data were collected from the NEU teachers who were serving as *multiplicadores* for the NEU expansion: a) demographic data and languages spoken b) their feelings about being chosen as *multiplicadores* c) aspects that they considered important in their experience in the classroom d) their impressions and ideas about teacher's team work at the classroom level. Similar data were gathered from teachers participating the Don Bosco training.<sup>110</sup>

The HCRT collected enrollment data at the beginning of 1996 in order to determine repetition and dropout rates.

### **Data Coding and Analysis (Phase III)**

Ray Chesterfield and Yetilú de Baessa (HCRT) developed an analysis plan for both the data on schools serving children in first through sixth grade or "complete" schools and for the longitudinal schools. The codes developed for the teacher data in complete schools were discussed and revised. Data analysis on the curriculum based-tests for upper grade students in complete schools and on student interviews was carried out and interpretation was begun. Complete school data analysis focused on the success to date of NEU in encouraging children to complete sixth grade. Longitudinal data focused on comparing children in NEU and in traditional multigrade schools who have made normal progress through school with children who have dropped out or have repeated a grade.<sup>111</sup>

### **Findings (PHASE III)**

Results of the curriculum-based tests for upper grade students in complete schools suggest that there are regional differences in performance with the most favorable results for NEU children occurring in regions where the students speak Spanish as their first language.<sup>112</sup> In the schools where students were largely speakers of the Mayan language, there was no appreciable difference in the scores.

Research conducted during the teacher workshops showed that the majority of the teachers reported having modified their teaching as a result of their participation in the workshops. The NEU teachers were more confident than the others in handling all six grades, although like their EU counterparts they believed that teachers were more effective when they had to teach only two or three grades at the same time. The NEU teachers especially commented favorably on the "teachers' circles", a method whereby NEU teachers study self-instructional

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<sup>108</sup>IEQ Guatemala Trip Report #36.

<sup>109</sup>NEU Teachers who had two years experience in the program were training the teachers involved in the expansion of the NEU program (see Phase II: Impact on Policy/Practice).

<sup>110</sup>In the Don Bosco training, the 41 NEU teachers who were serving as trainers (or *multiplicadores*) and the 362 Don Bosco bilingual teachers (or *promotores bilingües*) were asked to complete the pre-test questionnaire before the training and a post-test questionnaire after the three-week training program.

<sup>111</sup>IEQ Guatemala Trip Report #61 1, p. 1.

<sup>112</sup>IEQ Guatemala Trip Report #61 p. 1.

training modules along with their colleagues. Seventy percent of the teachers reported changes to their teaching in order to promote the creativity of the children.

### **Dissemination/Dialogue (Phase III)**

Phase III findings were the focus of discussions at national Advisory Committee meetings as well as local workshops for teachers, supervisors, and parents. Workshops with the teachers were also planned to be held by mid 1996 for approximately 300 teachers. Dr. Baessa participated in several international events besides the Latin American Conference that she organized within the country (see discussion below).<sup>113</sup>

As part of the IEQ effort to create opportunities for dialogue and partnerships among researchers and educators who are seeking to improve educational quality at local, regional, and national level, IEQ has provided technical assistance in research methodology to other projects being implemented in Guatemala.<sup>114</sup>

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<sup>113</sup>At the international level, the HCRT Coordinator attended the Comparative and International Education Society (CIES) 40th Annual Meeting, held in Williamsburg, Virginia, on March 8-10, 1996. The "Knowledge Building" team from the University of Pittsburgh presented a panel on "Research-Dissemination-Policy/Practice cycles in International Development Education: Case Studies from the Improving Educational Quality Project in Ghana, Guatemala, and Mali". Dr. Baessa was invited to contribute her input at the Pitt panel on the Guatemala story and meetings were held with her and Dr. Chesterfield to discuss and review the last draft of the IEQ/Guatemala story. Additionally, there was a panel presented by the representatives from the IEQ core countries which focused on the ways in which each country was disseminating the results of the research at the local, national and international levels. During the week previous to the CIES 40th Annual Meeting in Virginia, members of the delegations of the five IEQ countries, Ghana, Mali, Uganda, South Africa and Guatemala, had numerous meetings in Washington. At those meetings the findings in the various countries were discussed and there was a formal session at which each country summarized the activities carried out to date and reported plans for 1996. In those meetings the country representatives had the opportunity to share the common elements in their work. Dr. Yetilú de Baessa, traveled to Washington on December 3-7, 1995 to participate in the Conference "Building Partnerships for Education Revitalization in the Americas (PERA), organized by the Academy for Educational Development (AED) and USAID on December 4-6, 1995. At this Conference, Dr. Baessa presented a workshop on how to present the results of classroom research to the teachers, supervisors and educational authorities and how the feedback process was done in Guatemala. The workshop was attended by approximately 15 educational experts with whom contacts were made to continue the dialogue.

<sup>114</sup>Assistance was provided in data reduction and analysis to Ministry of Education personnel studying the situation of rebellious youth in urban schools. A workshop was carried out over a four-day period from July 3 to July 6, 1995. Six educators working with the Ministry of Education participated in the training sessions. The workshops emphasized the construction of cross-case displays to analyze the various qualitative data sets collected by the researchers. The questions included each of the components related to the youth's daily life and their attitude towards: 1) the social reality of the country; 2) the community where they live; 3) the educational institute that they attend; and 4) their families. Questions were asked also to their parents, teachers and regional directors, asking them what the thought the attitudes of the youths in those four areas were. (Trip Report #45). Another way in which IEQ has helped translate classroom research into educational system has been through the Unicef's NEUBI program in Guatemala. This program is based on the Escuela Nueva model in Colombia but designed for the bilingual populations of the Quiche region. Unicef requested IEQ assistance in designing research to evaluate the NEUBI program. IEQ staff designed instruments consistent with the program needs and trained Ministry of Education personnel working with Unicef to carry out the research. During July 2-10,

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A major dialogue/dissemination effort took place, when during April 23-25, 1996, IEQ and the Universidad del Valle co-sponsored a Latin American conference on educational quality.<sup>115</sup> This conference provided an opportunity for the HCRT to present to the new ministry personnel<sup>116</sup> its experience in the context of other educational reform efforts in the region. Representing the Minister of Education, the opening remarks were given by Lic. Roberto Moreno, Vice-Minister of Education and Jane Schubert, IEQ Director, provided the background for several of the panels in her opening remarks. The Conference was attended by approximately 90 people, including professionals working in educational reform from South America, Central America, and the Caribbean, representatives of international organizations (e.g. UNICEF, AID, and the World Bank), members of the private sector in Guatemala who are interested in educational reforms, regional and departmental education directors and central Ministry personnel. Members of the IEQ advisory board served as moderators for the panels. The conference marked the first time in Guatemala that representatives from all sectors of the education community had met together to discuss issues of educational quality.

The objectives of the Conference were a) to share the IEQ experience with Guatemalan and Latin-American researchers about the use of classroom research to improve educational practices and policies; b) to put in contact Latin-American educational researchers in order to improve the utilization of resources and to initiate regional coalitions for the improvement of the quality of education; and c) to share methodological approaches to improve the quality of education at the classroom level through workshops in the different aspects of the education.

Some of the topics emphasized at the Conference were the common issues and challenges faced by educators in the Latin American region; the responsibility shared by teachers, educational authorities, members of the private sector for improving the quality of education; and the need to facilitate the participation people from different levels of the educational system, including teachers, students, parents. Another aspect emphasized was providing education according to the needs of each sector of the population, thus creating life long learners. A major issue addressed at the Conference was the importance of doing classroom research in order to investigate the dynamic of the teaching-learning process and to assure the commitment of the educators towards the educational reforms. In general, the participants agreed that the topics addressed during the Conference were relevant to their situations. Highlighted in their responses to the Conference evaluation questionnaire were the needs for decentralization; to incorporate the private sector; and to continue using classroom research in solving the educational problems.

Participants also provided input on a number issues, including that the problems with educational reforms are not at the operational level but rather at the administrative level; the

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1995, Dr. Chesterfield assisted the HCRT in working with the research team for the UNICEF-sponsored multigrade pilot program, NEUBI program, to develop a plan for providing feedback to teachers and supervisors on data collected on program implementation at the start of the school year.

<sup>115</sup>By February of 1996 the Rector of the Universidad del Valle, Ing. Hector A. Centeno and Peter A. Kapakasa Assistant Secretary/Treasurer representing the Institute for International Research (IIR), signed an agreement and IEQ offices moved to the University of El Valle. The University will house all the IEQ documents, promote their use and make them accesible to the users; professionals of the University will join the Advisory Committee; and the University provided support for the Latin American Conference.

<sup>116</sup>After being installed as President of Guatemala in January, 1996, Alvaro Arzú made some changes in the Ministry of Education, including appointing Arabella Castro de Camparini, as Minister of Education and Roberto Moreno as Vice-Minister of Education.

research should contain more recent data and not from two or three years ago; the research should provide a comprehensive view of the educational situation in the country and not a partial phenomena located in particular regions; the country should find the means to continue the work once that the international agencies leave; and the results of the research should be shared with different organizations within the country in order to include them in the educational process. A reference was made to the need to use the results of the research in order to contribute to the peace process in Guatemala once this is completed.

As part of the NEU training activities, IEQ was invited to conduct two workshops in April, 1996 for the *capacitadores tecnico-pedagogicos* and supervisors of the Regions II and IV in the departments where NEU is being implemented. This was the first time that the *capacitadores técnicos pedagógicos* attended an IEQ workshop and the second time for the supervisors. There were 41 participants from region II, and 55 from region IV. The objectives were 1) to inform them about the IEQ project; 2) to present the findings and provide feedback about the complete schools in Phase III; and 3) to present to them a measure instrument designed for 3rd, 4th, 5th and 6th graders and to ask for their opinion in order to improve it.

The workshops were observed by IEQ researchers and were evaluated using a questionnaire. The general opinion from the *capacitadores técnico-pedagógicos* was that the workshops had been formative and informative. Comments from the supervisors included that the workshops had allowed them to have more objective knowledge about the educational problems of the region; learn about the achievements and progress of the NEU project as well as the work that the *multiplicadores* have been doing expanding the scope of the project; and reflect on their own work and learn about the quantitative and qualitative aspect of the educational process. The participants emphasized that the workshops had informed them about the educational situation of their departments and had broadened their vision about the NEU project and the formative evaluation being done by IEQ.<sup>117</sup>

Responding to Dr. Alfredo Tay request, ex-Minister of Education, Dr. Yetilú de Baessa gave training to faculty and administrators of the School of Communication of the San Carlos University. The training course was held at the IEQ offices and it was attended by eight professionals. Drawing upon IEQ research procedures and findings, Dr. Baessa focused the training on the relation between quantitative and qualitative research; observation techniques; design of questionnaires; interview techniques; and data analysis. The methodology used included lectures, case discussion, field observation, class exercise, design of questionnaires, and data coding and analysis.<sup>118</sup>

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<sup>117</sup>IEQ Guatemala. Informe sobre los talleres con supervisores y capacitadores tecnico-pedagogicos. June 1996

<sup>118</sup>IEQ Guatemala. Reporte del curso de actualizacion sobre investigacion cualitativa. June, 1996

## Conclusion

The focus of the IEQ project in Guatemala was decided upon by the Ministry of Education at the time and was set from the beginning within the Nueva Escuela Unitaria (NEU) framework. The project was shaped mainly by the HCRT Coordinator, the US-IEQ consultant and the NEU Consultant. That fact helped to define the direction of the project, although it prevented, perhaps, the participation of people from other levels of the educational system in Guatemala to be part of the decision making. Teachers and supervisors became key actors in the implementation of the intervention; and their motivation and active participation was crucial to the success of the project.

The IEQ project in Guatemala generated a very innovative dynamic within the NEU schools. The teachers of the NEU project were trained in the use of the NEU methodology. Later on in the project, they served as "*multiplicadores*", meaning that they trained other teachers in the use of the NEU methodology. In the training sessions or workshops for their colleagues, the NEU teachers used the same techniques that they were using with their students in their classrooms. They used peer teaching and collaborative learning techniques. Although the expansion of the NEU project was planned from the beginning, this dynamic process contributed to increase the motivation and involvement of the teachers in the project.

By 1996 almost 900 schools had adopted, or plan to adopt, the NEU methods, including 200 schools under BEST project sponsored by USAID; 115 schools with assistance of UNICEF and financing from the government's social investment fund and private organizations, including *Fe y Alegria*; 375 schools associated with the Don Bosco Foundation, a private group and 200 schools supported by the Fonda Internacional, a private humanitarian organization.

The IEQ project caught the interest of other reform systems that are being carried out in Guatemala. In several cases the HCRT team Coordinator was asked to give training, and evaluate personnel involved in the educational system of the country such as Ministry personnel, UNICEF educators, rural teachers involved in other educational projects. The involvement of IEQ personnel in other educational projects in this country also enable IEQ to increase the research capacity of the local researchers within the country. By the end of the project twenty-two former and present members of the research team, including the field workers, learned to do classroom observations, as did a group from UNICEF.

The HCRT Coordinator was able to engage quickly and efficiently in professional interaction with the US-IEQ consultants and the NEU Coordinator. It is most likely that this positive interaction, and possibly the manageable size and hierarchical organization of the HCRT, contributed to a quick start in the project. The down side of this dynamic could be a limited participation of other people in the project, especially at the earlier stages. IEQ in Guatemala seems to have had full support from the three ministries that were in office during the five-year project. However, it does not seem that any of the ministers was actively involved in the project. A positive side of this issue may be that IEQ personnel were more or less autonomous in making decision related to the project without been forced to consult or get approval from officials within the Ministry of Education. A negative side could be that the loose tie between the Minister of Education and the project objectives, may have affected the project in terms of its impact on educational policies and practices.

IEQ has helped to monitor and identify ways to improve the quality of the NEU program. This programs is getting growing acceptance in Guatemala. The Guatemalan government is considering assistance from the World Bank to continue supporting the NEU initiative.

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## Appendix A

New Unitary School (NEU) seeks to improve the quality of education by an active teaching-learning process, a flexible system of promotion, closer ties between school and community, and a appropriate curriculum to meet rural needs. One unique feature of NEU is the integration of and dependence upon three agents of change: the teacher, the student, and the community. Additional features of the program are the afford ability and durability of the materials. One set is long lasting and can be used by more than one child; the curriculum applies to the daily live of the students; NEU encourages participation in school affairs through school government, which also fosters cooperation, comradeship, solidarity and participation; and a small library is furnished to support student activities.

The expectations and demands of NEU teachers are many and challenging. Teachers are expected to have positive attitudes toward the methodologies, the rural area, the administrative officials and technical counselors. teachers should become facilitator or guides rather than mere instructors. Teachers are expected to become active community leaders, and they have to manage the components of the program efficiently. NEU teachers also organize the student government, promote learning concerns and library teaching, use flexible promotion requirements and change and adapt schedule to the environment and level of the students.

The NEU model seeks to develop active and re flexible learning, attitudes of cooperation and solidarity, self-concept improvement, and knowledge and basic information of curriculum areas. Community members are expected to participate in the school's daily affairs and to grant the teacher a more prominent position within the community so the school is transformed into a center of community integration.<sup>119</sup>

Unitary Schools (EU) are traditional schools where there is usually only one teacher who is responsible for several grades. There are about 3,000 EU schools out of a total of 9,000 public schools.

The following table is an attempt to identify some of the characteristics of the NEU as implemented in Guatemala. The purpose is to provide a frame of reference for a better understanding of the EU and NEU features. This characteristics were drawn from ethnographic notes and the IEQ documentation. This characterization does not intent to be exhaustive and the tables do not present contrasting characteristics.

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<sup>119</sup>Hayes (1993)

NEU	EU
- Emphasizes small group work	- The teacher as the focus of the classroom
-Emphasizes cooperative learning. (Cooperative work by students in small groups, often without the teacher)	- Teacher-directed large groups are the principal context in which interactions among children take place
- Promotes cross-gender collaboration among children	- Children spend much of the instructional day copying written assignments modeled by the teacher either in the child's notebook or on the blackboard
- Teacher provides immediate feedback to the child on performance	- Children are expected to work alone and to consult the teacher when help is needed
- Active learning	- Child-initiated interactions with the teacher are relatively more frequent in all of EU. This reflects a format in which the child brings his/her work to the teacher for review upon completion
- Semi-programmed student material	- Writing and copying drills
- Parents as learning resources	- Mechanistic approach
- Classroom management	- Memorizing approach
- Classroom participation is more decentralized	- Copy exercises
- Instructional activities are more diversified	- Students perform to meet teacher's expectations
- Use of guides and educational material for the teachers and supervisors as well as for the students	
- Teachers work interchangeably with the children	
- Teachers works simultaneously with several grades	
- Curriculum includes instruments for the socio- emotional development of the student	
- NEU uses student government as key element for the social and emotional development of students	
- Teachers attend workshops	
- Flexible promotion to upper grades. The student advance to his/her own pace and the school copes with the absenteeism of the children during the harvest seasons.	
- Freedom to alter the content and context of classroom discourse	
- Teachers as facilitator or guides rather than mere instructors	
- NEU Seeks to develop active and reflexive learning, attitudes of cooperation and solidarity, self-concept improvement, and knowledge and basic information of curriculum areas.	
- Teachers become active community leaders	
- Promote activities that involve the school and the community working together	

## Appendix B

Unitary schools (EU) are schools where there is usually only one teacher who is responsible for several grades. The NEU represents a reform of the traditional schools (Escuelas Unitarias - EU) which had been in existence for decades and used traditional, teacher-diminated methods. They suffered from a lack of materials and attention from the Ministry authorities. There about 3,000 EU schools out of a total of 9,000 public schools.)<sup>120</sup>

All the experimental and comparison schools in the sample have similar schedule of classes. In the NEU schools, the class day is generally four hours long, with the classes beginning between 7:30 and 8:00 in the morning and ending around noon. The exceptions are two schools which are difficult to reach, where the schedule has been adapted to accommodate the teachers' arrival after taking local transportation and walking several kilometers to these schools. In these schools classes begin at 8:30 and 9:00 a.m. and end to 12:30 and 1:00 p.m., respectively. All of the NEU schools have at least one blackboard and several boxes of chalk. All have at least fifteen charts and posters on the wall, and some NEU schools have as many as thirty-nine. All of the NEU schools, whit the exception of one have significant expressions in the form of posters, sand tables, and/or "sopa de palabras". In all of them the items most frequently used were the blackboard and chalk, the sand tables, and instructional charts, especially those related to Spanish.

The instructional materials available at the EU schools were similar to those of the NEU schools in that all schools have at least one blackboard and chalk and some charts and posters displayed in the classroom. The EU materials differed from those of NEU schools in that more textbooks were available, with the range of books failing between twenty and seventy-six. The blackboards, chalk, and books are used at all of the EU schools, while charts were observed in use at three of the five EU schools.

In all of the NEU schools the students are grouped at benches or desks according to grade level. The teacher's desk and blackboard are generally at the front of the room, and NEU schools have study corners with materials related to a certain subject. In the EU schools the teacher's desk and blackboard are also generally at the front of the classroom. The students are seated in rows of benches or desks which face the blackboard rather than facing each other.<sup>121</sup>

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<sup>120</sup>Kerley, Janet. (1996)

<sup>121</sup>IEQ Research Report Phase I, Draft. (no date)

# **The IEQ STORY IN MALI**

*Thomas Clayton and Yidan Wang*

**with the assistance of**

*Sékou Diarra, Alimasi Ntal-l'Mbirwa,  
and Bréhima Tounkara*

# The IEQ STORY IN MALI<sup>1</sup>

Thomas Clayton and Yidan Wang

*with the assistance of*

Sékou Diarra, Alimasi Ntal-l'Mbirwa, and Bréhima Tounkara

## Introduction

This paper represents an attempt to tell the "story" of the IEQ project in one of the core countries, Mali. After briefly sketching the Malian social and educational background, we consider the IEQ context in Mali. The major part of the story concerns IEQ research and its relationship to educational policy and practice in Mali, and attention to research therefore comprises a major focus of this paper.

In compiling this story, we have drawn extensively on project documents, including trip reports, newsletters, research proposals, and memos; in addition, we have conducted personal, telephone, and e-mail interviews with involved individuals.

## Social and Educational Context

The Republic of Mali, with an area of 1,204,000 square kilometers (landlocked), is one of the largest countries in West Africa. About 45 percent of the GNP in Mali comes from agriculture, animal husbandry, fishing, and forestry (Ouane, 1994).

Mali gained its independence from France in September 1960. Modibo Keita served as president of the newly independent country until 1968, when a coup toppled him and a military government led by Moussa Traoré was established. In 1991 Amadou Toumani Touré came to power by leading a military coup during a period in which "political unrest calling for democratic reform led to riots" (Alimasi, 1996, p. 4). A year later Touré stepped down after multi-party elections were held, leading to a new government headed by Alpha Oumar Konaré being inaugurated on 8 June 1992 – the month before discussions about Mali's involvement in IEQ commenced.<sup>2</sup>

According to the 1987 census, the total population of Mali was 7,696,348. The population has been growing annually at approximately 3.2 percent, and the population is now estimated to be 8.7 million. About 80 percent of the population live in rural areas. There are 15 major ethnic groups (Ouane, 1994), and 11 languages spoken in Mali (World Bank, 1988, p. 154). Bambara is the dominant maternal language in Mali, being the first language of 31 percent of Malians and a second language to an additional 20 percent (World Bank, 1988, p. 154).

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<sup>1</sup> The documentation research reported in this chapter of the monograph was undertaken as part of the University of Pittsburgh's "Knowledge Building" activities for the Improving Educational Quality Project. We wish to acknowledge and express appreciation for the comments on earlier versions of this chapter made by Mark Ginsburg and Don Adams and other members of the Pittsburgh team (Martha Mantilla and Judy Sylvester). This May 1997 version is a revision of document produced in October 1996.

<sup>2</sup> That the decision to include Mali in the IEQ project was made in this context suggests that officials in the USAID Mission in Mali as well as others in the US government saw the possibility, even before the new government was in operation, of Mali becoming what four year's latter could be described as one of Africa's "most vibrant democracies" (French, 1996, p. A3).

French is the official language of Mali, despite the fact that, as throughout "francophone" Africa, it is "mainly...the language of [government] work, not of daily communication in the community" (Bokamba, 1991, p. 194). Most scholars estimate that approximately 10 percent of Africans in post-colonial francophone Africa, including Malians, can speak French (Alexandre, 1971, p. 654; Dumont, 1983, p. 25; Bokamba, 1991, p. 194).

Basic education in Mali consists of nine years of schooling broken into two cycles (six years followed by three years). Secondary education consists of three years of schooling, culminating with the *baccalauréat*. Higher education is offered at a number of centers, each of which is dedicated to the preparation of students for specific professions (teachers, engineers, medical doctors, etc.) (Touré, 1982). Spending on public education accounts for 2.8 percent of GNP (Ouane, 1994) or about 30 percent of state expenditures (Dembélé, n.d).

Educational participation rates in Mali are very low, and there is significant wastage and repetition as children ascend through the educational system. Only 23 percent of eligible primary school-age children attended school in 1988; only 6 percent attended secondary school; only 0.8 percent attended tertiary education. These statistics are among the lowest in the world. In neighboring Côte d'Ivoire, for instance, the respective participation rates are 70 percent, 18 percent and 2.8 percent (figures are from Unesco, 1991, pp. 118, 126, 134). Participation of girls is lower than boys in Mali; for example, only 17 percent of eligible girls, versus 29 percent of the boys, participated in primary education.

Classes are large in Mali. Rick Donato, a professor of foreign language education and consultant to the IEQ project who has visited schools in Mali, notes that classes range from 40 to 112 students (Trip Report 20, pp. 7-8). IEQ consultant Alimasi suggests that the average class size is 60 (communication, 31 March 1995). According to *Rapports de Visites de Suivi des Interventions du PAQE dans les Régions de Kayes, Mopti, Ségou et Sikasso* (1995),<sup>3</sup> there are between 76 and 185 students per class in these regions Mali. As a result, of these overcrowded classes, as well as "the lack of school buildings and teachers" (*Rapports de Visites de Suivi des Interventions*, 1995; Sikasso section of the document, p. 5; all quotations from French language materials are our translation), classes are offered in double sessions, one in the morning and the other in the afternoon. The same teachers teach both sessions.

Due in part to the fact that Mali was a French colony until 1960, many educational structures continue to be oriented toward the French model, including the country's centralized system of educational administration and planning. Moreover, virtually all formal state education is offered in the French language. There have been a few attempts in recent years to initiate education in maternal or national languages, but these efforts have been hampered by the fact that there are 10 languages (in addition to French) spoken in the country. Efforts have also been hampered by resistance from some Malian educators and parents who do not understand the philosophy of maternal language teaching and who see French as the language of prestige – a symbol of success, and thus prefer to have their students and children taught in French (communication from Alimasi, 31 March 1995; communication with Sékou Diarra and Bréhima Tounkara, 14 March 1996; for more on the relationship between language and elite status, including employability and access to international culture, see Weinstein, 1976, 1980).

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<sup>3</sup> This document contains the results of visits to certain IEQ schools during Phase II of IEQ research. We refer to this document hereafter as "*Rapports de Visites de Suivi des Interventions*."

In the 1980s, an experiment was undertaken in which national languages were used as a medium and subject of instruction in primary schools. This project utilized the convergent method (CM), which is a transitional bilingualism method involving the use of culturally appropriate materials in oral, aural, and written discourse (*Convergence Methodologique Français - Langue National Bambara*, 1987). Experimental schools used CM to pursue the goal of bilingualism in one of four national language and French. Control group schools employed a French-only immersion approach, which is described well in *Rapport General du Seminaire International sur le Programme d'Amelioration de la Qualité de l'Education (PAQE) au Mali* (1994, p. 85):<sup>4</sup>

Formal education in Mali uses French as the medium of instruction from the first year. The students learn French and its rules of grammar and conjugation [for the most part] while learning other disciplines such as mathematics, history, and geography in French.<sup>5</sup>

Results of the national languages (CM) experiment of the 1980s were not uniform, as reported by Hutchinson (1990) in a USAID evaluation of the experiment conducted. Experimental schools showed some improvement in academic level in some, but not all grades. In spite of the unclear results of the experiment, the evaluation report advocated the greater use of CM and bilingualism (Hutchinson, 1990). Similarly, some Malian educators working in IEQ advocate CM and bilingualism. Focusing only on the positive results of the experiment, these researchers comment: "In effect, the evaluations show that students in experimental schools...perform better in certain disciplines...than students learning exclusively in French" (*Rapport General du Seminaire International*, 1994, p. 58).<sup>6</sup>

In 1990 there were 104 schools in which the convergent method bilingual approach was being implemented (Alimasi, 1996). According to IEQ consultant Joshua Muskin, the national language/ convergent method initiative was still functioning in Mali at the time (July 1992) when formal discussions were initiated concerning Mali's involvement in IEQ. And as will be discussed in more detail later, beginning in 1994 the Malian government sought to implement a similar model at the national level with the *Nouvelle Ecole Fondamentale* (NEF) program (communication, 18 April 1995).<sup>7</sup>

Most classroom strategies for French language teaching in Mali are based on the "audio-lingual" method, where students memorize words and phrases without necessarily gaining a genuine understanding of their meaning. Donato comments that the audio-lingual method "has been criticized in the research literature for its lack of attention to meaning, its preoccupation with accuracy from the beginning of instruction, and its inability to promote communicative

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<sup>4</sup> This document is the report on a seminar (the "Colloque") held after Phase I of IEQ research in Mali. Hereafter, we will refer to this document as "*Rapport General du Seminaire International*."

<sup>5</sup> French is not taught as a language to Malian children; rather, children learn the French language concurrent with the study of French subject matter. This method is known as *le langue par le dialogue*.

<sup>6</sup> This document was produced in 1994, after Adama Samassékou was named the Minister of Basic Education in January 1994. The new Minister is a proponent of national language instruction. We will return to the change of Ministers of Education, and to the implications of this change for the IEQ project, below.

<sup>7</sup> We will discuss the NEF in greater detail below.

competence" (Trip Report 20, p. 2). In Mali, Donato continues, the use of the audio-lingual method promotes "rote memorization and an emphasis on grammatical structure and accuracy at the expense of meaningful communication" (p. 3). This approach to language learning is encouraged by the use of a textbook, *Le Langage par le Dialogue*. "Le langue par le dialogue" is also the dominant method for language teaching in Mali;<sup>8</sup> the method "is fairly audio-lingual with lots of emphasis on repetition and memorization" (communication with Donato, 2 August 1995).

A new language teaching series was developed in 1992. This series is titled *Le Flamboyant*. Donato reviewed this series positively, commenting, for instance, that its exercises "are not intended to be memorized by students but are to be used as a way of introducing vocabulary, promoting oral proficiency for the particular function in each lesson, and increasing listening comprehension" (Trip Report 20, p. 4). Donato also comments, however, that reading selections in the series are not "high interest" for the children and that this problem "casts some doubt concerning its potential effectiveness in increasing reading ability in first-grade students" (p. 5). Unfortunately, while the new books have reached 84 percent of Malian classrooms, "teacher guides and resource materials have not been made available to the teacher" (Trip Report 20, p. 4), and teachers continue to use new texts with their old, audio-lingual teaching methods.

In 1989, as the World Bank's Fourth Basic Education Project in Mali was being finalized, the Malian government launched a major, national educational reform initiative entitled the Basic Education Expansion Program (BEEP) (communication with Muskin, 23 June, 1995). According to Alimasi (1995):

BEEP is an established project with clearly stated goals and implementation plan; it is a high priority for the [USAID/Mali] Mission and receives attention and support from the...Mission director. The BEEP evaluation team [from the *Institut Pédagogique Nationale*; see below] enjoys the respectful reputation of a cohesive and competent group, and there is keen Mission interest in keeping it. (p. 8)

In addition to being a reform initiative, BEEP also has a research component. For instance, "BEEP has undertaken testing [between 1989 and 1994] in French and arithmetic for students in grades two and five from about 100 schools in...four... regions - Bamako District, Koulikoro, Ségou[,] and Sikasso - and in two control regions - Kayes and Mopti" (Trip Report 30, p. 20).<sup>9</sup> This research showed, among other things, that Malian children have very low performance levels in French. Malian researchers from the *Institut Pédagogique Nationale*, which became one of the IEQ institutional partners in Mali, conducted BEEP research (communication with Sékou Diarra, 12 October 1995).

The USAID Mission in Mali cited BEEP findings in the September 1992 in making its request for inclusion in IEQ:

Achievement in the 3 R's is generally very low in Mali....In the lower grades...only around 20 percent of the children can read and understand simple sentences [in French,] and this tendency is accentuated in rural schools. Only 30 percent of children...can write, that is, copy[,] a five-word sentence. (Cable from USAID Mali, 1992)

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<sup>8</sup> See footnote 4.

<sup>9</sup> Note that four of the regions in which BEEP data were collected – Ségou, Sikasso, Kayes, and Mopti – are the four regions in which IEQ data were collected; see below.

Referring to the BEEP findings, an IPN report (*Study of Language and Reading at the Classroom Level for the First and Second Years of Primary Education in Mali*, n.d. [1993], p. 6) states that:

- 1/3 of the students tested could not recognize syllables in a simple sentence, such as the PL in "Oiseaux ont des plumes;"
- 7% of the students could not recopy a letter, such as "F;"
- 25% of the students could not recopy a simple word, such as "morceau" and could not write on a straight line;
- 87% of the students did not understand the meaning of a simple sentence, such as "Je dessine les cheveux d'Ami" (I am drawing Ami's hair), even though the words used are common and not particularly difficult to spell; and
- 50% of the articles (le, la, une, un) that were given in a dictation were illegible or did not correspond to the word given, only 8% of the students could write a dictated word ("Bouton" or "Arbre" for example), and 66% of the handwriting was completely illegible.

The BEEP data served as a "baseline" in IEQ to the extent that they pointed to a problem area in Malian education (French language learning). However, the BEEP data themselves were not used in conjunction with IEQ data in any statistical or other analyses (communication with Sékou Diarra, 12 October 1995).

### **Institutional Partners and their Relationships**

IEQ activity in Mali began in July 1992 when Jane Schubert and Steve Anzalone, project director and staff member of the Institute for International Research, respectively, visited Mali to meet with USAID Mission representatives and Malian educators "to introduce IEQ and discuss the project" (Alimasi, 1995, p. 8).<sup>10</sup> Before leaving for Mali, IIR representatives met with Julia Rea of USAID/Washington's Africa Bureau to receive a briefing on Mali (Alimasi, 1995, p. 8). Official accords between IIR and relevant Malian research institutes (see immediately below) were signed in March 1993 (Coulibaly, 1995).<sup>11</sup>

The IEQ Project in Mali was centrally funded by USAID/Washington from this inception until March 1995. At that time, Mali was "withdraw[n] from the project's core funds ... due to the slow pace on the project [in Mali]." Following March 1995, the project was financially supported instead by the USAID Mission in Mali (communication from Alimasi, 8 August 1995; also see *Equipe PAQE/Mali: Plan d'Action* April, 1995, p. 2).

The Host Country Research Team (HCRT) in Mali was comprised of researchers affiliated with two governmental educational organizations: ISFRA, the *Institute Supérieure de Formation et de Recherche Appliquée*, and IPN, the *Institut Pédagogique National*.<sup>12</sup> The

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<sup>10</sup> Recall that this was one month after a new government Alpha Oumar Konaré "was elected in a multiparty election ... a year after a popular uprising and military coup that ousted a 23-year dictatorship" (French, 1996, p. A3).

<sup>11</sup> The Institute for International Research (IIR) was the prime contractor for the IEQ project. IIR was joined in a consortium by Juarez and Associates and the Institute for International Studies in Education (IISE) of the University of Pittsburgh.

<sup>12</sup> A third organization was under consideration as an IEQ institutional partner – the *Association des Anciens Universtaires de l'Amérique*, an association of Malian graduates in a variety of disciplines from US universities. IPN and ISFRA were recommended by the USAID Mission; undoubtedly this plus the

decision to affiliate with these two organizations was made sometime after an October 1992 visit to Mali by Jane Schubert, Steven Anzalone, and Laurie Puchner, "respectively the IEQ project Director, IIR Vice President, and National Center for Adult Literacy (NCAL) liaison to IEQ and specialist in cross-cultural human development" (Alimasi, 1996, p. 10).<sup>13</sup> Four researchers from each of these two institutes comprised the eight-person IEQ/Mali team: Dramane Coulibaly, Mamadou B. Kone, Mountaga Lam, and Bréhima Tounkara (from IPN) and Urbain Dembélè,<sup>14</sup> Sékou Diarra, Denis Dougnon, and Nambala Kante (from ISFRA).

ISFRA is associated with the Ministry of Secondary and Higher Education; it is a "multi-disciplinary organization which addresses critical problems in Mali, particularly in Basic Education" (Trip Report 6, p. 10). IPN is the "technical research branch of the [Ministry of Basic Education]" (Alimasi, 1995, p. 9); this organization "conducts the evaluation and monitoring activities of the Fourth Basic Education Development Project" (Trip Report 6, p. 10), including the BEEP research (see above). Muskin elaborates that IPN "is involved in materials piloting, language issues, testing, a wide range of research, [and] curriculum development" (communication, 23 June 1995). Finally, Muskin clarifies that these two organizations "work with many more development groups [than USAID]" and that "their role [is not limited] to just USAID's functions" (communication, 18 April 1995).

Having the IEQ/Mali team based in two organizations, as opposed to a single organization, has proved complicated at times. This may have been the case especially since they were located in units which were in the process of being transformed from secretariats of a single Ministry of Education into two separate education ministries. IEQ participants from the two research organizations have disagreed, for instance, about project coordination. Some of the tension between groups may have stemmed from fear that one or the other organization would be marginalized within the project.<sup>15</sup> However, the relationship between the two groups has

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facts that they were part of the Malian government and informally agreed to undertake initial, relevant research projects even before the contracts were signed contributed to their being selected.

<sup>13</sup> The actual "cooperative agreements" were not signed with these two organizations until April 1993, in part because of issues concerning per diem rates to be used by the USAID Mission in Mali. Budget negotiations also delayed the signing of these agreements (Alimasi, 1996, p. 11).

<sup>14</sup> Dembélè served as ISFRA team leader until July 1993, when apparently due to a "personality clash" with the new director general of ISFRA (Mr. Messaoud Lahbib, who replaced Mr. L. Diakité in April 1993 when he was appointed as the Minister of Mines and Energy). Jane Schubert sought to have this decision reconsidered by writing to Lahbib. When this was not successful, IEQ after consultation with the USAID Mission in Mali invites Dembélè "in a personal capacity" along with two representatives of IPN (and no other ISFRA representatives) to the First International Exchange on Educational Quality held in September 1993 in Washington, D.C. Soon after their return to Mali, Dembélè is reinstated as team leader of the ISFRA IEQ team. By January 1994, N'golo Diarra is appointed to replace Lahbib as Director General of ISFRA (Alimasi 1996, pp. 13-18).

<sup>15</sup> As the research moved from Phase I to Phase II (see below), for instance, ISFRA's research focus was minimized in relation to IPN's research focus. Muskin comments that this "transition was [difficult] for ISFRA to accept, particularly as [it] seemed to suggest [a] marginalization of their interests and researchers from the work of the project, provoking a reasonable fear of being excluded altogether" (communication, 18 April 1995, p. 4).

improved as they worked together.<sup>16</sup> The research activity has also been complicated because both groups of Malian IEQ researchers "have been working on IEQ essentially as a second, non-paid job, still obligated to fulfill their responsibilities at their ministry units" (communication with Muskin, 18 April 1995).

### **Contextual Dynamics, Research, and IEQ's Focus**

The focus of IEQ in Mali at the beginning was on the improvement of French language teaching and learning in the first two grades of Malian primary school. During Jane Schubert's initial visit to Mali in July and August 1992, she met with USAID Mission representatives and BEEP project staff at the *Institut Pédagogique National* (Trip Report 5, p. 7) to discuss how IEQ could "complement the BEEP endeavor" (Alimasi, 1995, p. 6) in supporting the improvement of French language teaching and learning. Steve Anzalone, an IIR staff member at the beginning of the IEQ project, explains:

In the initial discussions about Mali between Jane [Schubert of IIR] and Frank Method [USAID/Washington], the idea of linking to BEEP came up. It was asked, "Is there space in Mali for another initiative?" Freda [White-Henry of the USAID Mission in Mali] was struck at the time by the evaluation of language learning in BEEP, about the poor quality of language ability in Malian students [discussed above]. Because of this interest, it was decided that IEQ would support BEEP by working on improving French language ability. (communication with Anzalone, 13 July 1995)

BEEP research portraying the low level of Malian students' French language skills appears to have had a significant impact on the formulation of IEQ goals in Mali. In terms of the "spirals" orienting concept, then, we can conclude that this previous research influenced IEQ decision making.

In fact, according to Sékou Diarra and Bréhima Tounkara (communication, 14 March 1996), the goals of IEQ in Mali were specifically linked to BEEP from the beginning.<sup>17</sup> Research conducted within the context of BEEP simply identified the level of skill Malian students demonstrated in French language and mathematics; research did not identify factors which

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<sup>16</sup> For instance, the seminar in Bamako in April 1994 (the "Colloque"; see below) earned this remark in *Quality Link 3*: "IEQ's biggest accomplishment in this project has been the harmonious and successful landmark collaboration between IPN and ISFRA...around the same research project. This collaboration is a grand premier in Mali!" (p. 8). Muskin emphasizes the increasing unity of the two groups over time. "As of December 1993 [at the time of a seminar on data analysis led by Muskin and Donato; see below]," Muskin comments, the two groups "began to see themselves as one research team, involving a close collaboration of researchers" (communication, 18 April 1995, pp. 6-7). "The two groups have really come together to form one," he comments further (communication, 18 April 1995, p. 5). This unity is a "monumental coup, acknowledged to be such by the team members, their ministries, and by USAID/Mali" (communication with Muskin, 18 April 1995, p. 17).

<sup>17</sup> Alimasi (1996, p. 12) notes, however, that during discussions with IPN during his January 1993 visit to Mali, Steve Anzalone was told that "IEQ activities should proceed in a manner completely removed from BEEP activities," though subsequent conversations with officials at the USAID Mission led IEQ to conclude that "it would be unwise to distance its activities from BEEP that it was supposed to complement."

affected these levels. Malian researchers in BEEP wanted to do research related to achievement factors, and IEQ provided such an opportunity.

Not all related previous research had such an impact, however. Recall that Hutchison's 1990 evaluation of the experiment in national languages (see above) had advocated the greater use of maternal languages as part of the convergent methodology (CM) in education in Mali (as opposed to the use of French only as the language-of-instruction). Nevertheless, there was apparently no discussion in 1992 of the CM approach or working in maternal languages in Mali within the context of the IEQ project. Steve Anzalone described the factors which influenced this lack of discussion:

Language was not a policy choice at that time [for USAID]. The [USAID/Mali] Mission Director then was Dennis Brennan. He said, "The U.S. is to stay out of language policy issues. This is a sensitive issue because it relates to Malian-French relations. The U.S. does not want to be seen as interfering with Mali's relations with France." There is a tendency by the French to see the U.S. trying to pull francophone countries away from France toward U.S. interests, particularly in language matters. The French are playing hardball to keep the French language in Mali and elsewhere in francophonie. The Mission director therefore said, "Stay off this issue." (communication with Anzalone, 13 July 1995)

Additionally, according to Sékou Diarra and Bréhima Tounkara (communication 14 March 1996), the Malian political context also militated against language policy changes. During the military government of the early 1990s, the Minister of Education was not an active advocate of any language policy changes: "The minister did not interfere, but he also did not help." The implication of this statement is that the minister himself was constrained in his potential advocacy of maternal language use in education by the (non-elected) military government.

The experiment in national languages in the 1980s did not produce clear results, though as we have mentioned (see above) the experiment did produce advocates both in USAID and in Mali for greater use of national languages in education. This research and its results (at least in terms of its effects on certain individuals) do not appear to have influenced the initial decision making in the IEQ project. In other words (and in terms of the "spirals" orienting concept), the experiment in national languages did not impact the IEQ research. It appears that both the international and the national political context in which decisions in education in Mali are made inhibited the influence on IEQ of one research project (CM evaluation), while the influence of another research project (BEEP study) was facilitated by contextual dynamics. We illustrate this dynamic in Figure 1, below:

### **Research Activity: Phase I**

In Phase I of IEQ, the IEQ/Mali team, in collaboration with U.S. consultants and with the involvement of Malian educators at national, regional, and local levels, designed studies and collected and analyzed data concerned with French language learning in selected schools in Mali. The IPN and ISFRA members of the IEQ/Mali team conducted separate research studies, though the findings from both studies were presented and discussed at a nation-wide seminar for educators and policy makers, the Colloque. At the Colloque, participants collaborated in the formulation of Phase II interventions.<sup>18</sup>

Research conducted in Phase I was considered to be "action research" by the IEQ Mali team and by U.S. consultants (for discussions of action research, see Clayton, 1994; Ginsburg et al., 1996).<sup>19</sup> In IEQ, researchers from the IEQ/Mali team worked to improve educational quality in Mali with researchers from the United States, as well as with Malian representatives from the national ministries of education (basic, and secondary and higher), school principals, teachers, basic education inspectors, and parents (communication with Alimasi, 3 March 1995; memo from Tounkara of the IPN, 1 January 1995).

### **Research Questions: Phase I**

IEQ in Mali was designed to complement the Basic Education Expansion Program (BEEP), specifically in studying the teaching and learning of French in primary grades one and two (see above). During Phase I, this involved ISFRA's study of children's characteristics and IPN's classroom research on language teaching and learning.

ISFRA produced two drafts of a research plan entitled *The Characteristics of Malian School-Age Children*.<sup>20</sup> The ISFRA study "look[ed] at characteristics a child brings to primary school, such as basic health and nutritional condition, motor skills, social skills, and cognitive skills" (Trip Report 8, p. 3), that is, "the extra-scholastic characteristics that affect a child's ability

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<sup>18</sup> The following time line may help in understanding the Phase I research:

11/92-2/93: ISFRA and IPN proposals written and circulated for comments  
4/93: Muskin's qualitative research seminar  
7/93: IPN completes field work  
11/93: ISFRA completes field work  
12/93: Muskin's and Donato's data analysis seminar  
4/94: The Colloque

<sup>19</sup> Action research is research which has as its objective the active improvement of a given situation. When undertaken in educational settings, action research is associated with efforts to improve the quality of education. In general, action research is undertaken by a variety of educational researchers working together. Researchers can include external advisors from other countries or national educators from ministries of education, universities, or educational research institutes. Researchers can also include teachers or administrators at the school or district level. In action research, researchers work together as equals in investigating educational problems and improving the quality of education provided to students (Clayton, 1994; Ginsburg et al., 1996).

<sup>20</sup> A draft of the research plan was "circulated to IEQ partners in the U.S., [and] comments and suggestions were received from the National Center for Adult Literacy [NCAL]" (Trip Report 12, p. 2). According to Alimasi (1995), "NCAL [was] asked to recommend, for the ISFRA study, pertinent international literature and characteristics a child brings to primary school" (p. 12).

to learn, read, write[,] and understand French during the first two years of primary school" (Alimasi, 1995, p. 17). The ISFRA study proposed the following objectives for their study:

- Identify and describe the sanitary and nutritional state of the Malian child from the rural areas and from the urban areas from the moment he enters school.
- Analyze the socio-cultural factors that characterize the educational framework [background knowledge] of the Malian child before entering school and during the first two years spent at school.
- Compare the daily living environment of the Malian child and his educational experience and extricate those factors which harm his [or her] ability to learn reading, writing[,] and [French] language. (*The Characteristics of Malian School-Age Children*, n.d. [1993], p. 3)

Based on their research findings, the ISFRA members of the IEQ/Mali team hoped to be able to "[p]ropose concrete measures to overcome learning difficulties in the matters concerned" (*The Characteristics of Malian School-Age Children*, n.d. [1993], p. 3). It was conceived that the study would culminate in "a narrative description of characteristics of students in the classrooms sampled and a list of issues relevant to student performance in reading and language that need to be incorporated in the proposed assessment model and addressed in future studies" (*Quality Link 1*, p. 4).

The IPN team produced two drafts of a research plan, respectively entitled *Avant-Projet de Programme de Recherche sur l'Apprentissage de Lecture et du Langage dans les Classes de 1e and 2e Années de l'Ecole Primaire au Mali* (1993) and *Study of Language and Reading at the Classroom Level for the First and Second Years of Primary Education in Mali* (n.d. [1993]).<sup>21</sup> The IPN study "examined classroom practices with respect to reading and learning [French] in grades one and two. The goal of this study was to obtain a description of what actually takes place in the classroom during the periods of the school day when language and reading are taught" (*Quality Link 1*, p. 4). The IPN study specifically proposed the following objectives:

- Describe how [French] reading and language lessons are conducted during the first and second years of primary school.
- Describe the reactions by students to their [French] reading and language learning lessons during the first and second years of primary school.
- Record the academic/scholastic factors linked to learning reading and [French] language in first and second year. (*Study of Language and Reading at the Classroom Level for the First and Second Years of Primary Education in Mali* (n.d. [1993], p. 7)

Based on their research findings, the IPN members of the IEQ/Mali team hoped to be able to "[m]ake recommendations toward the improvement of [French] reading and language teaching" (*Study of Language and Reading at the Classroom Level for the First and Second Years of Primary Education in Mali* (n.d. [1993], p. 7).

During Phase I research activity, as the two teams came closer together and gradually became one team, these separate objectives or questions merged into a single set of objectives or questions. As reported in *L'Apprentissage du Langage et de la Lecture-Ecriture en Français en*

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<sup>21</sup> Like the ISFRA document, this research plan was "circulated to IEQ partners in the U.S., and c]omments and suggestions were received from the National Center for Adult Literacy [NCAL]" (Trip Report 12, p. 2). According to Alimasi (1995), "IEQ [Washington] request[ed] input from NCAL on what IPN should look for when conducting the observation of how reading and language are taught" (p. 12).

*Premiere et Deuxieme Années de l'Enseignement Fondamental du Mali* (1994),<sup>22</sup> the report of research jointly produced by the IEQ/Mali team (composed of researchers from ISFRA and IPN), the objectives were:

1. To analyze the school factors which favor the learning of reading and writing in French in a group of schools considered to be performing and nonperforming<sup>23</sup> in both rural and urban settings.
2. To analyze the characteristics of school-aged children [particularly those which favor the learning of reading and writing in French]. (*L'Apprentissage du Langage*, 1994, p. 4)

Given the action research approach adopted, the IEQ/Mali team hoped "[t]o generate as a result of this study [with both in-school and out-of school foci] concrete interventions to put in place in pilot schools for the improvement of student outcomes in reading and writing in French" (*L'Apprentissage du Langage*, 1994, p. 4).

### Sample: Phase I

Phase I research was conducted in first and second grade classrooms in 11 schools spread across four regions.<sup>24</sup> Of the 11 schools in which data were collected, five were rural and six were urban. Bambara was the dominant maternal language in nine of these schools, with Fulfulde being dominant in the other two. Additionally, six schools were "performing" and five were "nonperforming" (criteria discussed below). Table 1 presents the characteristics of each school based on information available in *L'Apprentissage du Langage* (1994, pp. 15-17) and *Rapport General du Seminaire International* (1994, p. 71), as well as communication with Alimasi (18 August 1995) and Sékou Diarra (28 August, 1995).

The distinction between performing and nonperforming schools was made by school inspectors, and it was at least somewhat "subjective" (*L'Apprentissage du Langage*, 1994, p. 15).<sup>25</sup> Table 2 presents the criteria for determining whether a school was considered to be performing or nonperforming.

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<sup>22</sup> We refer to this document hereafter as "*L'Apprentissage du Langage*."

<sup>23</sup> We will discuss the characteristics of "performing" and "nonperforming" schools immediately below.

<sup>24</sup> Early research plans called for research in 24 schools, with a half day of research at each school (*L'Apprentissage du Langage*, 1994, p. 15). However, at the qualitative research seminar in April 1993 (see below), U.S. consultant Joshua Muskin suggested that greater time be spent at a fewer number of schools.

<sup>25</sup> As we will see in the discussion of findings, below, a distinction was also made between good and poor or performing and nonperforming *students* in schools. According to Sékou Diarra, this distinction was made by researchers after a consultation with teachers and inspectors as well as an examination of student performance in class (based on the grades received by students in all subjects).

**Table 1: Characteristics of Schools**

<i>Region</i>	<i>School</i>	<i>Urban/Rural</i>	<i>Non/Perform.</i>	<i>Dominant Language</i>
Kayes	Samedougou *	Urban	Performing	Bambara
	Badingo *	Rural	Nonperforming	Bambara
	Faraba A **	Urban	Nonperforming	Bambara
Sikasso	Wayèrèma *	Urban	Performing	Bambara
	Zangasso *	Rural	Performing	Bambara
	Markala *	Urban	Performing	Bambara
Ségou	Sarakala **	Rural	Nonperforming	Bambara
	Macina II **	Urban	Nonperforming	Bambara
	Diéli *	Rural	Performing	Bambara
Mopti	Sévaré *	Urban	Performing	Fulfulde
	Goundaga *	Rural	Nonperforming	Fulfulde
* data collected at these schools by both IPN and ISFRA.				
** data collected at these schools by IPN only.				

**Table 2: Criteria for Distinguishing Performing and Nonperforming Schools**

<b>Characteristic</b>	<b>Performing Schools</b>	<b>Nonperforming Schools</b>
rate of Ss promotion over 5 years	more than 50%	less than 50%
rate of attendance	80-90%	less than 25%
rate of expulsion	5%	7-8%
repetition rate	less than 10%	10-30%
well-trained teachers	yes	no
engagement of teachers & Ss	good	poor
enough didactic materials	yes	no
community adhesion <sup>26</sup>	yes	no

Source: *L'Apprentissage du Langage*, 1994, pp. 15-16

<sup>26</sup> Community adhesion concerns the extent to which community members are involved in school life, meetings, etc. (communication Sékou Diarra and Bréhima Tounkara, 14 March 1996).

### Data Collection: Phase I

After the research proposals were circulated (see above), a "one-week workshop for staff of ISFRA and IPN was [held] as a means toward launching the studies" (Trip Report 12, p. 2). This seminar, held in Bamako from 12 to 17 April 1993, was led by Muskin.<sup>27</sup> The participants at the seminar discussed qualitative research methods and visited a school and "practiced" qualitative research methods.<sup>28</sup> In addition, the seminar participants revised the qualitative classroom observation instruments the two teams had brought to the seminar (discussed in more detail immediately below).<sup>29</sup> Finally, participants discussed and revised the IPN research design.<sup>30</sup> The principle objectives of the revisions were first "to suit the research to more qualitative purposes" and, second, "to incorporate explicitly into the design the concerns of the ISFRA researchers" (communication with Muskin, 18 April 1995, p. 9).

According to *L'Apprentissage du Langage* (1994, p. 18), data were collected by the IEQ/Mali team between April 1993 and April 1994. Sékou Diarra states that research was conducted by researchers from IPN and ISFRA working separately, as the two teams had not yet become one (communication, 12 October 1995). Further, Sékou Diarra notes that only IPN used the "performing/nonperforming" distinction in data collection; ISFRA "did not take this criterion into account" in Phase I data collection (communication, 12 October 1995).

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<sup>27</sup> Alimasi characterizes this seminar, as well as the data analysis seminar (discussed below), as responding to Malian requests for research assistance. The Malians, according to Alimasi, were taking advantage of training possibilities available through the IEQ project for professional development (communication, 31 March 1995).

It might appear that IPN was the major beneficiary of the qualitative research seminar. Of the 21 Malian educators in attendance, 18 were from IPN, and only 3 were from ISFRA. The workshop report written by Muskin (Trip Report 12, Memorandum) focuses almost entirely on classroom-level research. However, Muskin clarifies that the seminar was designed to benefit both research groups and that, for instance, "we...looked closely at the questions of the household and the community [in addition to considering classroom-based research]" (communication, 18 April 1995, p. 7). Muskin also suggests that the greater participation of IPN researchers might be explained by the fact that "the seminar was conducted at IPN, so it was easier for the IPN people to attend" (communication, 23 June 1995). Finally, Muskin suggests that the researchers from ISFRA were perhaps more confident of their ability to work without outside help than those from IPN and so may have had less interest in attending the seminar (communication, 23 June 1995).

<sup>28</sup> Muskin notes that "it was evident that [the Malian researchers] needed this qualitative methods training workshop[, though they] were clearly well-versed in quantitative methods" (Trip Report 12, Memorandum, p. 3).

<sup>29</sup> While it might appear that only IPN was engaged in classroom observations and, therefore, would use classroom observation instruments, Muskin notes that "some of the classroom-based questions related to ISFRA [as well]" (communication, 18 April 1995, p. 8). Muskin comments that each question in the instruments was discussed and that "deliberations over what questions to use and how to phrase them was to promote an understanding of the actions, interactions[,] and reactions occurring within the classroom that relate to the teaching, learning, and acquisition of language...skills" (Trip Report 12, Memorandum, pp. 4-5).

<sup>30</sup> According to Muskin, the ISFRA research design had not been prepared yet (communication, 18 April 1995, p. 9).

IPN's research was completed by July 1993, while ISFRA's research was completed by November 1993 (Alimasi, 1995, pp. 14, 17). Muskin states that this difference in timing was related to the "data reduction, analysis[,] and documentation" (communication, 23 June 1995), not to data collection.

The IPN and ISFRA members of the IEQ/Mali team each spent five days collecting data in each school in Phase I (Trip Report 12, p. 4; communication with Alimasi, 18 August 1995; communication with Sékou Diarra, 12 October 1995). Phase I data collection efforts were hindered as a result of "a late school opening and strikes within the Ministry of Basic Education" (Alimasi, 1995, p. 6). Additional constraints to research (and to the education of children) included the interruption of schooling for at least some students for harvests and torrential rains which closed some schools for a time (*L'Apprentissage du Langage*, 1994, p. 18).

Data collection was designed on the principle of triangulation. Data were collected from teachers, school directors, students, and parents "as participants in the learning process who would contribute to [an] enhanced understanding [of the classroom experience]" (Trip Report 12, Memorandum, p. 5). In this way, data collected from one source might "validate that of other sources" (*L'Apprentissage du Langage*, 1994, p. 31). The three principles of triangulation which supported data collection were "to confirm, to correct, and to complete" (*L'Apprentissage du Langage*, 1994, p. 31).<sup>31</sup>

Using instruments developed before and during the April 1993 qualitative research seminar (see above), IPN researchers interviewed students, teachers, school directors, and parents in relation to first and second grade classrooms (for instruments, see, *L'Apprentissage du Langage*, 1994, Appendix 1). Questions for students centered around family and home context and issues of language. They included:

- At home, is there someone to help you with your homework?
- Do you use books and other scholastic materials at home?
- If you do not understand what the teacher says [in French] in class, what do you do?
- In class, when does the teacher use the maternal language? When do you use the maternal language in school? (*L'Apprentissage du Langage*, 1994, pp. 51-52)

Questions for teachers centered around didactic material usage, pedagogic strategies, and interaction and communication with students. They included:

- What are the strategies you find the most effective in teaching the French language?
- How do the interactions between students both in and out of class favor the learning of French?
- How do you use the maternal language with students to aid in their acquisition of French. (*L'Apprentissage du Langage*, 1994, pp. 52-54)

Questions for school directors related to community involvement in schooling, obstacles to schooling, and issues of language. They included:

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<sup>31</sup> From an action research perspective, the collection of data from a variety of informants involved in education in Mali had the additional beneficial effect of "implicating these educational partners in the process of research and in decision making" (*L'Apprentissage du Langage*, 1994, p. 31).

- What is the general attitude of the community and the parents toward the school and the learning of French?
- What is the impact of the use of maternal languages in education? (*L'Apprentissage du Langage*, 1994, pp. 54-56)

Questions for parents revolved around the use of French at home and the resources in the home for out-of-class study, including:

- How/when is French used in the home and in the community?
- How do you encourage your children in their studies? What direct role do you play? (*L'Apprentissage du Langage*, 1994, pp. 56-57)

ISFRA also developed instruments for use in Phase I. With these instruments (developed before and during the April 1993 qualitative research seminar), ISFRA researchers held discussions with students, with teachers and school directors, and with parents and community leaders (for instruments, see, *L'Apprentissage du Langage*, 1994, Appendix 2). Discussions with students centered around the child's health, his or her environment (do you work? whom do you play with?), the child's health and nutrition, and his or her response to school (do you like to read? do you speak frequently in class?) (*L'Apprentissage du Langage*, 1994, pp. 65-68). Meetings with teachers and school directors were concerned with classroom management style and obstacles to student learning. In reference to the latter subject, teachers and school administrators were asked such questions as:

- What language do you use most often to make explanations for students?
- What are the principle causes of difficulty in student [French language] reading? (*L'Apprentissage du Langage*, 1994, pp. 72-73)

Discussions with parents and community leaders centered around the health and nutrition of children and their behavior in the village and in school (*L'Apprentissage du Langage*, 1994, pp. 74-75).

The IEQ/Mali team interviewed 108 students, 20 teachers, 12 school directors, and 108 parents in the context of Phase I research. In each class in which IEQ/Mali team conducted research, three "good" and the three "poor" students were selected for interview; the interviewed parents were the parents of these children (communication with Sékou Diarra). According to Alimasi (communication, 18 August 1995), both IPN and ISFRA instruments were used with these individuals.<sup>32</sup>

In addition to interviews with students, teachers, school directors, and parents, IPN researchers observed first and second grade classes. The observation schedule called for notations on buildings, infrastructure, and didactic materials, on student-student interactions, on student-teacher interactions, on the use of French and maternal languages as the means of communication in class, on pedagogic strategies, on the attitude of teachers and students, and on the "climate" or "ambiance" of classes (*L'Apprentissage du Langage*, 1994, pp. 57-63).

Beyond holding discussions with students, teachers and school administrators, and parents and community leaders, ISFRA researchers conducted observations in villages and schools. In villages, notations were made on setting, population, and the behavior of children

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<sup>32</sup> It is unclear exactly who was interviewed by which of the two teams. Though Alimasi states that both sets of instruments were used, the teams were not working together at this point, they conducted research at different times, and they did not both work in all the same schools. It is likely that the figures given by Alimasi refer to individuals interviewed by either ISFRA or IPN.

(*L'Apprentissage du Langage*, 1994, p. 69). In schools, notations were made on the physical condition of facilities, as well as the methods of teaching, the style of classroom management, the student-student and student-teacher interactions (including the language of these interactions), the behavior of students, and the attitude of teachers toward students in first and second grade language, reading, and writing classes (*L'Apprentissage du Langage*, 1994, pp. 70-71).

### **Data Analysis: Phase I**

The IEQ/Mali team undertook an initial analysis of Phase I data between July and September 1993, at which time Mr. Malé and Mr. Coulibaly of IPN and Mr. Dembélé of ISFRA<sup>33</sup> presented the preliminary findings to IEQ team members (from Ghana, Guatemala, and the United States) at an IEQ meeting held in Harper's Ferry in the United States. The initial data analysis was perceived to have some limitations: a) it consisted of "little more than a quantification of the qualitative data; basically just counting the number of times an event or condition was observed"; and b) the central distinction between "'[p]erforming' and 'non-performing' schools were selected...based on the input characteristics - materials, infrastructure, amenities - rather than by the performance of the students on independent tests" (communication with Muskin, 18 April 1995, p. 10).

In December 1993, Muskin and Donato traveled to Mali to work with the IEQ/Mali team in the process of further reduction and synthesis of Phase I research data (Trip Report 20, p. 20).<sup>34</sup> This period of interaction between the IEQ/Mali team and U.S. consultants resulted in some changes in the data analysis framework from the initial effort. As Muskin comments: "The collaborative discussions concerning data reduction...resulted in a different approach than the one originally proposed" (Trip Report 20, p. 21). Rather than discriminating exclusively between "performing" and "nonperforming" schools, three "rubrics" were identified for the foci of the analysis. These rubrics were: 1) the child's background and home setting; 2) the learning environment; and 3) teaching and learning strategies. These rubrics were suggested, in part, to allow consideration in a single analytical effort of both IPN's classroom-instruction study and ISFRA's child-characteristics study.

According to the plan which emerged from the December 1993 seminar, a variety of factors grouped under each of three rubrics would be analyzed for both good and poor students, as well as for performing and nonperforming schools. Because the primary objective of Phase I research was to identify in- and out-of-school factors which favor the learning of French, each of these factors was in some way related to French language learning.

In his small-group meetings with the IPN team, Donato suggested specific foci for analysis of the data, such as the relationship between students' literacy in French and teachers'

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<sup>33</sup> Recall, however, that Mr. Dembélé was attending this retreat and the associated International Exchange on the basis of a personal invitation from IEQ and not as an official representative of ISFRA, since he had been removed from his position by the head of the organization in July 1993, and was only reinstated after returning to Mali, following several interventions from IEQ headquarters (including strategically inviting him to the U.S. for these meetings).

<sup>34</sup> Muskin and Donato worked together with Malian researchers from both institutions in a single group, and separately. When separate, Donato worked with IPN team members, and Muskin worked with ISFRA team members.

use of a) maternal language in the classroom (not as language of instruction, but used strategically to facilitate instruction or clarify difficult concepts), b) Malian folktales and legends to facilitate second language learning, c) error correction strategies in language instruction, and d) group work and pair work activities in language learning.<sup>35</sup>

### Findings: Phase I

Following the December 1993 data analysis seminar, the IEQ/Mali team produced a draft research report entitled *L'Etude Qualitative de l'Apprentissage de Langue en Première et Deuxième Classes de l'Enseignement Fondamental au Mali* (1994, 1 January). Donato and Muskin responded to this draft document with comments and suggestions (7 January 1994 and 19 January 1994, respectively).

Ultimately, the IEQ/Mali team produced a final draft of the Phase I research, *L'Apprentissage du Langage* (1994). This document is divided into three main parts: 1) discussion of the problem and a review of relevant literature; 2) discussion of methodology; and 3) results from the analysis of data. Part 3 (data results) itself comprises three parts: 3.I) the child's background and home setting; 3.II) the learning environment at school and at home; and 3.III) teaching and learning strategies. These latter three are the "rubrics" which emerged for data analysis during Muskin's and Donato's data analysis seminar of December 1993.

Under each of these three rubrics in the final research report, factors (each related in some way to language learning) were discussed in terms of their ability to discriminate between good students and poor students and/or between performing and nonperforming schools. The factors which were found to be discriminating (cross-referenced with the rubric with which they were associated) are as follows:

<i>factor</i>	<i>rubric</i>
child attended preschool	I, background, home setting
child attended Koranic school	I, background, home setting
use of French in child's home	I, background knowledge; II, learning environment
distance from home to school for child	I, background, home setting
level of education of child's parents	II, learning environment
availability of lamp and study area at home	II, learning environment
community-school relations	II, learning environment
maintenance of latrines	II, learning environment
ability of child to take textbooks home	III, teaching/learning strategies
use of creative strategies by teacher	III, teaching/learning strategies

Other factors were found not to discriminate between good and poor students and/or performing and nonperforming schools. Among this category were kinds of play activities of children (Rubric I), physical condition of school (Rubric II), and availability of didactic materials at school (Rubric III).

<sup>35</sup> These suggestions were considered helpful by IPN team members, one of whom commented that "it was a valuable exercise to help us focus on what needs to be done to the present document and where future research can lead" (cited in Trip Report 20, p. 14).

Finally, a great many factors were categorized as *qualified* nondiscriminating factors. These factors did not discriminate between good and poor students and/or performing and nonperforming schools in Phase I research, though these findings "contradicted the results of other research or good sense" (*Rapport General du Seminaire International*, 1994, p. 70). That is, it was determined that these factors should have been linked with success in language learning, even though they were not so linked in Phase I data. Among nondiscriminating factors (which had in other studies been discriminating factors or which common sense indicated should have been discriminating) were:

<i>factor</i>	<i>rubric</i>
child likes folktales	I, background, home setting
child can recite legends in maternal language	I, background, home setting; I, learning environment
physical and nutritional health of children	I, background, home setting
organization of students in groups	II, learning environment
teacher use of error correction	II, learning environment; III, teaching/learning strategies
use of maternal languages by students	II, learning environment
teacher use of gestures/concretizing lessons	II, learning environment; III, teaching/learning strategies
use of didactic materials by teacher	III, teaching/learning strategies

### **Dissemination/Dialogue: Phase I**

The "Colloque" was held in Bamako from 26 to 29 April 1994. The Colloque was organized by the IEQ/Mali team with the assistance of two U.S. consultants, Donato and Muskin. In attendance at the Colloque were the Minister of Basic Education, the Minister of Secondary and Higher Education, and 86 other participants: "12 parents, 12 principals, 12 teachers, 9 basic education inspectors, 12 researchers, 29 representatives of donor agencies, policy makers, and international organizations" (memo from Alimasi 3 March 1995; memo from Tounkara, 12 January 1995).

The Colloque was designed as a national forum for sharing findings from the Phase I research and for discussing the implications of these findings for policy and practice toward improving French language learning in the first two years of primary school. Specifically, the Colloque was intended to define interventions to put in place in Phase II to improve French language learning.

The Colloque was also designed with action research in mind. By inviting participants from across the educational spectrum (including parents and community members) the IEQ/Mali team sought to address perceived problems with previous research/intervention efforts. According to *Approche du PAQE au Mali* (n.d.):

Until recently, communities have considered school to be "the other thing." Community members have been marginalized by educational technicians and policy makers who generally elaborate strategies or interventions in their offices and then come and impose them on communities. In such situations, community members have not been allowed to collaborate in educational innovations. (p. 6)

Rather than marginalizing communities, the IEQ/Mali team attempted to draw community members into the educational decision-making process by including them in the Colloque. Indeed, the Colloque earned high marks from parents and community members for this effort. For instance, at the conclusion of the Colloque, one parent is reported to have commented:

This project is no longer your project. It is *our* project. We have identified *together* the interventions, and *we* have elaborated *together* the strategies for implementing them. (*Approche du PAQE au Mali*, n.d., p. 6)

This comment suggests the success of the Colloque in involving stakeholders from across the educational spectrum in IEQ decision making.

The Colloque was opened with remarks by Mr. Moustapha Dicko, Minister of Secondary and Higher Education, and by Mr. Hassimi Oumar Maiga of ISFRA, president of the seminar. Mr. Sékou Diarra of ISFRA then presented the findings of Phase I research to the assembled participants. Following a question-and-answer period to clarify the findings, participants broke into three groups defined in terms of the rubrics of analysis for Phase I data: 1) the child's background and home setting; 2) the learning environment; and 3) teaching and learning strategies. Over the course of the following days, participants alternated between working in these three groups and meeting in plenary sessions to share their ideas. Groups were charged with two tasks:

- To identify factors in school, in class, in the community, and in the family which seem to influence the learning of French by students in first and second grades. This first task involved: a) identifying relevant findings from Phase I research; and b) comparing these findings with personal professional experience and the findings of other research in order to confirm or invalidate the findings.
- To formulate interventions to consolidate and formalize those things which favor French language learning and to eliminate those things which work against French language learning. (*Rapport General du Seminaire International*, 1994, p. 18)

On the final day of the Colloque, the groups met together in plenary session and, comparing notes, identified four factors as particularly significant in influencing French language learning in the Malian context:

1. distance from home to school for child;
2. physical and nutritional health of children;
3. level of training teachers in certain techniques, such as the use of didactic materials, small-group work (*pédagogie des grandes groups*), and exploitation of legends and folktales (*pédagogie des contes*);
4. community-school relations.<sup>36</sup> (*Rapport du Seminaire de Fin de la Phase I du PAQE*, 1994, p. 8)

The first and fourth factors had been identified by Phase I research as factors which discriminated between good and poor students and/or performing and nonperforming schools (see above). Note, however, that the second and third factors were found in Phase I to be qualified nondiscriminating factors (that is, other research suggested their relevance to language learning, though IEQ research did not). We will return to the relationship between Phase I research and Phase II interventions shortly.

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<sup>36</sup> Good community-school relations are defined in *Rapport General du Seminaire International* (1994) in terms of community participation in meetings, visits to schools, and financial contributions to schools.

On the basis of these four identified factors, four interventions were suggested for piloting in Phase II. These interventions, "in the general opinion of the seminar participants, will permit the improvement in the quality of education in general and in the performance of students in learning French in primary school in particular" (*Rapport du Seminaire de Fin de la Phase I du PAQE*, 1994, p. 8; communication with Sékou Diarra and Bréhima Tounkara, 14 March 1996). The four intervention ideas were:

1. identification and establishment of means of transportation to assist students in traveling from home to school (linked to identified factor #1);
2. the creation of canteens [dining halls linked in some cases to dormitories] with which to improve the health and nutrition of children (linked to identified factor #2);
3. training of teachers in certain techniques, such as a) the use of didactic materials, b) small-group work (*pédagogie des grandes groups*), c) exploitation of legends and folktales (*pédagogie des contes*); and d) strategic use of local language (linked to identified factor #3);
4. the creation of community study centers [organized and monitored study areas] which would afford students a community-based setting favorable to studying (linked to identified factor #4).

In the final analysis, the Colloque identified these as the four Phase II intervention ideas to improve French language learning in primary grades one and two. As the preceding discussion has demonstrated, some of these intervention ideas (means of transportation and community study centers) were explicitly linked with Phase I research findings. Other intervention ideas (canteens, and pedagogical techniques), however, were not so rooted. Jane Schubert discusses the multiple sources of Phase II findings (and, hence, intervention ideas) in a memo dated 23 December 1993: "The findings...represent 3 sources - the team's impressions, the information collected [Phase I data], and the literature." To the list suggested by Schubert, we would broaden the IEQ/Mali team's impressions (their professional insights) to include the professional insights of all Malians at the Colloque. Additionally, we would note that the Phase I data not only pointed definitely toward certain factors as influential in French language learning, but were interpreted as pointing toward other factors. Finally, we would add another source: the professional insights of U.S. consultants who, in running seminars and assisting with the Colloque, had an impact on the formulation of Phase II intervention ideas. Thus, there are four possible sources for those intervention ideas not deriving from Phase I research findings (see also Figure 2):

- studies whose findings contradict Phase I findings;
- interpretations of Phase I data;
- professional insights of Malian participants at the Colloque; and
- professional insights of U.S. consultants.

**Figure 2**

For instance, the second intervention idea (i.e., the creation of canteens) concerned the relationship between the health and nutrition of children and success in learning a foreign language. While these factors were shown by Phase I research to be nondiscriminating factors, other research points to their importance. According to *Rapport General du Seminaire International* (1994):

IEQ findings regarding the health and nutrition of children [in relation to success in language learning] contradict other studies, notably that by Save the Children [and ISFRA] in Kolondiéba.<sup>37</sup> (pp. 45-46).

In addition to findings from this and other studies, according to Sékou Diarra and Bréhima Tounkara (communication, 14 March 1996), the professional insights of Malian educators also contributed to this intervention idea.

With regard to the other case, the third intervention idea concerned teacher training in relation to the use of didactic materials, small-group work strategies, exploitation of legends and folktales, and strategic use of local language. While none of these ideas is directly supported by Phase I research, these intervention ideas can be traced to four other types of sources: interpretations of the data, the ideas of U.S. consultants (derived from knowledge of relevant research and theoretical literature), the experience and perceptions of Malian Colloque participants, and other studies:

1. The Phase I data were interpreted as saying that the use of didactic materials, small-group work strategies, exploitation of legends and folktales, and strategic use of local language might be important factors in French language learning, though these factors were not fully identified by the data as contributing factors. As Sékou Diarra and Bréhima Tounkara explain, "the data suggested looking more fully at these factors in terms of running a pilot study to determine whether or not they were contributing factors" (communication, 14 March 1996). In other words, the Phase I data, while unable to point definitively toward certain pedagogical factors as being related to French language learning, could and did suggest to Malian researchers the need for further study of these factors.
2. As mentioned above, Donato suggested interventions related to small-group work and the use of legends and folktales at the data analysis seminar in December 1993. Though Phase I data did not confirm Donato's perception that these factors were necessarily related to students success in language learning, that they ultimately appear on the list of Phase II interventions suggests the influence Donato's professional insights had in the formulation of intervention ideas (linked with the suggestions from the data themselves, as mentioned above, and the professional insights of Malian educators, as mentioned immediately below).
3. These intervention ideas also clearly derived from the professional insights of Malian educators, in particular the IEQ/Mali team, but perhaps also other participants at the Colloque. The IEQ/Mali team, for instance, noted in *Rapport General du Seminaire International* that stories (in French) which reflected the socio-cultural milieu of Malian children were better understood by students than stories based in French culture. Regarding the use of didactic materials, the IEQ/Mali team commented in *Rapport General du Seminaire International* on the use of the blackboard in language lessons and suggested that teacher training in this area might be beneficial.

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<sup>37</sup> This study is cited as: ISFRA/Save the Children. (1993). *Etude sur les Attitudes et Pratiques Educatives qui Entourent la Petite Enfance à Kolondiéba*.

4. Studies which contradicted those of Phase I research also influenced the formulation of teacher-training intervention ideas. For instance, *Rapport General du Seminaire International* (1994) cites Bloom (1979) in discussing the relationship between background knowledge and French language learning. Specific forms of background knowledge (liking and ability to recite folktales and legends) were found in Phase I not to discriminate between good and poor students and/or performing and nonperforming schools. However, Bloom (1979) is cited to demonstrate that background knowledge generally "holds the potential to facilitate learning" (*Rapport General du Seminaire International*, 1994, p. 46).

### Research Activity: Phase II

In Phase II of IEQ, four regional workshops were conducted by IEQ/Mali team members and U.S. consultants for the training of educational administrators and teachers to be involved in the intervention strategies identified at the Colloque. The interventions were then implemented in project schools. Subsequently, IEQ/Mali team members a) conducted follow-up visits to selected schools to assess the implementation of interventions and b) undertook testing in project schools in an attempt to measure the effects of IEQ interventions. There were, therefore, two stages of IEQ activity in Phase II: that associated with the "follow-up visits" and that related to "testing."<sup>38</sup>

Also, in the course of Phase II, a new factor was introduced in the IEQ project in Mali. In January 1994, a new Minister of Basic Education, Mr. Adama Samassékou, was appointed.<sup>39</sup> The new Minister, a linguist by training and a strong proponent of maternal (i.e. national) language education, launched the Nouvelle Ecole Fondamentale (NEF) program, which "valorize[s] the status of national languages in the learning process, [promotes] the [convergent methodology (CM) approach which fosters bilingualism[,] and [prescribes] the use of maternal languages in first and second grades" (Trip Report 30, p. 7). Immediately after the Colloque (end of April 1994), the Minister met with the IEQ/Mali HCRT and U.S. consultants, Donato and Muskin. In this meeting, the Minister insisted that all educational initiatives in Mali, including IEQ, be cohesive with his nation-wide bilingual education program. He expressed the belief that "the new reform objectives that seek functional bilingualism through the use of the convergent methodology [were] in conflict with IEQ's, since IEQ was initially asked to seek ways to improve the learning of French in first and second grades" (Alimasi, 1995, p. 20).<sup>40</sup>

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<sup>38</sup> The following time line may help clarify IEQ's Phase II activities:

8/94-11/94: four regional workshops  
1/95-2/95: follow-up visits to project schools  
6/95: testing in project and control sample schools

<sup>39</sup> Mr. Samassékou replaced Ms. Fatoumata Camara Diallo, who had become Minister of Basic Education in 1992, when the two Secretariats within then existing single Ministry of Education were reorganized as two separate ministries: 1) Basic Education and 2) Secondary Education, Higher Education, and Scientific Research. The Minister of the latter unit during the full course of the IEQ project was Mr. Moustapha Dicko.

<sup>40</sup> Alimasi (personal communication, 31 March 1995) comments that both the new Minister and his Chief of Cabinet are linguists and suggests that their linguistic knowledge and background may inform the move toward the use of maternal languages in Malian education. Alimasi also associated the 1980s experiment in national languages (studied by the ABEL project and discussed above) with the decision of

The possible loss of support from the Minister was a very serious threat to the IEQ project, and IEQ/Mali team members and U.S. consultants responded quickly. In general, both groups sought to convince the Minister that, in working to improve French language teaching and learning in Mali, the IEQ project was, in fact, contributing to the goals of the NEF. The gist of these arguments was that, since the NEF is predicated on transitional bilingualism from maternal languages to French, it was still necessary for teachers to teach French and for students to learn French; the IEQ project, therefore, could support NEF goals.

In a document written after the discussions with the Minister, for instance, Bréhima Tounkara rehearsed points he had made concerning the compatibility of the goals of IEQ with those of the NEF. Arguing that both the NEF and IEQ are concerned with improving educational quality in Mali, Tounkara concluded that "IEQ contributes largely already to the attainment of the objectives of the NEF" (*La Place du PAQE dans la NEF*, 1995, p. 2).

Donato made a similar argument in a paper prepared for presentation to the new Minister in August 1994. Donato argued that the IEQ approach and convergent methodology were similar interventions in that: 1) both used folktales and legends for increasing meaningful language input to students; and 2) both used active learning modes to increase language practice and production activities in the context of small group interaction. According to Donato, IEQ intervention ideas differed from the basic bilingual program of convergent methodology in their minimal treatment of the role of national languages in instruction and in the time of instruction for the study of French (Trip Report 30, pp. 11-12). Donato suggested, nevertheless, that there were possible ways that IEQ might better integrate itself into current educational reform efforts, including: 1) the IEQ/Mali team could participate in the discussion on strategic planning for the implementation of convergent methodology in Mali; 2) the IEQ/Mali team could begin widespread training of teachers in selected regions; and 3) the IEQ project could assist the educational reform movement in improving the teaching of French (Trip Report 30, pp. 12-14).

According to Alimasi, after these arguments regarding the compatibility of IEQ and the NEF, the new Minister "was OK with it," that is, satisfied with the relationship between NEF and the IEQ project as it had evolved at the point of the Colloque (personal communication, 31 March 1995). Thus, the threat to the project was relieved, though the project had been reconceptualized within the NEF as providing support for transitional bilingual education. As we shall see, the IEQ project also expanded its boundaries overly to include the investigation of not only classrooms where French was the language-of-instruction but also NEF classrooms in which maternal languages functioned as the medium of instruction.

### **Research Questions: Phase II Follow-Up Visits**

From July to September of 1994, Donato, Muskin, and Alimasi Ntal-T'Mbirwa extended technical assistance in Mali. Their major activities concerning IEQ Phase II research included helping the IEQ/Mali team in planning project interventions and designing and planning the training workshops in four project regions. These activities took place in a participatory context in which all partners at national and regional levels in Mali worked collaboratively in making decisions about interventions, research design, planning and implementation of interventions.

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the Minister to implement the NEF and its new language policy. It is clear, then, that research findings informed the new policy, though it does not appear IEQ research which has influenced the policy change.

During August 1994, U.S. consultants working with the IEQ/Mali team conducted a pilot training workshop in Ségou (24-31 August, 1994). Subsequently, similar training workshops were conducted in other three regions: Mopti (7-15 November, 1994), Sikasso (7-18 November, 1994), and Kayes (12-19 November, 1994) (*Rapports des Ateliers de Conception et Planification des Interventions du PAQE dans les Regions de Ségou, Kayes, Mopti et Sikasso*, 1994). These four workshops were attended by 250 participants. Among them were 84 first and second grade teachers, 42 school principals, 18 inspectors, 44 pedagogic advisors, 16 community development specialists, 42 parents, and 4 regional education directors (Quality Link 4).

The first workshop held in Ségou served as a pilot effort (Trip Report 30). With the help of the U.S. consultants, the eight-day workshop was designed to have two sessions with 60 in attendance. Utilizing the "participatory approach," the first five days were focused on training and planning for the implementation of interventions involving in all participants. This approach was employed in order to help develop a sense of ownership among those who participated, to help participants become motivated in the execution of the interventions and to enable teachers to adopt the strategies in the context of their needs and capacities.

During the first (five-day) session, two interventions were selected for Phase II implementation out of the four which were proposed during the Colloque. They are:

- training of teachers in the areas of: a) use of didactic materials; b) small-group work (pédagogie des grandes groups); c) exploitation of legends and folktales (pédagogie des contes); d) strategic use of local language.
- the creation of community study centers (Trip Report 30, p. 24).

According to Trip Report 30, the decision to reduce the interventions from four to two was based on the assumption that four interventions were too excessive:

The IEQ/Mali team would be over-stretched equally in the design and institutions of a full set of interventions and in the monitoring and evaluation of their implementation. The teachers and local education officials and support agents...would similarly be overwhelmed by being asked to learn, adopt and support too many innovations. (Trip Report 30, p. 24)

In fact, since the first intervention has four components, the above two interventions actually refer to five intervention ideas, each of which is associated with one of the five questions discussed during the workshop:

1. What techniques are best suited for use with small groups, and what exactly constitutes a small group?
2. What is an appropriate use of the maternal tongue in the classroom context and when is such use "abusive?"
3. What techniques are available for passing from full comprehension by students of a tale or legend in their maternal language to a similar level of understanding in French?
4. What pedagogic supports are available, or might be prepared with local, low-cost materials, to promote better acquisition by grades one and two students of French at school?
5. What should the role and function of a community study center be, how can the school teachers take advantage of the operation of such a facility, and how can parents be encouraged to organize a study center for their children? (Trip Report 30, p. 24)

During the second session (lasting three days) of the workshop, the participants planned research strategies. Specifically, they worked out three over-arching research questions which were applied to each of the two major interventions: classroom instruction (I) and community study centers (II):

- Ia. How has the teacher applied (adapted or adopted) the strategies in the classroom?
- Ib. What is the impact of the pedagogic strategy upon the organization, context and function (i.e. the teaching) in the classroom?
- Ic. What is the impact of the pedagogic strategies, individually and collectively, upon the learning process in the classroom?
- IIa. How has the community organized and operated the local study centers?
- IIb. What is the impact of the community study center on the management and functioning (i.e. teaching) of the classroom?
- IIc. What is the impact of the community study centers on the learning process and the learning of individual students in the classroom, and more broadly at school? (Trip Report 30, p. 28).

During this session, the IEQ/Mali researchers also worked together with workshop participants in identifying five strategies which are to:

- a. implicate fully the group of partners in the monitoring, evaluation, and research components of IEQ/Mali Phase II;
- b. help the partners to develop further technical and managerial competencies in the areas of monitoring, evaluating, and research;
- c. identify and assign the specific tasks associated with the monitoring, evaluation, and research components of IEQ/Mali Phase II;
- d. prepare an implementation plan for the IEQ/Mali monitoring, evaluation, and research effort; and
- e. develop preliminary observation, interview, and questionnaire instruments by which to assess the implementation and impact of the Phase II interventions (Trip Report 30, p. 29)

Finally, this research session of the workshop covered more explicit training for workshop participants in action research and qualitative research. Regarding qualitative research, for example, it focused on the development of observation guides, interview guides, and questionnaires (Trip Report 30, p. 30).

The workshops in other three regions, which were finally held in November 1994, <sup>41</sup> resembled the Ségou workshop in many ways, in length, participants and contents. According to *Rapports des Ateliers* (1994), the workshops in other three regions lasted for eight days including five-day training and three-day research sessions. Similar groups of people participated in the workshops, and basically the same process was followed.

However there are different views on the workshops and the effects of the workshops among the consultants. Alimasi perceives these workshops as "teacher training workshops" in which the IEQ team "created opportunities for each participating educator to contribute his/her

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<sup>41</sup> The workshops in the other three regions because of "a set of unfortunate miscommunication delays" (Alimasi, 1996, p. 21). The Mali HCRT was confused by various messages received from the Ministry of Basic Education, the USAID Mission in Mali, and IEQ Headquarters about whether the Ministry required that the workshops be postponed until the Ministry defined "the frame within which the Project should operate under the [NEF]reform" (Alimasi, 1996, p. 21).

input and leave the workshop with their collaboratively developed interventions" (Quality Link 4, p. 6). He notes that the "most meaningful parts of the workshops were the daily classroom simulations during which participants used information generated during discussions to construct and present lessons to their peers" (Quality Link, 4, p. 7). Donato, on the other hand, comments that the workshops focused less on training than they did on decision making:

At the workshops, Josh wanted teachers to come to consensus on what interventions to tackle and how then to do them. I wanted to move past the consensus part directly to training for the implementation of interventions: staff training, teacher training in how to give lessons, etc. I saw the consensus building exercise at the Colloque; I didn't see the regional workshops as the appropriate place for this activity. I wanted the workshops to be knowledge building, a training seminar, discussions of how to do things, not discussions of what to do. I wanted to develop action plans for doing the research in schools. I think teachers should be involved in the process of research...but I think that involvement should be compartmentalized. We should not involve every participant in every step of decision making. However, Josh wanted to do it this way, as part of his overriding action research ideas. In the end, they turned out to be Josh's way - organized with the same format as the Colloque, but at the regional level. They discussed and formalized interventions and the research process. However, they didn't get to developing research questions or developing ideas about how to research the interventions. As a result, according to the last communiqué, some teachers were using the interventions, and some were not.

### **Sample: Phase II Follow-Up Visits**

Following the four regional workshops, the two interventions (with five components) were piloted in project schools in the four regions in which the workshops were held (communication with Alimasi, 25 July 1995; Coulibaly, 1995). The priority criterion for the selection of schools was the availability of baseline data from BEEP initiatives. The specific criteria for school selection were determined as follows:

- five urban schools and five rural schools;
- two schools with multiple-grade classes and two dual-session schools;
- schools that were included in the IEQ/Mali Phase I sample;
- the existence of girls enrolled in grade one and two;
- schools with female teachers in grade one and two;
- schools where the teachers will participate voluntarily in the project and possessing an openness to innovation; and
- schools where the teachers involved will not be reassigned for the currently planned two years of the project (Trip Report 30, p. 21).

Based on these criteria, 42 project schools were selected in the four regions (communication with Alimasi, 25 July 1995; Coulibaly, 1995). Reflecting the changes in the IEQ project as a result of the NEF initiative, 22 were NEF or CM (convergent methodology) schools and 20 were "classical" or French language schools (communication with Alimasi, 25 July 1995).<sup>42</sup>

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<sup>42</sup> Note that the participants at the regional workshops included 42 school principals, 42 first grade teachers, and 42 second grade teachers (memo from Alimasi, 3 March 1995). The assumption was that if participation at the workshops by key individuals at the 42 project schools was secured, these individuals

Among the 42 project schools, 21 were selected for follow-up visits in Phase II. This sub-sample included:

- 5 schools in the Kayes region (3 classical and 2 CM)
  - 5 schools in the Mopti region (3 classical and 2 CM)
  - 5 schools in the Ségou region (3 classical and 2 CM)
  - 6 schools in the Sikasso region (4 classical and 2 CM)
- (*Rapports de Visites de Suivi des Interventions*, 1995).

#### **Data Collection: Phase II Follow-Up Visits<sup>43</sup>**

In January and February 1995, the IEQ Mali team conducted follow-up visits to a subsample of 21 project schools to assess the degree of (and to assist with the) implementation of the two pilot interventions. In these visits, the IEQ/Mali team utilized observatoinguides, interview guides, and questionnaires developed at the regional workshops. The follow-up visits followed a general pattern set in the Kayes region and described in detail in *Rapports de Visites de Suivi des Interventions* (1995):

The team evaluated the implementation of interventions, notably small group work, use of legends and folktales, strategic use of maternal languages, use of didactic materials, and community study centers. The team observed first and second grade classes during two days and met with the teachers of these classes to discuss the positive aspects of their teaching and to make suggestions to ameliorate the negative aspects. The team also met with students and parents in order to test the instruments [developed during the regional workshops] and to discover the point of view of students and parents about the various interventions. Finally, the team met with pedagogic advisors and basic educational inspectors in order to make suggestions for perfecting the instruments. (*Rapports de Visites de Suivi des Interventions* [Kayes section], 1995, p. 1)

The IEQ Mali team observed first and second grade classes in the 21 schools selected for follow-up visits. An observation guide had been prepared at the four regional workshops to facilitate observation, focusing implementation of the five intervention strategies.

In addition to classroom observations at these schools, IEQ/Mali team researchers developed survey questionnaires, which were administered in 43 joint meetings with school directors and teachers and interviewed 40 sets of parents and students (*Compte Rendu des Visites de Suivi des Interventions*, 1995). The questionnaire for discussions with teachers and school directors included such questions as:

- Did you attend a regional workshop concerned with the IEQ interventions?
- What does "small group work" (or one of the other intervention ideas) mean to you?
- Why might one use this strategy?

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could subsequently return to their schools and pilot the interventions. In at least one case in the Kayes region, the school director returned from the workshop and trained all the teachers in the school in the IEQ intervention strategies (*Rapports de Visites de Suivi des Interventions* [Kayes section], 1995, p. 3).

<sup>43</sup> The Malian HCRT proceeded with the research despite fiscal uncertainties. As Alimasi (1996, pp. 22-25) explains, the USAID Mission in Mali was questioning the amount of per diem that was being paid to researchers, negotiations for a USAID Mission buy-in to the IEQ project were still on-going, and a proposal had been put forward by USAID/Washington to add \$200,000 of funding for IEQ work in Mali – either through the core contract or through providing additional funds to the USAID Mission in Mali to be used in the buy-in.

- How do you use it?
- What do you perceive to be the advantages of this strategy?
- How do the students react to it?

In addition to their opinion about various intervention strategies, during these discussions school directors were asked to report on how the strategies were implemented in their schools and on how the strategies impacted teachers and students.

The questionnaire used to guide the joint discussion with students and their parents was again organized around the intervention strategies. For instance, it asked students:

- How do you use small groups (or one of the other intervention ideas) in your class?
- Does your teacher organize work in small groups?
- How is the work organized in these groups?
- What role do you play in the group?
- How do you like this kind of work? Why?

Questions posed to parents/parents included sections on the small group strategy, as well as the strategies pertaining to the use of legends and folktales, the use of the maternal language, the use of didactic material, and the establishment of community study centers. Examples of specific questions included:

- Do you know how students work in class?
- Are you familiar with the strategy of using small groups in class?
- What do you think of the strategy of small group work?

### **Findings: Phase II Follow-Up Visits**

While *Approche du PAQE au Mali* (n.d.) states unequivocally that "the interventions were successfully implemented in project schools" (p. 6), both *Compte Rendu des Visites de Suivi des Interventions* (1995) and *Rapports de Visites de Suivi des Interventions* (1995) tell a more complex story. The discussion below draws from both these documents.

Although the IEQ/Mali team found in their classroom observations that the interventions had been implemented to a greater or lesser extent in Kayes, Ségou, and Sikasso, the team discovered that they had not been implemented at all in Mopti. Apparently, the teachers in this region had not yet received authorization to begin IEQ interventions from the regional administration and thus had not yet begun to act.

In general, in the three regions in which the interventions had been implemented, the team found an inconsistent emphasis in relation to the small-group strategy. While one school had rearranged the tables into a pattern more facilitative of small group work, for example, others either did not use small group work, or teachers reported that the work performed in small groups was less beneficial for student learning than work in the full-class setting.

According to *Compte Rendu des Visites de Suivi des Interventions* (1995) and *Rapports de Visites de Suivi des Interventions* (1995), folktales and legends were generally used as a "diversion" (that is, for entertainment) for students, rather than as a means to teach either the maternal language (NEF/CM schools) or French (classical schools) through socio-culturally familiar content.

Maternal languages were used in NEF/CM schools for instruction, though only in the first grade. In classical schools and the second year of NEF/CM schools, maternal languages were used mainly for giving orders and explanations. In one school in the Mopti region, the team noted that the use of Fulfulde as the language of instruction in NEF/CM schools had the effect of

marginalizing children who were native speakers of other Malian languages, notably Bozo and Songhoi.

The team noted some creative use of didactic materials. In several cases, teachers had brought materials from home to facilitate instruction and had made and used flashcards. However, the team reported that the blackboard was rarely used effectively in instruction.

Finally, observation and interview data indicated that very little work had been done in any region towards the organization and establishment of community study centers.

In general, the interview meetings with teachers were used to provide guidance to the teachers in how to better use the various strategies. For example, in Kayes, teachers were urged to adapt legends and folktales to the theme of the lesson of the day, rather than allowing them to remain disassociated from this context; in Ségou, teachers in classical schools were urged to use maternal language in class to support French language learning, rather than supplant it.

The outcome of discussions with school directors is not entirely clear. School directors are only mentioned in one regional report in *Rapports de Visites de Suivi des Interventions* (1995), the Sikasso report. In this report, the authors state that school directors, along with pedagogic advisors and the IEQ Mali team researchers, were involved in critiquing the performance of teachers in relation to the IEQ intervention strategies.

The meetings with students and parents are only discussed in relation to the Kayes section of the research report in *Rapports de Visites de Suivi des Interventions* (1995). Here, students told researchers that they liked small group work and the use of legends and folktales in the class. Parents were found to be "more and more aware" (p. 18) of the pedagogic techniques being used in schools.

These findings are partly confirmed and partly contradictor by the comments made by one of the consultants. From February 7-11, 1996, Alimasi Ntal-IMbirwa conducted classroom visits to schools in Sido, Loulouni, Ségou, Cinzaganare, and Tominian to examine the implementation of IEQ Phase II interventions (see Trip Report # 66). These schools are affiliated with two regions, Ségou and Sikasso, which are involved in the IEQ project. Alimasi indicates that he encountered a range in degree of implementation among schools visited for each of the interventions.

In Sido School, Alimasi observed that, among those teachers who received the PAQE (Le Projet d'Amelioration de la Qualité de l'Education, meaning IEQ project) training, some went up to the next grade and some remained in the same classes. In the classrooms, desks were not arranged for small group work. "Teachers affirm using the pedagogy of large groups in Math and Observation classes; legends/folktales in vocabulary classes. Instructions to students are oral in 1st and 2nd grades, and written instructions thereafter" (Trip Report # 66, p. 9). In a French class of second grade in Loulouni, students seemed to be used to work in small groups. However, not all students were involved in the activities. However, in a control School of Cinzaganare, the situation was not as good as schools with IEQ interventions. Firstly, the size of the class was bigger and, the class was divided into two shifts. And, secondly, the teacher in the control school did not pay attention to the students performance and participation as the teachers in schools with IEQ interventions did.

Regarding community study centers (CSC), there was also a mixed result. The idea of community study centers was closely related to the national policy of decentralization in education which was adopted in recent years in Mali. This policy was to encourage communities to be involved in education management. Therefore the CSCs were, to a great extent,

community initiatives and the operation of which was dependent of the willingness and capacity of communities (Communication with Alimasi, 1996). This nature of CSC has meant that this intervention may not be implemented in all communities where project schools were selected by IEQ and the implementation of interventions may vary from one community to another.

In Sido CSC demonstrated a success at the initial stage. The director credited CSC for the excellent achievement of the students in the national test. And, the parents gave school 15,000 F CFA to teachers in appreciation of their volunteer work. However, the problem encountered was that teachers were over-extended and could not continue the volunteer work at the CSC. In another school in Loulouni the CSC was attended without problem but by only a small group. In Tominian, CSC exhibited a unique case in which "1st grade were engaged in building a dialogue from image exercise that aimed at enhancing creativity and imagination. The teacher displayed patience with each child" (Trip Report # 66, p. 13). Led by a managing committee of CSC, community members and parents shared information concerning this intervention. Such a process helped raise community contributions. As a result, 1,000 F CFA/per month contribution was made by the community during the first year. And, the first grade teachers reported 100 percent passing grades.

To keep the CSC going, one level of difficulty concerned the financial capacity of parents, their contributions of light, gas and financial help. However these conditions were not always met at communities, particularly the poor ones. As a consequence, in several CSCs contributions dropped significantly during the second year. Locating poor families to attend the CSC thus became a problem. An alternative to the solution of such a problem was to seek outside contributions.

### **Research Questions: Phase II Testing Stage**

After the follow-up visits were conducted, the IEQ/Mali team undertook a more substantial research project. This stage of Phase II can be referred to as the "testing" stage, as it included testing of students as well as classroom observations and the use of interviews/questionnaires. According to Coulibaly (August 1995), the purpose of this stage of Phase II was to provide data for a statistical analysis of the impact of IEQ intervention strategies.

### **Sample: Phase II Testing Stage**

From 8 to 30 June 1995 an extensive evaluation of IEQ interventions and their impact was conducted by IEQ Mali team researchers in the four regions containing project schools. A full report on this activity is not yet available, though an outline report written by Coulibaly (August 1995) contains discussions of the research methods and preliminary results.

Observations were conducted by IEQ/Mali team members in 12 of the 42 project schools. The 12 comprised three schools from each of the four regions; in each region, two CM schools and one classical school were visited. In each school, team members spent two days observing in the first grade classroom and two days observing in the second grade classroom. In total, thus, 24 classrooms were observed.

For each of these classrooms, four student/parent pairs were interviewed. Coulibaly (August 1995) notes that students (and their corresponding parents) were chosen for interview based on "the quality of their participation in class activities" (p. 1). Two "good" students and two "poor" students were chosen from each class; in each category, one student was a boy and one was a girl.

Originally, the IEQ Mali team intended to administer language tests and questionnaires in all 42 project schools and in 42 control schools for a total of 84 schools. However, due to various problems encountered by the team during their research activity in June 1995, they were only able to visit and collect data from 69 schools in the testing stage of Phase II. These 69 schools were characterized as: a) 39 project schools (20 classical and 19 NEF/CM) and b) 30 control schools (22 classical and 8 NEF/CM) In these various schools, French language tests were administered in 34 first grade classes and in 51 second grade classes. Maternal language tests were administered in 25 first year classes. A total of 1,520 students in 110 classes participated in the language tests. As to the questionnaires (revised versions of those pretested during the follow-up visits), 71 school directors and 110 teachers responded.

#### **Data Collection: Phase II Testing Stage<sup>44</sup>**

As the above discussion indicates, there were two components of data collection during the testing stage of Phase II: 1) observations of first and second grade classrooms coupled with interviews with students and parents and 2) language tests administered with students coupled with conversations with teachers and school directors guided by questionnaires (revised versions of those used during the follow-up visits stage. The IEQ Mali team tested students in French (for classical schools and the second year of CM schools) and in several maternal languages (for the first year of CM schools).

#### **Findings: Phase II Testing Stage**

In general, it was found that teachers were orienting their classes toward the "needs of the children," moving away from autocratic pedagogies toward a "democratization of teaching" (Coulibaly, August 1995, p. 1), and increasingly using the principles of active learning in the classroom.

Students were found to be assuming greater autonomy in the class and to be taking greater initiative for learning, particularly in CM schools. Parents indicated that they were happy and surprised with the degree of involvement in learning taken by their children.

#### **Dissemination/Dialogue: Phase II Follow-Up Visits and Testing Stages<sup>45</sup>**

During the data collection in the testing stage, obviously, some conversations took place between researchers, teachers, school directors, parents, and students. In addition to providing

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<sup>44</sup> It is important to note that the testing stage of the research proceeded despite the fact that no closure had been reached regarding per diem rates for members of the HCRT (what they would be if, indeed, any payments were to be made) and whether the buy-in by the USAID Mission in Mali would be realized. The buy-in was finally signed by the relevant parties in January 1996, although some confusion remained as to whether its time line and tasks were mutually agreeable, while the issue of per diems was still unresolved as of the scheduled end of the project, September 1996.

<sup>45</sup> At the international level, two members of the Malian HCRT traveled to the U.S. in March, 1996, to present a paper at the annual meeting of the Comparative and International Education Society in Williamsburg, Virginia. During their visit to the U.S. they also met with other IEQ colleagues from different project countries and USAID representatives as well as worked with consultants at the University of Pittsburgh on the construction of literacy assessment instruments. Meanwhile other members of the HCRT in Mali conducted monitoring visits in Segou, Kayes, and Mopti – but not Sikasso, because the researchers for this region were in the U.S. (Alimasi, 1996, p. 31).

opportunities for researchers to gather information from the field, these conversations also offered a chance for researchers to share some insights derived from the data gathered during the follow-up visits stage. Thus, teachers, school directors, parents, and students not only could learn about previous research results, but they could also comment, ask questions, and suggest different interpretations regarding what the researchers reported.

After the data from both stages of Phase II were collected and analyzed, research reports were disseminated (by October 1996) and a post-Phase II seminar was to be held. The purposes of this seminar were to have “decision-makers, teachers, and other education stakeholders” a) “gather to learn about IEQ [Phase II] research findings” and b) consider whether these “new findings warrant new directions in the implementation of IEQ activities” (Trip Report 6, April, 1996, p. 4).

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**POLICY—PRACTICE—RESEARCH—  
DISSEMINATION/DIALOGUE  
SPIRALS IN IMPROVING  
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SUMMARY OF COUNTRY CASES  
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SUMMARY OF COUNTRY CASES AND  
LESSONS LEARNED FROM CROSS-NATIONAL COMPARISONS<sup>1</sup>**

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**Introduction**

This chapter summarizes the IEQ stories in Ghana, Guatemala, and Mali, which are presented in the three previous chapters of this monograph. The summaries highlight aspects of the stories in relation to the heuristic device discussed in the introductory chapter, the policy--practice--research--dialogue/dissemination (PPRD/D) spirals model. This concluding chapter then compares the three cases, examining the similarities and differences with respect to issues raised in the introductory chapter: a) defining educational quality, b) choosing research paradigms, c) engaging in centralized versus decentralized policy making and practice in relation to research, and d) choosing a paradigm for linking research and educational policy and practice. Finally, the chapter discusses the lessons learned from -- that is, the theoretical and policy/practice implications of -- the within and between country comparative study of the cases. It is hoped that the lessons learned may be of value to policy makers, administrators, supervisors, teachers, and researchers in their activity at local, regional, national, and international levels in their efforts to improve educational quality.

**Case Studies of Policy--Practice--Research--Dissemination/Dialogue Spirals**

Below we present summaries of the stories describing decision making and other activities that have occurred in the three IEQ core countries relevant to understanding the components (and their linkages) of the PPRD/D spirals model. The descriptions are organized by what within the project were termed phases. However, phases and spirals are not to be viewed as equivalent or coterminous. As we shall see, in a particular country a phase could contain part of a (complete or broken) spiral or could contain two or more spirals.

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<sup>2</sup> We wish to acknowledge and express our appreciation for the comments on and assistance with this manuscript to Thomas Clayton, Martha Mantilla, Judy Sylvester, and Yidan Wang; their work on previous "story" chapters of this monograph obviously also had a major influence on this chapter. We would also like to thank other members of the IEQ Project team who provided feedback on earlier drafts of this chapter: Francis Amedahe, Yetilú de Baessa, Ray Chesterfield, Sékou Diarra, Rick Donato, Alimasi Ntal-l'Mbirwa, Beatriz Okeyere, and Jane Schubert.

## Spirals in Ghana

During April 1992 representatives of USAID/Accra, the Government of Ghana and the Institute for International Research (IIR), the prime contractor for the IEQ project, met to discuss which element of Ghana's basic education reform package, the Primary Education Program (PREP), would IEQ's classroom-anchored research best illuminate. The major activities of PREP, which had been launched in June 1991 with financial support from USAID, included: (a) distributing instructional materials; (b) developing criterion-based tests for primary school leavers in grade 6; (c) organizing a comprehensive inservice education program for primary school teachers; and, (d) preparing and implementing an Equity Improvement Plan in the Central Region. Since PREP needed information on the impact of its own reforms on primary school classrooms, a consensus was reached that IEQ's classroom-based research in the first (or pilot) phase of the project should focus on the availability and use of instructional materials in primary level (P1-P6) English, math and science classes.

By October 1992 it had been decided that the Ghanaian Host Country Research Team (HCRT) would be staffed by members of the Faculty of Education at the University of Cape Coast (UCC), who then established the Centre for Research in Improving Quality of Primary Education in Ghana (CRIQPEG). The CRIQPEG team members participated in planning and implementing the research in addition to maintaining their full-time teaching responsibilities at UCC.

Discussion also focused on the creation of a National Advisory Board for the IEQ Project that would be composed of national educational stakeholders, including representatives from the Ministry of Education, the Ghana Education Service and the UCC, who would be nominated by both USAID/Accra and the Ministry of Education. (Due to various delays, the National Advisory Board, was not convened until more than two years later in April 1995.)

To launch the IEQ Project in Ghana, in October 1992 UCC hosted the First National Conference on Improving the Educational Quality of Primary Schools in Ghana. This conference was attended by representatives of the Ministry of Education, Ghana Education Service, the Overseas Development Association, UNICEF, USAID/Accra, local administrators, teachers, and parents of school children. Others in Ghana learned about the conference's content through television and newspaper coverage.

From October 1992 to March 1993 CRIQPEG's research team collected data from eighteen P1-P6 classrooms in 6 primary schools in the Central Region for Phase I of IEQ's research through classroom and pupil observations and interviews with teachers, pupils, parents and community and school leaders. By May 1993 the CRIQPEG researchers, with assistance from the IEQ Director and IIR technical consultants who comprised a U.S. support team, had analyzed the data. The results from CRIQPEG's pilot study, published in June 1993, were similar in all six pilot schools. The preliminary study suggested that many Ghanaian pupils were not getting the opportunity to acquire even basic English language skills because pupils were generally not interacting with the teachers, classmates, or written materials in ways that would promote English language fluency and literacy. For example, textbooks were not available in some schools and when available, the texts were not being used by pupils. Therefore, in grades P-3-P6, when English becomes the language of instruction, pupils were constrained from understanding their classes in science, math, etc.<sup>3</sup> Textbook availability and utilization were seen

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<sup>3</sup> It should be noted that English is the official language in Ghana and that beginning in P4 of

to be limited: availability was limited because head teachers did not have funds to travel to district distribution centers to obtain the PREP-sponsored books for their schools, and even when the texts were available, utilization was limited because classroom teachers avoided distributing the texts so they would not have to pay for any damage the books might suffer in the hands of pupils. In addition, concerns were raised about the level of difficulty of the texts and their relevance to the syllabus. The research findings also indicated that teachers did not strictly follow the curriculum timetable: little time was given to anything other than math and English, with science an all-but-forgotten subject. CRIQPEG's Phase I Report noted that students could not speak English, the language of instruction. While the focus of the Phase I research was the use of instructional materials, the CRIQPEG findings were suggesting that English language learning was key to improving the quality of education in Ghana.

The results of IEQ's pilot study were widely discussed at various levels: with the local educators after the data collection was completed, the preliminary results were discussed, as CRIQPEG researchers met bi-weekly with the head teachers and classroom teachers at the six pilot study schools; with the Deputy Director of the Ghana Educational Service, when he accompanied three CRIQPEG researchers on a trip to the U.S. in September 1993 to participate in the First International Exchange on Educational Quality hosted by IIR in Washington, D.C.; and later, with the more than 60 people who attended the Second National Conference on Improving the Educational Quality of Primary Schools in Ghana, hosted by CRIQPEG at UCC on 6 October 1993, including representatives from USAID, the Ministry of Education, the World Bank, the Overseas Development Association, and UCC as well as local head teachers, teachers, and parents.

The dialogue and dissemination processes had far-reaching consequences, eventually leading to at least two changes in national-level policy. The findings which emerged from the Phase I study led to the rescinding in 1995 of the earlier policy which held teachers fiscally responsible for textbooks soiled or damaged by student use in class or at home. Also in 1995, after the relevant Phase I finding had been confirmed by Phase II research, a new policy was put in place to pay transportation costs for head teachers to come to district offices to collect textbooks for their schools. Both of these policy changes have, in turn, altered educational practice by increasing teachers' use of, and pupils' exposure to, texts.

The research experience and findings also may have helped the CRIQPEG members to make more relevant their individual contributions to the preservice and inservice teacher education programs in which they were involved. Some team members reported modifying their own teaching as a consequence of these school visits, by utilizing (and thus modeling) more interactive methods to engage their own students. And head teachers and classroom teachers in the six pilot study schools indicated a desire to redefine their teaching practices as a consequence of the on-going conversations with CRIQPEG researchers during data collection visits. In addition, parents who were interviewed mentioned that they noticed that teacher absenteeism and tardiness were reduced during this period.

The research design for Phase II was planned over the summer and fall of 1993 during discussions among the CRIQPEG participants, with input from the Project Director and U.S. technical consultants, in Ghana and, in September, in the U.S. At this time, USAID/Accra also was apparently exercising considerable influence with regard to the design of the Phase II

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primary school English is by policy the sole medium of instruction in Ghanaian public schools.

research. A USAID/Accra official urged that the sample of schools to be studied in Phase II be expanded from the pilot sample of 6 schools to a total of 14 schools (7 experimental and 7 control schools), with the inclusion of some schools from the Western Region as well as the Central Region. Also, USAID/Accra, during conversations from September through November with the IEQ Project Director, with U.S. consultants, and with the CRIQPEG Research Coordinator reiterated its proposal that IEQ give priority during Phase II research to identifying “new instructional strategies which might be used nationwide.”

Additionally, in meetings with the IEQ Project Director, USAID/Accra officials urged that IEQ’s research design be adjusted to reveal a clearer expression of IEQ’s relation to PREP. Specifically, it was recommended that the research include the upper primary grades which might help explain the dismal CRT performances and why pupils in P-6 could not read. USAID/Accra’s recommendation to focus on teaching and learning of English (and not on math and science) was influenced by (a) the poor performance of students on the criterion-referenced tests of English literacy administered in the Spring of 1993 by PREP to a sample of P-6 pupils, and (b) the overall poor results by test-takers on the nationally administered Senior Secondary School examination, reported in the Fall of 1993, the results of which were attributed to limited English language proficiency.

At the Second National Conference on Improving Education Quality of Primary Schools in Ghana, the IEQ Project Director, U.S. consultants and the CRIQPEG research team members announced that the plan of research for Phase II would have two foci: (a) establishing baseline data on pupil proficiency in the English language (reading, writing and oral) and (b) continuing classroom and pupil observations and interviews with local educators, pupils and parents towards identifying some instructional strategies (interventions) to improve English language learning as well as assessing the impact of these interventions. In response to USAID/Accra’s suggestions, CRIQPEG decided that Phase II research should include classroom studies of English language learning in P2 through P5 to allow for an examination of the transition from the types of materials and instruction provided when English is taught as a second language (P2-P3) through two years (P4-P5) when English becomes the language of instruction.

To establish a picture of pupil proficiency, CRIQPEG, working with IIR consultants, developed a curriculum-based assessment approach. Starting in January 1994 CRIQPEG researchers used their curriculum-based assessment tools to measure the reading, writing and oral language ability of 1,032 pupils from 56 classrooms, in grades P2- P5, in the expanded sample of 14 schools. During March-April 1994 they also conducted classroom observations and interviewed pupils, parents, teachers, head teachers, and circuit supervisors in the 14 participating schools.

Data from the initial stage of Phase II research confirmed the Phase I research findings. The proficiency test results revealed that most pupils had not mastered the language skills necessary for basic oral and written English communication expected of children at the respective grade levels. Moreover, observation and interview data again confirmed that pupils received limited exposure to written and oral English and received little opportunity (in or outside of school) to practice reading, writing, and speaking in English.

As the initial Phase II findings on English proficiency became known, the CRIQPEG researchers met between February and May in two seminars and one “brainstorming” session under the guidance of U.S. consultants. The discussions at these events, which were taking place as the researchers were gearing up for the second stage of Phase II classroom observations and

interviews focused on: (a) specifying the most serious teaching-learning problems; (b) determining possible interventions, e.g., instructional strategies, learning strategies, testing/assessment strategies, and organizational/management strategies; (c) developing a schedule of activities to implement the interventions (e.g., training, design and production of classroom materials, follow-up visits, evaluation, feedback sessions); and (d) identifying additional resources required to broaden dissemination efforts. In May 1994, the CRIQPEG researchers along with the 7 head teachers and 7 circuit supervisors from the intervention schools participated in a "training of trainers" workshop, in preparation for going out into the intervention schools to train the classroom teachers in the second cycle of Phase II research: the implementation of the instructional interventions.

Beginning in the week immediately following the May 1994 workshop through July 1994,<sup>4</sup> CRIQPEG researchers, accompanied by the head teachers and circuit supervisors, made bi-weekly visits to the 7 intervention schools to introduce the three major instructional goals to the teachers, encouraging them to emphasize practice in oral English, to expose the pupils to English via print sources, and to adopt a mastery learning approach in which every pupil is viewed as having the potential to be a successful learner. During the school visits, the CRIQPEG team members oriented and trained teachers regarding the proposed interventions, offering support and encouragement to reflect on how the findings pointed to opportunities for improving how they teach and what students learn. The presence of the head teachers and circuit supervisors was helpful because they could allay the concerns that some teachers had about being evaluated negatively for implementing some of the IEQ-suggested strategies (e.g., emphasizing English in P2-P3 and focusing on remediation when necessary, rather than just continuing on with the syllabus). These visits not only aided in Phase II data collection efforts, but also provided opportunities to discuss the findings of the first cycle of Phase II research with the classroom teachers. The 7 non-intervention (control) schools did not experience such interventions; indeed, some of the nonintervention schools received the PREP-sponsored textbooks, which had been requested by IEQ, somewhat after the intervention schools were supplied with them.<sup>5</sup>

During the second stage of Phase II data collection, in July-August 1994, teachers and their students in grades P2-P5 in the intervention schools were again compared with their counterparts in the non-intervention (or control) schools, but this time with the goal of assessing what effect, if any, the teacher training efforts had had on classroom instruction. CRIQPEG researchers found that, although before the training there were no significant inter-group differences between how class time was used by teachers, after the training, teachers in the

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<sup>4</sup> Note that the second cycle of Phase II data collection took place in July-August 1994; thus, little time elapsed between initial training of the trainers (May 1994) and of the classroom teachers (May-July 1994) and assessment/observations carried out as part of the second cycle of Phase II research (July-August 1994).

<sup>5</sup> As noted above, until 1995, when a new policy was instituted, many schools in Ghana did not have the PREP-developed texts because head teachers did not have funds to travel to district offices to collect them. The IEQ project requested that books be delivered to all 14 schools in the IEQ study sample, though the request for the 7 non-intervention (control) schools was made and responded to later than that for the 7 intervention schools.

intervention schools (compared to their counterparts in the control group) were more often found to use the instructional approaches in which they were trained (e.g., small group practice and peer pair practice). Moreover, compared to their counterparts in the control schools, pupils in the interventions schools were more likely to be exposed to oral and written English (via textbooks and other instructional resources, posters and visual aids) and they evidenced higher levels of oral and written communication skills.

At the national level CRIQPEG organized and hosted the Third National Conference on Improving the Quality of Primary Schools in Ghana on 25 October 1994. Approximately 50 educators attended, including circuit supervisors and head teachers from the 7 intervention schools as well as representatives from the Ministry of Education and the Ghana Education Service, donor agencies, a local teacher training college, the UC and school-level parent-teacher organizations. A lively discussion took place on how and when local languages should be taught, how and when English should be introduced, the level and form of instructional materials for lower primary pupils and the issue of the delivery and use of instructional materials, particularly textbooks.

Phase II research design impacted on educational practice by having head teachers and circuit supervisors collaborate in a process of developing interventions based on research findings and then participate in training classroom teachers at the intensive schools to implement these changes in curricular and pedagogical practices. In addition, head teachers and circuit supervisors indicated that they were planning on utilizing the knowledge of new instructional methods they received in the CRIQPEG workshops in their future teacher training and teacher support.

Initial discussion concerning the Phase III research design, including instructional strategies which would be retained in or added to the intervention, took place during a one-day feedback seminar on 18 August 1994 hosted by CRIQPEG at the UCC soon after data collection for the second stage of Phase II was completed. During the feedback seminar CRIQPEG team members invited all participating teachers to prepare reports on their experiences with the implementation of the intervention strategies. CRIQPEG followed up the seminar with informal interviews of the teachers to gather more data in deciding the nature of the interventions to be considered for Phase III of the project.

Two U.S. consultants drafted the Phase III research plan at a September 1994 meeting at IIR for review and agreement by the CRIQPEG Research Coordinator and the Team Leaders. Subsequently, one of these consultants and the Project Director reviewed the plan with the Research Coordinator of the CRIQPEG team, after which it was agreed to propose one critical design change to the Team Leaders for their concurrence: the recommendation to follow the P5 pupils in the intervention schools to P6<sup>6</sup> rather than remaining with P2. The move to follow P5 pupils to P6 rather than staying with P2<sup>7</sup> was encouraged by USAID/Accra and eventually

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<sup>6</sup> Extending the focus to include P6 classrooms was facilitated because P6 teachers had voluntarily participated in the May-July 1994 school-based training seminars. Thus, although the P6 teachers had not received the in-classroom guidance from CRIQPEG researchers, head teachers, and circuit supervisors, they were at least familiar with the interventions.

<sup>7</sup> Because of CRIQPEG staff members' interest in early primary grades and so as not to break off relations with teachers with whom they had been working, it was decided to continue to include P2 teachers in the training workshops even though data would no longer be collected from their classrooms.

accepted by CRIQPEG. The design change concurred with an earlier proposal of both CRIQPEG and USAID/Accra to follow the students from the original Phase I study, as they were promoted into the higher grades.

The basic plan for Phase III involved further school-based staff training to continue developing the capacity of local educators to employ the teaching strategies highlighted in Phase II as well as to introduce other, new interventions (e.g., classroom management strategies remediation and enrichment activities) in the intervention schools and then to collect data on teacher activity and pupil performance, comparing the two sets of schools. The research was designed to address questions about the use of language in classrooms, gender differences in language learning, the impact of feedback on behavioral change by educators and pupils, strategies for enhancing the use of instructional materials, means for overcoming impediments to improving educational quality and pupil performance.

During the Third Annual National Conference, 25 October 1994, the Phase III research design was presented for discussion, and at the professional development seminar on 26-27 October 1994, held for the "training of trainers" (e.g., CRIQPEG team members, head teachers and circuit supervisors) ideas for interventions as part of Phase III research were further refined.

In November 1994 training teams – composed of CRIQPEG researchers, head teachers, and circuit supervisors – conducted workshops for teachers in their respective intervention schools on the previously-proposed and newly-identified instructional and organizational strategies. It was believed that these strategies would enhance the quality of teaching and learning English. Over the next months head teachers and circuit supervisors regularly visited the classrooms in the intervention schools, observing and assisting teachers to implement the new interventions.

In late November and early December 1994 classroom and pupil observation data were collected at all 14 schools. Pupil and classroom observations were made again during 5-9 June 1995. Follow-up interviews were also conducted with teachers parents and with a small sample of low and high performing pupils in July 1995. During May 1995, the CRIQPEG team reviewed and pilot tested CBA instruments developed by an IIR consultant and the second assessment of pupils' English proficiency (reading, writing and oral) was carried out beginning in late July 1995 for 3 weeks on P3-P6 pupils. Attempts were made to test all the children from the original baseline group. When children from the baseline sample of January 1994 were not available 18 months later for the follow-up testing, replacement students were selected and tested. Of the original 1032 pupils, 812 (or approximately 75% of the original sample) were located and reassessed using parallel forms of the achievement measures.

With the help of an IIR consultant these data were coded and analyzed, making comparisons between intervention and control schools and across time. The findings evidenced continued changes in teachers' classroom activity (less reliance on the chalkboard, more use of textbooks and other print materials, and more reinforcement of pupils' use of English in class, and encouragement of pupils' use of English outside of class) as well as significantly greater improvement in pupils' reading, writing and speaking skills in the intervention schools.

Dissemination/dialogue efforts at the local and regional levels continued, although, due to budgetary constraints, the CRIQPEG team members had to reduce their hours in the field. Nevertheless, CRIQPEG researchers paid visits to the schools in January 1995, and CRIQPEG held a one-day session in each school during February-March 1995 and again in January 1996 to discuss research findings and the perceived experiences of teachers, their head teachers and the

circuit supervisors. However, in accordance with the Project's plans, head teachers and circuit supervisors in each school were gradually taking over this instructional leadership role with the teachers in their respective schools – observing each participating teacher on a regular basis and providing supervisory assistance to individual or groups of teachers. CRIQPEG had provided the teachers, head teachers and circuit supervisors with simple forms, on which they could record formative feedback to be shared with the head teacher and other teachers in their school, and head teachers have been submitting reports (monthly or bi-monthly) to CRIQPEG team leaders.

The IEQ National Advisory Board held its inaugural meeting in April 1995. Presentations showcased IEQ activity in Ghana and promoted CRIQPEG's role within the reform context, demonstrating how the findings from CRIQPEG's classroom-anchored research and its experience in working with regional and local educators could inform the recommendations the Ministry of Education was preparing for donor agencies concerning the next steps in the educational reform process.<sup>8</sup> Subsequent meetings of the National Advisory Board took place in October and December of 1995 and in March, June and September of 1996. In all of these meetings – attended by Ministry of Education and Ghana Education Service officials, PREP administrators, teacher union representatives as well as circuit supervisors, head teachers, teachers and parents – discussion focused on the implications that selected IEQ research findings had for changes in policy and practice to improve educational quality.

To further disseminate IEQ research findings, CRIQPEG developed a newsletter, with the initial issue being published in January 1996. CRIQPEG has also begun preparing “briefs” to showcase special findings to share with policy makers and practitioners and submitted articles for a publication of the Ghana National Teachers Association. The December 1995 and July 1996 issues of the UCC Faculty of Education journal, moreover, were to be devoted to articles based on their IEQ research.

As a consequence of the IEQ Project, circuit supervisors and head teachers have become more involved in developing and monitoring teachers' pedagogical skills (both in the IEQ intervention and in other schools involved in PREP), and this had led to changes in teachers' practices and to enhancements in students' learning. In addition, parents have become more involved in supporting teachers, insuring that their children attend school on time, and monitoring their children's time at home for studying. Another impact of IEQ is evidenced by the fact that the Ghanaian government has decided to adopt on a national scale the use of the curriculum-based assessment instruments, which were developed in the IEQ project. Finally, the appointment of CRIQPEG's Research Coordinator for the IEQ Project to membership on the Ministry of Education's Executive Committee for Teacher Training in February 1996 provided considerable opportunity for dialogue and dissemination activity with national level policy makers.

### **Spirals in Guatemala**

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<sup>8</sup> In 1996 the USAID project, the World Bank project and the Overseas Development Association project all were reaching the ends of their 5-year phases, and the Ghanaian government was discussing with the donor agencies the next steps to be taken in the educational reform process, including the possibility of moving to a ten-year cycle for donor agency funded projects.

During the period of February to October 1992 discussions took place, at times involving representatives from two or more of the following organizations: the Guatemalan Ministry of Education, USAID/Guatemala, USAID/Washington, the Universidad Rafael Landivar, the Universidad del Valle, various donor organizations, and the Institute for International Research and Juarez and Associates (representing the IEQ project). During these discussions several Ministry reform initiatives (some funded by USAID and some not) were considered as possible foci for IEQ in Guatemala. The Minister of Education promoted the idea -- which was agreed to by the other parties -- that IEQ's research and other activities in Guatemala should focus on *Nueva Escuela Unitaria* (NEU) component of the Basic Education Strengthening (BEST) program. BEST was a major educational reform initiative (1989-96) at that point at the midterm of implementation by the Guatemalan government with financial support from USAID and other bilateral agencies and international organizations. The NEU model was based on an approach developed in Colombia, and was being implemented in Guatemala based on the Minister of Education enthusiasm for the model after visiting Colombia. IEQ's research would compare schools employing the NEU model -- involving flexible promotion; active, collaborative learning; peer teaching; use of self-instructional guides; and participatory student government -- with traditional or *Escuela Unitaria* (EU) schools.

A Host Country Research Team (HCRT) was assembled, including a research coordinator, two regional field coordinators, and ten field researchers. Originally, it was thought that the HCRT would become part of an Institute for Educational Research within the Ministry of Education, plans for which were being discussed at the time when negotiations about IEQ in Guatemala were taking place. However, with a change of ministers after an aborted coup by the then President of Guatemala, the plan for creating an Institute for Educational Research did not materialize; but in February 1996, after approximately one year of discussion, an agreement was signed to make the HCRT part of the Institute of Educational Research at the Universidad del Valle. Operationally, the HCRT operated with institutional linkages with both the national Ministry of Education and its regional offices where the NEU and IEQ project was being undertaken. Implementation of a plan for a National Advisory Committee for the IEQ Project in Guatemala, conceived as a mechanism to facilitate liaison between the IEQ research team and national policy makers and researchers, was delayed by a number of factors,<sup>9</sup> with its first meeting occurring in September 1995.

After being initially framed as a longitudinal evaluation study of the NEU component of BEST, the research agenda and activity was shaped primarily by Ray Chesterfield (IIR), Yetilú de Baessa (IEQ Research Coordinator in Guatemala), and Oscar Mogollón (a Colombian consultant of the U.S.-based Academy for Educational Development who is working with the Ministry of Education on the NEU component of the BEST project), with some input from other ministry personnel and from region and department level administrators (in Phase I) and region and department levels administrators, supervisors, teachers, and parents (in Phases II and III).

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<sup>9</sup> The 1993 *coup d'etat* and the attendant change in ministers of education are relevant here. The Minister of Education at the time, Alfredo Tay Coyoy, encountered a number of political challenges, including an attempted vote of no confidence early in 1995. After successfully deflecting the vote of no confidence, the Minister agreed to be a member of the National Advisory Committee for IEQ and proposed other members.

For **Phase I** research data were collected in ten (5 NEU and 5 EU) schools in each of two regions (II and IV).<sup>10</sup> Data collected included teachers' and students' classroom activity, parents' attitudes toward and involvement in schools, and students' cognitive and socio-emotional development. In-depth classroom observations, (cognitive and socio-emotional development, health status, and language proficiency) testing, and interviewing were used to gather data in February and September/October 1993. The overall findings from the data analysis showed that students in NEU schools performed significantly better. Malnourished and well-nourished children in the NEU schools, especially those where the NEU model had been well implemented, evidenced significantly greater gains during the year than their counterparts in the traditional (EU) schools on several test measures, including reading comprehension in Spanish among second graders. In relation to the debates in Ghana and Mali about language-of-instruction, it is especially noteworthy that students in NEU schools achieved greater gains in language proficiency than their counterparts in EU schools in Region II, which is populated almost exclusively by Mayan children who upon entering school generally speak Q'eqchi but little or no Spanish.<sup>11</sup> It may be that the greater opportunities for students to speak Q'eqchi and Spanish in NEU classrooms contributed to this achievement difference, though we should note that subsequent research showed that children entering school without any fluency in Spanish tended to drop out of both NEU and EU.

Dialogue/dissemination began even before the post-test data were completely collected, when the then Minister of Education and the HCRT Coordinator traveled in December 1993 to Washington, D.C. to participate in an International Exchange, organized by the IEQ project. This facilitated both formal and informal discussion about IEQ research in Guatemala (as well as Ghana and Mali). The researcher-policy maker conversations continued to develop upon their return to Guatemala.

In October 1993 the HCRT Research Coordinator participated in NEU seminars for teachers, parents, and pupils in the two regions to discuss the findings primarily from pre-test data and to review vignettes (transcribed from videos recordings) of classroom interaction in NEU and EU schools.

After post-test data could be compared with pre-test results, dialogue/dissemination activity continued, for example, through informal meetings with the Minister of Education and in the context of training workshops (e.g., in February 1994) designed to develop the case study methodological skills of Ministry of Education personnel. Additionally, the HCRT Coordinator reported on IEQ research at a national research forum at the Universidad Rafael Landivar on 11 March 1994.

Workshops, designed by IEQ personnel and NEU developers, were also organized in August and September 1994 for all teachers, (regional and department) administrators, and supervisors connected with the NEU schools; Ministry of Education officials and USAID/Guatemala representatives were also in attendance.<sup>12</sup> The purpose of these

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<sup>10</sup> The 10 NEU schools included in the sample were selected to represent the 100 schools in which the BEST project was being implemented initially, and the 10 EU schools were chosen as a matched comparison sample.

<sup>11</sup> In contrast, Region IV is mainly populated by *ladinos*, Spanish-speaking descendants of European and Indian intermixing.

<sup>12</sup> The presence of department-level supervisors and national and regional ministry officials was productive. They appeared to come to better understand the difficulties faced by teachers in rural areas

workshops was to inform educators about the IEQ project, to share with them the results of Phase I research, and to encourage reflection and discussion about how the NEU program could be improved. These positively-evaluated workshops were run in a way that modeled the NEU, constructivist approach, using large and small group arrangements for discussion. However, while discussion and reflection were emphasized, the process seemed to function more like a session to inform educators about and to motivate educators to implement the NEU approach than a dialogue about whether NEU should be continued or how it should be altered in any substantial way.

It is important to note that these workshops were held just prior to Phase II post-test data collection (see below), and thus their impact on teachers' practice, let alone pupils' achievement, would necessarily not be observable in the findings from Phase II. It is noteworthy, though, that many teachers reported a year later, when data were collected from them during the May-June 1995 workshops (see below), that they had made some changes in their teaching based on what they had learned in the August/September 1994 workshops. Moreover, in December 1994 some of these teachers helped to organize workshops – modeling the NEU approach – to inform other teachers in their regions about NEU and to encourage them to implement the NEU program in their schools.

**Phase II** research entailed a longitudinal extension of that which was undertaken in Phase I. During September-October 1994 basically the same quantitative and qualitative data were collected (with some revisions and additions to instruments) about and from second and third grade students, who had been in the first and second grade subsamples before, as well as from their teachers and parents.

The analysis of Phase II test data indicated no significant differences between children in the NEU and EU schools in terms of gains in vocabulary and reading comprehension, comparing scores at the end of Phase I with those at the end of Phase II. In mathematics NEU school second graders gained more than EU second graders, while EU third graders outperformed their counterparts in the NEU schools. In analyzing the classroom observation data, IEQ researchers found that there was somewhat greater use of small group work and active learning opportunities for pupils in the NEU classrooms. However, because they did not have a sufficient level of reading comprehension to use effectively the self-instructional guides, the children who were working in small groups without frequent interaction with their teachers resorted to learning strategies typical of the traditional (EU) schools. As a result, in both NEU and EU schools pedagogies involving repetition, drills, copying, and reading aloud were found to dominate. Thus, the fact that NEU school students did not show greater gains in their achievement/development than the EU school comparison group could be attributed to the experimental treatment (NEU) not being as fully implemented during Phase II as it was in Phase I.

That NEU teachers reported (in May-June 1995) that they changed their behavior in line with ideas and techniques promoted at the August-September 1994 workshops is not necessarily inconsistent with the finding that pedagogical practices in NEU and EU were similarly “traditional” when Phase II observations were conducted (in September-October 1994). It is likely that such changes would not have been evidenced until later. In any case, parents whose children were attending NEU schools (compared to their counterparts associated with EU

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and they could also permitted doubts or concerns about the implementation of NEU (in relation to government funding, policies, etc.) to be addressed immediately.

schools) were more likely to report perceiving positive changes at school. Although not in line with NEU-EU comparisons of classroom practices and student achievement/development gain score comparisons, the differences in parental perceptions do correspond to other research findings favoring NEU schools, that is, their: a) greater improvement in children's social skills (asking adults questions, showing tolerance for others, and engaging in "democratic" behaviors) at school and at home b) lower levels of dropout, and c) greater improvements in the school buildings.

In November-December 1994, NEU organized training sessions in response to a request from the Catholic Church-related Don Bosco program, which has for almost two decades developed secondary-level institutes to prepare young men to become bilingual teachers in isolated, rural primary schools in the Alta Verapaz department of Region II. Under the guidance of NEU program directors, teachers in NEU schools, including some in the IEQ sample, ran two workshops for 362 bilingual *promotores* or teachers working at the Don Bosco institutes. The workshops provided an opportunity for NEU teachers to describe and promote the NEU model, drawing on their experiences with NEU and perhaps referring to findings from Phase I and Phase II IEQ research.

Other dialogue/dissemination activities included a three-day workshop (13-15 February 1995) for seven Ministry of Education personnel and two UNICEF staff and another workshop (2-10 July 1995) for the research team for UNICEF-sponsored multigrade pilot program. Although the workshops were designed primarily to provide methodological training and develop fieldwork manuals and prototype instruments for the NEUBI (*Nueva Escuela Unitaria Bilingue* or Bilingual New Unitary School) program, the use of IEQ findings and vignettes (transcribed from video recordings) of classroom interaction meant that dissemination/dialogue could also focus on the NEU-EU comparisons and other aspects of the IEQ project's evaluation of BEST.

On 30 May and 2 June 1995, the IEQ coordinator conducted workshops for teachers working in NEU schools in Region II and Region IV, respectively. Also attending the 2 June workshop were the NEU regional project directors and members of the Ministry's Rural Education Directorate. These workshops were organized to elicit feedback on the 1994 workshops and their impact, to gather teachers' comments about the tests that had been designed, to discuss aspects of the NEU process that were causing problems, and to identify possible solutions. As before, these workshops, following the NEU model, employed an active, participatory instructional methodology, taking as a source of discussions real examples selected from classroom observations conducted in the schools. In response to earlier recommendations from teachers, these workshops, originally scheduled for April, were held soon enough in the year so that lessons learned could be applied and perhaps have an impact before the next phase of data were collected (in October 1995).

In September 1995 a meeting was held of the National Advisory Committee created by IEQ with participants from the Ministry of Education, the Universidad de Valle, Rafael Landivar University, USAID/Guatemala, and UNICEF. At this meeting findings from IEQ research (Phases I and II) were discussed as were questions about what to do with data collected and how to continue efforts after international funding for the IEQ project ended. Planning for the Latin American Conference (see below) also was on the agenda.

Beginning in 1994, other workshops were organized by NEU staff with participation of IEQ field workers to assist teachers who were having difficulties implementing the NEU

program and to begin training for teachers who would become part of the expanded BEST/NEU project beginning in January or February 1995.

The experience of teachers in NEU schools who served as *multiplicadores*, first done in the Don Bosco training workshops and subsequently incorporated as a component of BEST/NEU workshops, not only enhanced their understanding and commitment to the NEU pedagogical approach. It also constituted a new set of relationships among educators in that these teachers took on and modeled new roles, that of colleague resource person and staff developer.

Planning for **Phase III** of IEQ research was again undertaken by Drs. Baessa, Chesterfield, and Mogollón, although IEQ researchers and region/department administrators and supervisors participated in on-going, informal dialogues about the research strategy and findings, developing ideas for improving the implementation of the NEU approach. Moreover, the May and June 1995 workshops (see above) provided an opportunity for teachers to comment on curriculum-based assessment instruments that were being developed.

Data were collected in June-July 1995 via testing and observing children in the longitudinal cohort who, if they had not repeated or dropped out of school, were in third and fourth grade classrooms in their respective NEU and EU schools.<sup>13</sup> In addition, the research agenda was expanded by collecting data on the retention of students of NEU versus EU schools, the behaviors of students in the classroom, and the "real-life" relevance or utility of what students were learning in school. To do this, 30 schools (10 NEU and 5 EU in each Region) were added to the sample. In these schools research was focused on fourth, fifth, and sixth grade classrooms, with baseline data being collected in February-March 1995 and with additional data being gathered in August-September 1995.

Questionnaires were also administered to a) teachers attending the 30 May and 2 June workshops in which IEQ personnel participated and b) NEU teachers serving as *multiplicadores* as well as the participating Don Bosco program *promotores* before and after the training sessions.

Initial findings from the analysis of Phase III data indicate that the structure of classroom organization differed between NEU and EU schools, with the former being characterized as more decentralized and having more variety of instructional activities than the latter. This finding coincided with reports of the majority of teachers attending the 30 May and 2 June 1995 workshops that they had modified their behavior as a consequence of attending workshops in 1994. Moreover, NEU schools were found to have significantly lower dropout rates than those of comparison schools, for both boys and girls.

NEU teachers serving as *multiplicadores* in the Don Bosco program and in NEU reported that they strengthened their commitment and mastery of NEU instructional approaches. Those trained by the *multiplicadores* in the Don Bosco program and via NEU workshops appeared to gain understanding of and commitment to the NEU approach as well as changes in their teaching in order to promote children's creativity.

Dialogue/dissemination efforts included the April 15-17 1996 workshops, which were organized for department and regional administrators, supervisors, *capacitadores tecnicos pedagogicos*, and teachers from Regions II and IV. IEQ research was drawn upon to highlight NEU's experience in developing multigrade curriculum through grade six. Also, during 23-25 April 1996, IEQ and the Universidad del Valle co-sponsored a Latin American conference on

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<sup>13</sup> Some of the original 10 EU schools had been transformed into NEU schools in line with the plans of the BEST/NEU program.

educational quality. In attendance were the Vice Minister of Technical Affairs – representing the new Minister of Education, who had been appointed in January following the election of a new President of Guatemala; national, regional, and department level officials of the Ministry of Education; representatives from Guatemalan research organizations and universities; educators and researchers working in educational reform in Brazil, Colombia, the Dominican Republic, Ecuador, Honduras, Nicaragua, and Puerto Rico; and representatives of USAID, UNICEF, and World Bank. The conference focused primarily on the benefits of and strategies for conducting classroom research, especially when employing multiple methods of data collection, to inform educational policy and practice. Attention was also given the necessity for and impediments to educational reform.

### **Spirals in Mali**

The dialogue about IEQ in Mali began in July 1992 and involved representatives of the Ministry of Education,<sup>14</sup> USAID/Mali, and IIR. By April 1993,<sup>15</sup> when formal “cooperative agreements” were signed, it had been decided to create a Host Country Research Team (HCRT or the IEQ/Mali team)<sup>16</sup> composed of eight members, with four members each from the following two education ministry units, which beginning in October 1992 have been located organizationally in two different ministries: a) the Institute Pédagogique Nationale (IPN), the technical research branch of the Ministry of Basic Education, and b) the Institute Supérieure de Formation et de Recherche Appliquée (ISFRA), a research unit of the Ministry of Secondary and Higher Education.<sup>17</sup> With input as well from USAID/Washington, it was also decided to orient IEQ activities to complement the Basic Education Expansion Program (BEEP), a major national reform of primary schooling initiated in 1989 by the Malian government with financial support from USAID and the World Bank.<sup>18</sup>

**Phase I** IEQ research examined factors that affect French language learning, with ISFRA researchers highlighting health, nutrition, sanitary environment, socio-cultural, and other characteristics of children and IPN researchers illuminating instructional practices during reading and language arts lessons in first and second grade classrooms in eleven schools spread across four regions.

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<sup>14</sup> At this point there was only one Ministry of Education, although by October 1992 this single ministry was split into two: the Ministry of Basic Education and the Ministry of Secondary Education, Higher Education, and Scientific Research.

<sup>15</sup> Part of the reason it took nine months to formalize the agreements revolved around budgetary issues, which were complicated because USAID/Mali would not accept the proposed per diem rates.

<sup>16</sup> A third organization was under consideration as an IEQ institutional partner – the *Association des Anciens Universtaires de l'Amérique*, an association of Malian graduates in a variety of disciplines from US universities, but it was not supported by USAID/Mali and was not part of the Malian government.

<sup>17</sup> Having the IEQ/Mali team based in two (recently reorganized) units has proved complicated at times, in that representatives of the two organizations have disagreed about where documents should be stored and how authorship on reports should be arranged. However, the relationship between the two units and their ministries has improved over time, with many people involved in the project from Mali and from the United States viewing the IPN-ISFRA collaboration as a major accomplishment of the IEQ project.

<sup>18</sup> It should be noted that IPN personnel informed Steve Anzalone (of IIR) during his trip to Mali in January 1993 that they understood (and preferred) that IEQ research should be separated from BEEP activities – a point that was strongly rebutted by the USAID Mission in Mali.

The focus on factors affecting language learning was encouraged by an official in USAID/Mali, based at least in part on research conducted under the auspices of BEEP which evidenced limited French language ability among Malian children. Given the prevailing language-in-education policy of the Malian government at the time,<sup>19</sup> no consideration was given to studying the teaching and learning of national or indigenous languages. This is despite the fact that some Malian educators' views were in line with the conclusion of an evaluation (conducted in the context of the USAID-funded Advancing Basic Education and Literacy [ABEL] project in the late 1980s – see Hutchinson, 1990) of a national experiment in the use of indigenous languages, which concluded that the use of indigenous languages as part of a convergent method of achieving bilingualism had some advantages in some situations over the French immersion approach. This same USAID/Mali official apparently played a key role in focusing IEQ only on French language learning (versus a transitional bilingual approach using one or more indigenous languages), prescribing that U.S.-funded projects should avoid actions that might be interpreted by the French government as seeking to interfere with French-Malian relations, particularly in the area of language policy.

With the guidance of U.S. consultants (e.g., during a seminar held in Mali in April 1993) and some input from national, regional and local level Malian educators, the two groups of researchers designed the studies and developed instruments and other strategies for data collection in 11 school communities. In accord with principles of triangulation and in the context of an action research approach, data were collected via observation of first and second grade classrooms and communities as well as through interviews with pupils, teachers, school directors, and parents. The focus was on in-school and out-of-school factors that affect French language learning.<sup>20</sup> IPN's data collection and data reduction was completed in July 1993, and ISFRA's research was finalized in November 1993. The input of U.S. consultants (e.g., during meetings organized in the United States in September 1993 and during seminars held in Mali in December 1993) was again instrumental in shaping the IEQ/Mali team's approach to data analysis. Following the December 1993 data analysis seminar, the IEQ/Mali team drafted a joint research report in January 1994, which was then revised based on comments and suggestions from U.S. consultants.<sup>21</sup>

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<sup>19</sup> In 1991, Amadou Touré led a coup that overthrew the the military government of Moussa Traoré, who had ruled since 1968. A year later Touré stepped down and multi-party elections were held, leading to a new government headed by Alpha Oumar Konaré being inaugurated on 8 June 1992 – the month before discussions about Mali's involvement in IEQ commenced. That the decision to include Mali in the IEQ project was made in this context suggests that officials in the USAID Mission in Mali as well as others in the US government saw the possibility, even before the new government was in operation, of Mali becoming what four year's latter could be described as one of Africa's "most vibrant democracies" (French, 1996, p. A3).

<sup>20</sup> Some of the data collected focused on the use of maternal or national languages as a means of communication in the classroom, indicating at least some researchers' interest in other approaches to French literacy than immersion.

<sup>21</sup> While this research activity was being undertaken, the leader of the ISFRA component of the IEQ team, Mr. Dembèlè, was dismissed from his post in July 1993 by a new head of ISFRA, and was not reinstated until he returned from a trip to the U.S. and after several interventions by the IEQ Project Director. Interestingly, the ISFRA Director General himself is replaced soon after that point (January 1994).

Phase I research suggested that a variety of factors had an influence on students' success in learning French. These factors included students' attendance in preschools and Koranic schools, the use of French in students' homes, the distance from home to school for students, the level of education of students' parents, the availability of study areas and lights at students' homes to facilitate study, community-school relations, the ability of the child to take books home, and the use of creative, nonofficial teaching strategies by teachers. Other factors were found not to discriminate between "good" and "poor" students and/or "performing" and "nonperforming" schools,<sup>22</sup> although these were separated into "nondiscriminating" and "qualified nondiscriminating" factors. The latter factors, while not related to student or school performance in the IEQ Phase I research, were considered worthy of further consideration because either other research or professional insights indicated that they should have been discriminating factors. These included the child's liking folk tales, ability to recite legends in her/his maternal language, physical and nutritional health, use of maternal language in the classroom as well as the teacher's use of student groups, gestures, concretizing lessons, and didactic materials.

The research findings were disseminated through a report published by the IEQ/Mali team. In addition, a national Colloque was organized by the IEQ/Mali team (with assistance of U.S. consultants) on 26-29 April 1994. In attendance were the both ministers of education, including the new, recently appointed, Minister of Basic Education; 4 regional educational directors; 12 principals; 12 teachers; 12 parents; 9 basic education inspectors; and 29 representatives of donor agencies (including USAID), international organizations, and policy making bodies. Phase I research findings were discussed and compared with the findings of other studies, as well as with the experience and perceptions of the IEQ/Mali team, other Malian participants at the Colloque, and the U.S. consultants. As noted above, in some cases, Phase I findings were contradicted by these other sources.

Ultimately, through small-group discussions and plenary sessions the following intervention ideas were decided upon for piloting in Phase II: 1) teacher training to facilitate the better use of teacher manuals and guides and to promote the use of didactic materials, folk tales, and small group instruction in large classes; 2) improving pupil transportation between home and school; 3) creating school canteens to improve pupils' health and nutrition; and 4) establishing community centers to provide supervised settings with good conditions for studying. Some of these interventions derive directly from the findings of the IEQ research (see above). However, others are contradicted by IEQ findings, but are supported by other research, validated by other sources of professional knowledge, or promoted by Malian participants and U.S. consultants.

Following the Colloque, the HCRT (with the guidance of U.S. consultants) organized four regional workshops (one in August and three in November 1994),<sup>23</sup> at which in total 84 first and second grade teachers, 42 principals, 18 inspectors, 44 pedagogic advisors, 16 community development technicians, 4 regional education directors, and 42 parents learned about the

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<sup>22</sup> The distinction between performing and nonperforming schools was made by school inspectors based on a number of criteria, including: end-of-year exam results; rates of attendance, expulsion, and repetition; level of teachers' training; quality of teacher-student engagement; quantity of didactic materials; and degree of community adhesion. Good and poor students were differentiated based on their grades in all subjects and their teacher's judgments.

<sup>23</sup> Part of the reason for the delay was the confusion about whether the IEQ team could proceed prior to final clarification by the new Minister of Basic Education as to how IEQ would relate to the new reform initiative (see discussion immediately below).

research, were oriented to two of the above-noted interventions, and received some general training in how to implement these. It was decided by the time of the first workshop to limit the interventions to only the first and fourth interventions listed above in order to make the project more manageable.

The implementation of these interventions and their effect on French language learning was initially planned as the main focus for IEQ's **Phase II**. However, a new Minister of Basic Education took office in January 1994 and launched an educational reform initiative, *Nouvelle Ecole Fondamentale* (NEF), designed to promote the teaching of maternal or national languages as part of a convergent method to promote bilingualism. The new Minister discussed the NEF reform at the Colloque, and indicated that all educational projects in Mali, including IEQ, would need to be cohesive with NEF. After a series of discussions including the IEQ Project Director, a U.S. consultant, and members of the IEQ/Mali team and some changes in IEQ's focus, the new Minister became satisfied that IEQ was compatible with NEF.

The Minister came to see IEQ's emphasis on the "strategic use of local language" as being in line with the new Minister's commitment to the use of maternal languages, even if the approach was somewhat different than the convergent methodology (CM) bilingual approach conceived with NEF. Moreover, the sample was constructed to insure that schools involved in the NEF reform initiative would be studied; for example, of the 42 schools in four regions receiving interventions 22 were employing a CM approach and 20 were using a "classical" French immersion approach.

Even as this potential barrier to continued IEQ project work in Mali was being overcome, other developments created an aura of uncertainty for those involved. First, strike action by teachers, beginning in late 1993, led the Ministry of Basic Education on February 15, 1994, to order the closing all schools and the cancellation of the school year, which would normally end in July. Second, during the latter part of 1994 discussions in the U.S. were taking place about ending IEQ "core" funding for work in Mali – a decision that was finally taken in September 1995. Third, discussions among IIR, USAID/Mali, and the Malian government were not seemingly making progress on a buy-in contract to extend IEQ's work in Mali; the buy-in was not in fact signed by the relevant parties until January 1996, and even then it was unclear whether there was agreement about the terms of reference. Fourth, USAID/Mali was raising new (or continuing) questions about the per diem rates and honoraria, raising the spectre that HCRT members in Mali might be paid less than originally promised – if at all.

Despite the fiscal uncertainties and with schools in operation in the 1994-95 academic year, the IEQ/Mali team in January and February 1995 conducted follow-up visits -- including classroom observations and interviews with teachers, principals, pupils, and parents -- to 21 of the 42 "intervention" schools to monitor how the interventions were being implemented. Eight of these 21 schools visited were using the convergent method (CM), while 13 were using the "classical" French immersion approach.

The observation and interview data evidenced that very little work had been done in any region towards the establishment of the community study centers. With regard to the classroom or instructionally-focused interventions (e.g., small group work versus whole class instruction, use of folk tales and legends, strategic use of maternal languages, and development and use of didactic materials), the extent to which these were being implemented varied across schools within three of the regions, and in the fourth region (Mopti) the interventions had not been implemented at all because teachers had not received authorization to do so by regional

administrators. Maternal languages were used as the medium of instruction in CM schools, but only in the first grade. In the second grade in CM schools as well as in first and second grade in "classical" schools, maternal languages were also used, but mainly for giving instructions and explanations. It was also noted that in one CM school in the Mopti region, where implementation of IEQ interventions had not occurred (see above), students whose first language was not Fulfulde (the language of instruction -- in addition to French -- in CM schools) were being marginalized in terms of participation in educational activities and learning, since they were not able to understand the teachers as well as other students for whom Fulfulde was the first language.

Observations conducted by one of the U.S.-based consultants, Alimasi Ntal-I'Mbirwa, during 7-11 February 1996 paralleled the findings noted above that varying degrees of implementation of the instructional strategy interventions had been achieved in the schools in the four regions. However, in contrast with the IEQ/Mali team research findings, Alimasi noted some progress had been made in schools in each of the regions in setting up and running the community study centers, although problems were being encountered: 1) with raising sufficient funds because not all families were able to contribute and 2) with maintaining teacher involvement in tutoring, even when "appreciation" payments were made, because teachers found themselves overextended.

While the IEQ/Mali team members' visits to the 21 schools were directed toward data collection (i.e., monitoring the implementation of the interventions at this point in time), the visits and interview sessions also served as an opportunity to encourage and guide teachers (especially) toward implementing the instructionally-focused interventions.

In June 1995, the IEQ/Mali team conducted a more substantial investigation, termed the "testing stage" of IEQ's second phase. In-depth observations were undertaken in 12 of the 42 "intervention" schools. Of the 12, 8 were CM schools and 4 were "classical" schools.<sup>24</sup> Researchers spent two days per class in each of the 24 first and second grade classes, focusing particular attention on a small sample of male and female students identified as "good" and "poor" students.

Additionally, language tests (in relevant indigenous languages for first graders in CM schools; in French and for classical schools and second graders in CM schools) were administered to 39 (20 "classical" and 19 CM) schools of the 42 in the "intervention" sample as well as 30 (22 "classical" and 8 CM) schools of the 42 in the "control" sample.<sup>25</sup> Of the 138 first and second grade classrooms in the 69 schools, data were collected from 110.

Finally, data were collected from 71 principals, 110 teachers, as well as a sample of pupils and their parents.

Initial results indicate that teachers in intervention schools, especially, were orienting their classes to the "needs" of the children and moving from "autocratic" to more "democratic" pedagogies. Moreover, students in intervention schools were assuming greater autonomy in class and were taking greater initiative in learning, particularly in the CM schools. Parents indicated that they were happy and surprised with the degree of involvement in learning taken by their children.

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<sup>24</sup> Note that of the 21 schools visited in January-February 1995, all 8 of the CM schools, but only 4 of the 13 "classical" schools were included in the June 1995 data collection.

<sup>25</sup> Note the dramatic "mortality" of CM schools in the "control" sample, a situation that makes interpretation of the intervention-control school comparisons more complicated.

During the data collection in the testing stage, conversations between researchers, teachers, school directors, parents, and students not only provided opportunities for researchers to gather information from the field, but also offered a chance for dialogue concerning findings obtained from analyzing the data gathered during the follow-up visits stage. After the data from both stages of Phase II were collected and analyzed, research reports were disseminated (by October 1996) and a post-Phase II seminar was to be held. The seminar was to bring together decision-makers, teachers, and other education stakeholders to discuss the findings from the research and implications that might be derived for improving educational quality.

## Comparing the Three IEQ Core Country Stories

We organize our comparative analysis around issues raised in the first chapter of this monograph: How was educational quality defined? What scientific traditions (critical, interpretivist, and/or positivist) were drawn upon in the research activity? To what extent were policy making and implementation and the linking of research with policy and practice centralized versus decentralized endeavors? What paradigm(s) characterized the relationships (forms of communication and division of labor) between researchers and policy makers and practitioners?

## Defining Educational Quality

In all three core countries the primary definition of educational quality reflected in the IEQ project is one that focuses on outputs, though the specific measures varied somewhat across countries. In Ghana considerable attention was given to developing and using curriculum-based assessments of students' (oral and written) English language fluency, although initially math achievement and science achievement were also a focus. In Mali students' language achievement, initially in French and subsequently in French and maternal languages, was stressed. In Guatemala the output measures included literacy in Spanish, but also other cognitive achievement tests as well as students' socio-emotional development, creativity, and democratic/cooperative behavior, while one outcome measure -- dropout versus retention -- was also included.

It is the case that context, input, and process variables were investigated in all three countries, though these seemed to be conceived more as *factors affecting educational quality* (which was defined in terms of output measures) than as *indicators of quality*. This was the case for textbook availability and utilization and other instructional practices in Ghana; for small group work and cooperative learning in Guatemala; and small group work, using fairy tales and legends, using maternal languages, and organizing community study centers in Mali.

Finally, in all three countries there were signs that educational quality might be defined in relation to different subgroups of students. In Ghana the focus was on gender; in Guatemala it was on gender, health status, and initial language fluency; and in Mali gender, maternal language, and initial achievement levels were considered.

## Choosing a Research Paradigm

In all three countries it appears that the dominant paradigm being drawn upon in the classroom-anchored research was that of positivism. For the most part research activity was governed by a search for causal relations among quantitative variables (i.e., social facts), as noted above with primary attention to examining the factors (including instructional strategies and other interventions introduced) that affect educational outputs (viz., student achievement measures).

Nevertheless, in all three countries we see evidence of qualitative as well as quantitative data being collected, with some orientation to the interpretive paradigm.<sup>26</sup> In Ghana the research

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<sup>26</sup> The critical science paradigm is less evidenced in the research in the three countries. Perhaps the focus on health factors (nutrition and sanitation) and on group differences (based on gender, language, region) point to concerns for critique and change of existing social arrangements. Clearly, attention in

activity began with more of an interpretive emphasis, seeking teachers' and head teachers' understanding of why textbooks were not fully available and why, even when available, they were not being used in classrooms or being taken home by students. Moreover, it seems that researchers along with head teachers and circuit supervisors have at times worked within an interpretivist paradigm in their observing and training of teachers in the interventions. In Guatemala extensive ethnographic observations and video recordings have been undertaken. However, when analyzed these data have been incorporated for the most part into the positivist-oriented process of examining relationships among variables rather than exploring the nexus of meanings and actions as a contextualized cultural scene or story. In Mali ethnographic observations in classroom and communities have similarly been drawn upon within an overall positivist approach, though it appears that researchers may share findings in a more interpretivist fashion when training and supervising teachers.

### **Centralization Versus Decentralization**

The IEQ project in each country has combined a strong nationally centralized component with elements that move more toward a regionally or locally decentralized model. To begin with, in each of three countries IEQ research was focused generally on a major *national* educational reform initiative, which both predated IEQ and was (at least in part) funded by USAID.<sup>27</sup> And in the case of Mali the NEF reform introduced by a new Minister of Education during the period of IEQ work was also a centrally determined policy. Moreover, many of the initial research design decisions were made by representatives of the ministries, USAID missions, the IEQ Project Director, and representatives of the centrally organized HCRT. Additionally, some of the dissemination/dialogue efforts brought together representatives of national (and international) agencies.

The decentralized orientation of the projects, however, is indicated by the fact that these national events -- the conferences, colloques, seminars, and advisory committee meetings -- often included administrators, supervisors, teachers, and parents from the local areas in which the IEQ project was operating. Furthermore, many dissemination/dialogue activities were organized on a regional or local school level, thus creating opportunities for a more decentralized approach to planning and implementing policy and practice stemming from ideas generated by IEQ research.

Overall, though, the IEQ project inserted itself into, and functioned for the most part as a part of, a centralized process of policy planning and implementation in relation to research and other sources of information and ideas. In a sense the activity at the regional and local level served to diffuse and promote the reforms that had been determined centrally. Local input was sought mainly for identifying problems with and solutions for implementation of the nationally (and internationally) determined reforms. This input, to be sure, did sometimes lead to changes in national policy (e.g., in the case of Ghana regarding the availability and utilization of

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the research efforts has been given to changing pedagogy and curriculum, but changing relations of power and the distribution of material resources does not appear to have been at the core of the IEQ project in these countries.

<sup>27</sup> While the influence of USAID officials -- both in Washington and in the mission of each core country -- cannot be discounted, it should be noted that ministry of education officials and IEQ personnel helped shape the decisions to focus on USAID-funded projects: PREP in Ghana, BEST in Guatemala, and BEEP in Mali.

textbooks) and at other times lead to refinements in the policies and practices identified nationally.

### **Choosing Paradigm for Linking Research and Policy/Practice**

The relationships between researchers, on the one hand, and policy makers, administrators, supervisors, teachers, and parents, on the other hand, varied across the three core countries in the IEQ project.

The Guatemalan case seems to best fit the more positivist, “decision-oriented research” model. Researchers consulted with policy-makers and practitioners -- including those working at international, national, regional, and local levels; collected and analyzed data viewed to be relevant to key decisions; and then reported on the findings. Particularly during the first phases of the project, it was the government authorities and educators who took charge of training for and implementing changes designed to improve educational quality.

In Mali the relationships between researchers and educational policy-makers and practitioners were in many ways similar to those in Guatemala. The main exception was that Malian researchers took a more active role in training and supervising teachers to implement the instructional strategies and other interventions developed within the IEQ project.<sup>28</sup> Thus, in Mali researchers took on some of the characteristics of what in the introductory chapter of this monograph was termed “research as critical practice,” in that they became more directly and actively involved in the process of (educational) change.<sup>29</sup>

The Ghanaian case presents the most complex picture of the relationship between researchers and educational policy-makers and practitioners.<sup>30</sup> First, the researchers assumed an even more active role in promoting educational change, not only through participating in the organization and implementation of training workshops but also in assuming quasi-supervisory roles in relation to teachers and, thus, quasi-colleague roles in relation to head teachers and circuit supervisors. This occurred as the HCRT members engaged in on-going conversations with teachers during monitoring and data gathering visits to schools. Second, head teachers and circuit supervisors over the course of the project began to play more of a research role, documenting the activities of teachers and students, even when it was no longer feasible for researchers to collaborate with them in this activity. It is important to note, however, that while researchers’ relations with head teachers and circuit supervisors developed more in line with a “collaborative action research” model or a “research as critical praxis” model, their relationships with national ministry officials (and USAID and other international organization representatives) continued to resemble the “decision-oriented research” model.

The cross-country variation in relationships between researchers and educational policy-makers and practitioners may partly stem from the fact that the size, structure, and institutional

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<sup>28</sup> In Guatemala the HCRT Coordinator and others made presentations at training workshops and IEQ and NEU organized such workshops late in the project, but in Mali (and Ghana) a more active training role was evidenced from the beginning of the project.

<sup>29</sup> We should recall that some of the changes being implemented were proposed by U.S. consultants, members of the US Research Support Team.

<sup>30</sup> As in the case of Guatemala and Mali, the role played by the researchers in Ghana is complicated because of their collaboration with US-based consultants, who helped to design the research, collect and analyze data, and interpret the results. This adds another dimension to the literature concerned with action research and other forms of linking research to policy and practice.

context of the Host Country Research Teams (HCRTs) varied across countries. In Ghana a fairly large group of faculty and graduate students was assembled and organized by teams within the context of a research unit (CRIQPEG), which was newly created within a university context. In Guatemala the HCRT centered around one key person assisted by regional coordinators and field workers, and its institutional home has shifted from planned (but not implemented) research unit in the Ministry of Education, to a quasi-independent research organization, to a component of a research institute in a university. In Mali the HCRT comprised members from two research units, which were initially located in a single ministry of education, but during the course of initial negotiations to include Mali as a core country in the project became units of two different education ministries.

## Conclusion

Before discussing the lessons derived from the comparative analysis of the policy/practice--research--dissemination/dialogue spirals in Ghana, Guatemala, and Mali, we should acknowledge gaps in our data. First, undoubtedly there are potentially key activities about which we are unaware or insufficiently informed, and thus we have not given them proper attention in our descriptive accounts (either the summary or more detailed versions). Second, while we have gathered information and feedback on draft texts from some members of the HCRT's in Ghana, Guatemala, and Mali, we have relied more heavily on trip reports by and interviews with U.S. members of the IEQ team. Thus, although we have obtained various documents written by and conducted interviews (in person and via e-mail) with colleagues in Ghana, Guatemala, and Mali, it is possible that our case studies have omitted or de-emphasized some interpretations of activities which we describe. With these caveats in mind, however, it seems worthwhile to offer some reflections on the case studies as they inform both our conceptualization of policy--practice--research--dissemination/dialogue spirals and our interest in developing useful ways of linking classroom-anchored research to educational policy and practice.

## IEQ and PPRD/D Spirals

As a heuristic device the notion of policy--practice--research--dialogue/dissemination spirals appears at least somewhat useful in our efforts to understand the IEQ stories in the three core countries in which the project was undertaken. The efforts to conduct research and link it to policy and practice has meant that to some extent the process of implementing a national (and international) level, centrally determined reform has been more iterative -- less linear and less exclusively top down -- than it might otherwise have been. Even in the case of Guatemala, where the pedagogical strategies associated with the NEU reform within BEST remained fairly constant as they were diffused to an increasing number of schools, some changes took place in what was originally planned. For example, the idea of teachers serving as *multiplicadores* -- helping to recruit and train other teachers in the NEU philosophy and methodology -- arose as a result of a request for assistance from the Don Bosco organization. Subsequently, some NEU teachers in the IEQ sample schools took the initiative to serve as *multiplicadores*, contacting other teachers and asking them to join the NEU project and organizing workshops, with the help of the NEU director, to orient them to the NEU methodology. In Ghana and Mali the specific pedagogical and other interventions were determined through research-informed dialogue among

various parties, although all were subject to the overarching focus of reform efforts promoting literacy development.

While the PPRD/D spirals model orients us to examine the more iterative process which took place in IEQ, it also focuses our attention on dynamics that do not correspond to a perfectly ordered set of steps in which each step is completed prior to the next one being initiated. For example, in Ghana research findings point to needed policy changes (concerning the distribution of textbooks and accountability for their damage when used by students), but the changes did not take place until months later, indeed, not until another spiral of research and dissemination/dialogue has taken place. Also, in Ghana as well as Guatemala training for implementing pedagogical strategies occurred just prior to data collection designed to assess the impact of teachers using these strategies; thus, a valid assessment of their impact really could not take place until research conducted in a subsequent stage or phase of the project.

The Malian case suggests the need for flexibility in using the PPRD/D spirals model as a heuristic device. First, rather than a single research study being conducted during the initial phase, there were two studies, which although eventually merged, were completed in different time frames. Moreover, the Mali case, in particular, makes clear the need to consider other influences besides the research conducted as part of the spirals, for example, findings from other research studies and the professional opinions of host country educators and international consultants.

The PPRD/D spirals model alerts us to investigate external educational and political dynamics that could be influencing the different steps along the spiral, and the three cases serve as reminders of the importance of the contextual background aspect of the spiral models as a heuristic device. In Ghana we witnessed the influence of USAID/Accra concerning 1) concentrating on English learning and teaching (to the exclusion of math and science) and 2) pushing ahead with implementing pedagogical interventions during the second stage of Phase II.<sup>31</sup> In Mali the USAID mission initially discouraged IEQ from considering even an experimental comparative focus on a convergent methodology bilingualism approach, despite an USAID-funded evaluation recommending that approach. Later, when a new Minister of Education was appointed, IEQ was forced to shift its focus from French language teaching and learning to include a bilingual approach combining French and maternal languages.<sup>32</sup> And in Guatemala ministerial changes -- as a result of an administration replacing an appointee, a coup d'etat, and the election of a new president -- complicated plans to institutionalize the HCRT, to create a National Advisory Committee, and (in relation to the coup) to even fund the day-to-day operations of the project.

### **Lessons Learned**

As the case studies have indicated IEQ has produced many positive results. By a number of indicators the project can be deemed to be successful. For example, there is evidence that

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<sup>31</sup> The PPRD/D spirals model works well in this case because the two stages of Phase II in Ghana can be seen as representing two spirals in the process.

<sup>32</sup> This break in an IEQ project spiral, however, might be seen as reconnecting a policy--practice--research--dissemination/dialogue spiral. That is, the Minister's Nouvelle Ecole Fondamentale reform could be seen (and perhaps was in fact) in line with the results of USAID-funded research conducted in Mali in the late 1980s (Hutchinson, 1990) that concluded that language proficiency in French (and indigenous language) was better achieved through convergent method of bilingual education.

student performance improved, many teachers and educational officials at all levels praised the project, and resources allocated to education by the governments have been increased.<sup>33</sup> Yet it is of value to attempt in retrospect to rethink and reconceptualize how future projects similar to IEQ (development of new national projects involving assessment at the classroom and school levels designed to improve educational quality) could be planned and carried out more effectively. This, we believe, is a primary concern of international development agencies, government officials, researchers, planners, administrators, teachers who struggle to design and implement projects and programs of continuous quality improvement in education.

To make our own assumptions clear in our conceptualization, planning is viewed as both an adaptive and a generative process, which occurs at various levels, including the classroom, school, local education authority, regional, national, and international organization levels. That is, planning responds to the views of "stakeholders" but seeks to build new levels of understanding and shared visions. Planning becomes a learning/inquiry process in which advocacy and "marketing" are but one aspect of collaboration, continuous exploration, and commitment of those involved to learning how to learn together. Planning teams or groups seek to learn the technologies of problem solving -- learn from both successes and failures -- transferring new knowledge quickly and efficiently through the schools. Planning in support of initiating and sustaining a process of improving educational quality recognizes the school and classroom as fundamental units for knowledge use and change. Additionally, however, the larger organizational and environmental contexts may constrain, support, and filter ideas and information relevant to changes in schooling.

Projects such as IEQ suggest the potential of such an "planning" approach to linking research to policy and practice. As has been demonstrated, although relatively small as internationally funded projects go, the IEQ project was able to create conditions which resulted in system-wide change. IEQ did this by making progress toward 1) opening up new communication channels for initiating or strengthening interchanges of professional information; 2) developing a collaborative vision of what change is needed and how to implement that change; 3) developing new technologies for assessment of educational quality; 4) institutionalizing key organizational actors in the change process; and 5) providing highly focused training for such participants. Through these processes, the IEQ project was able, at least to some extent, to penetrate and influence priorities and resource distribution within the larger system. However, the extent to which IEQ will leave a legacy which can sustain the process of quality improvement in the three core countries is unclear.

Sustaining qualitative changes in classrooms and schools depends on the various participants' ability to generate, understand and utilize information on interventions in progress, the changing organizational and environmental contexts, and the emergence of new priorities. Sustaining continuous improvement in educational quality may require different information, actors, and resources than initiating interventions. During a continuous improvement process, a flow of sufficient resources from the community and educational bureaucracies, sound planning and development activities by administrators and key officials, efficient information networks and strong continuing individual teacher commitment are likely to be necessary.

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<sup>33</sup> Even in Mali, where the implementation of the project faced many challenges, including being viewed as in conflict with a bilingual reform introduced by a new minister of education, IEQ has come to be favorably viewed by government officials as well as educators and parents.

Sustaining and continuing the process of improving quality implies the strengthening of schools as organizations whose members are capable of learning from experience; developing incentives to, or at least a tolerance for, experimentation; and demonstrating increased skills in strategic planning. Crucial support must be found in training and capacity building exercises which develop problem solving skills, provide the analytic tools for continuous assessment of school programs, and support an incentive system for teachers and administrators that favors risk-taking. Many of the core learnings for continued change will result from studying school practice and learning how success is accomplished within the given community. Workshops and other staff development must teach that the fundamental value of all new learnings and insights lies in their application in the process of educating children and youth.

Since current schooling, even if satisfactory, is likely to be less satisfactory a few years ahead, a level of instability in school practice and school management may reflect a healthy implementation of this planning model. There may be good reasons why innovations which are satisfactory at a particular time may not be appropriate or acceptable at a later time. Consideration of new roles and new output priorities may result from additional research or experience based knowledge, a shift in national mandates, or changes in local or school priorities.

The model of planning being described here assumes that improving educational quality can not be exclusively a national (let alone international) enterprise. Strategic local educational planning requires a center-local partnership which deploys educational talent, distributes ownership and allows an acceptable degree of flexibility in the localization of schooling. This model further assumes that the school -- as well as the system and the classroom -- is the focus of change. Although teacher behavior is central to quality improvement, teachers may be constrained by collective practice and institutional habits.

Because the process is -- and needs to be -- iterative and not linear, it is essential that those involved in the process have a systematic and timely way to monitor what is happening in projects like IEQ. Just as there is a need to link classroom-anchored research to educational policy and practice decision-making, there is a parallel need to link project-anchored documentation research to decision-making by those involved in various aspects of the project. While such documentation research requires project resources and the process can at times appear to distract more central project work (e.g., being interviewed by a documentor rather than analyzing pupil performance data), the insights generated -- especially in the context of comparative case analyses -- can, we believe, be extremely useful to a project's development. This is particularly important if we are to understand not just whether, but also how, the quality of education is being improved.

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