

IMPROVING EDUCATIONAL QUALITY (IEQ) PROJECT

**POLICY—PRACTICE—RESEARCH—
DISSEMINATION/DIALOGUE SPIRALS IN IMPROVING
EDUCATIONAL QUALITY:
SUMMARY OF COUNTRY CASES AND LESSONS
LEARNED FROM CROSS-NATIONAL COMPARISONS**

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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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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.³ Textbook availability and utilization were seen 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.

³ It should be noted that English is the official language in Ghana and that beginning in P4 of primary school English is by policy the sole medium of instruction in Ghanaian public schools.

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 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 1994,⁴ 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.⁵

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

⁴ 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).

⁵ 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.

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 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 P6⁶ rather than remaining with P2. The move to follow P5 pupils to P6 rather than staying with P2⁷ was encouraged by USAID/Accra and eventually

⁶ 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.

⁷ Because of CRIQPEG staff members' interest in early primary grades and so as not to break off

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.

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.

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.⁸ 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.

⁸ 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.

Spirals in Guatemala

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,⁹ 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

⁹ 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.

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).

For **Phase I** research data were collected in ten (5 NEU and 5 EU) schools in each of two regions (II and IV).¹⁰ 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.¹¹ 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

¹⁰ 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.

¹¹ In contrast, Region IV is mainly populated by *ladinos*, Spanish-speaking descendants of European and Indian intermixing.

officials and USAID/Guatemala representatives were also in attendance.¹² The purpose of these 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

¹² 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 and they could also permitted doubts or concerns about the implementation of NEU (in relation to government funding, policies, etc.) to be addressed immediately.

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 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.¹³ 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.

¹³ Some of the original 10 EU schools had been transformed into NEU schools in line with the plans of the BEST/NEU program.

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 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,¹⁴ USAID/Mali, and IIR. By April 1993,¹⁵ when formal “cooperative agreements” were signed, it had been decided to create a Host Country Research Team (HCRT or the IEQ/Mali team)¹⁶ 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.¹⁷ 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.¹⁸

¹⁴ 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.

¹⁵ 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.

¹⁶ 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.

¹⁷ 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.

¹⁸ 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.

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.

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,¹⁹ 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.²⁰ 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

¹⁹ 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).

²⁰ 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.

research report in January 1994, which was then revised based on comments and suggestions from U.S. consultants.²¹

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,²² 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,

²¹ While this research activity was being undertaken, the leader of the ISFRA component of the IEQ team, Mr. Dembélè, 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).

²² 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.

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),²³ 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 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

²³ 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).

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.²⁴ 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

²⁴ 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.

well as 30 (22 “classical” and 8 CM) schools of the 42 in the “control” sample.²⁵ 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.

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.

²⁵ Note the dramatic “mortality” of CM schools in the “control” sample, a situation that makes interpretation of the intervention-control school comparisons more complicated.

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.²⁶ In Ghana the research

²⁶ 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,

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.²⁷ 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

region) point to concerns for critique and change of existing social arrangements. Clearly, attention in 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.

²⁷ 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.

(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 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.²⁸ 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.²⁹

The Ghanaian case presents the most complex picture of the relationship between researchers and educational policy-makers and practitioners.³⁰ 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.

²⁸ 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.

²⁹ We should recall that some of the changes being implemented were proposed by U.S. consultants, members of the US Research Support Team.

³⁰ 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.

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 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.³¹ 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.³² 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

³¹ 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.

³² 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.

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 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.³³ 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

³³ 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.

and development activities by administrators and key officials, efficient information networks and strong continuing individual teacher commitment are likely to be necessary.

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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