



The Quality Link

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The Improving Educational Quality Project (IEQ)

When we cast our bread upon the waters we can presume that someone downstream whose face we will never know will benefit from our action, as we who are downstream from another will profit from that grantor's gift. (Maya Angelou, Wouldn't Take Nothing for My Journey Now)

In October, the Improving Educational Quality Project (IEQ) began the fifth year of its contract with USAID Global Bureau/Human Capacity Development. In September 1995, our Technical Review Panel gathered for two days to reflect on our experiences and to develop ways in which these experiences and the products which result, continue to be used to improve teaching and learning by "those who are downstream."

This issue of Quality Link illustrates country-specific methods developed and implemented by IEQ teams in each par-

ticipating country. A table showing the types of instruments constructed appears on page 2.

More explicit descriptions appear within each country's article. One of IEQ's legacies to the development community is the methodologies used to examine teaching and learning. The findings are "returned to the educational system" for reflection and continued educational improvement.

What is IEQ?

IEQ is a country-specific approach which critically examines how a national educational reform effort leads to improved quality of education. IEQ forms partnerships with local educators and researchers to gather and use information about **instructional practice and pupil performance** at the school and classroom

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FROM THE EDITORS....

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The Improving Educational Quality Project...

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level to improve teaching and learning. We combine qualitative and quantitative methods to capture the classroom experience: measures of academic performance; interviews with pupils, parents, teachers, supervisors in schools and regional offices, and community members; and direct observation of classroom behaviors and the learning environment. The procedures for developing these methodological tools, as well as the various measures will be available to other users.

Why Is It Important to Talk About the Classroom?

Classrooms are central to formal learning. They can either facilitate learning or inhibit learning. What happens here shapes a pupil's lifelong habits and attitude toward learning. Immediate and extended families share the hopes and expectations of educators throughout the system that classrooms will "produce" learners. It is in the classroom where the efforts of policy makers, trainers, curriculum developers and others come together to reverse the negative trends in pupil performance. And they are being held increasingly accountable for their efforts.

Who Does the Talking?

All those interested in improving education may participate in the dialogue. In IEQ, the intent is to reduce the gap between research and practice by using the information gathered from the classrooms to present the findings in ways stakeholders can discuss and act upon the implications. For example, IEQ brings together local and regional educators in workshops and seminars to hear about the findings (e.g., most pupils in Class 5 cannot read passages in Class 2 textbooks) and together create ways to address the problem. The products and ideas developed at these workshops form the core of school-based teacher training. Policy makers may receive succinct "briefs" of the findings which inform them of the extent to which national policies and goals are reaching the intended beneficiaries — the pupils!

Who Benefits from the Outcomes of IEQ?

The products developed by IEQ will be available to the development community, such as educators and researchers who seek methods to guide inquiry into classrooms. Here are some examples:

- ◆ Curriculum-based assessment measures for primary school pupils (e.g., numerical skills, oral proficiency, reading and writing);
- ◆ Classroom observation instruments which document classroom experiences such as interactions between pupils and between teachers and pupils, ways in which instruc-

tional resources are used (or not used) by pupils and teachers, methods used by teachers to deliver content, and descriptions of the learning environment;

- ◆ Modules used in professional development seminars to strengthen skills in qualitative methodologies (e.g. manuals, videotapes) which can be used to continue such training;
- ◆ Brief summaries of the research findings in formats useful to facilitate dialogue and debate;
- ◆ Series of scholarly papers on selected aspects of IEQ (e.g., rationale for and use of curriculum-based measures, definitional issues surrounding educational quality, the IEQ experience in working collaboratively with host country colleagues).

These products will be made available to potential users in Europe, Africa, Latin America, and Asia who are interested in learning about classroom practice in their own countries. IEQ welcomes your input.

*Jane G. Schubert, Director, IEQ and
Vice President, Institute for International Research (IIR)*

	Ghana (Grade 2-6)	Guatemala (Grade 1-4)	Mali (Grade 1-2)	South Africa	Uganda
Observation Instrument					
Classroom resources	X	X	X	X	X
Environment	X	X	X	X	X
Teacher	X	X	X	X	X
Student	X	X		X	X
School/staff profile				X	X
Pupil work	X				X
Questionnaire/Interview					
Student	X	X	X		X
Teacher	X	X	X	X	X
Trainer		X		X	
Principal/Director/Head Teacher	X		X	X	X
Parent/Community	X	X	X		X
Achievement					
Literacy	X	X	X	X	X
Numeracy		X			X

Note: Instruments the Project has classified under the same name may differ in structure, content, and purpose depending upon context within which they were developed.

IEQ in Ghana

Assessment in Ghana

By Abi Harris

In Ghana, as in many countries, there are no published tests available to educators for assessing pupil performance on the national curriculum. Criterion-referenced tests developed for national monitoring purposes focus on the end of cycle performance of pupils and were never intended for monitoring the performance of individual children or for providing classroom level feedback. Consequently, the first step in analyzing the instructional needs of Ghanaian primary pupils was to develop assessment instruments.

Developing the Instruments

The process began with a review of the Ghanaian English language curriculum. Using the English syllabus, the teacher guides, and the textbooks, it was possible to identify the objectives and related skills that each pupil was expected to master at each level of primary education. This formed the basis for deciding what to measure. Major skills were identified and listed in the order in which they were represented in the instructional materials.

For each language mode, oral language (listening and speaking), reading, and writing, specific tasks were developed to measure the skills identified in the Ghanaian language curriculum. Table 1 provides a listing of these tasks. For each task, there is a description of what it is intended to measure, sample questions to illustrate how the skill is measured, a brief statement of how it is scored, and illustrative examples of how the scores can be interpreted. In providing the sample interpretations, an attempt was made to show the range of possible ways the data can be used. Thus, some of the interpretations describe the performance of an individual pupil, some profile a class or group of children, and some refer to interpretations such as are used in program evaluations.

Work Group Process

In developing the assessment materials a work group of ten researchers was formed. The group represented a collaboration between CRIQPEG and IEQ and included two English language specialists, and three others with expertise in assessment. Subgroups were formed to be responsible for preparing the assessment instruments in each area and for each grade level. Before the subgroups started working on the instruments, the whole group met to agree on the time/work schedule and to identify the following sub-tasks to be performed:

- 1 define the skills to be measured in each area (Reading, Writing, and Oral Language);
- 2 identify the tasks to be performed by pupils to measure their performance in each of the skills being measured;
- 3 construct and review test items in each skill area;
- 4 develop administration and scoring procedures;
- 5 assemble draft forms of the assessment instruments;
- 6 pilot test the instruments, administration and scoring procedures;

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Project Summary: GHANA

In Ghana, IEQ formed a partnership with the University of Cape Coast's Centre for Research on Improving Quality of Primary Education in Ghana (CRIQPEG), USAID/Ghana, and the Ghana Ministry of Education to conduct innovative classroom-based research to improve pupil learning. The first phase of IEQ research examined the availability, sources, and use of instructional materials in classrooms in six primary schools in the Central Region of Ghana. Subsequent phases have focused on assessing and improving language learning.

In Ghana, most children enter school speaking little or no English. Throughout Ghana there are at least 44 indigenous languages and there are about 1700 different languages spoken in sub-Saharan Africa, giving rise to a complex linguistic situation (Hall, 1983). To facilitate communication and commerce, Ghanaian government policy prescribes that by fourth grade all instruction must be in English. Pupils are expected to have mastered sufficient English to be able to (1) comprehend lessons taught using oral English, (2) respond in class using oral and written English, and (3) read from textbooks written in English in core subject areas such as English, Mathematics, Science, and Social Studies.

Results from CRIQPEG's Phase I study, launched in February 1993, suggested that many Ghanaian pupils were experiencing difficulty meeting these expectations and that children may not have had the opportunity to acquire even basic language skills. Classroom observations revealed that children were generally not interacting with the teacher, classmates, or written materials in ways that would promote English language fluency and literacy.

Through discussions with educational leaders and policy makers, CRIQPEG identified a growing consensus. It became clear that language learning was key to improving the quality of education in Ghana and there was a critical need for research that would: (1) shed light on the current status of English language proficiency and instruction and; (2) stimulate and guide efforts at improvement. It was this charge that led to the development and use of curriculum-based assessment instruments as part of the improvement process.

CRIQPEG developed, pilot tested, revised, and administered instruments measuring pupil skills in oral language (listening and speaking), reading, and writing. Over 1000 pupils in 14 primary schools from 2 regions of Ghana were individually assessed. Individual, classroom, and school profiles of pupil performance were developed. Committed to expanding the research agenda to active participation in improving primary education, CRIQPEG team members shared the results of the research findings with local educators and together they identified and implemented strategies (or interventions) for improving English language learning. Classroom interventions in Ghana focused on increasing pupil exposure to print, encouraging practice with oral English, and adjusting instructional practice so that all pupils are successful learners. Circuit Supervisors, headteachers, teachers, and CRIQPEG team members collaborated to promote these improvements in 7 of the 14 participating schools.

Examples from Curriculum-based Instruments in Ghana

Table 1 (Note: all charts referring to assessment instruments are samples only).

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

- 7 analyze test items to determine item relevance and consistency;
- 8 revise tests and administration procedures;
- 9 prepare forms for recording data as it is collected;
- 10 compile an administration manual that clearly identifies: materials needed, procedures for preparing to test, procedures for administration of the instruments, directions for scoring, directions for recording each pupil's responses and total score, and procedures for storing of data;
- 11 train test administrators (including practice sessions).

Developing Writing Assessment Instruments

For most children, the most basic level of writing is to be able to copy forms and shapes. Often children begin by copying the letters in their names. Once children are able to copy letters, a priority in the Ghanaian curriculum is to learn to produce their name from memory. After learning to write their name, pupils begin learning to write other words. This continuum formed the basis for the writing assessment process. Initially, pupils of all levels were asked to write their names. When pupils were unable to write their names, they were asked to copy letters from their name. Pupils who were able to write their names without assistance were automatically given credit for being able to copy letters. Next, pupils were asked to write as many words as they can. They were encouraged by prompts such as, "Can you write 'the' or 'and'?" After pupils finished writing the words, they were asked to read what they had written. Only correctly spelled and read words were

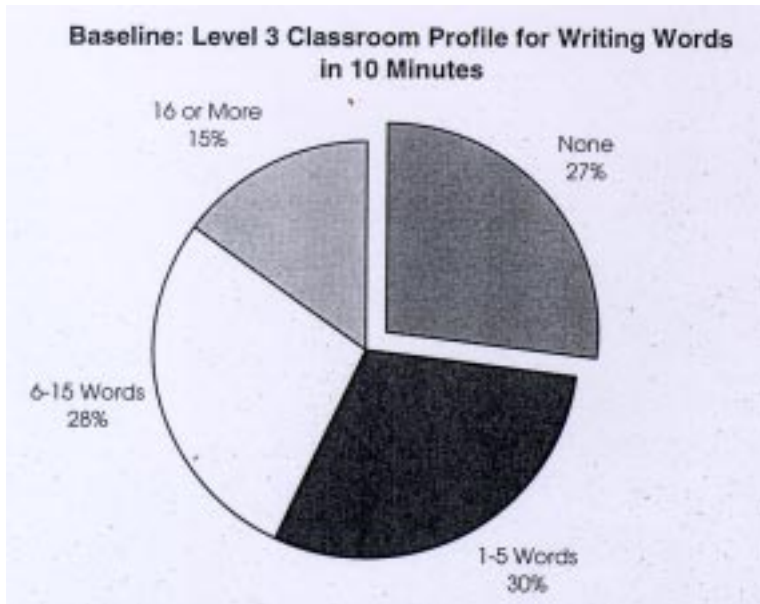
counted. This avoided the possibility that children had memorized copying exercises without comprehending what they were doing. While asking pupils to write any words they know doesn't capture their ability to formulate sentences or to demonstrate comprehension of the meaning of these words, it does permit them a wider range of response. Not knowing the correct verb or grammar doesn't inhibit their performance.

After the baseline assessment, it was clear that some pupils were able to go beyond writing words. For the follow-up assessment (August 1995), additional writing exercises were added to assess dictation skills as well as expressive writing skills. Spelling and dictation skills were assessed in levels 4-6. The words that were used in the spelling component came from the most used words list from the Ghanaian English textbooks and the sentences used for dictation came from passages from the textbooks. In addition, level 6 pupils were asked to write a letter and a short story and these were used to assess their written expression skills. The prompts for the letter and short story were based on objectives in the English syllabus. The scoring of the spelling, dictation, and the open ended writing experiences was based on work by Shinn and his collaborators (Shinn et al., 1990). For example, in addition to recording the number of correctly spelled words, the researchers calculated the number of correctly identified and sequenced letters. This additional scoring strategy provides a rough estimate as to whether the pupils are approximating the correct spelling. For example, a pupil, Agnes, may only spell 25% of the words correctly but if she gets 65% of the letters correct and in the correct order, this suggests that she has an understanding of how to spell words. By contrast if she only gets 25% of the letters correct,

she may have memorized a few words but not really understood the principles of spelling. For the written expression, writing samples were scored with regard to fluency (number of words attempted), number of correctly spelled words, and number of correct writing sequences, an objective scoring procedure that takes into consideration punctuation, grammar, and so on.

**Assessment =>Assimilation
=>Action**

The assessment results have been used as part of a dynamic process designed to empower educators to sustain learning progress. Teachers are welcome to observe the testing process, results are shared with the teachers and used by classroom teachers, their supervisors and CRIQPEG collaborators in their efforts to improve learning. For example, the chart below illustrates the typical make-up of level 3 classrooms at the time baseline data were collected. A teacher working with this classroom needs to recognize that almost a third of the class is unable to write their names or any other words.



Without such information about the reality of pupils' needs, teachers are powerless to identify and implement instructional practices which enhance learning.

Writing Composition - Level 6

Name Eric Denanyeh Teacher Miss Almond AL
 School Abosor Zisat Level 6 Date 1/17

Most children in Ghana know Ananse stories. Write an Ananse story or some other kind of story.

F 5 8 8 7 7 8 8 8 8 9 6 9 9 3	<p>One day Ananse told his little child Kuma that he was going to look for food. When he was sitting he saw a tree and he thought he could rest under it. When Ananse sat down and his head went up he saw a bird. When the bird saw him she told Ananse to come for some eggs. Ananse said but I can't climb this tree. The bird told him to look up and down. So Ananse looked up and down then a bird came to his eyes when he opens his eyes he saw that he was at where the bird was laying her eggs.</p>	<p>W 4 5 7 8 7 6 5 8 8 7 8 6 8 7 3</p>
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100 96

103

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Project Summary: GUATEMALA

In Guatemala, IEQ is working with the Ministry of Education (MINEC) and two Regional Education Offices to study the implementation and impact of Nueva Escuela Unitaria (NEU), an innovative pilot project designed for multigrade schools in rural areas. NEU is based on active learning principles that stress collaborative learning, peer teaching, use of self-instructional guides and participatory student government.

During the 1993 school year, which corresponded to the first full year of the development of the NEU program, IEQ studied a 10% sample of first and second grade children participating in the program as well as a similar group of comparison children. Sample schools were located in two regions, one with a predominantly indigenous population and the other with a non-indigenous or Ladino population. Children were tested on a battery of tests including reading, mathematics, creativity, and self-concept. The children's nutritional status was also measured. In addition, a subsample of experimental and comparison children at each of the study schools were the subjects of intensive classroom observation for two month-long periods during the school year. Twice during the school year, parents and teachers responded to questions related to their satisfaction with the curriculum being implemented in their schools. Differences in the test performance of experimental and comparison children were examined, and observed interactions in the classroom were correlated with the children's academic performance on the tests.

In Year II, the same children were studied as to further behavior change and its relation to academic achievement with an additional year of experience in the program. A series of seminars with supervisors and teachers were held to examine the results of the first year of the study and make decisions about fine-tuning the pilot program. During Year III, IEQ has provided feedback to teachers on Year II results, and developed curriculum-based Spanish language arts tests with the assistance of the teachers. The IEQ researchers are also examining the experience of children in "complete" schools (those having all six primary grades), continuing to follow the sample of children who entered school during the first year of the research, monitoring the expansion of the NEU program to double its current size, and working with an advisory committee to develop strategies for larger dissemination and utilization of the research results and instruments.

The Experience of Girls in IEQ Guatemala Classrooms

By Yétilu de Baessa and Rosa Yolanda Girón

Creativity in Guatemalan Girls: A Multi-Method Approach

IEQ in Guatemala has taken a multi-method approach that combines the utilization of quantitative instruments to measure the academic and social progress of the child with observations in the classroom. In the case of creativity, a specific measure had to be developed due to the fact that there is no instrument available that is appropriate for the prevailing conditions of rural Guatemala. This instrument is composed of six items which consist of the names of objects that are commonly found in the environment (flower, stone, seed) or in the classroom (book, pencil, paper). The items are read to the child individually, asking him/her to mention all of the uses those objects can have. The test is scored by adding the different uses mentioned, as long as these are appropriate. This test was piloted with children with similar characteristics to those children in the sample, and the concepts were changed until it was determined that in both regions, Indian and Non-Indian, they were comprehensible and familiar to the subjects. The test was translated into the children's native language in the Indian region. The estimated internal consistency of the test was Cronbach alpha = .67.

The test was analyzed by comparing the means of children participating in the experimental schools versus the students attending traditional schools. Where trends were found, the observational data, consisting of one hour per child of classroom interaction collected at different times during the school year, were examined to explain the patterns found.

The following example of girls' creativity serves to illustrate how the different methods were used:

The experience of girls in the classroom is of intense interest in Guatemala. Unlike many countries in Latin America, where there is little difference between boys and girls, in Guatemala, there are large gaps between boys and girls in enrollment, dropout, and literacy rates. Obstacles to female education in Guatemala have been attributed to a number of factors including: demand for girls for household labor; late entry of girls into school complicated by early withdrawal owing to increased likelihood of pregnancy and/or marriage; and increased restrictions placed on girls who have reached puberty. Within school, girls may face discrimination stemming from teachers' beliefs about female abilities, sexual stereotyping, or isolation.

The Nueva Escuela Unitaria (NEU) attempts to overcome in-school obstacles by decentralizing learning into an assortment of contexts such as small group work with the teacher, group and individual work with self-instructional guides and learning corners, and large group work. Teachers are not necessarily the center of learning and children of both sexes are encouraged to work together. Thus, the traditional relationship between students and teachers is broken down as teachers are afforded greater opportunity to recognize the individual experiences that children bring to the classroom as peers of both genders collaborate in learning activities.

IEQ research, in which individual children were observed in classroom activities for one hour at 3 different times and were tested at the end of the year, shows that during the second year of implementation,

the NEU program has been successful in promoting creativity among girls. As can be seen in Table 1, girls in the NEU program scored consistently higher than girls in comparison schools on the measure of creativity. In three of the comparisons, these differences were significant.

Measure of Creativity Scores

REGION	Second Grade		Third Grade	
	NEU	Traditional	NEU	Traditional
Baja Verapaz	14.6 *	10.2	13.2	12.5
Alta Verapaz	8.0	7.7	11.3	9.1
Region IV	13.7 *	10.4	13.4*	9.8

These results can be directly related to the classroom experience of girls participating in the NEU program. When observational data were tabulated, 86% of the interactions that sample girls had with teachers, materials, or peers in which the girls were allowed to use their imaginations, occurred in NEU schools. The vignettes that follow typify the experience of girls in the NEU programs.

Norma is a second grader in a NEU school in the region of Baja Verapaz, which is predominantly Spanish speaking. She is sitting next to two boys working on a story that the teacher had asked each child to write on the topic of a stalk of corn. At that moment, the teacher is busy with another grade.

Norma is copying the story she invented about a stalk of corn on a clean sheet of paper. She looks at the copybook and writes, "Once upon a time there was a stalk of corn called Mary." She looks again at the copybook and repeats, "and she had a daughter called Nowario and Mary loved her deeply." While she continues copying in the clean paper, she continues reading, "She told her daughter that she was an ear of corn and Mary got very afraid. Her father came over and the girl ran toward him and hugged him." Norma finishes writing the story and says, "Miss, I finished." The teacher says: "Write your name on it and take it to the language corner." Norma writes down her name and takes her story to the corner.

This example illustrates a NEU teacher providing a situation that allows children to use their imagination. The girl is given the opportunity to invent a story based on a topic given by the teacher. She has taken familiar elements from her environment and built them into the story. The girl's efforts are further valued by the teacher's acceptance of her work without criticism and by its placement in the language corner, where it becomes a permanent part of the curriculum and a resource for other children.

This vignette presents a girl in third grade at a NEU school in the region of Alta Verapaz, where the main language spoken is Q'eqchi'. She is working in the "Cats" group with five other children. The teacher is working with another group.

Aurelia is copying from the self-instructional guide with her peers. She copies, "I draw picture that shows some of the living things in my settlement." Aurelia begins drawing when one of her classmates interrupts in Q'eqchi asking for her eraser. Aurelia draws some ducks, than a rabbit, a cow, some hens and a dog.

Again she is interrupted by the same boy when he gives her back the eraser. Then the girl begins writing the names of the pictures she just drew. She finishes writing and then draws a mouse.

As in the first example, the girl is asked by the self-instructional guide to call upon her experience in order to practice her Spanish language abilities. She does this in the pictorial mode requested, then expands upon it by writing the names of the living things that she has identified.

In contrast to the learning contexts found in NEU schools which promote thinking and imagination among the students, most of the interactions observed in the traditional multigrade classrooms focus on repetitive exercises with subject matter provided by the teacher or the educational materials. Copybooks are used for writing drills provided by the teacher, rather than the children's own thoughts, as is often the case in NEU classrooms.

Karin is a third grader in a traditional school in the Q'eqchi' speaking area of Alta Verapaz. She is at the teacher's desk with three other children waiting to receive writing drills ("plans").

Karin is standing in front of the teacher's desk. The teacher points to the book in front of him and asks in Spanish, "What does it say here?" Karin looks at it and reads "this is a duck." The teacher writes the phrase in her copybook, then asks again, "What does it say here?" Karin starts to read from her copybook, "This is" then stops. The teacher says "Now you have forgotten" and reads, "This is a duck." Then continues to explain "Whenever we write a sentence, we put a period at the end." He gives the girl her copybook and she returns to her desk where she begins to copy the sentence.

Here the teacher uses the instructional material, a book, to orally drill the girl and to provide content for a rewritten drill. There is no attempt other than the use of a familiar object, a duck, to use the child's previous experience or imagination in the learning activity. Oral drills often take place as group activities, and as shown in the following example, children of different grades may participate in exercises involving the same subject matter.

The Experience of Girls...

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Nifita, a third grader in a school with predominately Spanish-speaking children, sits with a group of 27 children (ranging from third to sixth grade) waiting for dictation. The teacher says "Write this" and begins to dictate the history of the conquest of Guatemala. "...where there were great beaches..." Nifita writes, then sicks on her pencil as the teacher says, "Great beaches. Have you written it?" With others, Nifita says, "Yes." The teacher continues "In the port of Santa Maria de Jesus..." Nifita writes and the teacher continues "...extended to the plains of Piral." Nifita falls behind and tries to copy from the sixth grade girl next to her. The teacher continues the dictation and Nifita keeps writing and glancing at her neighbor's work.

In this example, the teacher is the provider of information and all the children of the upper grades are required to record the information accurately. No opportunity is provided for elaboration, reflection or interpretation of the information being provided. In the case of many of the children, it is information that they have recorded in previous years.

The types of learning activities observed in the NEU program and contrasted with traditional schools, show that girls in NEU have begun to assert themselves and to have their efforts recognized by teachers. This experience is reflected in their performance on the measure of creativity which required them to identify as many uses as possible for common household and school items. It is important to note that boys in NEU were observed to participate in similar learning situations to those presented here for girls and had somewhat higher scores than the comparison group on the creativity measure. The trends were not, however, as clear as those for girls.

Instrumentation in the IEQ Project in Mali

By Sékou Diarra and Bréhima Tounkara

In Mali, there has been a recent educational policy initiative stressing convergent methodology in the primary grades. This methodology emphasizes initial instruction in the mother tongue to ensure student comprehension, then a gradual, parallel use of both the maternal language and French. In implementing this policy, strategies developed by the IEQ team, such as small group work, the use of stories and legends, and the use of instructional materials as well as use of the maternal language, are being employed. Monitoring the success of these interventions is an important part of the implementation of the current policy. In this article, we briefly describe the objectives and the procedures for the development of the instruments for monitoring and measuring the impact of the interventions.

In the course of the investigation in Mali, the researchers have come up with three research questions:

- What is the degree of progressive implementation of the interventions?
- What are the impacts of the intervention in the teacher's work?
- What are the impacts of the intervention in the process and the results of students' learning?

To begin answering questions, researchers met with supervisors, counselors and principals of the schools. Instruments were developed to specifically assess the questions raised. The instruments developed are the following:

Questionnaires:

A questionnaire was developed to interview both the teachers and the principals in the schools. The main objectives were to identify their characteristics, perceptions and their problems when implementing the intervention.

These interviews were developed in several stages: first, they were developed by researchers in the regional and central workshops; then they were pilot tested during the visits to schools to assess the process of the intervention; and finally they were refined after observations to eliminate the problems perceived during their usage.

Interviews and observation guides:

The interview and observation instruments were developed in the same way as the questionnaires. The interviews were transformed from very structured questions to more open-ended questions.

Achievement tests:

Achievement tests were developed based on the contents and competence of the official curriculum. These tests were developed in French as one language of instruction, and in two native languages -- Bamana and Fulfulde -- for the schools that used the mother language to teach. These tests were conceived to measure proficiency and to identify the kinds of errors made by the students and gaps in their language abilities.

French language competency tests were developed with the support of the testing unit of the National Pedagogique Institute (IPN). IPN researchers proceeded with the analysis of the curriculum, the items construction, pedagogical support used by the students and their teachers in the construction of test items, to set passing scores, and to develop correction's criteria.

First grade national language tests were developed by IEQ researchers in collaboration with teachers, who participated in the experimental phase of the conception of the methodology for teaching in French and in their native languages.

Project Summary: MALI

IEQ began in Mali in the spring of 1993 to support USAID's Basic Education Expansion Project (BEEP). Phase I of the IEQ/Mali project involved the two collaborating research institutions, the Institut Pédagogique National (IPN) and the Institut Supérieur de Formation et de Recherche Appliquée (ISFRA), in conducting field research on the learning process in the first two years of primary education; and contributing to a better understanding of the link between classroom practices and pupil performance. IEQ/Mali held a national seminar in April 1994 to discuss the findings from the Phase I Research. The seminar was organized to conclude the project's first phase and begin plans for Phase II. In August, IEQ/Mali launched Phase II activities with the organization of regional training workshops held in Ségu, Kayes, Mopti, and Sikasso. During these workshops, teachers, headmasters, advisors, parents and other community development practitioners were trained in their new role as research partners and implementors of five IEQ interventions. These are the pedagogy of large groups, the pedagogy of folktales and legends, the creation and manipulation of didactic materials, the strategic use of maternal languages in classrooms, and the introduction of community study centers where students can have the opportunities of continuing learning activities after school. In February 1995, the team revisited the regions to observe how the classroom interventions introduced in November were being implemented, pretested classroom observation instruments, and held feedback meetings with first and second grade teachers of the pilot classes. In June, the HORT went back in the field to observe classroom interactions and collect student performance data in language learning.

The following phases were observed in this process:

- Sample collection of the texts and tests used by the teachers in schools;
- Development of test items;
- Pilot study to estimate the psychometric qualities of the tests;
- Revision of the tests; and
- Development of the passing scores and criteria for correction.

In general the tests measure the following competencies:

- Sentence completion to understand a text;
- Listening comprehension of a 200 word text;
- Reading comprehension of a 200 word text.

Sample of Questions on Mali Assessment Instruments

Task	Levels	What it measures	Sample Question	Scoring	Sample Interpretation
PRE-READING/READING					
Letter discrimination	1st grade	Ability to identify letters guided by the correct identification of images	From images of a "cup" an "infant" and "coffee," discriminate between "e" and e or from the image of the watch	1 for correct response; 0 for incorrect	The pupil is able to discriminate between "e" and "e" and recognize the correct spelling of the image's meaning
READING/WRITING					
Functional Reading	1st grade	Ability to associate an word to an image	link the words to their corresponding images	1 = correct; 0 = incorrect; 9 = omission	Correct linkage show the pupil has acquired a beginning of comprehension of concrete words
WRITING COMPREHENSION					
Writing comprehension	1st grade NEF	Ability to reconstruct a meaningful text	From the list above, fill in the blanks with the correct word	1 = correct; 0 = incorrect/illegible	Proof of understanding of meaning sentences; begin to discover sentence structures; beginning of the process of writing production

Teachers and principals responded in several ways to the tests: very positive reaction towards testing in the native languages; teachers asked for samples of the tests to be used in their classrooms; teachers state that this is the first time that a complete set of native language tests has been developed.

Monitoring the impact of interventions through instruments developed by the IEQ/Mali team has supported the policy of convergent methodology in Mali. To date, the feedback on the instruments from the schools and communities has generated interest from all involved.

IEQ in South Africa

Development and Use of a Classroom Observation Instrument for South African Classrooms

by Lynn Evans

During 1995-96 the IEQ Project and six non-governmental organizations (NGOs) providing inservice teacher training (INSET) programs in South Africa worked together to assess the impact of the training on teachers' instructional practices and learner participation in classes. In contrast to typical classroom evaluations by external evaluators, this effort involved collaboration in the development and use of a classroom observation instrument specifically designed to measure intended outcomes of the six training programs.

To develop the classroom observation instrument, program coordinators of the organizations providing INSET training met with IEQ team members to identify important program outcomes. These became the 11 components of teaching and learning in a learner-centered environment:

- Use of a Variety of Teaching Strategies
- Use of Materials by Learners
- Use of Materials by Teacher to Enhance Learning
- Grouping of Learners
- Learners Work in Groups
- Critical and Creative Thinking Activities
- Questioning Skills
- Learners Asking Questions
- Teacher Feedback to Learners
- Use of Language to Improve Learner Understanding
- Opportunities for Learners

These components are in line with findings of research on effective schools over the last decade (Ellett, Loup & Chauvin, 1991; Lockheed & Verspoor, 1991). Working together, INSET program coordinators and IEQ team members further articulated the components in terms of specific behaviors of teachers and learners, with intended outcomes of the programs identified as the "ideal" and assigned a rating of "4". Other less acceptable teacher and learner behaviors were identified and described along a continuum for each component, with the least acceptable assigned a rating of "1". An example using the component Learners Work in Groups follows:

Component 8: Learners Work in Groups			
4	3	2	1
<i>Groups of Learners discuss and there is a great deal of interaction</i>	<i>Groups of Learners are involved in activities and only a few interaction</i>	<i>Learners sit in groups but work as individuals</i>	<i>Learners are not grouped</i>

Project Summary: SOUTH AFRICA

The IEQ Project in South Africa is undertaking several impact assessments of teacher training programs developed and implemented by Non-Governmental Organizations (NGOs). These NGOs are supported by USAID/South Africa through the South Africa Basic Education Reconstruction (SABER) and the Education Services and Training (ESAT) projects. The focus is to improve the quality of basic education for disadvantaged majority students in four key areas: school administration; curriculum development; teacher training; and provision of materials and technology.

The IEQ project works in collaboration with NGO grantees to monitor program implementation and assess program performance. IEQ and the grantees work together on all segments of the evaluation process. Characteristics of the collaborative relationship include: identifying grantee information needs for inclusion in the design; working together to construct a design; developing instruments together; forming data collection teams of IEQ and grantee staffs; and jointly developing strategies for utilization of data to influence policy and improve practice.

IEQ and selected SABER and ESAT grantees are conducting impact assessments that examine the following: Educare (early childhood learning); Midlands Educational Trust and INSET (inservice teacher training); and ESSIT (language development in reading, writing, and thinking skills). The impact assessments compare the quality of teachers' instructional practices and learner participation of NGO-trained teachers with similar groups who have not received instructional training or teaching support.

Development and Use of a Classroom Observation Instrument for South African Classrooms...

IEQ team members provided training for program coordinators and other members of the INSET organizations selected as data collectors. As part of this training, participants viewed videotaped segments of classroom teaching and learning and made rating decisions independently, then discussed their ratings and rationales in small groups and came to a consensus.

In completing the observations, observers watched an entire lesson for each teacher (30 minute minimum), focusing on the teacher and learners, in order to observe learner engagement, learner interactions with the teacher and other learners, and learning equity (e.g., gender equity in opportunities to participate in class activities). For each component, observers chose the behavioral descriptor which most closely fit the behavior demonstrated by the teacher and/or learners in the class and assigned a rating of "1" to "4".

Results provide a large amount of information about teaching and learning in classrooms that can be used to determine the impact of INSET training programs for a variety of stakeholders---INSET organizations, policy makers, potential donors, etc. By building the capacity of local

educators, the collaborative approach to designing and using classroom observation instruments has the potential to impact practice in a number of ways:

- 1 INSET organizations can use the information to enhance their training programs and to provide targeted assistance to teachers.
- 2 INSET program coordinators can use the instrument periodically to continue to monitor the implementation of teaching and learning innovations emphasized in training programs.
- 3 INSET program coordinators now have the skills to develop instruments to monitor the implementation of other innovations using the same process.
- 4 Perhaps most importantly, through their involvement in the impact assessment, program coordinators have a new mind-set toward the use of evaluation as a tool to help them reach their intended program outcomes for teachers and learners. As one INSET program coordinator said, "The question no longer is, 'What did we do?' but rather, 'What was the impact?' It's a sobering question."

Sample Questions from Instruments Developed with IEQ Durban and NGOs

Task	Levels	What it measures	Sample ?	Scoring	Interpretation
EDUCARE TEACHER ASSESSMENT					
TEACHER INTERACTIONS					
Teacher-Child interactions	Pre-school	If teacher interactions are developmentally appropriate	How does the teacher discipline the children?	Observation checklist	With the majority of teachers interactions were appropriate
ESST ASSESSMENT INSTRUMENT					
PROBLEM SOLVING					
Problem Identification	Sr. primary (Standard 3-5)	Identifying the problem	"Which car will go faster?"	rating scale: 5=outstanding 1=inadequate	All the pupils were able to identify the problem that they had to choose one of the cars on the page.
INSET AND MET CLASSROOM OBSERVATION INSTRUMENT					
Variety of teaching methods	Primary	Use of variety of teaching methods that involve learners	How many teaching methods are used? Were learners involved?	Rating scale 4=ideal 1=poor	4=Teacher uses more than 2 teaching strategies that involve learners

MEASURING STUDENT ACHIEVEMENT IN ENGLISH, GRAPHICACY AND PROBLEM SOLVING

By Radya Ebrahim

ESST-Direct Assessment Instrument

The Educational Support Services Trust (ESST) is a non-governmental organization (NGO) that provides a variety of services in the formal and non-formal sectors of education. As part of an impact assessment study (IAS) of the English Proficiency Programme (EPP) offered by ESST, test sheets were developed to measure the effects of the programme on the performance of Standard 4 pupils.


INSTRUMENT: Test sheets

These test sheets are different from regular classroom tests because they measure more than the learners' subject knowledge. They have been developed to measure how the learner interprets, analyzes and synthesizes situations. "To measure operations of the whole mind" is the way ESST director, James Olivier describes them. These test sheets consist of exercises that are based on the magazines and books which comprise a major aspect of the EPP. Furthermore, the exercises measure certain basic cognitive functions described by Feuerstein (1979-1980), such as understanding spatial and temporal concepts, spontaneous comparisons, planning, etc. For the purpose of the IAS, the following cognitive competencies/performance areas were identified:

COMPETENCY	INDICATORS
1. English	linguistic fluency; usage; literacy; comprehension (following instructions)
2. Graphicacy	picture reading; creativity; originality; graphic perception and expression
3. Problem Solving	problem identification; finding the rules; logical/inferential thinking; hypothesis testing

Sample of Questions Asked on an ESST test


EPP IV




Suki wants to know:

Which car will go fastest?


Joe's car



Tsepo's car



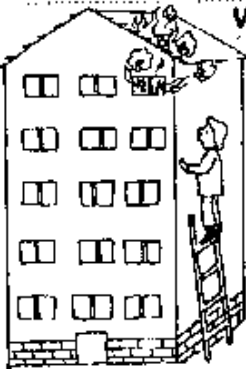
Billy's van



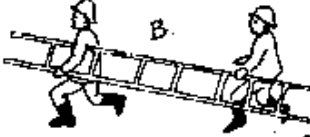
Answer: Why do you think so?

.....


Which ladder will get you to the roof of the house?




A.



B.



C.



D.

Answer:

How do you know?

.....

As a direct means of assessing the impact of the programme, two sets of test sheets, (4 test sheets per set) measuring the same cognitive competencies for each sheet, were developed by ESST. The first set of test sheets was administered during Phase I of the study and the second during Phase II. Each learner is required to complete two test sheets. Impact of the program is measured by looking at the difference between Phase I and II scores—the scores of individual competencies for both test sheets and average scores of test sheet 1 and 2.

Scoring

Criteria for scoring were developed according to the description of the three cognitive competencies identified. Each criterion consists of 5 descriptors which range from inadequate (1) to outstanding (5). Each descriptor consists of an explanation of the relevant indicator at an appropriate level.

IEQ in Uganda

IEQ Uganda Pupil Assessment

By Alfred Hartwell

Context for research

The research carried out under the IEQ Project in Uganda is a tool for supporting Uganda's primary education policy reforms aimed at improving teaching and learning at the classroom and school level.

The research activities in the first year of the project are to be used by policy makers and practitioners to provide baseline information about the schools and classrooms related to reform program activities that have just started. As those efforts mature the research focus will shift towards investigating the impact of the Ministry of Education's reforms on the quality of primary education.

Outputs from the first year field research include:

Baseline information, and descriptive analysis of representative schools, staff, classroom teaching and learning, pupils'

literacy and numeracy levels, and communities involved in the primary education reform, and specifically, in the first phases of the Teacher Development and Management System (TDMS).

Views and recommendations of key local stakeholders (teachers, headteachers, pupils, community members and local education officers) on the key issues, problems and opportunities for improving primary schools and classroom instruction.

An analytic overview of policy and education reform implementation issues related to school effectiveness in promoting children's access, participation and learning.

Sampling:

- 1 Eight schools within each of the districts Gulu, Masindi, and Luwero were selected with schools drawn from two TDMS clusters within each district.
- 2 Within each cluster, four schools were selected to form a circuit. The school sample includes: better and poorer schools (determined by Primary Leaving Examination (PLE) scores and the judgement of the District Education Officer.); town and rural schools, including rural schools of the main road; and schools in different grade (1, 2, 3, 4) classifications.
- 3 Pupil interviews and assessments were done at each school for: six students (3 boys, 3 girls), from classes 2, 4, and 6. To obtain a representative range of pupils in terms of academic achievement, the class teacher chose pupils whose class work ranged from good to poor. Eighteen pupils were to be interviewed and tested per school. However, it was not possible to do this in one school, and there were a few interviews/tests at other schools that were not completed. In all there was a total of 397 pupils with complete interviews and tests.

Project Summary: UGANDA

In Uganda, IEQ is collaborating with the Uganda National Examinations Board (UNEB), to assist the Government of Uganda's long-term effort to rehabilitate primary education. This effort is called the Support for Primary Education Reform (SUPER). The reform aims to improve students' mastery of literacy, numeracy and other basic skills; improve school administrators, management and accountability; and reduce inequalities among different groups of children. The IEQ/Uganda effort began in October 1994, and involves UNEB managing a research program that enables a broad range of researchers to conduct studies linked to the reform.

Sampling of Schools/teachers/classes/pupils visited

DATABASE TABLES	SCHOOLS & COMMUNITY	TEACHERS	CLASS OBSERVATIONS	PUPILS
No. of Cases	24	168	288	432
Variables	See Profiles: Staff, facilities, materials, management, community, enrollment, fees, pupils' literacy.	Characteristics: Age, sex, training, experience, P/T ratios-by class, supervision	Participation, Time on task, Learning activity, use of materials, assessment/feedback	Characteristics: Sex, age, repetition, health, lunch, assessment of school, work, literacy & numeracy

Sample Questions from Uganda Assessment Instruments

Class	Test Items	% Correct
Grade 6 Reading	Read aloud the sentence: I go to bed at night.	93%
	Read the paragraph and answer the questions that follow it: John writes a story. Yesterday was my brother's wedding. All my family went to the party. My brother wore a new suit and he looked very good. There were many presents. My aunt gave a beautiful pot. There was a lot of good food. I ate some meat and rice. There was music. I danced with my sister.	
	When was the wedding?	69%
	Who went to the party?	59%
	What did John eat?	55%
Grade 6 Writing	Write three sentences about your family.	52%
Grade 6 Maths	Complete 75 70 65	76%
	What is the average of 10 8 9 11	24%
	John walked for two hours at an average speed of 4 km per hour. How far did he walk?	34%
	There are 24 girls in a class. 6 do not have notebooks. What percentage (%) do have notebooks?	34%

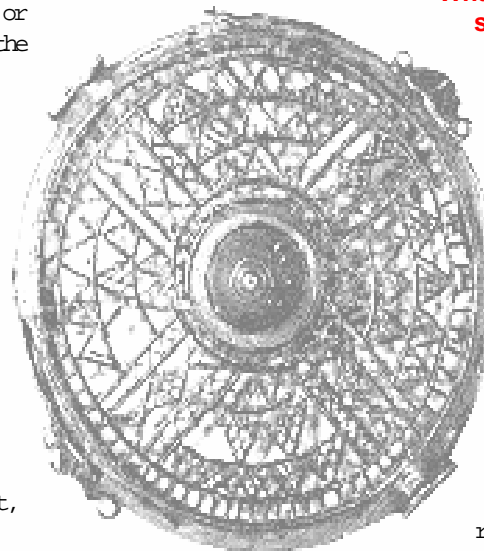
Children learning to read, sometimes recognize an entire word (e.g. their own name), without perceiving the letters of that name individually. But the test did follow a progression from letter to word to phrase recognition and comprehension.

Another method used was to link, or anchor, items from one class level to the next. Thus, there were a couple of overlapping items in reading, writing and mathematics between classes 2 and 4, and between classes 4 and 6.

All items were field tested, first with pupils in Kampala, later during a training workshop with field researchers in schools within the Masindi area. This workshop produced a "Researcher's Handbook" which included the tests and protocols for administering them (following a pupil interview).

Above is a sample from the full test, (Grade 6) showing the nature of the items, and the percentage of correct responses from the field study. There were approximately 130 pupils tested at each grade level, half boys and half girls, representing a typical range of ability within each grade at each school.

The tests performed, on the whole, quite well. The items showed good discrimination, and the progressions designed between one level of difficulty and the next appeared to hold. There were some items which did not function as expected, and these are being analyzed further to understand why children had difficulties with them.



What the tests reveal is that, in the sampled schools:

- ◆ pupils at classes 2 and 4 have only minimal literacy skills, much below what the curriculum assumes;
- ◆ approximately one half of the pupils at class 6 are unable to write a series of complete sentences; and more than one half are unable to perform more than basic mathematical operations (e.g. subtracting decimals, adding fractions, finding an average, solving a word problem);
- ◆ the range of overall pupil, and school performance is wide—and is correlated, particularly at class 6, with the school's overall PLE ranking. This indicates the disparities in school effectiveness and the problems of equity. The town schools do considerably better than the rural schools, the majority of which had fewer than 50% correct responses on the tests; and
- ◆ there was virtually no significant difference between girls' and boys' performance, with the exception of a couple of the more difficult items in mathematics at grade 6, on which boys outperformed girls.

PUBLICATIONS LIST

How Do Teachers Use Textbooks and Other Print Materials?: A Review of the Literature

Jeanne Moulton, September 1994

This report reviews the literature on teachers' use of textbooks and other print materials, both in developing countries and in the United States.

Curriculum-Based Assessment: Linking Curriculum, Assessment and Learning in Developing Education Systems

Aoigail Harris, Fordham University, and Aida Pasigna, IIR, November 1994

Defines curriculum-based assessment, explains how it can be used to improve the quality of the education process, and describes the applications of CBA in developing countries (Part 1 of a three-part series).

Improving Educational Quality for Sustainable Development in Africa, DRAFT

Paul Spector, Institute for International Research, December 1994

Classroom Profiles as a Stimulus for Improved Policy and Practice, DRAFT

Jane G. Schubert, IIR, December 1994

Describes the process of converting research findings into policy and improved classroom practices currently being implemented in Ghana through the IEQ project; focuses on how findings become practical classroom strategies.

Improving Educational Quality: A New Approach, Biennial Report #2

Don Adams, University of Pittsburgh, January 1995

La Nueva Escuela Unitaria: Una Experiencia Educativa Innovativa en Guatemala [Nueva Escuela Unitaria: An Innovative Educational Experience in Guatemala]

Accepted for publication in the OAS Journal "La Educación" by Yétilú de Baessa, IEQ/Guatemala, and Ray A. Chesterfield, Juárez and Associates

Describes the feedback provided to the Nueva Escuela Unitaria (NEU) program about the training of teachers during part of the NEU expansion effort.

Policy-Practice-Research-Dialogue Cycles in Improving Educational Quality

Don Adams, Mark Ginsburg, et al., University of Pittsburgh

Presents a cross-country analysis of the

policy-practice-research-dialogue cycle of IEQ Ghana, Guatemala and Mali.

Descriptive Timeline of the IEQ Project in Mali: July 1992 - November 1994

Alinasi Nal-I-Mbiwa, IIR

Reviews major events in the life of IEQ Mali that reflect the reality of supporting host country reform in a politically challenging and transitional environment.

The English Proficiency of Selected Ghanaian Primary School Pupils: Phase II Research Report

Beatrice Okyere, et al., CRIQPEG, University of Cape Coast, Ghana

Reports results of baseline data achievement in reading, writing, and oral proficiency in a sample of classes in grades 2-5.

A la Recherche d'un Consensus sur la Qualité dans l'Ecole au Mali [Toward a Consensus on the Quality of Education in Mali]

Joshua Muskin, Learning Systems Institute, Florida State University; Sékou Diana, ISFRA; and Bréhima Toukara, IIR

Looks at the results of Mali's varied educational initiatives and reforms since independence in order to shed light on the quality concerns of today's New Basic Education Reform.

Curriculum Analysis: A Reference Manual (Occasional Paper #4)

Jonathan Jansen, Vijay Reddy, March 1995

This document brings together the workshop plans for the final session of curriculum-related workshops entitled "Curriculum Development Workshop Program" during which participants learned about models of, and approaches to curriculum development, the role of media in materials development, and other related topics. This user-friendly manual can be used by organizations wishing to conduct similar training or internal analyses of their curricula and can also be considered a framework for doing curriculum analysis.

Beyond Effective Schools: A Critical Synthesis of the Literature and an Alternative Proposal with Particular Reference to Developing Countries (Occasional Paper #2)

Jonathan Jansen, 1994

This report applies a critical framework to the assessment of the effective schools

literature, examines the transnational impact of this literature and its limitation in the developing world and proposes an alternative which rests on different methodological, epistemological, and resource assumptions from those underpinning the effective schools literature.

Report on Nueva Escuela Unitaria Teacher Workshops, DRAFT

Yétilú de Baessa, IEQ/Guatemala

Presents result of two workshops conducted by the Improving Educational Quality (IEQ) Project with teachers from Nueva Escuela Unitaria (New Unitary School or NEU) program in May and June 1995.

Improving Educational Quality Project in Ghana: Preliminary Analysis of the IEQ "Story" in Ghana, DRAFT

Judy Sylvester, University of Pittsburgh

Describes the IEQ project in Ghana and how it promotes change in the quality of educational practice through research, and its implications for, and contributions to, educational policy and practice.

The IEQ Story in Mali, DRAFT

Thomas Clayton, Yidan Wang, Univ. of Pittsburgh

Focuses on IEQ research and its relationship to educational practice in Mali.

Curriculum-Based Assessment II, DRAFT

Aoigail Harris, Fordham University, Beatrice Okyere, Center for Research on Improving the Quality of Primary Education in Ghana (CRIQPEG), and Aida Pasigna, IIR

Describes how researchers developed instruments used to assess the English language skills of primary school pupils.

Participation by Girls in Ghanaian Primary Schools: Exploring Schools with Gender Equal Enrollments in a System Typified by Unequal Enrollments, DRAFT

Aoigail Harris, Cara Ghalan, Fordham University

While going beyond the question "Are there gender differences?", this report compares the academic performance of girls and boys as well as the classroom experiences of girls and boys in classrooms where enrollments are similar and dissimilar.

Please contact Dena Duerbeck for copies of these documents at the Institute for International Research, 1815 North Fort Myer Drive, Suite 600, Arlington, VA 22209 USA or by email at 76105.205@compuserve.com.

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