PD-ABW-441

THE MITCHELL GROUP, INC.

PERFORMANCE MONITORING AND EVALUATION (PME) PROJECT

Contract No. 641-C-00-98-00106

TRIP REPORT

By

DAVID CHAPMAN – HIID CONSULTANT

USAID/Ghana - Quality Improvement in Primary Schools (QUIPS) Project

A

To: Wes Snyder, Director, HIID Subcontract
Liz Barcikowski, Chief of Party, TMG

From: David Chapman

Date: 30 June 1999

Subj: Trip Report (Ghana QUIPS Performance Monitoring and Evaluation Project)

This report summarizes my scope of work, activities, and accomplishments during my consultancy for HIID to work with the Ghana QUIPS Performance Monitoring and Evaluation Project activities under subcontract to The Mitchell Group (TMG).

My scope of work, developed by Dr. Barcikowski (TMG/COP) upon my arrival in Ghana, included five tasks:

1. In collaboration with the QUIPS Project Partners in general and the TMG COP in particular, consider the impact monitoring priorities for the Partnership Schools Projects and support the development of a revised TMG Monitoring and Evaluation Plan.

2. Per request of the USAID/Ghana Mission, review the current indicators for the SO2 and the indicators of associated Intermediate Results, making recommendations for revisions where applicable.

3. Develop illustrative topics for Special Studies based on conversations with QUIPS Project Partners and the USAID/Ghana.

4. Suggest strategies through which Special Studies can be used for developing capacity in monitoring and evaluation among targeted MOE and GES staff at the Central Education Office and selected pilot Regional and District Education Offices.

5. Work with the TMG staff to review the data already available in the project and suggest ways these data can be incorporated into M&E activities.

Major Accomplishments

1. I worked with Dr. Barcikowski to formulate a revised monitoring and evaluation plan (described below) and joined her in presenting this plan to appropriate USAID and QUIPS project personnel. This activity included the identification of an illustrative set of special studies.

   With strong encouragement from USAID, ILP and CSA, we simplified and focused the monitoring and evaluation plan to concentrate on three issues of particular relevance to USAID and QUIPS. The central questions to be addressed in the revised plan are: (a) Do teachers in partnership schools teach differently than those in conventional schools? (b) Do students in partnership schools learn more than do

students in conventional schools? (c) Are students in partnership schools more likely to remain in school than are students in conventional schools? A fourth question is being investigated by CSA staff: Do partnership communities provide more financial and other support to their local schools than do other communities?

2. I worked with Dr. Barcikowski and ILP and CSA staff to develop an illustrative list of special studies that could be conducted. It is anticipated that many of these studies would be conducted through a collaboration with ILP, CSA, CRS, and/or MOE personnel. A list of illustrative special studies is presented later.

3. Working together, Dr. Barcikowski and I developed detailed implementation plan and timelines for undertaking the major studies identified in the plan (e.g, the study of student achievement and a study of classroom observation study).

4. Working with TMG staff, I conducted an analysis of pre-test achievement data collected by ILP at the beginning of Cohort II. Our hope was that these tests would provide a basis for a revised and elaborated achievement test to use with Cohort III.

5. Worked with TMG staff to conduct a series of statistical analyses of data available through the merged set of EMIS, QUIPS, and achievement data. Based on findings from preliminary analyses, we focused on the investigation of parent and community perceptions of their local schools.

The following attachments reflect the work accomplished during this consultancy:

- List of people contacted
- Overview of Draft TMG/HIID Monitoring and Evaluation Plan
- Draft Proposal: TMG/HIID Monitoring and Evaluation Plan
- Draft timeline -- project implementation
- Draft TMG/HIID Capacity Building Plan
- Detailed implementation plan: Classroom Observation Study (initial outline)
- Detailed implementation plan: Study of Student Achievement (initial outline)
- Detailed implementation plan: Study of Student Progression and Retention
- Illustrative List of Special Studies
- Memo regarding the appropriateness of school quality indicators
- Results of Special Study: Analysis of the ILP achievement tests from Cohort II

- Results of Special Study: What do we know about student achievement in Ghana?

David Chapman
Schedule of Activities

Monday, 7 June

Layover in Amsterdam

Tuesday, 8 June

2:35pm	Mtg w/ Liz Barcikowski (on plane)	Discussion of SOW
8:00pm	Mtg w/ Tom Welsh (@hotel)	Background Briefing

Wednesday, 9 June

8:30am	Liz Barcikowski, Tom Welsh	Background Briefing
10:00am	Wes Snyder, Liz Barcikowski, Tom Welsh	Background Briefing
12:00pm	Lynn Evans, Wes Snyder, Tom Welsh Liz Barcikowski	Background Briefing
2:00pm	Peter Kresge, Lynn Evans, Tom Welsh	Welsh Briefing
3:00pm	Gerry Boardman & staff, Ron Israel, Liz Barcikowski	CSA Briefing
7:00pm	Boardman/Evans party	Social gathering

Thursday, 10 June

8:30am Mtg with Liz Barcikowski
2:30pm Presentation by CSA staff
6:00pm Dinner with Wes Snyder

Friday, 11 June

7:00am worked at hotel
8:30am worked at office
12:00pm lunch with Liz Barcikowski
1:30pm mtg with Rudy Klaus, Liz Barcikowski
4:00pm worked at hotel
7:00pm dinner with Klaus's

Saturday, 12 June

8:00am worked at hotel
1:00pm lunch with Lynn Evans, Gerry Boardman, Wes Snyder, Huyian Hua, Joanna Carter, Kay Lehrer
4:00pm worked at hotel

Sunday, 13 June

8:00am worked at hotel
1:00pm lunch with Lynn Evans, Gerry Boardman
3:30pm worked at hotel

Monday, 14 June

7:00am worked at hotel
8:30am mtg with Liz Barcikowski
12:00pm lunch with Liz Barcikowski

Tuesday, 15 June

8:30am Mtg with Kay Lehrer, CSA
12:30 pm Mtg with Liz Barcikowski
3:30pm Mtg with Peter Kresge and Liz Barcikowski

Wednesday, 16 June
7:00am worked at hotel
8:30amMtg with Liz Barcikowski
9:00amMtg with George Wood, Statistician/TMG
2:00pmMtg with Dr. Ajepong (Cancelled)
2:00pmMtg with Lynn Evans, USAID
3:00pmworked at office
7:30pm dinner with Tom Welsh

Thursday, 17 June
8:00amMtg with Kish,(USAID) with Liz Barcikowski
9:00amMtg with Joan Sullivan(USAID) with Liz Barcikowski
10:00amDonor's meeting re: report of Tom Welsh
12:00pmlunch with Liz Barcikowski
1:30pmMtg with Richard Nidel, Lori Wichhart, Celeste, (CRS) and Liz Barcikowski
3:00pm Namibia evaluation seminar at USAID (by Wes Snyder)
7:00pm Dinner with Kay Lehrer

Friday, 18 June
7:00amworked at hotel
8:30amworked at office
1:30pmmtg with Mitch Kirby
2:00pmTMG staff meeting to review test analysis data
4:00pmMtg with Wes Snyder
5:30pm Reception at home of Liz Barcikowski
8:00pmdinner with Liz and Kay Lehrer

Saturday, 19 June
7:00amworked at hotel
8:00ambkft with Shirley Burchfield
10:30ammeet with Liz Barcikowski, Wes Snyder, Shirley Burchfield, Lynn Evans

Sunday, 20 June
7:00amworked at hotel
8:00ambkft with Shirley Burchfield
1:00pmmeet with Gp. Cpt. Albert Nkansa

Monday, 21 June
7:00am Travel to Cape Coast, mtg with CRIQPEG
5:00pm Return to hotel

Tuesday, 22 June
8:00am worked at TMG Office on Special Studies

Wednesday, 23 June
8:00amworked at TMG Office on Special Studies
11:00ammtg with Lynn Evans and Liz Barcikowski, TMG office
1:00amworked at TMG Office on Special Studies
5:00pmreception for Huyian Hua at Barcikowski home

Thursday, 24 June
7:00am bkft with Liz Barcikowski
8:00am mtg with Liz Barcikowski and Peter Kresge, USAID

9:30am mtg with Liz Barcikowski and Rudy Klaus, ILP
11:00ammtg with Liz Barcikowski, Gerry Boardman and Kay Lehrer, CSA
12:30pmlunch with Liz Barcikowski
2:00pm worked at TMG Office on preparation for Friday debriefing
7:00pm dinner with Kay Lehrer

Friday, 25 June

8:00amworked at TMG Office on Special Studies
11:00ampresentation to USAID and QUIPS project personnel (at USAID)
1:00pmworked with Liz Barcikowski on TMG/HIID Capacity Development Plan

Saturday, 26 June

9:00am worked at hotel with Liz Barcikowski on capacity building plan
5:00pm dinner with Gp. Cpt. Albert Nkansa

Sunday, 27 June

8:00am worked at hotel on capacity building plan and trip report
4:00pm mtg with Jan Leno (World Bank)
6:00pm Dinner with Gerry Boardman, Lynn Evans, Peter Kresge, Liz Barcikowski

Monday, 28 June

8:00am worked at hotel
9:00am mtg with CRS at TMG office

Tuesday, 29 June

8:00am worked at hotel
9:00am worked at TMG office
6:00pm leave for airport
9:15pm departed Accra

Wednesday, 30 June

6:10amarrived Amsterdam
11:15amdeparted Amsterdam
1:00pmarrived MSP

Draft Proposal

TMG/HIID Monitoring and Evaluation Plan

Elizabeth Barcikowski
David Chapman

25 June 1999

Overview

1. A Classroom Observation Study to Assess Level of Implementation.
   (To what extent do teachers in QUIPS schools employ improved instructional practices?)

2. A pre-post comparison of student achievement between project and non-project schools.
   (Do students in QUIPS schools learn more than they would in a conventional school?)

3. A study of students' retention in school and rate of grade-to-grade progression.
   (Are students in QUIPS schools more likely to remain in and eventually complete school?)

4. Special field studies

   Examples of Special Studies:
   - Alpha reliability and item analysis of the ILP pre-test of student attainment.
   - How do communities use locally collected resources to improve their schools?
   - Content analysis of community-school improvement plans (ILP) and community action plans (CSA) to compare the interventions suggested by district and by community leaders.
   - An analysis of data quality and of the accuracy of data flow from schools to the MOE
   - Availability of textbooks and instructional materials in partnership and non-partnership schools.
   - Extent that teaching practices are related to student achievement.
   - Extent of differences in student achievement across teachers with different levels of pre-service training

5. Continued development of an integrated data base

6. Capacity Building of MOE monitoring and evaluation staff

7. Community Contribution Study (a CSA study)

Draft Proposal

TMG/HIID Monitoring and Evaluation Plan

Elizabeth Barcikowski
David Chapman

25 June 1999

TMG/HIID has three main M&E activities within QUIPS project:

1. **Monitor** implementation of QUIPS.

   The purpose of TMG monitoring activities is to provide information to QUIPS projects and to USAID that can contribute to mid-course corrections. Since most monitoring will be conducted by ILP and CSA, TMG will concentrate on those issues that are cut across the separate QUIPS components. The TMG monitoring activities will focus on (1) the extent that intended inputs are being delivered and (2) the extent that school, community, and district personnel are implementing the intended activities.

2. **Evaluate** the impact of QUIPS along dimensions identified by USAID as important.

   TMG will focus its evaluation activities on issues of overall QUIPS project impact. Primary attention will be on the extent that there are meaningful differences between QUIPS and non-QUIPS schools on (1) teachers' instructional practices, (2) student achievement, and (3) students' grade-to-grade retention rates. The TMG evaluation will be supplemented by a study being conducted by CSA, which examines the extent that QUIPS and non-QUIPS communities differ in their financial support of their local schools.

3. **Build Capacity** of MOE staff to conduct monitoring and evaluation.

   TMG training will focus on training of MOE staff in (1) EMIS development, (2) analysis and use of EMIS data for policy deliberation, and (3) monitoring and evaluation to inform decision making. HIID, as the subcontractor specifically designated to assist in capacity building will play a particularly important role in this set of activities. The TMG/HIID emphasis will be on training-by-doing. It is anticipated that MOE staff will be fully involved with TMG/HIID staff in the on-going conduct of monitoring and evaluation activities.

Monitoring is concerned with extent that intended activities are being implemented as planned. ***Evaluation*** is concerned with the extent that those activities are having an impact (both intended and unintended) on student learning and other important outputs of

schooling. Within the QUIPS framework, ILP and CSA will continue to have primary responsibility for on-going monitoring of their own project activities. In particular, they will continue to be responsible for reporting the number and nature of the interventions (inputs) they provide to each community and school through their project activities. The TMG /HIID evaluation activities will concentrate on (1) assessing the impacts of the QUIPS project and (2) the use of project data to inform policy discussions. In the revised plan, TMG monitoring and evaluation activities will be organized around six activities:

6. **A Classroom Observation Study to Assess Level of Implementation. (To what extent do teachers in QUIPS schools employ improved instructional practices?)**

Many projects appear to fail not because the intervention was inappropriate, but because it was never (or only partially) implemented. Central to the success of the QUIPS project is that teachers implement improved instructional practices. To this end, a classroom observation study will be conducted to compare the pedagogical practices of teachers in QUIPS and non-QUIPS schools to determine the extent that the treatment (improved pedagogical practices) is actually occurring. This is a central activity of project monitoring. Equally importantly, it will inform the interpretation of subsequent evaluations of project impact, as QUIPS personnel are able to estimate the extent that intended instructional activities are occurring in classrooms.

7. **A pre-post comparison of student achievement between project and non-project schools. (Do students in QUIPS schools learn more than they would in a conventional school?)**

The single most important impact of the QUIPS program is increased student learning. Increased community participation, better instructional supervision, improved pedagogical practices, and better instructional materials are of little consequence if, in the end, student learning does not increase. Consequently, this will be the central focus of the TMG impact evaluation activities. To do this, TMG will reintroduce and implement a comparison group design, beginning with Cohort III, in which student achievement is compared between project schools and a group of comparison schools. Preliminary statistical analysis conducted as part of this consultancy indicates that many of the pretest items developed and administered by ILP for Cohort II worked well and could be used in the development of a Cohort III achievement measure.

8. **A study of students' retention in school and rate of grade-to-grade progression. (Are students in QUIPS schools more likely to remain in and eventually complete school?)**

Issues of interest to USAID include the extent to which improving the quality of instruction results in increased participation rate, decreased drop-out rate, and improved grade-progression rate. The population census data necessary to monitor changes in participation rate are not available (a new national census is scheduled for 2001). However, drop-out and grade progression rates will be collected and (a) compared over the life of the project and (b) compared to national norms (based on non-project schools).

It is expected that the national data will be collected by the MOE as part of the annual school survey. Parallel data for the QUIPS schools will be drawn from the EMIS data or collected by TMG with assistance from ILP and CSA.

9. Special field studies

A series of special studies will selectively collect new data in to supplement data already available in existing data sets in order to address issues of concern to the Ministry and the project. The studies will include both qualitative and quantitative methodologies. A list of illustrative studies is attached. These studies serve two purposes: (a) they will bring information to bear on topics relevant to MOE and USAID decision and (b) they will serve as the central means for continued capacity building of MOE M&E staff.

Previous capacity building has concentrated on providing MOE staff with background skills and knowledge in EMIS development and data analysis. TMG will now utilize this knowledge base by involving these MOE staff in ongoing studies. To this end, it is anticipated that MOE M&E staff will work closely with TMG/HIID staff in the collection, analysis, and reporting of data for these special studies.

These studies will be identified in two ways. First, the regular meetings that TMG/HIID staff hold with the MOE, GES, QUIPS project teams, and USAID staff will be used to elicit requests and suggestions for special studies. Second, exploratory data analysis of data available in the integrated EMIS will be conducted by TMG/HIID and MOE personnel to identify relationships that will help illuminate education activities (see discussion below).

5. Continued development of an integrated data base

TMG will continue with its original plan to organize and maintain a project data base which incorporates (a) EMIS data, (b) ILP and CSA monitoring and evaluation data, (c) student achievement data provided by the MOE and GES, and (d) selected data from other sources. This data set will be used as the basis for some of the special studies discussed above.

6. Capacity Building of MOE monitoring and evaluation staff

A key component of the TGM/HIID work is to develop a cadre of MOE staff with the skills and knowledge necessary to continue monitoring and evaluating activities within the education sector. The emphasis of this training will be learning-by-doing, as evaluation staff work side-by-side with TGM/HIID staff and consultants to conduct, interpret, and report the results of the studies described above.

Community Contribution Study (a CSA study)

An additional study considered important to the overall M&E effort is the extent that QUIPS communities contribute to the financial support of their local schools. This study is being conducted by the M&E staff of CSA. However, TMG/HIID may supplement it with a special study of how communities actually use the funds they raise to support their schools.

Considerations in shaping the revised M&E strategy.

In formulating the revised TMG/HIID monitoring and evaluation plan, five considerations were particularly relevant:

1. *Different combinations and intensities of interventions may occur in each school or community.*

   Since communities and schools receive a set of project activities tailored to their need, the nature and amount of the intervention will differ from community to community and school to school. The proposed evaluation designs will support claims about the overall impact of QUIPS project interventions. However, observed differences between QUIPS and non-QUIPS schools cannot necessarily be attributed back to particular components of the intervention (e.g., community support versus teacher training).

2. *Adequate baseline data on some dimensions of interest were not collected for Cohorts I and II. The revised TMG M&E plan will restart with Cohort III.*

   In some cases the difficulties encountered with Cohorts I and II were due to psychometric problems with data collection instruments and in some cases to decisions on the part of the USAID and contractor teams, which modified the original M&E design. TMG does not question the warrant of those design changes, but observes the limits those decisions impose on subsequent M&E claims. TMG proposes to reinitiate a comparison group design to allow a comparison of teacher practices and student achievement in QUIPS and non-QUIPS schools.

3. *Communities and schools involved with QUIPS may also be participating in (or in other ways influenced by) education improvement activities being sponsored by other international assistance agencies (e.g., British, German, French, Japanese).*

   To the extent possible, this information (participation and/or exposure to other improvement initiatives will be collected and incorporated into the analysis of impacts. However, to the extent that communities participate in multiple school improvement activities, the ability of M&E to attribute positive changes back to QUIPS will be limited.

4 *Some indicators of interest to USAID are mutually inconsistent.*

USAID expresses interest in both increased enrollment and increased achievement in target schools. However, increased enrollment typically results in a drop in average achievement scores as less advantaged students (with weaker prior preparation) are included among the test takers. To the extent that QUIPS promotes greater access and retention, average achievement scores may decline.

5 *Some indicators of interest to USAID are outside timeframe in which important outcomes might reasonably be achieved.*

One of the biggest risks in evaluation is to assess the impact of a treatment before it could reasonably be expected to have the desired effect. Research and experience suggest that some of the anticipated impacts of this project may not materialized for several years. For example, it may take several years of community level interventions before parents become sufficiently persuaded that improvements in the school are occurring to send their children to school. Similarly, students may need to experience several years of improved teaching before they understand and respond to the new learning demands in ways that lead to higher levels of achievement. Consequently, USAID needs to be sensible in what level of impacts it expects within the first few years of the QUIPS interventions.

Attachment 1

Preliminary implementation plan: Classroom Observation Study

Purpose: To assess the extent that teachers in QUIPS schools are implementing effective instructional practices.

Design Overview: Classroom observations, using the Ghana Classroom Observation (GCO) protocol, will be conducted of all third and sixth grade teachers in QUIPS schools and of 40 third grade and 40 sixth grade teachers in comparison schools. The GCO is based on the Classroom Observation protocol developed and used in Lesotho, Namibia, and Uganda (Snyder, 11998). This observation protocol collects observer ratings of teachers' classroom practices that are widely recognized to constitute effective teaching. Observations will be conducted by a team of specially trained Ghanian observers who will be selected from local universities, the MOE and from other work settings in Ghana. The goal is to leave a group of trained classroom observers that will be available to the MOE after the life of the QUIPS project. The Ghanian classroom observation team will be trained by 1-2 international consultants who have worked with the GCO in other settings.

Experience indicates that teacher's instructional practices often vary more from occasion to occasion or any single teacher than they vary across teachers. To help get a stable measure of teachers' instructional practice, each teacher will be observed three times, each time by a different observer. The observation data across the three observers will then be averaged for a composite rating on each dimension of the GCO. Usually this requires that team of 2-3 observers spend at least 3-4 days in each school and that each team member observe about 4 teachers per day.

Anticipated Implementation Schedule: Classroom observations should occur late in the school year, to give teachers time to practice and consolidate their new pedagogical skills. It is anticipated that it may take a month to collect the necessary data, depending on the number of observation teams that are available at that time. A table detailing implementation activities is included below.

Capacity Building Component: Different sets of Ghanian experts will be trained in the use of the Ghana Classroom Observation protocol, in the cleaning, management, and analysis of large data sets, and in the interpretation and reporting of statistical data.

Key Implementation Activities: Classroom Observation Study

ACTIVITY	DURATION	SCHEDULE
Select schools for observation		
Recruit/select classroom observation team		
Identify/recruit GCO trainer		
Train classroom observation team		
Arrange logistics of school site visits		
Arrange supervision/monitoring of data collection teams		
Collect data		
Coding and computer entry of data		
Training of M&E staff on data analysis procedures to be used		
Cleaning of data set		
Computation of average scores across multiple observations of same teacher		
Analysis of observation data: Comparison of QUIPS and non-QUIPS teachers		
Preparation of report		
Seminar to discuss findings and implication of findings for MOE and For QUIPS		

Attachment 2

Preliminary implementation plan: Study of Student Achievement

Purpose: To assess the extent that students in QUIPS schools learn more than students in comparison schools.

Background: The measurement of student learning within QUIPS has proven to be more difficult that originally anticipated and, as a result, baseline achievement data is weak. Two problems were encountered. *First*, the criterion referenced test administered in Grade 6 was too difficult for students and only about 3% of the students met the criterion score. The lack of variation in student scores renders this test data useless for purposes of program evaluation. *Second*, the Literacy and Numeracy (L&N) test administered by the GES was scored by the teachers in each test site. Indications are that the teachers (or others in the reporting chain) may have inflated the scores to show higher levels of student performance than were actually achieved. The underlying psychometric structure of the L&N test may acceptable and it may be possible to use the L&N test in future evaluation activities, but more secure conditions for its administration and scoring would need to be implemented. Since this test belongs to the MOE (rather than QUIPS), it may not be available for project use. ILP developed and subsequently revised an achievement test that was used to collect start-of-program attainment data on Cohort II students. An analysis of these pretest data suggest this test could be further developed and expanded for use as a project-wide achievement measure (see test analysis results of ILP test which are reported later in this report).

Design Overview: This study will compare achievement gain between students in QUIPS schools and a group of comparison schools. The study will be conducted only at grades 3, 4, and 6 and only in English and math. Simple gain scores, in which pre-test score is subtracted from post-test score, is notoriously unreliable and should not be used as a measure of achievement. Achievement gain will be defined as the residualized gain in student scores on a pre-test and post-test that will be designed by TMG. These tests will be administered by ILP in the QUIPS schools and by TMG in the comparison schools.

The achievement tests will be based on the ILP pre-test developed for Cohort II. A test analysis conducted as part of the present consultancy indicates that these pre-test measures had acceptable levels of internal consistency reliability, if selected items were dropped from the scales (see later attachment). These remaining items from the ILP pre-test will be supplemented with additional items developed by TMG in developing a new pre/post test for use with Cohort III.

Anticipated Implementation Schedule: Pre-testing should occur as early in the school year as possible, while post-testing should be scheduled for as last as is reasonably practical. It is anticipated that both pre- and post-test data for QUIPS schools will be collected by ILP and CRS (in the North). TMG will arrange for the collection of pre- and post-test data in the comparison schools. A table detailing implementation activities is included below.

Key Implementation Activities: Study of Student Achievement

ACTIVITY	DURATION	SCHEDULE
Complete analysis of ILP pre-test		
Meet with ILP staff to review achievement testing design and to coordinate data collection efforts		
Identify/recruit test development team		
Conduct item writing session		
Formulate revised achievement test		
Pilot revised achievement test		
Revise and finalize achievement test		
Select schools for achievement testing		
Identify comparison school testing		
Identify and arrange comparison school testing		
Organize logistics of in-school testing		
Administer pre-test		
Analyze pre-test data (test analysis; reliability, comparison of QUIPS and comparison school scores)		
Organize logistics of in-school data collection for post-testing		
Administer post-test		
Analyze post-test data (test analysis; reliability, comparison of QUIPS and comparison school scores)		
Pair student scores from pre and post tests.		
Analyze achievement gain; compare QUIPS and non-QUIPS achievement gains.		
Analyze achievement gains by region, gender, and other selected variables		
Prepare report on achievement outcomes of QUIPS		
Conduct Seminar on achievement outcomes of QUIPS		
Revise achievement test, based on results from Cohort III for use with subsequent cohorts		

Preliminary implementation plan

Study of Student Progression and Retention Achievement

Purpose: To assess the extent that students in QUIPS schools are more likely to remain in school and progress to the next grade compared to students in non-QUIPS schools.

This analysis will provide potentially useful information to the MOE about student repetition and dropout during primary school. Such information can be used (a) to compute cycle cost, (b) to estimate the number of additional teachers and classroom space that will be needed if repetition and dropout are reduced as a result of project interventions.

Design Overview: Data collected by ILP and CSA the progression and retention of students in QUIPS schools will be collected and compared to national summary data on student grade progression and drop-out that are available through the EMIS system within the MOE. While there are questions about the accuracy of the national EMIS data, it remains the official data set of the MOE and, for that reason, will be employed in this study.

Anticipated Implementation Schedule: In the present project design, each school participates in QUIPS for two years. This study will be conducted in the year following a school's participation in QUIPS.

Key Implementation Activities: Study of Student Progression and Grade Retention

ACTIVITY	DURATION	SCHEDULE
Collect/compute national data on progression and grade retention rates using longitudinal cohort analysis method		
Meet with ILP and CSA staff to coordinate means of collecting progression and grade retention for QUIPS schools		
Compute progression and grade retention for QUIPS schools		
Compare progression and grade retention rates between QUIPS schools and national averages		
Prepare report on changes in progression and grade retention rates		
Conduct Seminar to present results of analysis of changes in progression and grade retention rates		

List of possible special studies

1. **Alpha reliability and item analysis of the ILP pre-test of student attainment.**

   If the ILP pretest of student attainment has adequate internal consistency (alpha) reliability, it might be used to help determine achievement gain of students in partnership schools. (Even if the overall test has low reliability, it may also be possible to select a smaller set of items from the test that can be used as a pre-measure of attainment.) This might allow an assessment of achievement gain for Cohort II students. It might also provide justification for using the ILP test as a pre-measure of student attainment with Cohort III. Alternatively, if the pretest has low reliability, it suggests an urgent need to devise a more appropriate premeasure to use with Cohort III. *This study has been completed and is attached.*

2. **How do communities use locally collected resources to improve their schools?**

   A premise of the decentralization movement is that community members, who are closer to the problems of their local schools, know best how to invest available funds to improve their schools. Others argue that communities frequently do not know how best to invest their funds in ways that will encourage improved school quality. QUIPS provides a means of investigating this question – a question that is at the heart of school improvement activities in Ghana and around the world. As part of QUIPS, Partnership communities are collecting funds to support through such activities as Harvest Day and Open Day festivals. This study will use interviews with relevant community and school personnel to determine how communities actually allocate and use those funds.

4. **Content analysis of community-school improvement plans (ILP) and community action plans (CSA) to identify the variety and frequency of interventions which community members believe will improve their schools.**

   This analysis will help determine the variety (or, alternatively, the extent of commonality) in the interventions that communities believe will most improve their schools. High levels of commonality might suggest that a few key interventions might work well across many communities. This would be useful information in the design of future community level interventions.

   An alternative interpretation might be that communities were responding to the suggestions of project personnel rather than offering their own diagnosis of local education problems. This could be determined by an independent set of community interviews in approximately 10 communities to verify the reliability of the initial findings of the community analysis.

5. **An analysis of data quality and of the accuracy of data flow from schools to the MOE**

A preliminary field study by TMG found meaningful discrepancies between enrollment data reported in the EMIS and enrollment data recorded at the school level. This opens the possibility that quality of data available in the EMIS is low. The MOE and USAID should exercise caution in basing an evaluation of QUIPS on community and school level data that may differ substantially for reasons other than project impact. This special study would provide a basis for estimating the extent of data accuracy and provide a basis for better interpreting evaluation results.

6. **Availability of textbooks and instructional materials in partnership and non-partnership schools.**

Textbooks select, sequence, and pace content. Good textbooks help offset weaknesses in teacher preparation. Research suggests that the availability of textbooks is one of the most important elements in student learning. This study will examine: (a) the extent to which the availability of textbooks and other instructional materials has changed over the life of the project within Partnership schools and (b) the extent the extent to which the availability of textbooks and other instructional materials differ between partnership and non-partnership schools. The study will draw on existing baseline data already from TMG baseline data collection and supplement it with data collected through

7. **Extent that teaching practices are related to student achievement.**

This study would examine the extent that teachers with different amounts of pre-service training use different instructional practices. It would be conducted by connecting data already collected in the Classroom Observation Study and in the testing study and extending the analysis to compare the two data sets together.

Pre-service teacher training is one of the most widely used interventions to improve instructional practice. It is also one of the most expensive. Not only is the cost of the training high but teachers, once trained, command higher salaries. The additional cost might be justified if the training results in better classroom practice. However, if pedagogical practice does not improve, then the investment is largely wasted. This classroom observations study will compare the classroom practices of teachers with different amounts of pre-service training.

8. **Extent of differences in student achievement across teachers with different levels of pre-service training**

Is the investment in pre-service teacher training reflected in higher student achievement? The experience of other countries is mixed on this point. This

study will compare the achievement gain of students across teachers with different levels of pre-service education.

To: Peter Kresge, USAID

From: Liz Barcikowski and David Chapman

Date: 15 June 1999

RE: School Quality Indicators

Under the TMG contract, TMG is requested to provide USAID with an intermittent review of indicators associated with the QUIPS project. This memo addresses our concern with the appropriateness of the utilization of school quality indicators as an indicator of USAID Strategic Objective 2.

Background: School quality indicators were initially conceived as a means of providing the Ministry of Education with an objective basis for unequal allocation of resources across schools. The intention was that Government, through a consensus building process involving many stakeholder groups, would formulate a set of minimum standards for an effective school. Once the minimum standards were established, a profile across these standards was to be developed for each school. Schools falling below this set of standards would be eligible for a special allocation of resources intended to bring them up to the minimum level.

Current Situation: Given the direction of educational reform in Ghana, the use of a common set of school quality indicators is no longer judged to be appropriate. Under recent national legislation, Ghana has chosen to emphasize the decentralization of education to the regional, district, and community level. As part of the QUIPS project, individual communities are being encouraged to develop their own community action plans, which includes development of locally relevant indicators. It is no longer appropriate for USAID to be emphasizing the formulation of a common set of national standards while the Government is trying to move toward a more decentralized approach. The ILP and CSA projects (components of QUIPS) have already adjusted their implementation plans to align with current Government policy.

Moreover, the Medium Term Development Framework (1999-2001) recently adopted by GOG specifies that resource allocation to schools is to be on a per pupil basis. It that respect, GOG has already passed over the possibility of using a more sophisticated formula (such as represented by school quality standards).

We recommend that USAID modify its indicator list associated with SO2 to drop the use of school quality standards as an indicator of QUIPS success.

Results of a Special Study

Analysis of the ILP achievement tests from Cohort II

Prepared by

Emma Gyamera, The Mitchell Group
George Woode, The Mitchell Group
Liz Barcikowski, The Mitchell Group
Michael Sowah, The Mitchell Group
David Chapman, HIID consultant

22 June 1999

Background: A central feature of the revised TMG/HIID monitoring and evaluation plan is a test of student achievement that will be given on a pre- and post-test basis in both Partnership and comparison schools. The success of the study depends, in large part, on having an achievement test that provides valid and reliable information about student learning.

In particular, high levels of reliability are necessary to ensure that differences in student achievement scores over time (or between groups) are due to what students have learned rather than to errors in the test itself. Low reliability might mask evidence of important learning gains.

Purpose: The present analysis was conducted to determine the internal consistency reliability of the pre-tests in English and math that were administered by ILP at the beginning of Cohort II. The purpose of this activity is to determine if these tests have sufficient reliabilitiy to serve as the basis for the achievement tests to be administered on a pre- and post-test basis to students in Cohort III.

Main Findings:

- The internal consistency reliability of the ILP pre-tests was remarkably high. The good work of ILP provides a solid foundation on which TMG can build revised achievement tests for English and math.

- Items that were lowering the reliability of each test were identified. We recommend that these items be dropped from the test.

- The internal consistency reliability for each test was re-calculated after deleting the weak items. The revised reliability estimates and the items we recommend for deletion are presented in the table below.

Table 1

Internal Consistency Reliability of ILP Cohort 11 Pre –Tests in English and Maths

Test	Region	Average score in Regions	No of items on revised test	Max. Available Score	Internal consistency reliability	Items dropped to achieve this level of reliability
Grade 3 English	Ashanti	16.23	37	69	.93	13, 24, 40
	Brong Ahafo	14.16				
	Central	14.85				
	Eastern	25.52				
	Greater Accra	31.44				
	Western Region	22.00				
Grade 3 Maths	Ashanti	6.36	23	23	.89	15,16b
	Brong Ahafo	3.166				
	Central	5.30				
	Eastern	8.44				
	Greater Accra	11.28				
	Western Region	6.76				
Grade 4 English	Ashanti	16.13	20	79	.84	1, 24(RA),16,17, 18,22,
	Brong Ahafo	12.83				
	Central	16.33				
	Eastern	29.41				
	Greater Accra	43.68				
	Western Region	17.25				
Grade 4 Maths	Ashanti	5.46	26	32	.85	2,14,18,22,25,27, 28,32b
	Brong Ahafo	6.25				
	Central	6.23				
	Eastern	8.25				
	Greater Accra	10.95				
	Western Region	6.39				
Grade 6 English	Ashanti	32.93	31	99	.78	23(readaloud), Comp1(4,8,9,10) Comp2(3,), 19
	Brong Ahafo	16.67				
	Central	24.17				
	Eastern	45.81				
	Greater Accra	62.95				
	Western Region	46.52				
Grade 6 Maths	Ashanti	2.9	36	39	.86	9,10,11,12,13, 15b,18a,28,32, 34b,34e
	Brong Ahafo	1.33				
	Central	2.85				
	Eastern	4.17				
	Greater Accra	7.50				
	Western Region	3.62				

Results of a Special Study

What do we know about student achievement in Ghana?

Prepared by

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David Chapman, HIID consultant

23 June 1999

Background: One important role of monitoring and evaluation is to test key assumptions on which programs are based, to ensure that program design and implementation efforts are appropriately targeted. Often referred to as *context evaluation*, these studies can inform the direction of project activities as initial assumptions are confirmed or disconfirmed.

One premise in the design of the QUIPS project was that there are meaningful differences in initial levels of boys' and girls' academic attainment and grade progression, to the disadvantage of girls. A further assumption, widely shared by project personnel, is that differences between boys' and girls' achievement is greater in the more rural regions of the country. These assumptions contributed to a premise that influenced the project design, that girls' in Ghanaian primary schools need special attention and support to ensure their academic achievement and retention in school.

Methodology: During December 1998, a random sample of students in grades 3, 4 and 6 completed grade-appropriate attainment tests in English and mathematics. The tests were administered to a random sample of five girls and five boys from each classroom in participating in the Improving Learning Partnership (ILP) Cohort II. (In rare cases, when there were an insufficient number of either gender, the larger group was over-sampled to ensure a total of 10 students from each classroom). During Cohort II, the ILP project was operating in six regions.

The English and math tests were developed by the Center for Research on Improving Primary Education in Ghana (CRIQPEG), under contract from the ILP project. The tests were based on the Ghanaian primary school curriculum currently in use. Internal reliability was calculated and items found to be detracting from overall test reliability were dropped from the scale and a new internal consistency reliability coefficient was calculated. The revised reliability estimates used in the subsequent analysis are reported in Table 1.

Grade progression rates were drawn from the EMIS maintained by the EMIS. The accuracy of data in this system has been questioned and there is evidence that school reporting error may be significant. However, these data represent the official MOE

Table 1

Internal Consistency Reliability Estimates for ILP Test of Initial Student Attainment

Subject	Level	No. of items	Internal consistency reliability
English	Grade 3	37	.93
math	Grade 3	23	.89
English	Grade 4	20	.84
math	Grade 4	26	.85
English	Grade 6	31	.78
math	Grade 6	36	.86

school statistics and presumably, is the information used by the MOE in policy deliberations regarding student drop-out and retention.

Oneway analysis of variance was used to test the statistical significance of difference in the initial attainment scores of boys and girls and to test differences in attainment scores of all students by region. Average scores by gender and by region are reported in Tables 2 and 3.

Findings: Boys and girls do not differ significantly in their initial level of English achievement at any of the three grades. They do not differ in their initial level of math achievement until grade 6, when boys show a slightly (though statistically significant) higher score.

Math seems to pose a particular problem. Initial attainment for both boys and girls on the curriculum-based math test was low. On average, grade 6 students scored 4-5 points out of 39

Official MOE statistics suggest that drop-out and grade repetition rates in Ghanian schools are low, relative to many other countries at similar stages of development (and, for that matter, most other countries in the world).

Implications: These measures of initial student knowledge about English and math at different points in primary school suggest that special efforts to bolster the achievement of girls may not be necessary. However, special efforts to support the schools in the Brong Ahafo and Central regions may be important to ensure that these children catch up with those in other regions.

Key Findings

Primary children's knowledge of English and math has almost nothing to do with whether the student is a boy or a girl, but it has a great deal to do with the regions in which they live. QUIPS project efforts should be targeted more on regional difference than gender differences.

To the extent that the official national data reflect the situation in the schools, student drop-out and grade retention do not appear to be major problems. QUIPS project efforts should be targeted more on raising school quality than on reducing drop-out and grade retention.

Table 2
Results of ANOVA to Test Significance of Achievement Scores by Gender

Test	Level	No. of Items	Max. Avail. Score	N		Mean		Std. Deviation		F	P
				Male	Female	Male	Female	Male	Female		
English	Primary 3	37	69	139	133	22.36	21.27	14.73	13.92	.397	N.S
	Primary 4	20	79	140	128	24.95	25.19	17.68	18.50	.012	N.S
	Primary 6	31	99	135	128	41.19	38.84	25.67	24.63	.569	N.S
Maths	Primary 3	23	23	137	134	7.83	6.91	5.30	5.62	1.927	N.S
	Primary 4	26	32	138	131	7.97	7.35	4.71	4.54	1.204	N.S
	Primary 6	36	39	134	131	4.66	3.54	4.78	3.21	4.937	.027

Table 3

Results of Anova to test Significance of Achievement Scores by Regions

				Ashanti Region			Brong Ahafo Region			Central Region			Eastern Region			Greater Accra Region			Western Region				
Test	Level	No.of Items	Max Avail Score	N	Mean	Std. Dev.	N	Mean	Std. Dev.	N	Mean	Std. Dev.	N	Mean	Std. Dev.	N	Mean	Std. Dev.	N	Mean	Std. Dev.	F	P
English	Primary 3	37	69	30	16.2	5.83	30	14.16	4.7	60	14.8	11.55	61	25.5	14.02	61	31.4	17.69	30	22	10.91	14.77	0.00
	Primary 4	20	79	30	16.1	6.49	30	12.8	10.05	60	16.3	9.96	60	29.4	16.97	60	43.7	18.82	28	17.2	12.16	35.45	0.00
	Primary 6	31	99	29	32.9	16.42	30	16.7	12.26	60	24.2	16.13	58	45.8	23.69	59	62.9	20.94	27	46.5	23.21	34.89	0.00
Maths	Primary 3	23	23	30	6.4	4.91	30	3.2	3.19	60	5.3	4.94	61	8.4	5.01	60	11.3	5.35	30	6.8	4.69	15.35	0.00
	Primary 4	26	32	30	5.5	2.89	31	6.2	4.2	60	6.2	4.32	60	8.2	3.89	60	10.9	4.99	28	6.4	4.16	11.65	0.00
	Primary 6	36	37	30	2.9	1.97	30	1.3	1.77	60	2.8	2.21	58	4.2	3.4	60	7.5	6.03	27	3.6	2	16.24	0.00

1. National Primary Enrolment Transition Rates for Boys & Girls (Public & Private Schools)

Class		1993/94		1994/95		1995/96		1996/97		1997/98
P1	Enrolment	432,229		424,935		433,412		478,647		483,323
	Repeaters	24,568		24,841		28,332		29,147		27,722
	Promotion		85.5%		86.8%		90.8%		81.5%	
	Repetition		5.7%		6.7%		6.7%		5.8%	
	Dropout		8.8%		6.5%		2.5%		12.7%	
	Total		100.0%		100.0%		100.0%		100.0%	
P2	Enrolment	382,547		382,906		383,316		408,921		406,085
	Repeaters	13,004		13,420		14,513		15,571		16,038
	Promotion		93.6%		95.2%		99.7%		90.7%	
	Repetition		3.5%		3.8%		4.1%		3.9%	
	Dropout		2.9%		1.0%		-3.7%		5.4%	
	Total		100.0%		100.0%		100.0%		100.0%	
P3	Enrolment	369,084		368,724		376,320		394,229		385,118
	Repeaters	10,219		10,579		11,929		12,241		14,244
	Promotion		92.9%		94.5%		97.5%		89.0%	
	Repetition		2.9%		3.2%		3.3%		3.6%	
	Dropout		4.3%		2.3%		-0.7%		7.4%	
	Total		100.0%		100.0%		100.0%		100.0%	
P4	Enrolment	345,753		351,725		358,802		377,108		363,727
	Repeaters	8,318		8,952		10,374		10,277		12,998
	Promotion		91.4%		92.4%		94.7%		86.8%	
	Repetition		2.6%		2.9%		2.9%		3.4%	
	Dropout		6.0%		4.7%		2.4%		9.8%	
	Total		100.0%		100.0%		100.0%		100.0%	
P5	Enrolment	317,330		323,613		333,358		348,439		338,148
	Repeaters	6,725		7,587		8,397		8,619		11,000
	Promotion		92.8%		93.4%		95.3%		86.7%	
	Repetition		2.4%		2.6%		2.6%		3.2%	
	Dropout		4.8%		4.0%		2.2%		10.2%	
	Total		100.0%		100.0%		100.0%		100.0%	
P6	Enrolment	291,692		302,743		311,527		326,003		313,341
	Repeaters	6,775		8,305		9,359		8,475		11,302

29

2. National Primary Enrolment Transition Rates for Boys Only (Public & Private Schools)

Class		1993/94		1994/95		1995/96		1996/97		1997/98
P1	Enrolment	227,643		223,025		227,690		250,949		251,612
	Repeaters	12,939		13,209		15,070		15,621		13,861
	Promotion		86.0%		87.2%		91.1%		81.8%	
	Repetition		5.8%		6.8%		6.9%		5.5%	
	Dropout		8.2%		6.0%		2.0%		12.7%	
	Total		100.0%		100.0%		100.0%		100.0%	
P2	Enrolment	202,573		202,997		202,228		215,915		213,323
	Repeaters	6,848		7,131		7,653		8,416		8,019
	Promotion		94.2%		95.8%		100.3%		91.0%	
	Repetition		3.5%		3.8%		4.2%		3.7%	
	Dropout		2.3%		0.4%		-4.4%		5.3%	
	Total		100.0%		100.0%		100.0%		100.0%	
P3	Enrolment	197,061		196,407		200,846		209,357		203,661
	Repeaters	5,419		5,637		6,387		6,582		7,122
	Promotion		93.6%		95.1%		98.0%		89.5%	
	Repetition		2.9%		3.3%		3.3%		3.4%	
	Dropout		3.5%		1.7%		-1.2%		7.1%	
	Total		100.0%		100.0%		100.0%		100.0%	
P4	Enrolment	187,609		189,163		192,417		202,308		193,890
	Repeaters	4,503		4,724		5,667		5,535		6,499
	Promotion		91.6%		92.9%		95.3%		87.2%	
	Repetition		2.5%		3.0%		2.9%		3.2%	
	Dropout		5.9%		4.1%		1.9%		9.6%	
	Total		100.0%		100.0%		100.0%		100.0%	
P5	Enrolment	174,391		175,869		180,321		187,925		181,817
	Repeaters	3,670		4,091		4,593		4,628		5,500
	Promotion		93.8%		94.6%		96.5%		87.7%	
	Repetition		2.3%		2.6%		2.6%		2.9%	
	Dropout		3.8%		2.7%		0.9%		9.4%	
	Total		100.0%		100.0%		100.0%		100.0%	
P6	Enrolment	163,423		168,325		171,865		178,582		170,447
	Repeaters	4,022		4,731		5,425		4,534		5,651

3. National Primary Enrolment Transition Rates for Girls Only (Public & Private Schools)

Class		1993/94		1994/95		1995/96		1996/97		1997/98
P1	Enrolment	204,586		201,910		205,722		227,698		231,711
	Repeaters	11,629		11,632		13,262		13,526		13,861
	Promotion		84.9%		86.3%		90.3%		81.1%	
	Repetition		5.7%		6.6%		6.6%		6.1%	
	Dropout		9.5%		7.1%		3.1%		12.8%	
	Total		100.0%		100.0%		100.0%		100.0%	
P2	Enrolment	179,974		179,909		181,088		193,006		192,762
	Repeaters	6,156		6,289		6,860		7,155		8,019
	Promotion		93.0%		94.5%		99.0%		90.3%	
	Repetition		3.5%		3.8%		4.0%		4.2%	
	Dropout		3.5%		1.7%		-2.9%		5.5%	
	Total		100.0%		100.0%		100.0%		100.0%	
P3	Enrolment	172,023		172,317		175,474		184,872		181,457
	Repeaters	4,800		4,942		5,542		5,659		7,122
	Promotion		92.0%		93.8%		96.9%		88.4%	
	Repetition		2.9%		3.2%		3.2%		3.9%	
	Dropout		5.1%		3.0%		-0.1%		7.8%	
	Total		100.0%		100.0%		100.0%		100.0%	
P4	Enrolment	158,144		162,562		166,385		174,800		169,837
	Repeaters	3,815		4,228		4,707		4,742		6,499
	Promotion		91.2%		91.8%		94.1%		86.3%	
	Repetition		2.7%		2.9%		2.9%		3.7%	
	Dropout		6.1%		5.3%		3.1%		10.0%	
	Total		100.0%		100.0%		100.0%		100.0%	
P5	Enrolment	142,939		147,744		153,037		160,514		156,331
	Repeaters	3,055		3,496		3,804		3,991		5,500
	Promotion		91.5%		91.9%		93.8%		85.5%	
	Repetition		2.4%		2.6%		2.6%		3.4%	
	Dropout		6.0%		5.6%		3.6%		11.1%	
	Total		100.0%		100.0%		100.0%		100.0%	
P6	Enrolment	128,269		134,418		139,662		147,421		142,894
	Repeaters	2,753		3,574		3,934		3,941		5,651

Calculation of Enrolment Transition Rates:

1. Promotion Rate: The promotion rate is calculated by subtracting total enrolment in class X+1in year X+1 from repeaters in class X+1in year X+1, and dividing this amount by total enrolment in class X in year X. For example,

Primary 2 Enrolment in 1994/95:	382,906
Primary 2 Repeaters in 1994/95:	13,420
Difference:	369,486
Primary 1 Enrolment in 1993/94:	432,229
Promotion Rate:	**85.5%**

2. Repetition Rate: The repetition rate is calculated by dividing the repeaters in class X in year X+1 by total enrolment in class X in year X. For exampl

Primary 1 Repeaters in 1994/95:	24,841
Primary 1 Enrolment in 1993/94:	432,229
Repetition Rate:	**5.7%**

3. Dropout Rate: The dropout rate is calculated by the following procedure:

(a) subtract total enrolment in class X+1in year X+1 from repeaters in class X+1in year X+1;
(b) add repeaters in class X in year X+1 to the value from (a) above;
(c) subtract the value calculated in (b) from total enrolment in class X in year X; and, finally
(d) divide the amount in (c) by total enrolment in class X in year X. For example,

(a)	Primary 2 Enrolment in 1994/95:	382,906
	Primary 2 Repeaters in 1994/95:	13,420
	Subtracted Value:	369,486
(b)	Primary 1 Repeaters in 1994/95:	24,841
	Added Value:	394,327
(c)	Primary 1 Enrolment in 1993/94:	432,229
	Subtracted Value:	37,902
(d)	Primary 1 Enrolment in 1993/94:	432,229
	Dropout Rate:	**8.8%**