

**SAVE THE CHILDREN (US)**

**QUEST FOR LEARNING**

**Using Research to Inform  
Project Implementation**

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# Using Research to Inform Project Implementation

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## Introduction

The Quality Education through Supporting Teaching (QUEST) Project, funded by USAID, began in November 1998. The QUEST model aims at decentralize action to improve the quality of education at the zone, cluster and school level. In implementing this initiative, The Save the Children (SC) QUEST Team works in partnership with the Ministry of Education, Sports and Culture (MOESC); Ministry of Gender, Youths and Community Services (MOGYCS); and communities to implement quality educational activities district-wide in Mangochi, Balaka and Blantyre. The project has four main objectives:

- ***Increase Access:*** through the construction / establishment of 33 new Village Based Schools targeting 16,500 pupil enrollment in standards 1 to 4.
- ***Enhance Quality:*** through supporting the use of creative participatory methods of teaching to achieve quality learning in schools in the target districts and improve learning by 20% over the period of the intervention.
- ***Improve Efficiency:*** by empowering school committees, headteachers, PTA members and local leaders to monitor school attendance and dropout rate, thereby reducing dropout and repetition by 10%.
- ***Research on Integrated Curriculum:*** to test the impact of implementing an integrated approach to the national curriculum in order to inform nation policy.

In this paper, we briefly present the methodology used in the QUEST Research Component and review baseline data that influenced project interventions with teachers and communities during 1999. We describe the interventions undertaken during 1999 and discuss their impact upon pupil performance. As such, we focus upon the objective of enhancing quality noted above. Finally, we consider implications for implementation during the 2000 school year.

## **Methodology**

The QUEST Project Research Component aims to establish the position of the schools before the project took off, assist in identification of key intervention areas and assess the impact of the project at later stages. The instruments were developed and tested by a team comprising Malawi Institute of Education (MIE), SC and Centre for Education Research and Training with technical assistance from American Institute of Research. The pupil assessments developed based were on the national curriculum.

A variety of stakeholders from the education system participated in the data collection effort. Teacher Trainers from Montfort College and Primary Education Advisors (PEAs) observed teachers' lessons. Curriculum Developers from MIE and Education Trainers from SC assessed pupils or observed classes. Teachers also assess pupils (although never in their own schools). Community Development Assistants (CDA) interviewed stakeholders at the schools and school graduates who were employed to work as logistical staff.

In February 1999, a total of 65 schools were visited, 60 in Mangochi and 5 in Balaka districts. The schools comprise a stratified random sample based on the size of the standard 2 class using the 1997 MOESC School Census Report. Within classes, pupils were selected at random, 16 from Standard 2 and 8 each from Standards 3 and 4. An equal number of boys and girls was selected from each class. In each school, pupils were assessed in Mathematics, English and Chichewa. Their teachers were interviewed, observed and took subject knowledge tests. Headteachers and communities were interviewed and school infrastructure and resources observed. This data was analyzed to help shape QUEST interventions.

In October 1999, a follow up survey was undertaken to assist in assessing the impact of the project activities for year one and establish guidelines for project activities in year two. Previously established parallel assessments were used to follow the same pupils. Less than 25 percent of the pupils who were tested in February were absent at the time of the posttest in October. Also in October, it was found that nearly half of the teachers in the sample in February had left their classrooms for various reasons. The current teacher of each class was thus used as a replacement in the sample and baseline interview information was collected from them.

## Teachers

The average teacher in the sample is 30.1 years old and has 81 pupils in his/her class. Seventy percent are male and 67 percent cannot speak Yao (in a district where 64 percent of pupils speak Yao at home). The vast majority (74 %) hold a Junior Certificate of Education, representing a successful examination after ten years of schooling. The remaining 26 percent hold a Malawi School Certificate of Education, having passed the exam after 12 years of schooling. Teacher subject knowledge tests assisted the project in the selection of mentor teachers and also determined important areas for teacher training focus. The tests were based on extracts from 1998 Primary School Leaving Certificate Examinations (given after 8 years of formal schooling) in Mathematics and English. Average scores were low, at 11.14 out of 18 on Mathematics and 38.6 out of 52 in English. Only 39 percent of these teachers are professionally qualified, meaning that they hold a teaching certificate from MOESC. At the time of the baseline analysis, pupils whose teachers were more academically or professionally qualified had higher scores language than those who did not. Math scores, however, were comparable across these teacher characteristics.

## *Interventions*

Save the Children and its Ministry partners train and supervise teachers by focusing upon practical skills, learner participation, diverse methods, local materials, community participation and continuous assessment. Practical teacher training for teachers promotes *and demonstrates* a wide breadth of “survival skills” focused on instruction. The participatory nature of the training brings teaching and learning to life by modeling a method of teaching to harness pupil action and enthusiasm. The use of diverse methods keeps pupil learning progressing in the classrooms and local materials as central resources for teachers and teacher trainers alike challenge both groups to be creative in ensuring quality primary education. Communities and teachers are mobilized and trained to work together on a variety of activities to raise the quality of education. Finally, QUEST is introducing the use of continuous assessment in the classroom to more thoroughly support pupil persistence and learning.

Using this approach in Mangochi during 1999, the partners trained 1,223 lower primary teachers in creative teaching methods stressing the weak areas noted from the baseline survey. They trained 15 PEAs to support teachers in creative, participatory approach to teaching. They

trained 395 headteachers and their deputies in management and supervision skills, and selected and trained 63 mentor teachers to assist in cluster training and supervision of teachers. Finally, to bolster teacher support and development efforts, QUEST provided bicycles to the mentor teachers and fuel and lubricant for motorcycles to the PEAs (a maximum of 8 liters per month).

### *Impact of QUEST on teachers*

A key source of information on the impact of these training efforts is the teacher observation data. Teachers were rated by trained observers on a variety of skills used during three of their lessons. The scale ranged from not done to 2=poor, 3=weak, 4=good and 5=outstanding. In the areas of pupil participation, effectiveness of teaching methods, and use of locally available resources, the progress presented in Table 1 was observed.

**Table 1. Mean Teacher Observed Performance**

<i>Degree of pupils participation</i>	<i>Baseline Mean</i>	<i>Follow up Mean</i>
<i>a. Individuals participate throughout the lesson</i>	3.69	3.93*
<i>b. Pupils initiate interactions with the teacher.</i>	2.62	1.78
<i>c. Teacher promotes learning with minimal use of drilling and choral response.</i>	3.45	3.46
<i>d. Pupils given a variety of exercises to practice skills.</i>	3.71	3.80
<b><i>Effectiveness of methods used</i></b>		
<i>a. Uses pair work</i>	1.38	1.26
<i>b. Uses group work</i>	1.50	1.92*
<i>c. Uses role play</i>	1.16	1.18
<i>d. Uses song</i>	1.40	1.28
<i>e. Uses demonstration</i>	3.16	3.62*
<i>f. Uses varied approaches to deliver the subject matter</i>	2.95	3.43*
<i>g. Integrates other curriculum subjects into the lesson</i>	2.29	2.37
<b><i>Use of locally available teaching and learning aids</i></b>		
<i>a. Relevant to the subject matter being delivered.</i>	2.61	3.01*
<i>b. Used at the right stage and time in the lesson.</i>	2.57	2.94*
<i>c. Suitable for age group of learners</i>	2.58	2.95*
<i>d. Help the learners to grasp the point being taught.</i>	2.73	2.91

\*indicates that the difference between means is significant ( $p < .05$ )

In three of the four areas observed under the category of pupil participation, improvement towards good performance was seen in the sample. While improvement in individual participation throughout the lesson was significant, pupils were given less opportunity to initiate

interaction with the teachers during observed follow up lessons. It is uncommon for pupils to initiate interactions with teachers in Malawian classrooms, a shift that requires further attention during implementation in 2000.

In the use of demonstration (e) and varied teaching approaches during lessons (f), there was significant improvement that on average progressed from weak marks in February towards good in October. While there was some progress in promoting certain types of methods such as group work, role play, and integration of other curriculum subjects into the lesson, the average ratings for these observed items are quite low and additional work is required in 2000. Finally, these teachers showed significant improvement in their use of locally available teaching and learning aids during the year. Again, progress towards enhanced performance in 2000 can be made.

### *Challenges and Future Plans*

The baseline and follow up data collection informed the content of teacher training in 1999 and will focus these efforts in 2000. In 1999, the extent of teacher movement within the district and even within schools was not expected. This has affected aspects of both implementation and analysis. It has required repetition in teacher training and limited the ease of linking teacher and pupil performance directly in analyses. In addition, interventions had limited time for impact during the school year. These challenges and others noted above have suggested the following strategies for improved implementation in 2000:

- Through more focused teacher training and development efforts enhance:
  - ❖ pupil initiated interaction;
  - ❖ use of group work, role play and integration of subjects;
  - ❖ use of locally available teaching and learning materials;
- Devise and implement a system to monitor quarterly the staffing position of teachers in the schools and give feedback to MOESC; and
- Train 2,104 unqualified teachers in Mangochi and neighboring districts.

## Communities

Communities were interviewed in groups of men and women separately, with between 6 men and 10 women members in each group. Questions focused upon both their actions and opinions regarding the school and their roles in supporting it. In this section we focus on school committee and PTA action in summarizing progress during 1999.

### *Baseline*

In February, 95% of the schools had committees, of which 85% functioned. Only 1% of the school committees, however, indicated that they received any basic training. PTAs were less often active, as 45% of the schools visited had PTAs, of which 26% were functioning. At the start of the 1999 school year, no PTA Committee had received any training at all. In terms of community roles, 81% of communities reported molding bricks, 73% said that they monitor how well their pupils learn, 70% monitor their children's absence and 97% of the communities indicated that they are not involved in any teaching at all.

### *Interventions*

The CDAs of the MOGYCS were trained as trainers in mobilizing communities for educational support. Then, they collaborated with PEAs and SC trainers to train school committees, PTAs, local leaders and project committees. All of these training efforts focused on community roles, school development, monitoring methods, collaboration with teachers and other means to improve quality in the schools. The centerpiece of this involvement and collaboration is the QUEST Term Plan for School Improvement developed jointly by teachers and community members each term.

### *Impact of QUEST on communities*

By October, 100% of the schools had committees of which 97% functioned and 99% had received some basic training. In addition, 90% of the schools had PTAs and 84% of those were functioning. A total of 98.5% of the PTA committees also indicated that they had received some basic training and as a result they were able to plan activities to raise quality at their schools (resulting in an approved proposal to the QUEST Appraisal Committee). Again looking at community roles, 81% of the communities reported molding bricks, 81% now monitored how

well their pupils learn and 82% monitored pupil absence. Finally, now only 20% of the communities interviewed indicated that they are involved in teaching. The headteachers too reported this increase in community involvement as 90% reported a noticeable change in school committee functioning and the average number of projects undertaken jointly is increasing towards an average of more than one each year.

### *Challenges and Future Plans*

In 2000, a major challenge will be to continue to work with the teachers to produce proposals for QUEST Term Plans. More specifically, intensification of training and support for two community roles will be promoted. First, training will focus on strategies for monitoring absenteeism and drop out, including how to counsel parents and children against regular or long absences from school. Second, teacher and community training will include aspects of community participation in curriculum implementation. Finally, QUEST will aim to reinforce the level of monitoring pupil learning by parents achieved at the end of 1999.

### **Pupils**

The average age of pupils is 9.4 years in standard 2, 10.7 years in standard 3 and 11.8 years in standard 4. Given that the official starting age for formal schooling is 6 years of age, this means that children are either starting late or repeating standards. In fact, 34.63% of the pupils indicated that they repeated standard one, while 24% indicated that they repeated standard two and 23 % indicated that they repeated standard three. The majority of these pupils live in thatched homes (77%) and have radios (65%). Just over a third (35%) report having books in their homes. The average household has five people and 23 percent of the pupils had lost their fathers, while 11 percent had lost their mothers. The most common causes of these deaths are AIDS and malaria. At home, most pupils report doing chores (e.g. sweeping, cooking, drawing water, gardening, washing, etc.) before coming to school (83%). Of these, 54% are girls and 46% of them are boys. Finally, 21 % of the girls and of the boys report that they sometimes miss school to do home chores.

### *Impact of QUEST on pupils*

The curriculum-based pupil assessment covered Mathematics, Chichewa and English. It was individually administered by trained assessors and was given first in February and again in October of 1999. In this section we present the average total Mathematics scores as well as a reading portion of the Chichewa and English tests for all pupils who took both tests. This offers a picture of the impact of QUEST on these pupils during 1999.

#### *Mathematics*

The Mathematics assessment had a total of 80 points and covered topics from the standards 2, 3 and 4 curriculum. All pupils attempted all 80 items. Table 2 presents the total baseline Mathematics scores as well as those from the follow up survey by standard and sex.

**Table 2. Average total Mathematics scores by standard and sex**

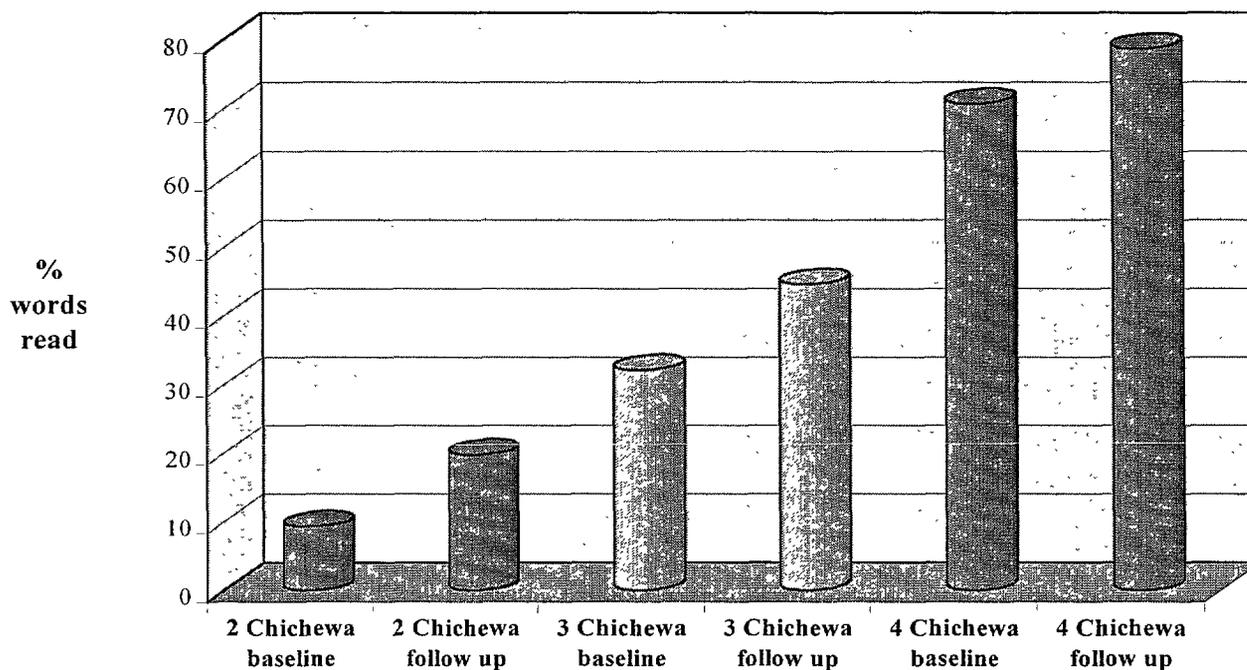
Standard	Survey	Boys	Girls
2	Baseline	35.28*	31.31
	Follow up	42.07*	38.95
	<i>% improvement</i>		<i>19.25%</i>
3	Baseline	46.99	44.81
	Follow up	56.64	54.63
	<i>% improvement</i>		<i>20.54%</i>
4	Baseline	59.17*	55.96
	Follow up	65.56*	63.40
	<i>% improvement</i>		<i>10.80%</i>

In all three standards, the boys outperformed the girls at both points in time on average. However, only in standards two and four were these differences significant. In all cases, the average Mathematics score improved significantly between the baseline and the follow up surveys. Thus, children in Mangochi are learning the Mathematics curriculum. The percentage improvement for standards 2 and 3 show that QUEST has already, after just one year, attained its goal of 20% improvement when it comes to Mathematics in Mangochi. Additional support and attention is needed in standard 4 Mathematics teaching to attain similar progress in 2000.

### *Chichewa Reading*

The Chichewa assessment included reading from texts of the national curriculum. Figure 1 shows the average percentage of Chichewa words read correctly by pupils in each standard. Standard 2 pupils read a standard 2 passage, standard 3 pupils read a standard 3 passage and standard 4 pupils read a standard 4 passage.

**Figure 1. Chichewa percentage of words read correctly by standard**

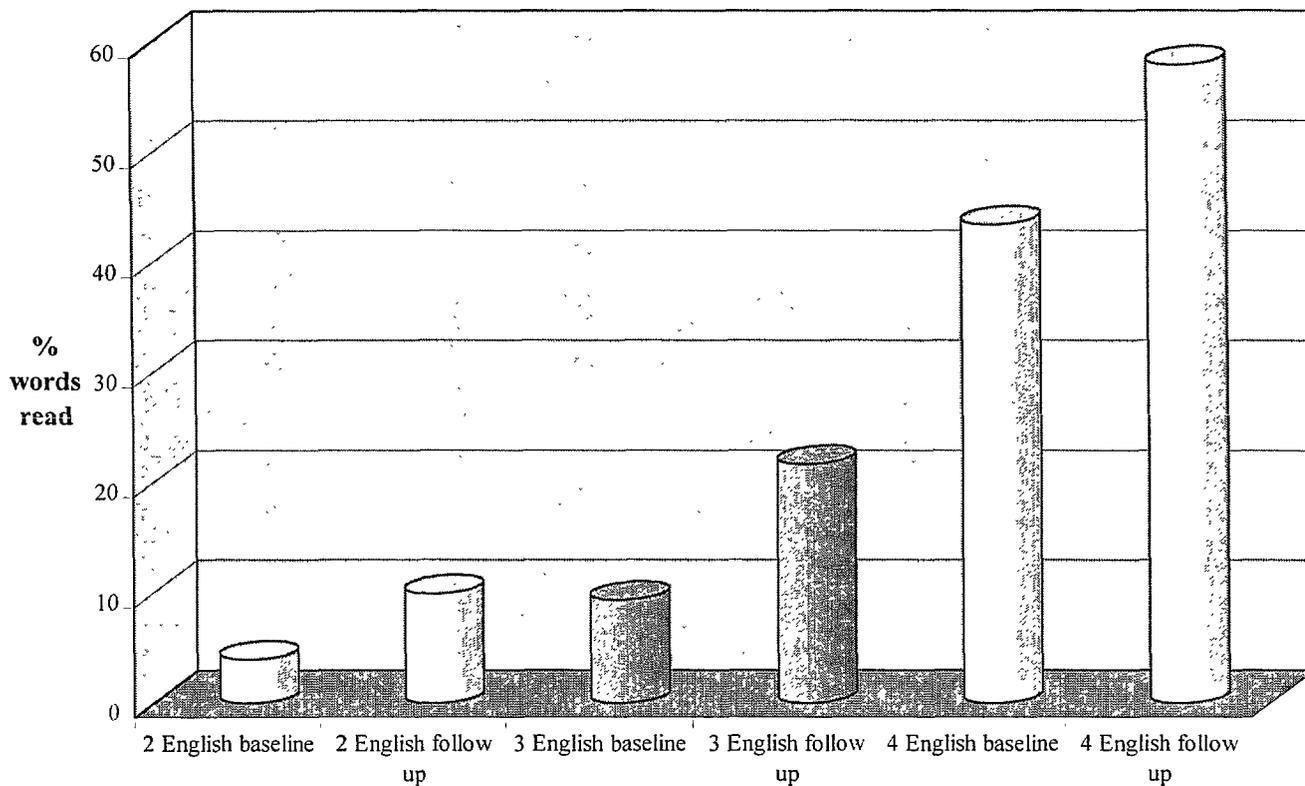


In each standard there is improvement between the baseline and follow up. The improvement is 10.44 percent in standard 2, 12.54 percent in standard 3 and 8.05 percent in standard 4. It is striking to note that the standard 2 and 3 pupils are not mastering the text from their own classes at the rate that the pupils in standard 4 are by the end of the year. In addition, the differences between boys' and girls' scores are significant in these two standards. The trend is the same for the comprehension scores associated with these passages. Possible explanations include developmental level, home language and background, as well as class size, quality of teaching and differences in boys and girls' classroom experiences. Several of these have important implications for the QUEST Project in 2000.

### English Reading

Again, the English reading tests entailed reading from texts of the national curriculum. Standard 2 pupils read a standard 2 passage, standard 3 pupils read a standard 3 passage and standard 4 pupils read a standard 4 passage. Figure 2 shows the average percentage of English words read correctly by pupils in each standard at the baseline and follow up.

**Figure 2. English percentage of words read correctly by standard**



Again there is improvement in each standard between the baseline and follow up reading assessments and the differences between girls' and boys' scores are significant in the earlier standards. In standards 3 and 4, these are larger improvements than seen in Chichewa, as standard 3 pupils improved 12.4 percentage points and standard 4 pupils improved 14.5 percentage points on average. However, the total percentage of English words read correctly by these readers is low and further efforts must be made via QUEST to improve English language learning, especially in the lower standards.

## **Conclusion**

These findings inform the implementation of QUEST activities focused upon teachers and communities in 2000. For teachers, QUEST needs to focus training sessions and support activities upon encouraging more pupil initiated interaction; enhancing the effective use of group work, role play and integration of subject in the classroom; and continuing promotion of the use of locally available teaching and learning materials. Community interventions in Mangochi in 2000 needs to focus on enhancing monitoring both pupil absence and learning and continue improvements in involving community more frequently in curriculum implementation.

The progress made in supporting pupil learning in this first year indicates several challenges for 2000 that point to additional aspects of teacher training and community support for QUEST partners. First, attention must be given to the effectiveness of teaching Mathematics in standard 4 and to enhancing support for girls learning in Mathematics and reading. Second, additional study should inform the design of additional interventions to enhance language learning in all standards, especially standards 2 and 3. To this end, QUEST Teacher training sessions on reading skills will be featured and emphasized. Community and teacher strategies for enhancing and supporting girls education will be intensified and more closely monitored. Finally, development of storybooks and other basic supplemental literacy materials is planned.