



USAID/MALAWI TEACHER TRAINING ACTIVITY (MTTA)

**Annual Report
January 2005 – December 2005**

Submitted by:
American Institutes for Research

With
**Save the Children (US)
Miske Witt and Associates
Malawi Institute of Education**

February 16, 2006

**U.S. Agency for International Development
Contract No: GS 10F-0112J Order No: 690-M-04-00260-00**

**American Institutes for Research
1000 Thomas Jefferson St. NW
Washington, DC 20007**

LIST OF ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
AIR	American Institutes for Research
CDA	Community Development Assistant
CRECCOM	Creative Centre for Community Mobilization
CTO	Cognizant Technical Officer
DAC	District AIDS Coordinator
DAPP	Development Aid from People to People
DC	District Commissioner
DCDO	District Community Development Officer
DEM	District Education Manager
EQUIP	Education Quality Improvement Program
GVH	Group Village Headman
HIV	Human Immune Virus
IEQ	Improving Education Quality
IR	Intermediate Result
MBC	Malawi Broadcasting Corporation
MESA	Malawi Education Support Activity
MIE	Malawi Institute of Education
MIITEP	Malawi Integrated In-service Teacher Education Program
OVC	Outdoor and Vulnerable Children
PEA	Primary Education Advisor
SC/US	Save the Children U.S.
SMC	School Management Committee
SMC-EQ	Social Mobilization Campaign for Education Quality
SWA	Social Welfare Assistant
TALULAR	Teaching and Learning Using Locally Available Resources
USAID	United States Agency for International Development

TABLE OF CONTENTS

1.0	Preamble.....	4
2.0	Program Description.....	5
3.0	Performance Overview	7
3.1	Summary of Project Implementation Activities Accomplished in 2005	7
3.2	MTTA Accomplishments Relative to Work Plan	8
4.0	Detail of Activities Accomplished in 2005.....	11
	Teacher in-service training in English, mathematics and science	
4.1	Cycles 2 to 4 in-service teacher training	11
4.2	Zonal in-service facilitators’ interventions.....	13
4.3	Cluster mentor teachers’ and trainer heads’ interventions	13
4.4	Teacher supervision.....	14
4.5	Development of resource materials	14
5.0	Pre-service Life Skills Education for HIV/AIDS Prevention and Mitigation.....	18
5.1	Situation analysis of TTCs and follow-up workshops.....	18
5.2	Development of DVD	20
6.0	In-service and Pre-service Social Studies Orientation	20
7.0	General Support Interventions.....	21
7.1	Mass communication interventions.....	21
7.2	Coordination and reporting.....	22
7.3	Monitoring and evaluation.....	24
8.0	Performance progress against the project indicators	26
9.0	Major implementation challenges and proposed solutions.....	27
10.0	Lessons Learnt.....	28
11.0	Conclusion	29

Figures

Figure 1	Map of Malawi showing MTTA’s impact districts.....	5
Figure 2	Teacher performance during cycle 4 cluster training.....	12

Tables

Table 1	NCTs, TOTs and teachers trained in 2005	11
Table 2	Number of ZINFAs trained.....	13
Table 3	ZINFA-facilitated workshops	13
Table 4	Teachers supervised teaching twice or more per term.....	14
Table 5	IBB book distribution details	16
Table 6	Number of TTC lecturers and students in Colleges in December 2005.....	18
Table 7	Number of TTC Life Skills lecturers trained	19
Table 8	Number of lecturers trained during 1-day college-based training	20

Attachments

Attachment 1 Illustrative success stories30
Attachment 2 Teacher and pupil performance details.....32

**Malawi Teacher Training Activity (MTTA)
Annual Report January 1 – December 31, 2005**

1.0 PREAMBLE

Project Title: Malawi Teacher Training Activity (MTTA)

Contractor: American Institutes for Research

Award No: GS 10F-0112J Order No: 690-M-04-00260-00

Reporting Dates: January 1 – December 31, 2005

Project Start Date: September 1, 2004

Project End Date: August 31, 2007

Grantee's Contact Official:

Dr. Janet L. Robb

Vice President and Director

1000 Thomas Jefferson St NW

Washington, DC 20007

Tel: 202 403 5972

Fax: 202 403 5957

E-mail: jrobb@air.org

Persons responsible for compiling the report:

Simeon B. Mawindo

Chief of Party

P.O. Box 222

Zomba

Malawi

Tel/Fax: (265) 1-525 206

E-mail: smawindo@malawi.net

Heather Simpson

Project Manager

1000 Thomas Jefferson St NW

Washington, DC 20007

Tel: (202) 403-5980

Fax: (202) 403-5979

E-mail: hsimpson@air.org

2.0 PROGRAM DESCRIPTION

The Government of Malawi is faced with a declining quality of teaching and learning in its primary schools. Since it began its policy of free primary education in 1994, the Government has seen enrollment skyrocket from 1.9 million to 2.9 million pupils. It has not been possible to provide trained teachers for the overcrowded classrooms both at primary and secondary school levels. As a result, teachers who are not adequately qualified for their jobs now teach many pupils. Although the Ministry of Education (MoE) has worked laboriously to provide pre-service and in-service training to teachers, the training has only met a part of the need.

Malawi Teacher Training Activity (MTTA) is a three-year initiative funded by USAID/Malawi in collaboration with the Malawi Government in response to the need to improve the quality of education in Malawi. AIR, in its lead role in implementing MTTA, works towards improving the quality of education in Malawi through improving the professional skills of primary school teachers at the pre-service and in-service levels. MTTA is jointly implemented with Save the Children (U.S), Malawi Institute of Education (MIE), and Miske Witt and Associates.

In four target districts (Kasungu, Machinga, Mzimba South and Phalombe: See Figure 1.), MTTA is strengthening teachers' content knowledge in mathematics, science and English by building on AIR's other initiative in Malawi, Malawi Education Support Activity (MESA), which includes in-service training on pupil-centered, gender-fair, and active-learning teaching methods.

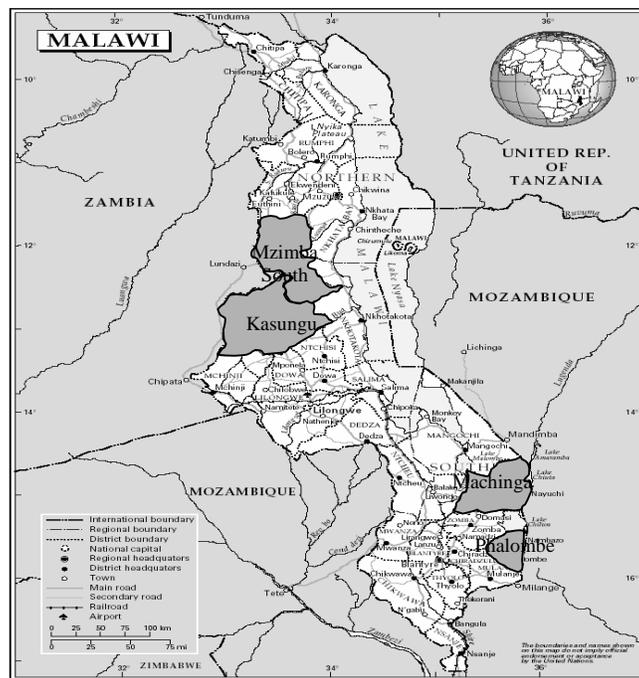


Figure 1: Map of Malawi showing MTTA's impact districts

By the end of Year 3, MTTA will

- Train teachers in every primary school in each target district, approximately 6,300 in total;
- Develop learning resources and disseminate to every teacher and school; and
- Train more than 800 head teachers, approximately 50 PEAs, and 300 mentor teachers to support classroom teachers through field-based supervision.

Continuing support of in-service training, MTTA will also

- Conduct a nation wide orientation of teachers in the new social studies curriculum for the lower primary, reaching a total of 20,000 teachers.
 - Train 5,500 teachers in the new social studies curriculum and 8,000 teachers in the Life Skills for HIV/AIDS Education curriculum as part of the pre-service training in the Teacher Training Colleges (TTCs).
 - Introduce, as one of the innovative strategies, the use of DVD technology to produce an effective tool for interactive teaching and build capacity within the TTCs that will be accessed and sustainable after MTTA is completed. The creation of a DVD with best practice teaching models and supporting resources is an effective tool for interactive teacher training for both HIV/AIDS and Civic Education.
 - Improve school effectiveness through the provision of new resources such as books and radios at the Teacher Development Centers (TDCs), and learning materials and DVD players for Teacher Training Colleges (TTCs). In addition, a weekly radio program will address all the themes of the project.

In line with USAID/Malawi, MTTA is supporting three of USAID's Key Result Areas (KRA):

- KRA 1: Improving teachers' professional skills,
- KRA 2: Making schools more effective, and
- KRA 3: Mitigating the impact of HIV/AIDS in the education sector.

3.0 PERFORMANCE OVERVIEW

3.1 Summary of Project Implementation Activities Accomplished in 2005

3.1.1 In-service district level interventions

Teacher in-service training in English, mathematics and science

- Developed and printed 1,950 copies of Teacher In-service Training Guides. The guides continue to provide much needed reference materials for teachers.
- Trained:
 - 45 National Core Trainers (NCTs) in readiness for Training of Trainers (TOTs)
 - 580 TOTs in readiness for teacher in-service training
 - 54 Zonal In-service Facilitators (ZINFAs) to support the in-service training and supervision of teachers at the zonal level
 - 530 cluster Mentor Teachers and Trainer Heads
 - 6,232 primary school teachers in English, mathematics and science content knowledge and pedagogy
- Supervised district, zonal and cluster-based in-service training workshops
- Facilitated the supervision of approximately 5,920 teachers teaching in primary schools
- Supported 52 ZINFA-facilitated zonal in-service trainings
- Provided support services:
 - Produced and distributed 7,500 copies of an English language manual to all the teachers, facilitators, PEAs and trainers in the 4 impact districts. The manual will be used as a resource for teachers in schools
 - Initiated the formation of teacher training troupes. Several meetings were held and the troupes will finally be constituted and begin to train teachers in the four impact districts
 - Provided 57 bicycles to the 54 ZINFAs in the 4 impact districts and 3 to TDCs in Zomba district to support training and supervision of teachers
 - Distributed 25,000 IBB library books to all the TDCs in the 4 impact districts. These books support teachers in their teaching

3.1.2 Pre-service Life Skills Education for HIV/AIDS prevention and mitigation

- Carried out a situation analysis at all six TTCs
- Distributed 401 Malawi Institute of Education (MIE) Life Skills manuals and 131 corresponding syllabuses to all six teacher training colleges (TTCs)
- Trained 114 TTC lecturers on the new MIE Life Skills curriculum at all the six TTCs
- Reached through the college lecturers approximately 2,200 MIITEP student teachers with HIV/AIDS prevention and mitigation messages
- Trained 39 specialist TTC lecturers from six colleges and two from private TTCs on Life Skills for HIV/AIDS Education
- Developed two draft DVDs

3.1.3 In-service and pre-service social studies orientation

- Improved Inclusive Education in *Science and Environmental Studies* (SES) unit in the Social Studies Teachers' Guide produced by MIE
- Developed a Training Guide for lower primary teachers

3.1.4 Mass Communication

- Developed, printed and distributed nation-wide Issues III and IV of the *MESA/MTTA Forum*

- Aired 28 15-minute MESA/MTTA programs on the Malawi Broadcasting Corporation (MBC) on a wide range of project interventions
- Sub-contracted the Story Workshop Educational Foundation to develop radio drama
- Featured in MBC's news bulletins and *Morning Basket* programs
- Beamed in a wide range of Television Malawi's programs such as news bulletins, *Tsogolo Lathu* and *Bwalo La Maphunziro*
- Featured approximately 15 times in the local print media

3.1.5 Coordination and Reporting

- Held weekly management meetings to share experiences and plan together
- Arranged for and conducted one Project Advisory Committee meeting
- Participated in all USAID monthly synergy meetings and all four SO 9 extended team quarterly meetings
- Hosted a wide range of visitors including the US Ambassador to Malawi, the Deputy Minister of Education, the President of AIR and the USAID/Malawi Acting Mission Director
- Continued to work and liaise with MIE and the Ministry of Education on PCAR rollout relative to MTTA's social studies initiative
- Prepared and submitted three quarterly and twelve monthly performance reports

3.1.6 Monitoring and Evaluation

- Fine-tuned data collection instruments and trained 182 data collectors on how to use them to collect valid and reliable data
- Conducted:
 - baseline survey of 2,011 Standard 3, and 994 Standard 6 pupils
 - follow-up survey of 1,319 Standard 3, and 698 Standard 6 pupils
 - baseline survey of teacher assessment for 972 teachers
 - follow-up survey of teacher assessment for 907 teachers
- Analyzed the surveys and disseminated the findings to stakeholders and other interested parties
- Monitored on-going project activities
- Assessed and evaluated MTTA's training sessions and the utilization of IBB books at Teacher Development Centers (TDCs)

3.2 MTTA Accomplishments relative to work plan

3.2.1 Summary

MTTA achieved almost all the activities that were planned for 2005. Training workshops in content knowledge for English, mathematics and science were held three times in Mzimba South, Kasungu, Machinga and Phalombe and a total of 6,232 teachers were reached. MTTA worked through the cascade model to empower practicing professionals to become National Core Trainers, Trainers of Trainers and Mentor Teachers to train the teachers. The teachers were supervised teaching. Approximately 62% of the observed teachers demonstrated mastery of the expected pedagogical competencies. Baseline and follow up data for pupils and teachers was collected, analyzed and disseminated to stakeholders. Radio programs were aired on the national airwaves regularly. College tutors were trained on how to use the Life Skills manual developed by MIE and they had another five-day workshop on how to teach Life Skills using the new Teacher Training syllabus.

There were, however, a few challenges. For example, the postponement of the implementation of Primary Curriculum and Assessment Reform (PCAR) in the lower primary affected the operations of the project in that the scheduled social studies orientation did not take place. Furthermore, the Life Skills for HIV/AIDS education for pre-service teachers in primary teacher training colleges started late due to the delay in launching the One plus One teacher training program as well as funding constraints. Every effort is being made to get these delayed interventions on track.

3.2.2 Status of scheduled activities

Activities		2005												Remarks
		Q1			Q2			Q3			Q4			
		J	F	M	A	M	J	J	A	S	O	N	D	
1.	Project Start-up													
1.1	Establish Project Advisory Committee	■												Accomplished
2.	In-service District Level Intervention													
2.1	Planning for training	■	■			■	■			■	■			Accomplished
2.2	National Core Training (NCT)			■	■			■				■		Accomplished
2.3	Training of Trainer (TOT)				■			■					■	Accomplished
2.4	Cluster Training				■			■					■	Accomplished
2.5	Classroom supervision	■	■	■	■	■	■	■	■	■	■	■	■	Accomplished
2.6	Phase 1- English materials for teachers dev.					■	■	■						Accomplished
2.7	Phase 1- English materials- test, revise, print								■	■				Accomplished
2.8	Phase 1 materials disseminated at training												■	Accomplished
2.9	Phase 2- Math materials for teachers dev.											■	■	Accomplished
2.10	Phase 2- Math materials - test, revise, print													
2.11	Phase2 materials disseminated at training													
2.12	Phase3- Science materials for teachers dev.										■	■	■	Accomplished
2.13	Phase 3- Science materials - test, revise, print													
2.14	Phase 3 materials disseminated at training													
2.15	IBB books- sorting and distribution					■	■							Accomplished
2.16	Bicycle distribution to TDC with IBB books					■	■							Accomplished
2.17	ZINFA training													
2.18	Procure bicycles for ZINFAs			■										Accomplished
2.19	Distribute bicycles to ZINFAs			■										Accomplished
2.20	Identify ZINFAs			■	■									Accomplished
2.21	ZINFA training				■									Accomplished
2.22	ZINFA courses started					■	■	■	■	■	■	■	■	Accomplished
2.23	Planning for Teacher Training Troupe intervention												■	Accomplished
2.24	Teacher Training Troupe intervention													
2.25	Teacher Training Troupe reporting / monitoring													
3.	Social Studies Training (In- and Pre-service)													
3.1	Planning for orientation content					■								Accomplished
3.2	Development of training guide for facilitators					■								Accomplished
3.3	Pilot training guide						■							Delayed due to funding constraints
3.4	Revise and print guide						■	■						Delayed due to funding constraints
3.5	Develop learning posters					■	■	■						Delayed due to funding constraints

Activities	2005												Remarks
	Q1			Q2			Q3			Q4			
	J	F	M	A	M	J	J	A	S	O	N	D	
3.6													Delayed due to funding constraints
3.7													Delayed due to funding constraints
4	Pre-service Life Skills for HIV/AIDS training												
4.1													Accomplished
4.2													Accomplished
4.3													Accomplished
4.4													
4.5													
4.6													Delayed to February 2006
4.7													Still going on
4.8													Still going on
4.9													
4.10													
4.11													
5	Monitoring and Evaluation												
5.1													Accomplished
5.2													Accomplished
5.3													Accomplished
5.4													Accomplished
5.5													Accomplished
5.6													Accomplished
5.7													Accomplished
5.8													Accomplished
5.9													Accomplished
5.10													Accomplished
5.11													Accomplished
5.12													
5.13													
5.14													
6	Mass Communication												
6.1													Accomplished
6.2													Accomplished
6.3													Accomplished
6.4													Accomplished
7	Project Coordination and Reporting												
7.1													Accomplished
7.2													Accomplished
7.3													Accomplished

Activities	2005												Remarks
	Q1			Q2			Q3			Q4			
	J	F	M	A	M	J	J	A	S	O	N	D	
7.4 Participate in USAID quarterly SO9 meetings	■			■			■			■			Accomplished
7.5 Conduct policy maker briefing													Accomplished
7.6 Hold National Launch									■				Delayed due to funding constraints
7.7 Write monthly report	■	■	■	■	■	■	■	■	■	■	■	■	Accomplished
7.8 Write quarterly report	■			■			■			■			Accomplished
7.9 Update work plan and PMP	■									■			Accomplished
7.10 Calculate quarterly accruals			■			■			■			■	Accomplished

4.0 DETAIL OF ACTIVITIES ACCOMPLISHED IN 2005

4.1 In-service district level interventions

4.1.1 Teacher in-service training in English, mathematics and science

This component concentrates on interventions aimed at improving teachers' professional skills through incremental cycles of in-service training activities. A total of 6,232 teachers received three centrally organized trainings over the year i.e. besides locally initiated ones like school-based workshops. The trainings focused on both subject content knowledge and instructional practices for untrained and trained teachers. By the close of the year about 62% of the teachers were using participatory teaching methods effectively.

4.1.2 Cycles 2 to 4 in-service teacher training

Building on the first in-service training cycle conducted in December 2004, MTTA mounted three trainings in 2005. Each time, the process began with a planning session at which 11 subject specialists and MTTA/MESA staff reviewed and re-defined objectives of the anticipated workshop. They discussed in detail the format of the training handbook to be produced and developed sample units for English, mathematics and science. The materials were then finalized and used in the training workshops that were held in the 4 impact districts. A total of 650 training handbooks were produced for each workshop. The handbooks form a valuable resource material for teachers.

Table 2 gives a summary of the outreach in 2005 relative to that reached in 2004.

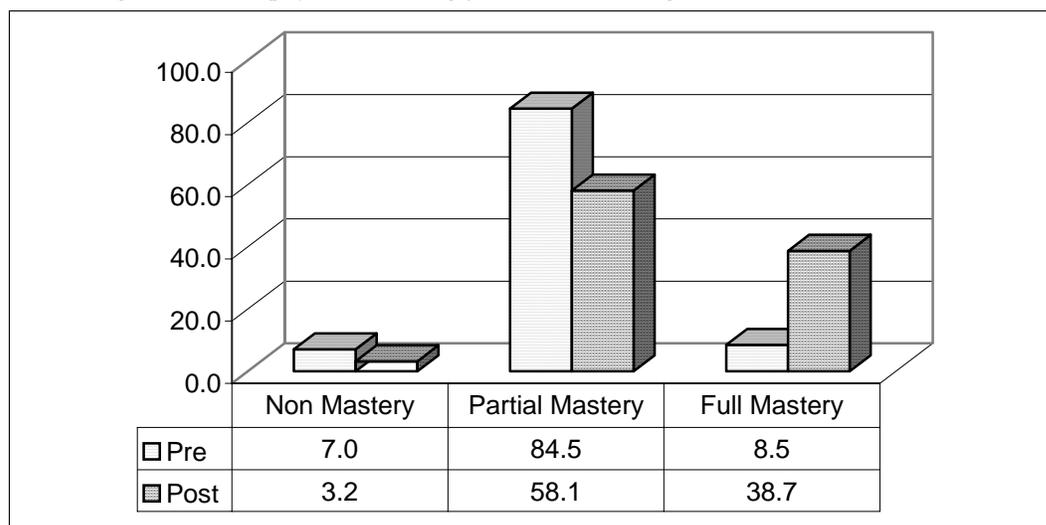
Table 2: NCTs, TOTs and teachers trained in 2005 relative to 2004 numbers

Cycle	2004							2005							Total
	NCT		TOTs		Teachers		Total	NCT		TOTs		Teachers			
	M	F	M	F	M	F		M	F	M	F	M	F		
1	15	6	481	91	4621	1768	6389								
2								26	9	477	92	4304	1654	5958	
3								27	11	481	99	4664	1568	6232	
4								27	11	485	95	4407	1618	6025	

The decline in the number of teachers trained in 2005 (6,025) relative to that in 2004 (6,389) was attributed to transfers, illness and deaths as well as the fact that some of the teachers were MIITEP students who had failed their final professional examinations and had been asked to leave the system.

An innovation during cycle 2 training was the introduction of pre- and post-tests to determine the extent to which the participants understood the content knowledge before and after the workshop. This provided feedback to facilitators for follow-up action. Figure 2 gives cycle 4 results of the tests. Remedial work for the low achievers was planned and carried out by Zonal In-service Facilitators (ZINFAs), mentor teachers and trainer heads at zonal, cluster and school levels.

Figure 2: Teacher performance during cycle 4 cluster training



Another innovation introduced in cycle 3 was micro-teaching involving school children in real primary school classrooms. During plenary discussions participants clearly expressed that they found the experience very enriching and illuminating.

From the three cycles of trainings MTTA took note of the following strengths and challenges.

Strengths

- Effective use of facilitation skills generated enthusiasm and high participation from participants. All activities were designed in such a manner that they provided participants chance to practice.
- Micro-teaching provided opportunities to participants to practice on real life classroom situations, which has empowered them.
- The combination of primary school teachers, secondary school teachers and teacher training college tutors at the NCT and TOT workshops provided an enriching balance for sharing experiences and learning from one another.

Challenges

- Few female participants volunteered to role-play or to demonstrate activities. Many females were shy. In future activities, female participants will be encouraged to be more proactive.

- All the participants asked for more time for the training sessions. This is a critical issue that will be borne in mind by MTTA's planning team all the time.

4.2 Zonal In-service Facilitators' (ZINFAs) Interventions

MTTA established the position of a Zonal In-service Facilitator (ZINFA) to support additional subject specific training at TDCs. Guidelines for ZINFAs' roles were developed to ensure consistency and clarity regarding their role to support the TDCs. A day long orientation workshop for ZINFAs was conducted in all the impact districts. Participants included a ZINFA for each TDC, the Coordinating Primary Education Advisor (PEA) and the District Education Manager (DEM) for sustainability of the intervention (see Table 3).

Table 3: Number of ZINFAs trained

District	Male	Female	Total	Qualifications
Mzimba South	18	3	21	T2
Kasungu	14	2	16	T2
Machinga	9	1	7	T2
Phalombe	7	0	10	T2
Total	48	6	54	

ZINFAs are part of the zonal training committee that comprises the PEA (chair), mentor teacher, trainer head and the ZINFA himself or herself. Since the ZINFAs assumed their roles, they have played a significant role in complementing MTTA's teacher in-service endeavors. Table 4 is a summary of documented workshops ZINFAs have carried out on their own and without any funding from MTTA.

Table 4: ZINFA – facilitated workshops

District	# of training workshops conducted	Teachers Trained		
		Male	Female	Total
Mzimba South	12	565	88	653
Kasungu	16	679	97	776
Machinga	13	428	46	474
Phalombe	11	307	28	335
Totals	52	1979	259	2,238

The training helped to consolidate and build upon the subject content knowledge provided to the teachers during the centrally organized cycles of training. To ease transportation difficulties, all ZINFAs were supplied with a bicycle each by MTTA. Follow-up monitoring indicated that the bicycles were being used for the intended purpose and TDC Training Committees were taking keen interest in ensuring that they were properly maintained.

4.3 Cluster mentor teachers and trainer heads' interventions

MTTA adopted the mentor teacher and trainer head initiative from MESA. The mentor teacher and trainer head structures were put in place at cluster level to support teachers in pedagogy and supervise classroom teaching and learning. Both trainer heads and mentor teachers were selected by their clusters based on their outstanding performance. MTTA trained them and encouraged them to work very closely with their PEAs. Cluster mentor

teachers and trainer heads are instrumental in based in-service training and in providing prompt professional support to teachers.

MTTA ensured that ZINFA and mentor teacher-facilitated workshops were monitored to maintain consistency of practices and standards. Of the 261 cluster level workshops conducted over the year, MTTA monitored 216 representing 83% achievement. Some very effective use of facilitation skills that generated a lot of enthusiasm and participation among the participants was seen.

4.4 Teacher supervision

MTTA further endeavored to assess the impact of the training teachers received by supervising and observing them teaching. PEAs, cluster mentor teachers and trainer heads took part in this activity. By the close of the academic year 95% of the teachers in the four districts had been supervised at least once a term. Table 5 shows the number of teachers who had been observed teaching more than twice a term.

Table 5: Teachers supervised teaching twice or more per term

District	Number of teachers		Total
	Male	Female	
Mzimba South	876	109	985
Kasungu	1,207	244	1,451
Machinga	433	91	524
Phalombe	218	68	286
Total	2,734	512	3,246

Approximately 62% of those supervised used participatory teaching methods as expected. Their command of English, mathematics and science content was very encouraging. It was particularly satisfying to see their pupils apply the knowledge gained. For example, during the year's National Day of Education, pupils displayed home-made electrically operated toys reflecting the impact of the preceding in-service training at which electricity was one of the covered topics.

However, only about 20% of the teachers supervised were able to meaningfully and effectively infuse HIV/AIDS prevention and mitigation messages into the rest of the lessons they taught. To improve the situation, HIV/AIDS and Life Skills related messages were highlighted in subsequent trainings. Another success was that the close collaboration between MTTA and the PEAs, mentor teachers, trainer heads and ZINFAs. Meetings and sharing work plans were instrumental to the success made in conducting teacher supervision during the year. This collaboration will be promoted in 2006.

4.5 Development of Resource materials

4.5.1 Production and distribution of in-service English Resource Manual

The initial stages for the development of the English resource guide: *Teaching English in Malawian Primary Schools: Reading and Writing* began in April. Several discussions took place with MTTA technical staff as well as with MIE as to the approach and content of the manual. There was overall agreement that the manual should focus on issues of reading and writing. The manual should include foundational information about how children learn English as a second language as well as practical strategies that can be implemented by

teachers with their pupils. Examples and sample activities needed to be linked to the current curriculum.

The next step in the development process involved a thorough review of a wide range of materials focusing on teaching reading and writing in preparation for a materials development workshop which took place in July. This workshop was attended by a small select group of participants who all have strong primary English language teaching backgrounds. Participants included a local primary school teacher, MTTA and MESA district facilitators.

Editing the draft manual was completed by the end of September and field-testing was conducted in October.

The manual was then revised based on the teachers' feedback and printing began in November. Seven thousand five hundred (7,500) copies of the manual were printed, distributed and introduced to all the teachers in the four target districts during cycle 4 in-service training in December. The participants received the resource favorably. There is no doubt that it will fill a long-standing gap in the quest for a quality primary education.

4.5.2 In-service mathematics resource manual

The initial stages for the development of the in-service mathematics resource manual began in September. Through Miske, Witt & Associates a Ph.D. candidate in Mathematics teaching from the University of Michigan provided short term technical assistance to the project. The project conducted a workshop during the first week of November. Participants included MESA and MTTA mathematics specialists and a math lecturer from Domasi College of Education.

In collaboration with the MTTA Learning Resource Coordinator and other members of MTTA, the workshop participants and facilitator agreed that the manual should include practical strategies for primary school teachers to teach the difficult topics which had been identified through MESA/MTTA pupil and teacher assessment, teacher interviews district facilitators. Several of the topics had been covered during the previous cycles of MTTA in-service training.

At the end of December the first draft of the in-service mathematics resource manual was drafted. The manual will be edited and field tested early in 2006.

4.5.3 In-service science resource manual

The initial stages for developing the in-service science resource manual began in September when Dr. Josie Zesaguli, from the Institute of Mathematics and Science Education, University of Venda for Science and Technology (UNIVEN) South Africa, through Miske, Witt & Associates, prepared to conduct a materials development workshop at the MTTA office. This workshop took place the last week on October. Participants included MESA and MTTA science specialists, a secondary school teacher and a science lecturer from Domasi College of Education.

In collaboration with the MTTA Learning Resource Coordinator and other members of MTTA, the workshop participants and the facilitator agreed that the manual should include practical strategies for primary teachers to teach the difficult topics that had been identified through MESA/MTTA pupil and teacher assessment as well as teacher interviews.

MESA/MTTA district facilitators identified other topics that would be included. Several of the topics had been covered during the previous cycles of MTTA in-service training. These topics and some others would be included.

At the end of December, Dr. Josie Zesaguli, through Miske, Witt & Associates submitted the first draft of the in-service science resource manual to MTTA. The manual will be edited by the Learning Resource Coordinator and then field tested early in 2006 before printing.

4.5.4 Teacher training troupes

One of MTTA's activities is to establish teacher training troupes. Teacher training troupes comprise two groups of qualified teachers and a few persons with expertise in drama or acting. They may be graduates from the University of Malawi who have finished their courses but are not yet employed. These and other recently retired educators such as PEAs will be selected to form the troupes. Teacher training troupes will consolidate the in-service trainings that teachers were and continue to receive in cluster trainings. They will work in a sample of schools in each impact district.

Meetings and discussions were held in November 2005 to kick-start the process of establishing and training the troupes. The project worked with Dr Shirley Miske of Miske Witt and Associates to map out the approach. The project will work with Dr. Miske again to set up the training troupes in 2006. The troupes will then begin their work.

4.5.5 Procurement and distribution of IBB books

MTTA received a consignment of books from the people of the United States through the International Book Bank (IBB) during the month of March. A total of 25,242 books were received. The USAID/ Malawi represented by Mr. Humphries Shumba, handed over the books to the Ministry of Education through the Principal Secretary, Dr. Simeon Hau, in May 2005.

The books were distributed to the 54 TDCs in the four impact districts. A few books were given to two TDCs in Zomba and a few others were reserved for prizes in MTTA's radio quiz competition to attract, motivate and retain the intended audience. At each TDC, members of the TDC management committee were briefed on use and care of the books. They were also briefed on the responsibility for taking care of the books and the need to establish a library lending system. Details of the distribution are provided in Table 6.

Table 6: IBB book distribution details

District	English	Mathematics	Science/General Studies	Totals
Mzimba South	3280	3107	3073	9460
Kasungu	2400	2240	2307	6944
Machinga	1433	1160	1167	3760
Phalombe	973	1100	1043	3116
Zomba	225	114	216	555
Reserved for prizes for quiz competitions	422	519	466	1407
Grand Total	8732	8240	8270	25242

The books have inspired and encouraged teachers. For example, in Mzimba South, a teacher at Chikangawa TDC said, *These books will help us to find more information for classroom lessons. I hope those of us who are studying to improve our academic qualifications will also benefit.* TDCs have seen a steady increase in the number of both school children and teachers using the TDC libraries as a result of the books.

In a bid to gather more information on the use of the books, the MTTA team administered a questionnaire to all the 54 TDCs that had received the books. Some 37 of them responded to the questionnaire. The catchment area of the 37 zones had 638 schools and 82.0% of these schools (527 schools) benefited by borrowing books from the TDC library. The 527 schools had a population of 2,638 teachers who were borrowing books or visited the TDC library to read IBB books. Of the 37 TDCs, 59.5% had a well-defined area for reading while the remaining 40.5% had not. For the TDCs, which had no special area for reading, teachers and pupils only borrowed books to read at home. TDCs, which demarcated area for reading enabled teachers and pupils to read within the TDC library.

For the schools where teachers were not benefiting from IBB books, the major reasons given were

- 29.7% of the schools were located far from the TDC to effectively benefit from the TDC.
- 5.4% said that due to understaffing, they teach in the morning and afternoon shifts as such they had limited time to access TDCs.
- 16.2% lacked interest to read books including those from the IBB.
- 5.4% were just lazy to utilize books in the TDC library.
- 2.7% were already using books from other libraries.
- 2.7% indicated that some teachers lacked reading culture.
- 27.0% indicated that some IBB books had content that could benefit teachers to improve their academic qualifications i.e. improve from JCE to MSCE.

English grammar and mathematics books were borrowed more frequently than other types of books.

To ensure that pupils utilize IBB books, schools near to TDC libraries had schedules in place when the pupils from such schools visited the libraries to read and to borrow books. For schools, which were far, teachers were responsible for borrowing and returning books for their pupils.

All TDCs reported that they had sensitized all the teachers on the importance of utilizing books at their TDCs. Two TDCs reported that they had reduced their membership fee to encourage more teachers to access books at the TDC.

TDCs reported that neighboring Community Day Secondary schools (CDSS) benefited from the IBB books. One of the most popular books borrowed by CDSS students was the book titled, *Introduction to Biology* by D.G Mackean. The findings indicate that the IBB books are very useful and clearly suggests that it is an initiative work emulating.

5.0 PRE-SERVICE LIFE SKILLS EDUCATION FOR HIV/AIDS PREVENTION AND MITIGATION

5.1 Situation analysis of TTCs and follow-up training workshops for lecturers

A situation analysis on Life Skills education for HIV/AIDS was conducted at all TTCs. The curriculum is new and no students had been exposed to it. The baseline was assumed to be zero. Table 7 shows the number of TTC lecturers and student teachers at the colleges by December 2005.

Table 7: Number of TTC lecturers and students' colleges December 2005

College	Number of tutors			Number of students		
	Male	Female	Total	Male	Female	Total
Blantyre	13	5	18	404	280	684
Karonga	19	2	21	174	164	338
Kasungu	16	8	24	427	206	633
Lilongwe	13	17	30	437	214	651
St. Joseph's	8	8	16	350	-	350
Montfort	13	6	19	-	335	335
Total	82	46	128	1,792	864	2,991*

* The capacity of the TTCs is 2,520. The over-enrollment is meant to account for dropouts.

HIV/AIDS were stated as the major reasons contributing to the inability of lecturers to effectively teach Life Skills.

To improve the teaching of Life Skills education in TTCs, lecturers suggested the following

1. Extensive orientation of tutors in Life Skills Education
2. Increased access to relevant teaching and learning resources
3. Visits to hospital and health centers that offer HIV/AIDS awareness services
4. Provision of video machines and tapes on HIV/AIDS
5. Conducting college-based in-service workshops

Based on the findings, in collaboration with MIE, the project conducted a five-day training for Life Skills lecturers. Table 8 gives a summary of the participants.

Table 8: Number of TTC Life Skills lecturers trained

District	Number of Teachers		Total
	Male	Female	
Blantyre	2	2	4
DAPP	0	1	1
Emmanuel	0	1	1
Karonga	1	7	8
Kasungu	0	4	4
Lilongwe	2	6	8
Montfort	4	2	6
St. Joseph's	2	5	7
Total	11	28	39

The training session not only enhanced the quality of subject teaching in TTCs but also created a lot of enthusiasm among the lecturers. The following are comments made by the participants.

- “This was the most beneficial workshop I have attended ever. I have really liked the skills attained from the participants and facilitators. I wish we have so many more workshops of this kind.”
- “Please continue giving us more workshops. With this one workshop I already feel comfortable.”
- “The workshop has been very lively. It has equipped us with methods and skills on how to handle a Life Skills lesson. We are going back a different people with new vision.”

MTTA will follow-up with the institutions of the lecturers in 2006 to gain insight into the impact of the training.

5.2 TTC trainings for cohort II MIITEP student teachers

Prior to the training outlined in section 5.1 Dr. Gael O’Sullivan, an HIV/AIDS specialist from AIR’s home office, came to Malawi for a two week period in January 2005. Dr. O’Sullivan provided technical assistance to the MTTA project by assisting to develop a training program for the last Cohort of the MIITEP program and conceptualizing a training program for the new One plus One TTC program then anticipated to begin in September/October 2005.

During the month of March 2005, the project conducted college-based one-day training workshops for the lecturers. These workshops focused on helping lecturers effectively use the new MIE Life Skills for HIV and AIDS Education for Teacher Training at TTCs Manual and syllabus. The number of tutors trained is shown in Table 9.

Table 9: Number of lecturers trained during 1-day college-based training

Name of College	Number		Total
	Female	Male	
Blantyre	7	12	19
Karonga	2	15	17
Kasungu	4	16	20
Lilongwe	16	7	23
St. Joseph's	4	9	13
Montfort	7	15	22
Total	40	74	114

Each TTC received 50 copies of the MIE Life Skills training manual. A total of 401 manuals and 131 syllabuses were distributed. College principals reported that 2,249 trainees under the Malawi Integrated In-service Teacher Education Program (MIITEP) received subsequent training on Life Skills for HIV/AIDS Education.

5.3 DVD Development

In September 2005, the initial stages for developing a DVD for Pre-Service Life Skills for HIV/AIDS Education began. The Life Skills specialist at MIE identified a group of exemplary primary teachers who had been trained on how to teach Life Skills by MIE. The 8 teachers MTTA selected were from schools located no more than 45 minutes drive from Zomba in order to ensure an effective and efficient filming process. MTTA selected a lesson from the Life Skills pupil textbooks for each standard including a variety of topics and participatory activities. MTTA worked with the teachers as they rehearsed with their pupils and prepared for filming.

Filming was done over a two-week period in October 2005. Greg Sales from Seward Inc. came to Malawi to provide technical assistance and support to the film crew from MIE. Each morning one lesson was filmed and in the afternoon the footage was edited at MIE's studio. Within the two-week period all filming was completed as planned. Greg Sales then took the footage back to the US to continue the DVD editing and development. At the very end of December the initial draft version of the DVD was completed. In early 2006 the draft DVD will be reviewed, revised and the final version produced.

6.0 IN-SERVICE AND PRE-SERVICE SOCIAL STUDIES ORIENTATION

MTTA is mandated to orient lower primary teachers to the PCAR Social and Environmental Studies (SES) curriculum. The curriculum was initially going to be introduced into the school system in January 2005. The curriculum implementation has been postponed by the ministry. It is slated to be implemented in January 2007; thus adversely affecting MTTA implementation schedule.

MTTA will now focus on training 20,000 Standards 2, 3 and 4 teachers on the basis of the PCAR SES syllabus to provide them with a sound foundation for the new PCAR curriculum received in 2007. A training guide for the training has been developed and refined. Writers of the guide came from the Ministry of Education Department of Teacher Education and Development (DTED), MIE, District Education Offices, TTCs and primary schools. Topics included in the training guide are: (1) Malawi's outcome-based education curriculum, (2) Parts of Primary Curriculum and Assessment Reform (PCAR) syllabuses, (3) Participatory

methods in social and environmental sciences syllabuses for standards 2, 3 and 4, (4) Teaching and learning resources, (5) Assessment, (6) Inclusive Education, and (7) Community involvement in teaching and learning Social and Environmental Sciences.

To ensure progress, MTTA will maintain its dialogue with MOE, MIE and the PCAR team on this initiative.

The in-service and pre-service social studies specialist worked with MIE to refine a unit in MIE's PCAR Social Studies Teachers' Guide called Improved Inclusive Education in Science and Environmental Studies. The contribution was highly appreciated. He also continually supervises teachers teaching in schools in the four impact districts and provide technical support to those teachers.

7.0 GENERAL SUPPORT INTERVENTIONS

7.1 Mass communication interventions

MTTA implemented its mass communication interventions in close collaboration with MESA throughout the year. The goals were to keep the public well informed about project activities and solicit feedback; encourage those involved in the projects initiatives; and promote ripple effect for project sustainability and expansion. These goals were achieved through information education and producing communication products including print and electronic media. The following are the main activities conducted during the year.

7.1.1 MESA/MTTA Newsletter

The name of the newsletter was originally MESA Forum. It changed to MESA/MTTA Forum when it started carrying articles from both MTTA and MESA projects. This development necessitated an increase in the number of pages from 8 to 12. Visits to schools showed that both teachers and pupils read the newsletter. Four thousand copies of each issue III and IV were produced and distributed to all the schools in the impact districts as well as other organizations including USAID and government institutions throughout the country. Issue III was translated into Chichewa but it was not printed due to financial constraints. Future issues may be bilingual to overcome such unforeseen constraints.

Many of the articles in the newsletter came from the grassroots level practitioners. This shows that they take interest in it. It is particularly interesting to note also that some non-impact district schools equally request for the publication but it is not always possible to meet the demand.

7.1.2 Chimvano cha Mavu radio program

The Chimvano cha Mavu radio program broadcasts for 15 minutes on MBC radio I on Wednesdays from 6.45 pm to 7.00 pm. It covers a wide range of MESA/MTTA project interventions. A total of 28 programs were aired since MTTA and MESA launched a joint venture of this intervention. To enrich the program, MTTA has sub-contracted Story Workshop Educational Foundation to develop 5-minute radio drama programs that will be part of the 15 minutes. There is every indication that the nation listens to these programs. For example, three listeners including a reporter from MBC sought some information at the project office about a previously aired program. On various occasions and forums, people have been heard discussing the Chimvano cha Mavu programs.

7.1.3 Beamed on Television Malawi

Television Malawi beamed 28 news items related to the MTTA/MESA activities. The material ranged from grassroots level interventions to activity site visits by distinguished guests such as Dr Mary Lewellin, the Acting USAID Missing Director, at Chankhomi in Kasungu district.

7.1.4 Print media coverage

About 15 articles appeared in the local newspapers such as the Daily Times, Malawi News, The Nation and the Chronicle. The articles were all complimentary of MTTA/MESA interventions. The impact of the print media and the electronic media coverage on the success and sustainability of the project cannot be overemphasized.

7.2 Coordination and reporting

To achieve maximum cohesion of the various components of MTTA, the following coordination and reporting strategies were among the major strategies used over the year.

7.2.1 Establishing a conducive working environment

Both professional and support staff have been working in a respectful environment. The MTTA staff relocated to the current office space and adjusted quickly to working along side colleagues with whom they had not previously worked. The transition went smoothly.

7.2.2 Coordinating project interventions

The faceted MTTA required some careful and well defined coordination mechanisms. The team has adopted an operational strategy to maximize staff involvement and ensure staff ownership of key resolutions and decisions. Various technical committees, such as the management committee were put in place. This committee monitors MTTA's implementation process and reports to the entire family of implementing partners through the Chief of Party.

Scheduled meetings ensured that various committees did not leave things to chance. The Senior Management Committee chaired by the COP or his deputy, for example, met weekly or more often according to needs to keep on top of events and to give direction to sectoral heads. In December 2005 all implementing partners' project professional staff participated in a three-day critical review forum. At this meeting all staff took a critical look at their operations over the preceding year to inform operations in 2006.

7.2.3 Reporting project interventions

Apart from sharing information with the general public through mass media, MTTA formally and regularly reported the status of the project implementation process to USAID, key government ministries and to members of the Project Advisory Committee through scheduled monthly briefing meetings, and quarterly USAID Education Strategic Objective and USAID monthly synergy meetings.

Alongside verbal briefings, MTTA developed and distributed written reports and updates to key stakeholders mainly for informational purposes and to inform the decision making process. The major submissions over the reporting year included the following reports:

- 1 technical annual Work Plan and a Performance Monitoring Plan (PMP)
- 3 quarterly rolling Work Plans
- 3 Quarterly Reports
- 3 SO9 performance updates
- 12 monthly performance reports
- 1 2004 annual performance report

7.2.4 Hosting professional visitors

During the reporting period MTTA/MESA hosted some distinguished visitors. They included the following individuals:

- The U.S. Ambassador to Malawi, H.E. Dr Alan Eastham
- The Deputy Minister of Education, Hon. Ngulinga, M.P.
- The USAID/Africa Bureau Education Director, Dr. Sarah Moten
- USAID/Malawi Acting Mission Director, Ms Mary Lewellin
- USAID/Malawi SO9 Team Leader, Dr. Thomas LeBlanc
- Principal Secretary for Education, Dr. Simeon Hau
- Several USAID/Washington DC officials e.g. Ms. Tracy Brunnete and Dr. John Hatch
- AIR President, Dr. Sol Pelavin
- AIR Senior Vice President, Mrs Diane Pelavin
- AIR Vice President, Dr. Janet Robb
- AIR Washington DC MTTA Project Manager, Ms Cassandra Jessee, the Project Associate, Ms Kristen Barba, and the Senior Field Accountant, Stephen Sealy.

Many of these visits included field activity site tours. The tours have had a significant positive impact on the project implementation process. Some low performing school communities such as Mtubwi in Machinga district began to work very hard after noticing that their schools were not being visited.

7.2.5 International Exchange

Kara Janigan, the Resource Materials Coordinator and Simeon Mawindo, the then Acting COP, attended a one week AIR Summit in Washington DC. Sharing ideas about critical project management issues with a wide range of AIR experts from all over the world was invaluable.

To conclude this coordination and reporting section, it should be reiterated that MTTA's "coordination and reporting" has been designed to provide maximum support to the technical team and to ensure effective liaison between the project team and all the stakeholders for the benefit of Malawian children.

7.3 Monitoring and Evaluation (M & E)

In order to measure project performance, MTTA developed a Performance Monitoring Plan (PMP) containing project performance indicators, methodology for measuring each indicator, and target and actual achievement on each indicator. Monitoring and Evaluation (M & E) of MTTA activities are aligned to the IRs under SO9: “Quality and Efficiency of Basic Education Improved.” Performance indicators and results demonstrating the achievement and successful implementation of activities mark progress towards MTTA’s objectives.

All pupil assessment-related indicators are measured annually through baseline and follow-up surveys. The baseline survey is conducted annually at the beginning of the school session in February. The follow-up survey occurs annually in October. A sample of 15 % of project schools in each target district is surveyed.

MTTA uses a “levels of mastery” approach to measure pupil and teacher performance. The results are discussed in the following section. However MTTA uses additional data interpretation approaches to inform and influence practices; those details are also included below in this section. Results for Standard 3 pupils are included in this section to show their performance in understanding concepts of General Studies. Full findings from the M & E 2005 baseline and follow-up surveys are included in Annex 2.

7.3.1 Levels of mastery approach

Pupils scoring between zero and 30% are considered to be in the non-mastery level. Scores between 31% and 79% fall within the partial-mastery level, and scores greater than or equal to 80% fall within the full-mastery level. MTTA adapted these pupil assessment proficiency categories from both the QUEST and MESA projects.

In MTTA, Standard 3 pupils were assessed in General Studies. The results indicate that by October 2005, 8.4% of the pupils attained full-mastery of the General Studies concepts, exceeding the 6% target by 2.4%. (See Annex 2 Figure B20.)

The results also indicate that the percentage of Standard 3 pupils at the non-mastery level had decreased from 26.8% in February 2004 to 13.7% in October 2005. About 50% of the pupils had moved out of the non-mastery level to partial-mastery and full-mastery by October 2005. At the baseline, 68.8% of the pupils achieved partial-mastery while 78.1% were in this level by October 2005.

7.3.2 Averages approach

Another way to analyze the progress made is by comparing average scores for the baseline and subsequent assessments. In Standard 3 General Studies, boys had an average score of 44.48% in February 2005 and 57.73% in October 2005. The girls’ average scores were 48% in February 2005 and 55.43% in October 2005. Overall, the results indicate that by October 2005 pupils had improved their understanding of concepts in General Studies by 14.1%. **As a whole**, girls improved more than boys. (See Annex 2 see Table B14.)

7.3.3 Bar charts approach

To provide additional information on the change in Standard 3 pupils' performance in General Studies, change at 10 point intervals was explored. The results indicate that in all intervals below the 50% mark, the percentage of pupils within each interval decreased from February to October 2005. For instance, in the 0 to 9% interval the percentage reduced from 6.4% of pupils in February 2005 to 3.9% of pupils in October 2005. In the interval 10%-19% the percentage of pupils decreased from 6.1% to 3.9%. In all the intervals from 50 to 100%, the percentage of pupils increased from the percentages in February to percentages in October 2005. Overall, the percentage of pupils scoring less than 50% decreased from 64.5% during baseline to 41.3% in the follow-up survey thereby increasing the percentage of pupils scoring 50% and higher during follow-up assessments. (See Annex 2 Figure B21.)

7.3.4 Direction of change

The direction of change for each pupil within mastery categories has also been analyzed. The score of each pupil during the baseline survey (February 2005) was compared with his/her score during the follow-up survey (October 2005). The follow-up score was subtracted from the baseline score. If the pupil scored the same during both surveys the difference is zero which means the pupil made no change. If the pupil's score during follow-up was higher than the score during baseline then the difference was positive—greater than zero which means the pupil had improved by October 2005. If the score of the pupil during follow-up was lower than the score during baseline then the difference was negative—the difference was less than zero. This means that the pupil did not improve.

The analysis went further to look at each mastery level to find the percentage of pupils who had positive change, no change and negative change within each mastery level.

Final analysis indicates that, on average, 70% of Standard 3 pupils improved their score at follow-up, while nearly 25% declined. The results further illustrate that 93.1% of the pupils in the non-mastery had improved even though they remained in the non-mastery level. The pattern was the same in all the three mastery levels. The pattern indicates that more pupils had improved their understanding of General Studies concepts than those who did not. (See Annex 2 Table B13.)

7.3.5 Reducing cut off point for mastery level

At a full-mastery level redefined to include 70%-100%, over 25% of Standard 3 pupils reached full-mastery. This suggested that even though some pupils did not reach full-mastery level their proficiency levels as defined by the project (80% and above), they achieved a respectable mastery level.

In conclusion, MTTA has analyzed pupil level data in a variety of ways in order to better understand the achievement patterns of pupils in target schools. Averages give the global achievement change of a class or school while the direction of change assesses whether an individual pupil had improved or not. This helps MTTA better inform and influence practice.

8.0 PERFORMANCE PROGRESS AGAINST THE PROJECT INDICATORS

No.	Indicator	Means of verification	Status
1	Number of teachers trained in Mathematics, English and Science (in target districts). April 2005 (Cycle 2)	Training Reports	5,958 teachers trained in English with related topics in mathematics and science. The number of teachers trained in English, mathematics and science in cycle 2 is lower than the target because during that period some teachers who were undergoing the MIITEP training program were at the teacher training colleges.
	Number of teachers trained in Mathematics, English and Science (in target districts). August 2005 (Cycle 3)	Training Reports	6,232 teachers trained in English with related topics in mathematics and science
	Number of teachers trained in Mathematics, English and Science (in target districts). December 2005 (Cycle 4)	Training Reports	6,025 teachers trained in English with related topics in mathematics and science
2.	Number of lower primary school teachers oriented to social studies curriculum.	Training Reports	The social studies training was intended to follow the roll-out of PCAR. But delays and changes in the PCAR resulted in postponing MTTA orientation/training. Trainings are planned for 2006.
3.	Number of pre-service teachers trained in the social studies curriculum.	Training Reports	The social studies training was intended to follow the roll-out of PCAR. But delays and changes in the PCAR resulted in postponing MTTA orientation/training. Trainings are planned for 2006.
4.	Percentage of teachers using participatory teaching methods during instruction of mathematics, science or English (in target districts).	Classroom Observation	62.0% (61.8% male and 62.2% female) teachers were found to be using participatory teaching methods
5.	Percentage of teachers demonstrating full mastery in using mathematics concepts (in target districts).	Assessment	6.3% (6.1% male and 6.6% female) teachers were found demonstrating full mastery in using mathematics concepts
6.	Percentage of teachers demonstrating full mastery in using science concepts (in target districts).	Assessment	5.4% (7.8% male and 0.3% female) teachers were found demonstrating full mastery in using science concepts
7.	Percentage of teachers demonstrating mastery in English comprehension (in target districts).	Assessment	13.8% (13.8% male and 13.8% female) teachers were found demonstrating full mastery in English comprehension
8.	Percentage of pupil increasing individual mastery levels in	Pupil Assessment	5.9% (7.9% boys and 3.8% girls) achieved mastery in mathematics

	mathematics in Standard 3 (in target districts)		
9.	Percentage of pupil increasing individual mastery levels in general studies in Standard 3 (in target districts)	Pupil Assessment	8.4% (9.2% boys and 7.5% girls) achieved mastery in general studies
10.	Percentage of pupil increasing individual mastery levels in English in Standard 3 (in target districts)	Pupil Assessment	4.4% (4.5% boys and 4.3% girls) achieved mastery in English
11.	Number of pre-service teachers trained in Life Skills for HIV/AIDS curriculum	Training Reports	The One plus One TTC program was delayed from January 2005 until November 2005. Due to the delay, MTTA adjusted its plan and supported the tutors and their teaching of MIITEP Cohort 11 (non-residential) students. All 114 TTC tutors were oriented in Life Skills Education for HIV/AIDS. Each TTC received 50 copies of the MIE Life Skills for HIV/AIDS TTC training manual. Approximately 2,240 MIITEP student-trainees received training on Life Skills and HIV/AIDS.

9.0 MAJOR IMPLEMENTATION CHALLENGES AND PROPOSED SOLUTIONS FOR THE YEAR 2005

	Challenges	Status of Proposed Solutions
9.1	Time posed a great challenge in relation to the training of TTC lecturers on the new MIE Life Skills curriculum. The final MIITEP program was conducted from Jan. to April 2005. Then there was a month break before students began the new 1 plus 1 pre-service program. The strategy of using a cascade model for training was inappropriate as DTED did not want us to pull core lecturers out of an already very short MIITEP program.	MTTA delivered the training at the TTCs rather than pull out the core lecturers. This ensured that all lecturers received the new MIE Life Skills manual and, most importantly, were trained on how to implement it with their MIITEP students.
9.2	MTTA training was designed to last 5 days with MTTA providing budgetary support for 2 days and MESA supporting 3 days. Due to financial constraints, MESA was not able to participate in the training. Hence, MTTA had 3 days of training. In addition, MESA was budgeted to provide transport and supplies for the training. MTTA's original budget did not include these but costs were incurred.	MTTA held three day trainings. The unexpected costs incurred were reprogrammed from other related line items of the MTTA budget.

9.3	MTTA was designed to complement MESA community involvement interventions in the bid to create and maintain “effective primary schools”. The early closure of MESA has therefore caused an unexpected community involvement gap in the implementation of MTTA as CRECCOM is not one of MTTA’s implementing partners.	Consultations are underway to work out an appropriate mode of minimizing the adverse effects of the issue.
9.4	The change in the rollout of PCAR from January 2005 to January 2007 has adversely affected the implementation of MTTA’s Social and Environmental Studies (SES) initiative.	MTTA will focus on training lower primary teachers based on the new PCAR SES syllabuses rather than focusing on orienting them to teachers’ guides which are not ready yet.
9.5	Shortage of teachers mostly in schools located in rural areas where each teacher is assigned two or more classes: The teacher cannot sufficiently put to use the knowledge and skills acquired from MESA/MTTA because they have to rush through to ensure each class learns something each day.	MTTA/MESA has had on-going discussions with DEMs. The idea of engaging temporary teachers is not perceived favorably by the ministry. School shift system hardly solves the problem either.
9.6	Rising numbers of orphans and other OVCs coupled with country-wide food shortage negatively affected student learning. In many cases, children dropped out of school.	MTTA relied very heavily on MESA’s community sensitization and empowerment to help the community members take collective responsibility to the problem also see 8.3 above.
9.7	Many PEAs faced transportation difficulties which resulted in very low level of school visits and teacher supervision,	

10.0 LESSONS LEARNED

- 10.1 Micro-teaching sessions within teacher in-service training workshops is a highly instructive innovation. This is particularly so when the participants teach actual topics on which they are being trained with actual members of the target groups (primary school children in the case of MTTA). The experience provides practical exposure to and insight in the real issues embedded in the processes being advocated and prepares the participants in a realistic manner.
- 10.2 The administration of both pre-test and post-test to in-service participants helps to determine, with a fair degree of accuracy, how much learning has taken place. It also helps to keep the participants alert. This, however, does not replace the traditional workshop evaluation activities that often characterize training workshops.
- 10.3 While linkages between related projects should be encouraged, the projects should, however, be independent enough to be able to operate independently in the event that the other project gets severed.
- 10.4 Cluster Mentor Teachers and Trainer Heads continue to prove themselves an invaluable human resource in the supervision of teachers teaching and in providing immediate technical support to teachers. This is a structure that could benefit the school system in the provision of education services in this country

- 10.5 The school cluster structure has gained so much support from teachers that it is proving professionally useful. Teachers more easily access a cluster centre for professional business than the TDCs. The cluster schools and teachers have more in common as compared to TDC level gatherings. Recognizing the primary school cluster structure could go a long way to helping improve primary education services.

11.0 CONCLUSION

Apart from those activities for which funding was pending and those for which rollout was based on undefined government plans, scheduled activities were accomplished successfully. Additionally activities such as MTTA's participation in the National Day of Education, not originally planned, were undertaken with remarkable successes. MTTA's incremental mode of providing in-service training to teachers, the cluster and mentorship systems, the highly flexible operational principles to cope with unforeseen circumstances, the status of the kind of people who took time out of their very tight schedules to visit MTTA and MESA are but a few illustrative examples of the success of MTTA's efforts over the year. The project team is committed to maintaining the standard of work attained and improving upon it.

Annex 1

Case Study 1: National Core Training Success Story

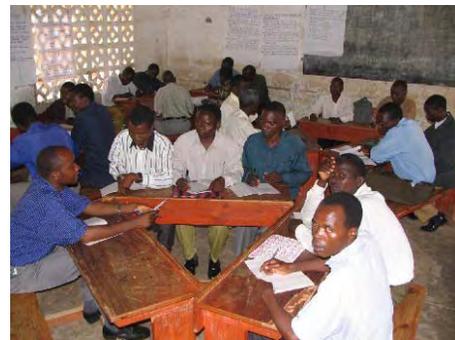
MTTA's National Core Training was conducted in Liwonde over three days, March 14-16, 2005. The purpose of the training was to equip Trainers of Trainers (TOT) with the skills to be able to effectively facilitate a variety of activities with the next level of trainer who in turn would facilitate training with primary teachers at the cluster level. The activities focused on previously identified specific areas and topics in mathematics, English, and science that primary teachers need more support to teach effectively.



The success of this training becomes clearly evident by the response given anonymously by participants. All 37 participants who completed evaluation forms wrote positive comments about the training indicating how it has equipped them to be able to effectively train the next level of trainer.

The following comments are directly copied from various evaluation forms and reflect the overall perception of the effectiveness of the training by the participants:

- It [the training] was insightful. It was useful to me as a core-trainer. It was an eye-opener.
- It is one of the best trainings that will help participants to go out and facilitate confidently.
- The training has enriched our knowledge and skills in effective presentation of lessons.
- I found the training valuable in terms of how to facilitate and how to organize activities for pupil so as to make them meaningful and realistic.
- It has been very enriching.
- The training has provided new knowledge and refreshed me in other topics. I have also learned how teaching and learning materials can be used professionally.
- The training has been a good one. This, I believe, is due to the way lessons were conducted [participatory approach].
- The training has been professionally conducted and has reminded me and educated me on new skills in tackling the subjects under study.



- The way the training is being conducted is good because it is done in a natural way. It really directs on how teachers there are required to be doing in order to have an effective results. For example, participatory methods as well as learning by doing [practicals, group work, demonstrations, etc.]
- I have learnt that it's important to always think about the child when the trainings are being conducted.
- Facilitators and participants were all willing to make the training a success—and so it turned out to be.
- The workshop has sharpened my facilitation skills. When we go out, I'll be more confident and composed—a better facilitator than I was.

Case Study 2: A Breakthrough to Teachers Subject Content Needs in Primary School

MTTA, a USAID funded Education Program empowers teachers to improve the quality of education by equipping them with appropriate and accurate academic content knowledge in Mathematics, Science and English.

Malawi needed a program that creates an opportunity for primary school teachers to improve their academic knowledge and skills through pre-service and in-service teacher training workshops to enable them teach effectively and improve pupil outcomes. Teachers in the four impact districts of Phalombe, Machinga, Mzimba South and Kasungu are talking highly of MTTA/MESA. Apart from the Cycle cluster trainings organized by MTTA/MESA, they are taking their own initiatives to organize their own training workshops to supplement the efforts being made by the USAID funded program.



“We meet in one of the classrooms every Saturday. Our schedule starts by reviewing subject content to be taught in the following week in the subjects that we teach. Then we share content knowledge according to individual needs.” Trainer Head, Swang’oma Zone.

In addition to improving primary school curriculum content knowledge, some teachers have formed study circles to improve their own qualifications. Teachers who hold a Junior Certificate of Education qualification have enrolled for the Malawi School Certificate of Education. Resource persons include teachers from nearby Community Day Secondary School.

“Before MESA/MTTA, some teachers left some subject topics untaught because the content was difficult for them to understand. MTTA is helping to ensure that the pupil acquires all the subject matter intended for him/her in a particular class.” PEA, Nambilo Zone.

Annex 2

Teacher and pupil performance details

Teachers

Sample size

A total of 907 teachers from the four impact districts formed the sample during the October 2005 survey. This represents 15% of the 6000-targeted teachers in the four impact districts. The teachers in the sample came from the 126 MTTA/MESA sample schools. In October 2004, the same percentage of teachers from 126 schools in the four target districts was assessed during the baseline survey. Table B1 shows the distribution of teachers in the sample by district and sex. October 2005 sample was composed of 31.9% female and 68.1% male teachers, similar to the October 2004 sample.

Table B1: Sample size and number of schools

District	October 2004			October 2005			Number of Schools
	Female	Male	Total	Female	Male	Total	
Mzimba South	103	183	286	88	186	274	40
Kasungu	122	253	375	127	227	354	47
Machinga	53	166	219	49	126	175	26
Phalomb	27	65	92	25	79	104	13
Total	305	667	972	289	618	907	126

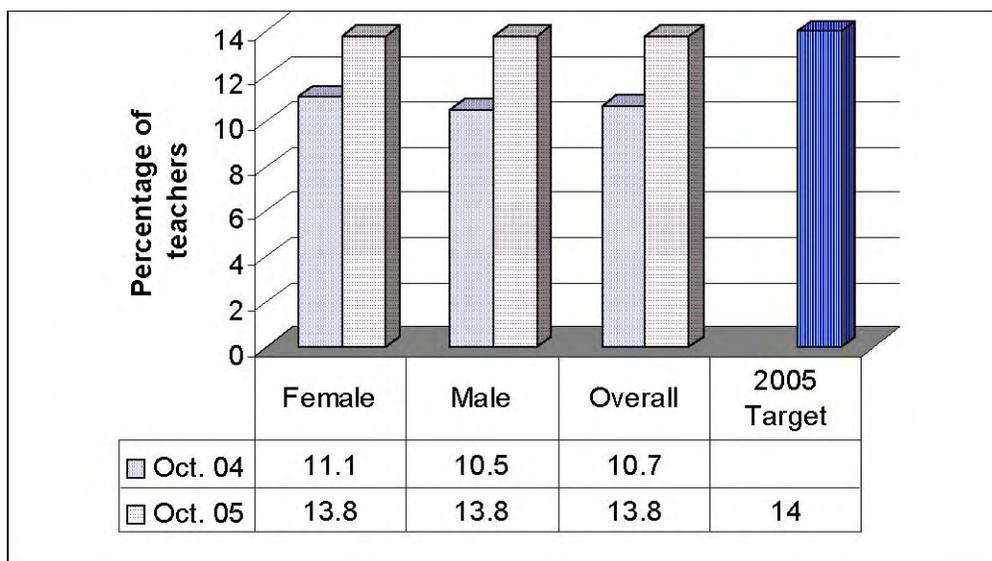
Assessment Results for Teachers

The selected teachers were given proficiency tests in English, mathematics and science. The tests were adapted from the 2004 Primary School Leaving Certificate Examinations. Mastery levels are used to categorize the determined proficiency level of each teacher in each subject. If a teacher scores between zero and 30% is considered to be in the non-mastery level, scores between 31% and 79% fall within the partial mastery levels and scores greater than or equal to 80% fall within the full mastery levels. MTTA adapted pupil assessments proficiency categories developed under QUEST and used in MESA for these teacher assessments. However, other approaches are presented due to limitations in the use of mastery levels. Averages and bar charts broken in categories of 10 intervals from 0 to 100% have been used.

English

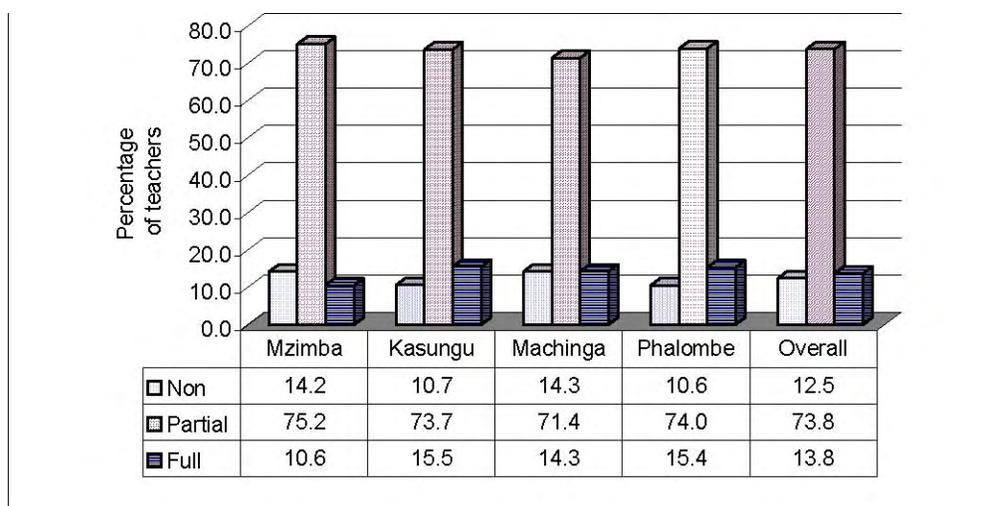
The assessment in English was composed of the composition, comprehension and grammar sections. As shown in Figure B1, 13.8% of the teachers were in the full mastery level, within the confidence interval of the target 14.0%, indicated an improvement in teacher skills.

Figure B1: October 2004 and October 2005 English full mastery results for teachers



The results indicated an increase in the percentage of teachers in the full mastery level from 10.7% in October 2004 to 13.8%. It was observed that percentage of teachers in the partial mastery level had moved from 79.5% to 73.8%. These changes showed an improvement in the teacher skills in English. It was noted that the percentage of teachers in the non-mastery had risen to 12.5% (October 2005) from 9.8% (October 2004). The rise in the percentage of non-mastery teachers was attributed to the challenges outlined before - in 50% of the sample schools teachers had not yet got their salaries. That caused some disgruntlement and resistance among teachers to participate. Teacher trainings will be targeting teachers in the lower performance levels to raise their performance levels (Figure B2).

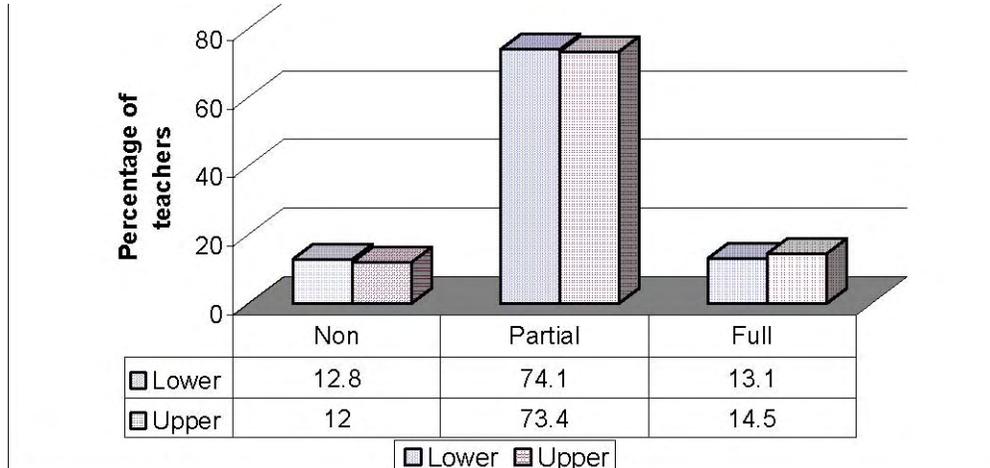
Figure B2: Teacher mastery levels in English by district – October 2005



The study also compared the performance of teachers in the lower primary school section against that of teachers in the upper primary school. Standards 1 to 4 are in the lower primary school section while standards 5 to 8 are in the upper primary school section. Teachers teaching in both sections were in this study considered to belong to the upper section. As illustrated in Figure B3 below, there

was no significant difference in the performance between the teachers of the two sections. One reason would be the fact that three-fifth of teachers teach in both sections. That implied that they interacted with materials from both sections.

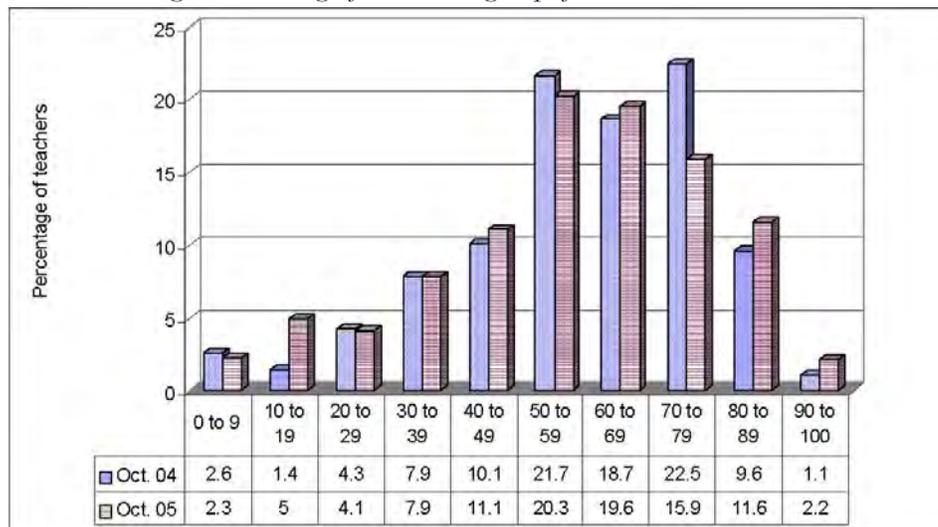
Figure B3: English mastery levels by section of primary school which a teacher was teaching



It was also found that if the cut off point for full mastery level was 70.0% then 29.7% of the teachers would be in that category. That suggested that even though some teachers did not reach full mastery level their proficiency levels were close to full mastery and were reaching a respectable standard.

To provide additional information on the change in teachers' performance, change in 10 point intervals were explored. Figure B4 shows the change within categories 0 to 9%, 10 to 19 up to 90 to 100% for the two periods, October 2004 and October 2005. It was noted that 6 teachers representing 0.6% scored zero in October 2004 while no teacher scored zero in October 2005. The bars in the chart show that in the 0 to 9% category the percentage of teachers dropped from 2.6% to 2.3% while in the 10 to 19 the percentage rose from 1.4% to 5.0%. Generally, in the categories from 60 to 100, there were more teachers in the October 2005 than in October 2004.

Figure B4: Change of teachers' English performance within 10% intervals



As

shown in

Table B2, the average score of teachers in English rose with average gain of 1.33%. Females improved their skills in English more than male teachers. The gain showed that teachers mastered more English skills by October 2005 when compared to October 2004.

Table B2: Progress of teachers in English

Sex	October 2004	October 2005	Average Percent Gain
Female	54.84	56.63	1.79
Male	55.75	56.63	0.88
Overall	55.30	56.63	1.33

Mathematics

The mathematics proficiency test had thirteen questions drawn from the PSLCE. The full mastery results from the October 2004 and October 2005 studies were as shown in Figure B5. Teachers' content knowledge in mathematics concepts had improved and reached the target, 6%.

Figure B5: October 2004 and October 2005 mathematics full mastery results for teachers

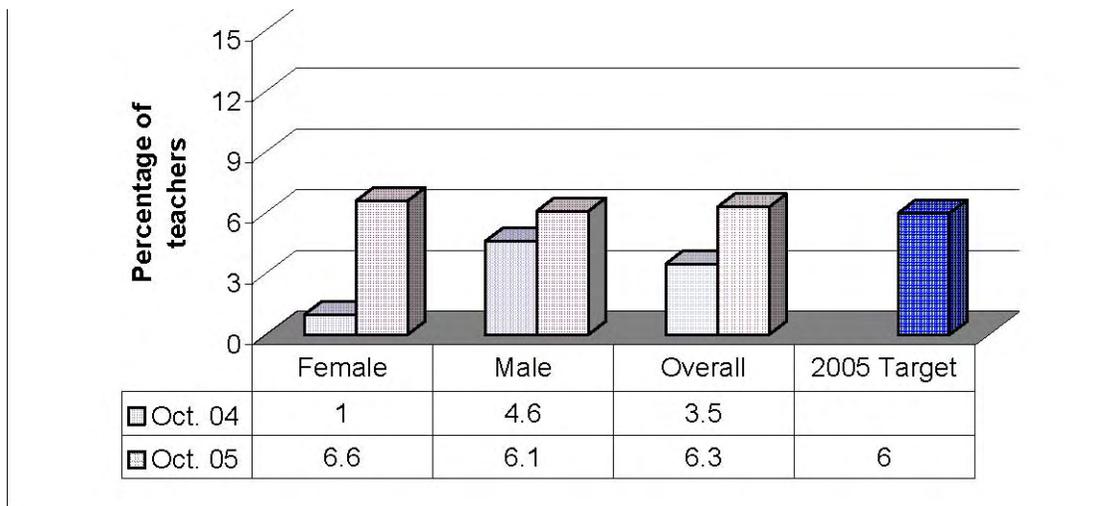
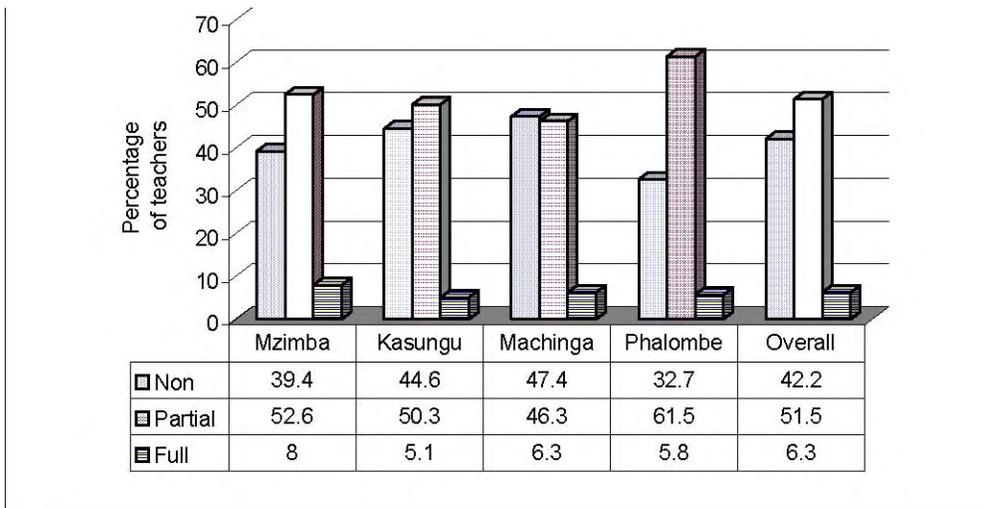


Figure B6 indicated that overall about one-half (51.5%) of the teachers were in the partial mastery level, about two-fifth (42.2%) in the non-mastery level. The pattern was true for all the districts. The percentage of teachers in the full mastery between October 2004 and 2005 had increased.

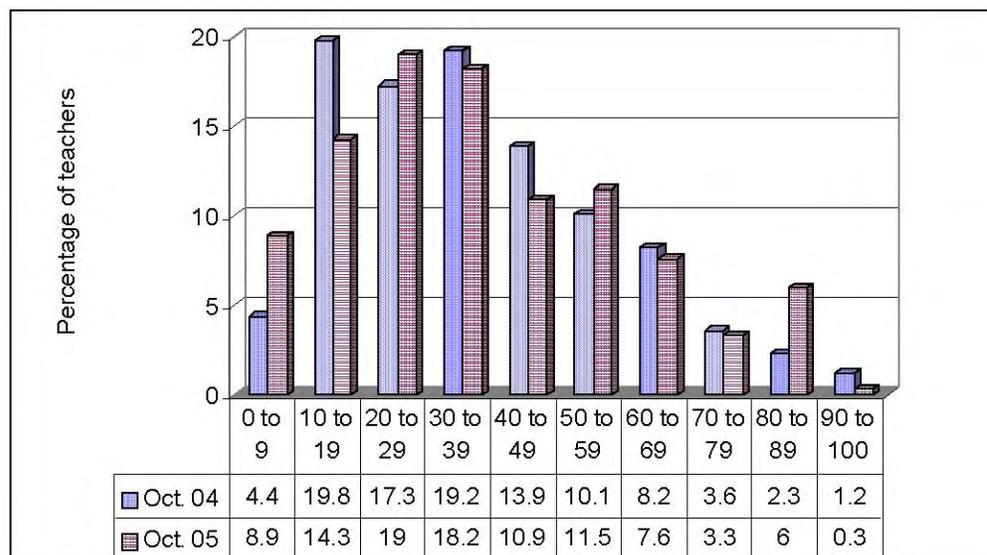
Figure B6: Mastery levels for mathematics proficiency assessment – October 2005



Further analysis showed that 9.6% of the teachers scored 70.0% and higher. That indicated that some teachers were close to achieving full mastery, but many still had a long way to go.

Figure B7 shows that the percentage of teachers in 0 to 9% category almost doubled to 8.9 in October 2005 from 4.4 in October 2004. Most likely these were the teachers that left exams incomplete exam due to disgruntlement over the delayed salaries. In the category 80 to 89% the percentage of teachers rose from 2.3 to 6.0%. Overall, there were more teachers (28.7%) in the categories 50 to 100% in October 2005 than in October 2004 (25.4%).

Figure B7: Change in teachers' mathematics performance within 10% intervals



As shown in Table B3, the average score of teachers in Mathematics rose with average gain of 5.41%, with female teachers demonstrating higher learning gains on average when compared to males by October 2005. Overall, the gain showed that teachers mastered more concepts in Mathematics by October 2005 when compared to October 2004.

Table B3: Progress of teachers in Mathematics

Sex	October 2004	October 2005	Average Percent Gain
Female	28.54	36.61	8.07
Male	37.40	40.15	2.75
Overall	32.97	38.38	5.41

Science

The science proficiency test used 31 questions adapted from the PSLCE. As shown in Figure B8, all the districts showed that 5.4% of the teachers were in the full mastery category, reaching the target of 4%.

The results showed a 4% increase in the percentage of teachers in the full mastery from October 2004 to October 2005. There was a 7.8% reduction in the percentage of teachers in the non-mastery level from 24.7% in October 2004 to 16.9% in October 2005, with these teachers moving to partial mastery. Teachers' understanding of the science concepts was improving.

Figure B8: October 2004 and October 2005 science full mastery results for teachers

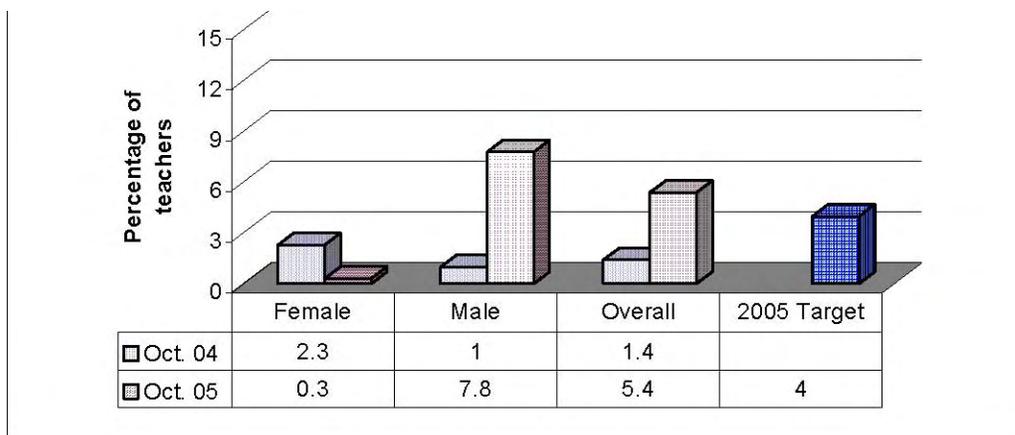
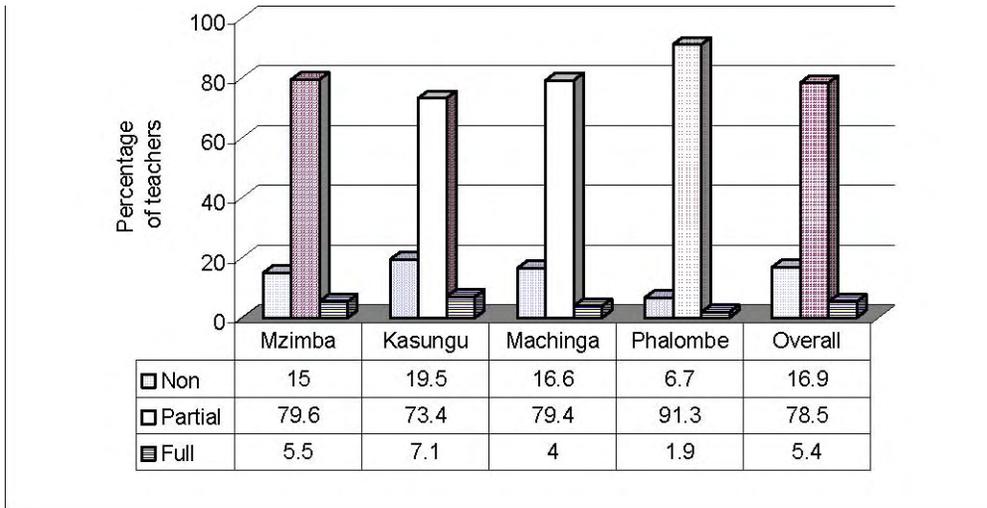


Figure B9 indicated that over three-quarters (78.5%) of the teachers were in the partial mastery level, about one-sixth (16.9%) in the non-mastery level. The pattern was the same across all the four districts.

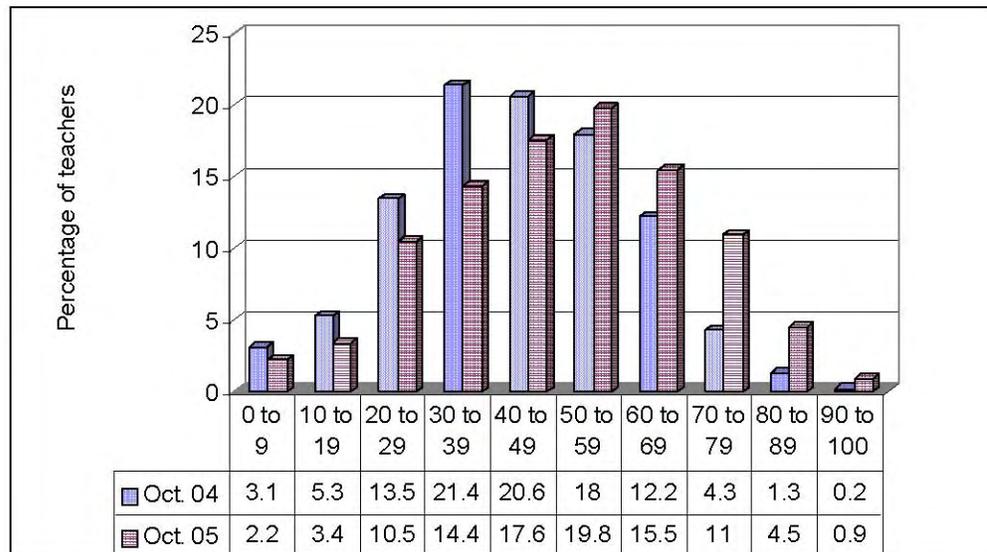
Figure B9: Mastery levels for science proficiency assessment – October 2005



In science, it had been shown that lowering the cut off point for full mastery to 70% revealed that 9.4% of the teachers scored between 70% and 80%, showing 14.9% of the teachers were above 70% score.

Figure B10 indicated that more than one-half (51.7%) of the teachers in October 2005 scored 50% or higher while only 36.0% of the teachers scored 50% or higher during baseline in October 2004. For all intervals less than 50% the bars in the chart show that the percentage of teachers in October 2004 dropped when compared to the similar intervals in October 2005. Overall, the pattern observed showed that generally teachers improved their proficiency levels by October 2005.

Figure B10: Change in teachers' science performance within 10% intervals



As shown in Table B4, the average score of teachers in science rose with average gain of 6.61%, with males improving more than females. The gain showed that teachers mastered more science concepts by October 2005 when compared to October 2004.

Table B4: Progress of teachers in science

Sex	October 2004	October 2005	Average Percent Gain
Female	41.59	44.08	2.49
Male	42.51	53.24	10.73
Overall	42.05	48.66	6.61

Pupils

Sample characteristics

Pupil assessment was conducted in order to determine percentage of pupils' achievements in literacy, numeracy and science. Pupils were randomly selected from standards 3 and 6. In standard 3, sixteen pupils (8 boys and 8 girls) were randomly selected while in standard 6, eight pupils (4 boys and 4 girls) were also randomly selected from attendance registers. In February 2005, 2,011 standard 3 (1,006 boys and 1,005 girls) and 994 standard 6 (498 boys and 496 girls) pupils were assessed shortly after the school year started to get baseline scores. English, science, and mathematics curriculum based assessment items were administered to these pupils.

Approximately 34% of the pupils who were tested in February 2005 were not found at the time of the post-test in October 2005. In standard 3, 66.5 % of the boys and 64.7% of the girls were present at the follow up (Table B5) while in standard 6 (Table B6), 70.7% of the boys and 69.8% of the girls were present.

Table B5: Number of Standard 3 pupils in February and October 2005 samples

District	February 2005			October 2005			% Present		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Mzimba S	318	317	635	253	238	491	79.6	75.1	77.3
Kasungu	376	376	752	211	211	422	56.1	56.1	56.1
Machinga	208	208	416	132	124	256	63.5	59.6	61.5
Phalombe	104	104	208	73	77	150	70.2	74.0	72.1
Total	1,006	1,005	2,011	669	650	1,319	66.5	64.7	65.6

Table B6: Number of Standard 6 pupils in February and October 2005 samples

District	February 2005			October 2005			% Present		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Mzimba S	159	160	319	133	125	258	83.6	78.1	80.9
Kasungu	185	183	368	110	114	224	59.5	62.3	60.9
Machinga	104	101	205	69	70	139	66.3	69.3	67.8
Phalombe	50	52	102	40	37	77	80.0	71.2	75.5
Total	498	496	994	352	346	698	70.7	69.8	70.2

The majority of the pupils for both standards 3 and 6 missed during the follow up data collection because they were absent from school or they had transferred from their original February data collection schools. A reasonable percentage too missed from the survey due to sickness, dropping

out of school and other reasons related to famine where pupils go to look for food or do piece work to support their families.

Assessment Results

The results presented are for only those pupils who had data from both baseline (February 2005) and follow up (October 2005) surveys. The data is presented in categories of mastery as follows: non-mastery - 0-30%, partial mastery 31-79% and full mastery - 80 - 100%. Pupil levels of mastery in English reading and mastery in mathematics improved over the years. Significant gains were also made in the partial mastery level in both subjects. Significant gains are also seen by comparing pupils’ baseline and follow up average scores.

English

Pupils were scored on the number of words read correctly from a passage of Standards 3 and 6 English textbooks by level of mastery (Figure B11).

There was a significant gain in English pupil performance in Standard 3 where pupils moved from the lower levels to the higher levels as seen in Figure B11. For instance, in February 2005, 96.3% of the boys and 96.6% of the girls were in the non-mastery level, while in October the percentages have gone down to 85.3% and to 84.9% respectively, and boys moved from 0.9 to 4.5% and girls from 0.9 to 4.3% in the full mastery level. In the partial mastery the boys rose from 2.8 to 10.2% and the girls from 2.5 to 10.8%.

Figure B11: Standard 3 pupil learning gains in English reading (full mastery level)

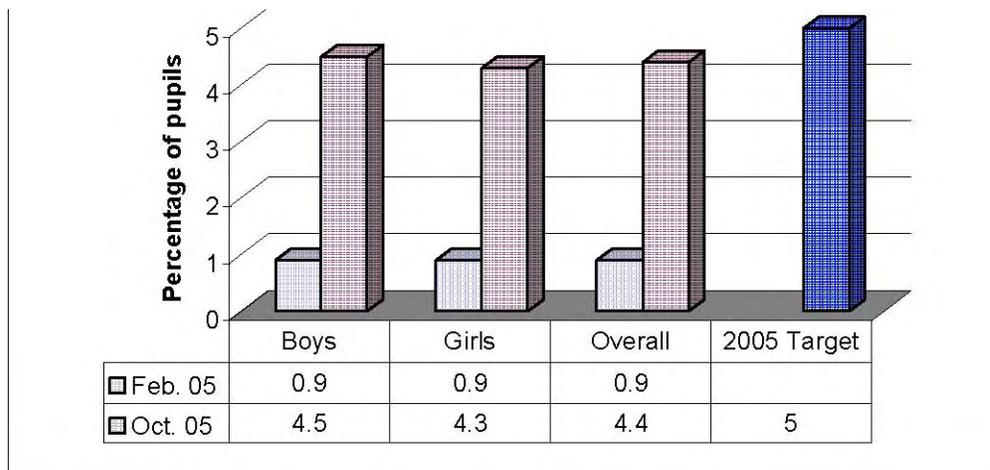
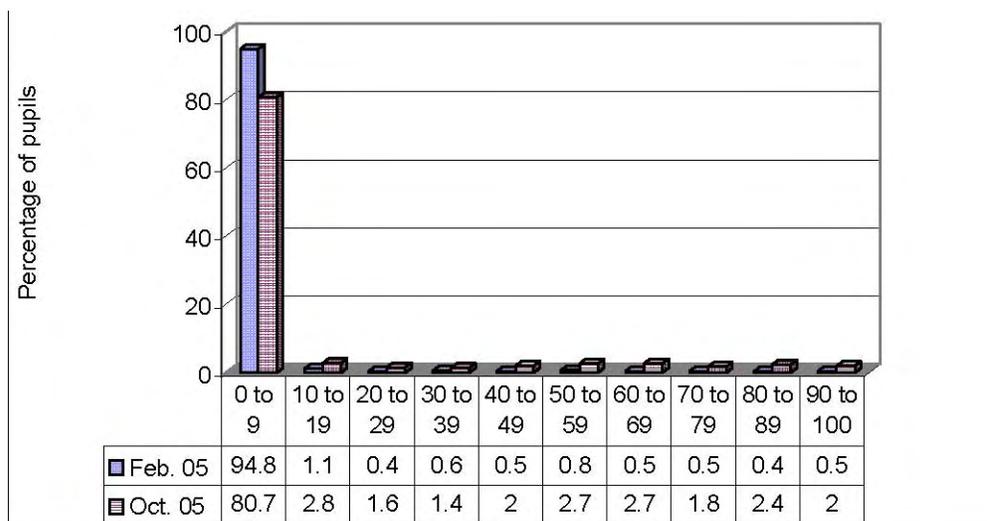


Figure B12 shows the performance of pupils in English reading within the 10% interval between October 2004 and October 2005.

Figure B12: Change in pupils' English reading performance within 10% intervals



The performance of pupils in English reading within the 10% interval analysis between October 2004 and October 2005 for grades less than 9%, the percentage of pupils declined by October 2005 when compared to October 2004. The trend was the same for all intervals showing that more pupils improved in English reading skills by October 2005. For instance, only 2.7% of the pupils scored 50% and higher in October 2004 while in October 2005 11.6% of the pupils moved into the range.

Table B7 shows the direction of change in scores in English reading by individual pupils. The score of each pupil during the baseline survey (February 2005) was compared to his/her score during the follow-up survey (October 2005). The score during follow-up was subtracted from the score during baseline. If the pupil scored the same during baseline and follow-up the difference is zero which means the pupil made no change at all. If the pupil's score during follow-up was higher than the score during baseline then the pupil had improved by October 2005. If the score of the pupil during follow-up was lower than the score during baseline then the pupil did not improve.

The analysis went further to look at each mastery level and find out the mastery level the percentage of pupils who had positive change, no change and negative change.

Table B7: Direction of change in pupil performance in English reading

Mastery Level	Positive Change	No Change	Negative Change
Non-mastery	15.0	82.3	2.8
Partial mastery	94.9	0.0	5.1
Full mastery	94.8	0.0	5.2
Overall	26.8	70.1	3.1

Table B7 shows that overall 26.8% of the pupils had improved in English reading by October 2005. Within full mastery level 94.8% of the pupils had improved while 5.2% dropped. In the partial mastery level, 94.9% of the pupils had improved while 5.1% dropped. In the non-mastery level, 15.0% improved, 82.3% did not change at all while 2.8% dropped. The pupils who did not change at all and those who dropped in the non-mastery are the ones MTTA must target as it continues its interventions.

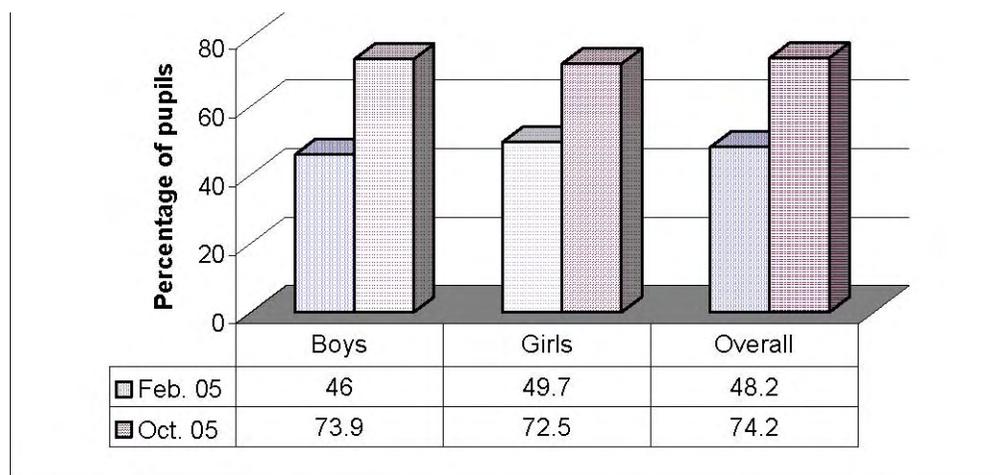
Another way to interpret assessment results was to calculate and average scores for the baseline and follow-up and compare them. The average scores in Standard 3 English reading boys moved from 2.57% in February 2005 to 10.88% in October 2005 and girls from 2.63% to 12.44% (see Table B8). Overall, Table 13 shows that pupils had improved their English reading on average by 8.26 by October 2005 with girls improving more than boys.

Table B8: Average score gain of standard 3 pupils in English reading

Sex	February 2005	October 2005	Average Percent Gain
Boys (n=669)	2.57	10.88	8.31
Girls (n=650)	2.63	12.44	9.81
Overall (n=1319)	2.60	10.86	8.26

Figure B13 shows the results of the performance of standard 6 pupils in English. It was observed that nearly 75% of the pupils were able to read.

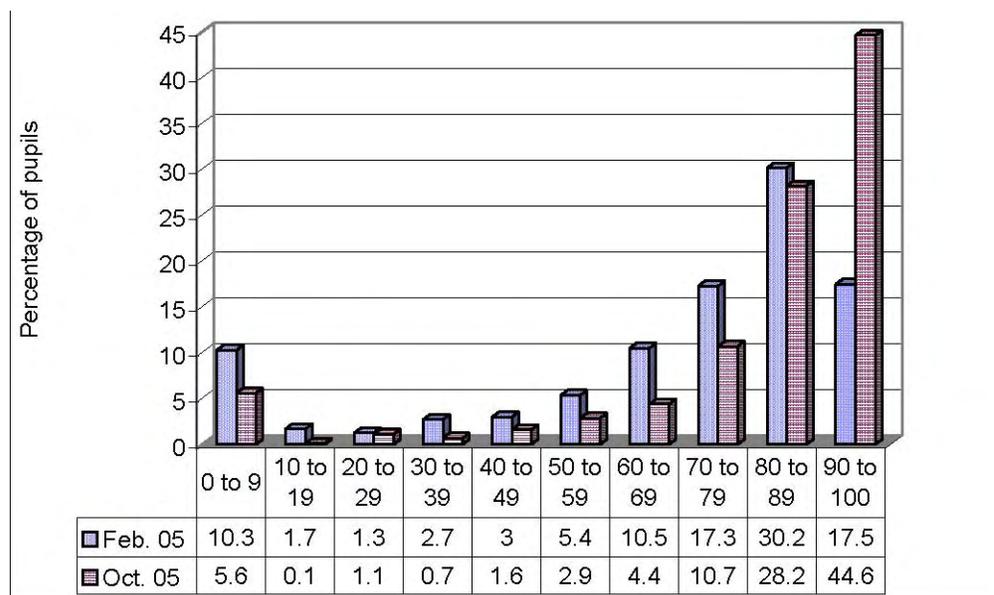
Figure B13: Standard 6 pupil learning gains in English reading (full mastery level)



The results clearly showed that learning took place. This is evidenced by how pupils moved from lower mastery levels to higher levels. Both boys and girls realized significant gains in full mastery. Boys moved from 46.0 to 73.9% and girls moved from 49.7 to 72.5%. Percentage for non-mastery too has considerably gone down from 15.9% to 9.4% for boys and from 11.3 to 4.6% for girls.

In Figure B14, it is shown that within each 10% interval more pupils moved from lower to higher intervals. In the 0 to 9% interval, the percentage of pupils decreased from 10.3 in February 2005 to 5.6 in October 2005. The decrease means that (10.3-5.6) 4.7% had moved out of the 0 to 9% to other higher intervals. The pattern is true for all intervals less than 50%. In particular, the percentage of pupils in the interval 90 to 100% had increased from 17.5% in February 2005 to 44.6% in October 2005. The percentage of pupils scoring below 50% had declined significantly while the percentage in the 90-100% category rose by approximately 25%.

Figure B14: Change in standard 6 pupils' English reading performance within 10% intervals



In standard 6 pupils also realized significant average gains in English reading where boys moved from 66.08% in February 2005 to 78.76% in October 2005 and girls from 69.46% to 82.37% (see Table B9). Overall, Table 14 shows that pupils had improved their English reading on average by 12.8 by October 2005.

Table B9: Average score gain of standard 6 pupils in English reading

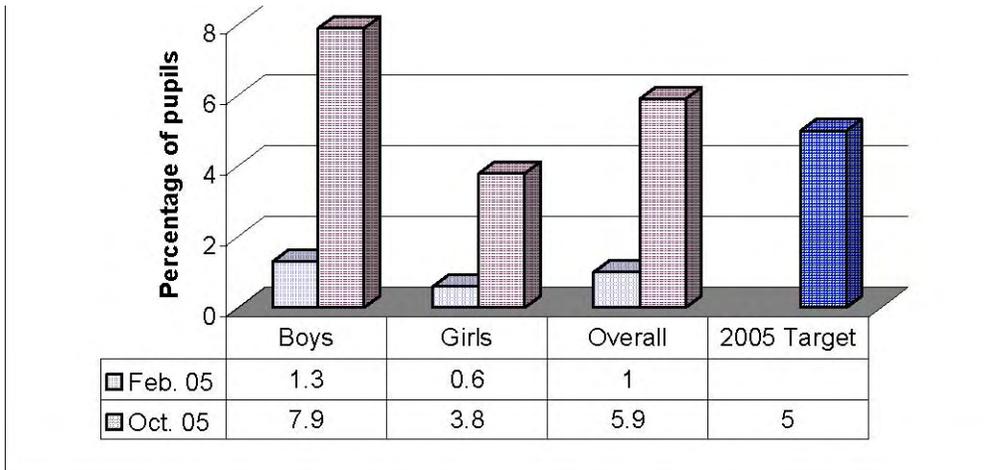
Sex	February 2005	October 2005	Average Percent Gain
Boys (n=352)	66.08	78.76	12.68
Girls (n=346)	69.46	82.37	12.91
Overall (n=698)	67.75	80.55	12.8

Mathematics

Fifty mathematics items from a scope of Standard 3 curriculum were administered. In standard 6 thirty mathematics items from a scope of Standard 6 curriculum were used. The results in Figure B15 show percentage of pupils in the full mastery level in Mathematics assessment.

In Standard 3 mathematics, the percentages of pupils in the non-mastery level dropped from 12.4% for boys and 12.2% for girls to 20.3% and 23.7% for boys and girls respectively. The increase in the full mastery level where boys moved from 1.3 to 7.9% and girls from 0.6 to 3.8% also shows that learning took place.

Figure B15: Standard 3 pupil learning gains in mathematics (full mastery level)



In Figure B16, it is shown that within each 10% interval more pupils moved from lower to higher intervals. Overall, the percentage of pupils who scored less than 50% in February 2005 decreased from 63.7% to 46.8% by October 2005. This means that about 16% (63.7%-46.8%) moved from the lower than 50% category to the 50% and higher category.

Figure B16: Change in standard 3 pupils' mathematics performance within 10% intervals

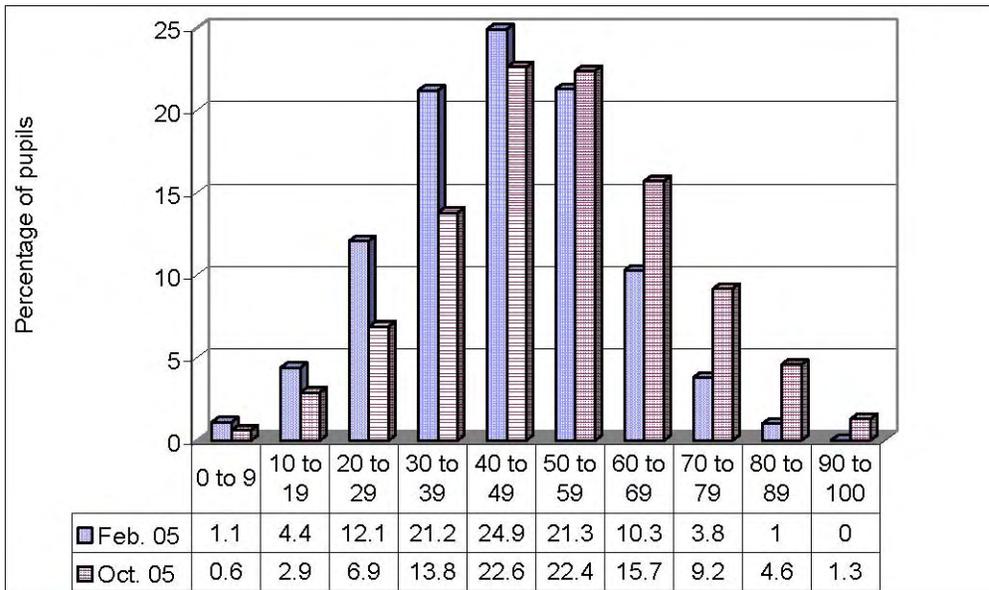


Table B10 shows that overall 67.8% of the Standard 3 pupils had improved in English reading by October 2005. Within full mastery level all the pupils (100%) had improved. In the partial mastery level, 69.7% of the pupils had improved, 4.4% scored the same during baseline and follow-up while about a ¼ (25.9%) dropped. In the non-mastery level, 39.5% improved, 6.2% did not change at all while 54.3% dropped. The pupils who dropped in the non-mastery are the ones MTTA must target as it continues its interventions.

Table B10: Direction of change in standard 3 pupil performance in mathematics

Mastery Level	Positive Change	No Change	Negative Change
Non-mastery	39.5	6.2	54.3
Partial mastery	69.7	4.4	25.9
Full mastery	100	0	0
Overall	67.8	4.3	27.9

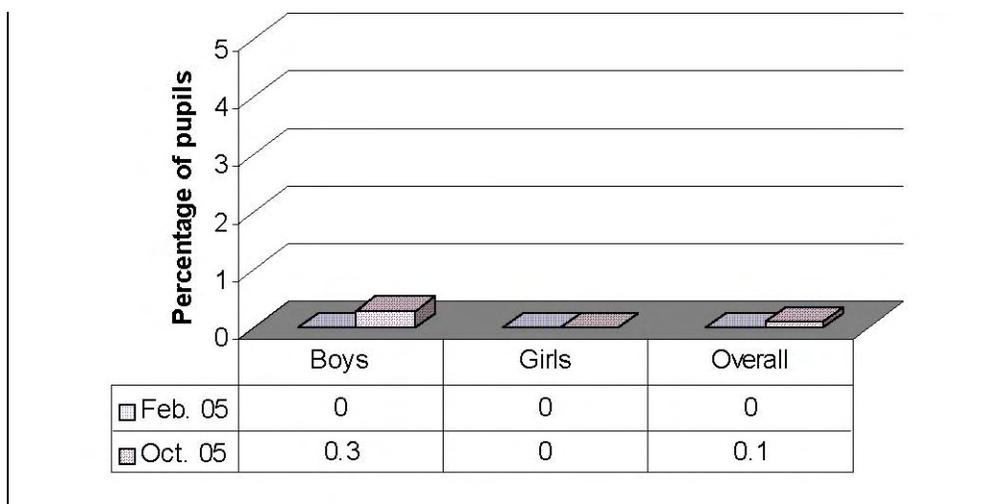
Looking at percentage average scores pupils in Standard 3 show significant improvement where boys scored 44.23% in February and 52.04% in October and girls moved from 42.16% in February to 49.36% in October 2005 (see Table B11). On average, there was a 7.51 average percent gain.

Table B11: Average score gain of standard 3 pupils in mathematics

Sex	February 2005	October 2005	Average Percent Gain
Boys (n=669)	44.23	52.04	7.81
Girls (n=650)	42.16	49.36	7.20
Overall (n=1319)	43.21	50.72	7.51

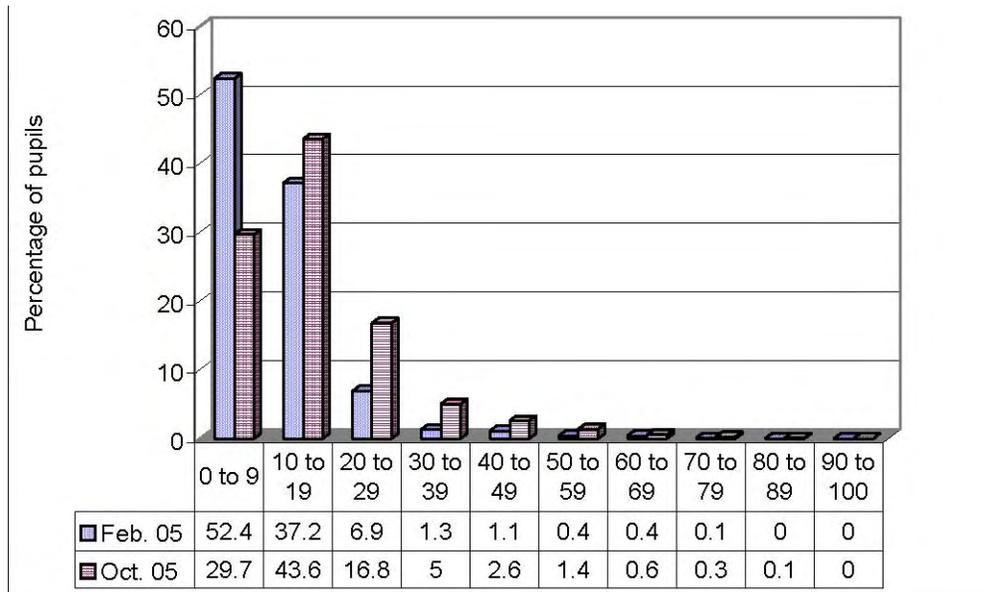
In standard 6, mathematics less than 1% of the boys was in the full mastery and no girl in full mastery at follow up (Figure B17). However, at follow up some pupils moved from non mastery to partial mastery level which was an indication that some learning took place.

Figure B17: Standard 6 pupils learning gains in mathematics (full mastery level)



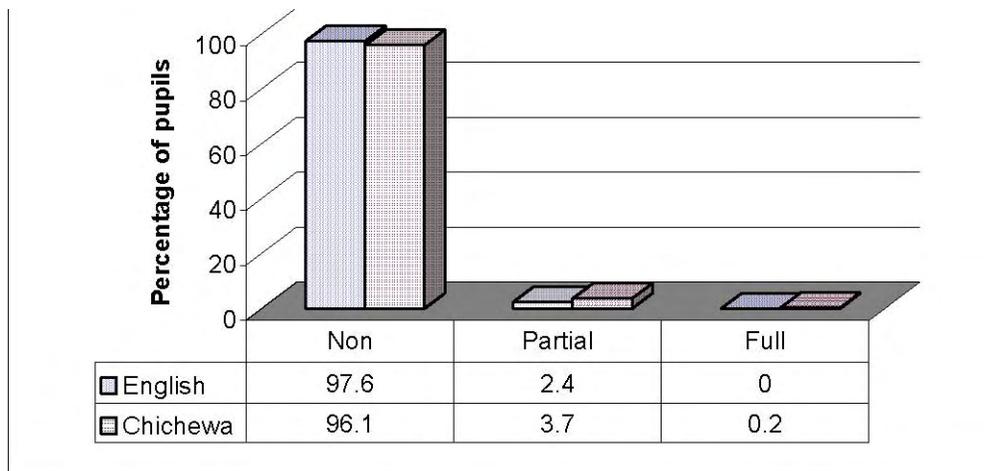
In Figure B18, looking at the interval 0 to 9%, the percentage of pupils in this interval decreased from 52.4% in February 2005 to 29.7% in October 2005. This means that 22.7% of the pupils had moved out of the 0 to 9% by October 2005 to higher intervals. The percentage of pupils scoring 50% and higher increased from 0.9% in February 2005 to 2.4% in October 2005. The pattern observed in Figure 20 shows that in all intervals pupils moved from lower intervals in February 2005 to higher intervals in October 2005.

Figure B18: Change in standard 6 pupils' mathematics performance within 10% intervals



MTTA/MESA had observed that generally standard 6 results were poor in Mathematics and science. In view of that, MTTA/MESA designed Chichewa questionnaires which were administered along side the English in the February survey. A pupil was asked first all questions in English. Later, the pupil was asked in Chichewa those questions s/he previously failed when asked in English. One important finding from the February 2005 data collection is how the language of instruction is problematic. Pupils find it difficult to understand the mathematics concepts in English. This was confirmed from the February pupil data collection where pupils were assessed the same items in both English and Chichewa (Figure B19).

Figure B19: Performance of standard 6 pupils in mathematics when first asked in English then in Chichewa



Almost all pupils were in the non-mastery level when the mathematic items were assessed in English. The same items were assessed in Chichewa and results showed that percentages of partial mastery and full mastery changed from 0 to 0.2 and from 2.4 to 3.7%, respectively while that of non mastery went down from about 98% to 96%. By examining the difference in percentages of levels of mastery for the questions asked in English and later in Chichewa, it can be deduced that pupils did not clearly

understand most of the mathematics concepts in English but were able to answer some items correctly when they were asked in Chichewa. Although clearly, this is not the only problem.

Calculating average scores, there was an improvement between baseline and follow up results where boys moved from 10.45% to 16.06% and girls from 9.16% to 13.90% (see Table B12). An average percent gain of 5.18 in mathematics was realized by October 2005.

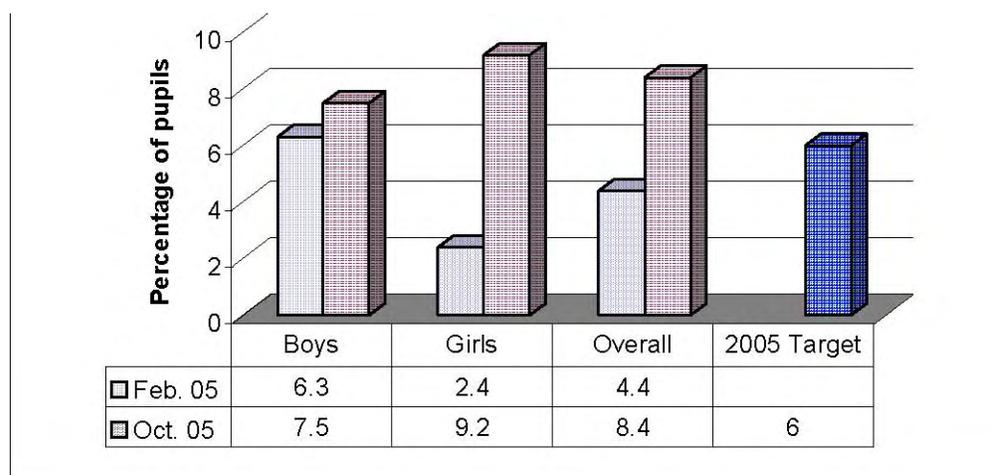
Table B12: Average score gain of standard 6 pupils in mathematics

Sex	February 2005	October 2005	Average Percent Gain
Boys (n=352)	10.45	16.06	5.61
Girls (n=346)	9.16	13.90	4.29
Overall (n=698)	9.81	14.99	5.18

Science

Standard 3 pupils were assessed in General Studies while standard 6 pupils were assessed in Science. Figure B20 illustrates that by October 2005, 8.4% of the pupils attained full mastery of the General studies concepts, exceeding the 6% target. During baseline in February 2005 4.4% of the pupils were in the full mastery level. Boys outperformed girls. The percentage of pupils in the non-mastery levels decreased while the percentage of pupils in the partial and full mastery increased.

Figure B20: Standard 3 pupil learning gains in General Studies (full mastery level)

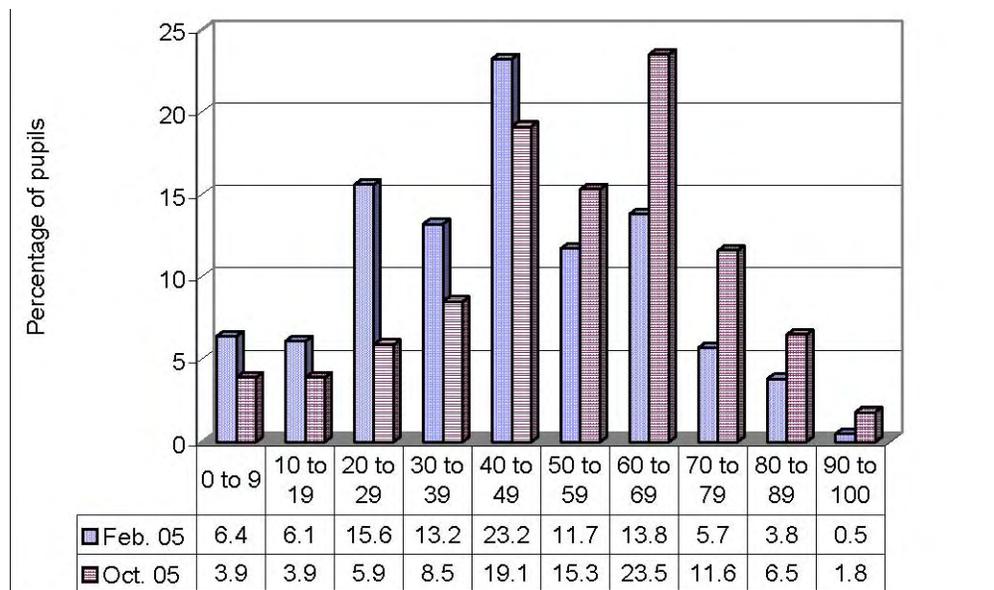


The results show that the percentage of in the non mastery level decreased from 26.8% in February 2005 to 13.7% in October. This indicates that about 50% of the pupils moved out of the non mastery level to other higher levels by October 2005. During baseline, 68.8% of the pupils were in the partial mastery level while 78.1% were in the same mastery level by October 2005. The pupils who moved out of the non mastery level during baseline reached the partial mastery level thereby increasing the percentage in partial mastery level during follow-up in October 2005. The same trend was observed in the full mastery level where the percentage increased from 4.4% during baseline to 8.4% during follow-up.

Figure B21 illustrates that in all intervals less than 50% the percentage of pupils within each interval drops in February 2005 when compared to the percentage in October 2005. For instance, in the 0 to 9% interval the percentage reduces from 6.4% in February 2005 to 3.9% in October 2005 and in the interval 10 to 19 the percentage reduces from 6.1% to 3.9%. Overall, the percentage scoring less than

50% reduced from 64.5% during baseline to 41.3% thereby increasing the percentage of pupils scoring 50% and higher during follow-up.

Figure B21: Change in standard 3 pupils' general studies performance within 10% intervals



While overall learning gains were positive, another way to look at the data is the direction of change for each pupil overall and within mastery category. As shown in Table B13, on average, 7 out of 10 standard 3 pupils in general studies improved their score at follow-up, while nearly ¼ declined. Table B13 further illustrates that 93.1% of the pupils in the non mastery had improved even though they remained in the non mastery level. The pattern was the same in all the three mastery levels. The pattern indicates that there were more pupils who had improved their understanding of general studies concepts than the ones who did not.

Table B13: Direction of change in pupil performance in general studies

Mastery Level	Positive Change	No Change	Negative Change
Non-mastery	93.1	4.6	2.3
Partial mastery	70.2	7.1	22.7
Full mastery	67.6	5.7	26.7
Overall	69.8	6.6	23.6

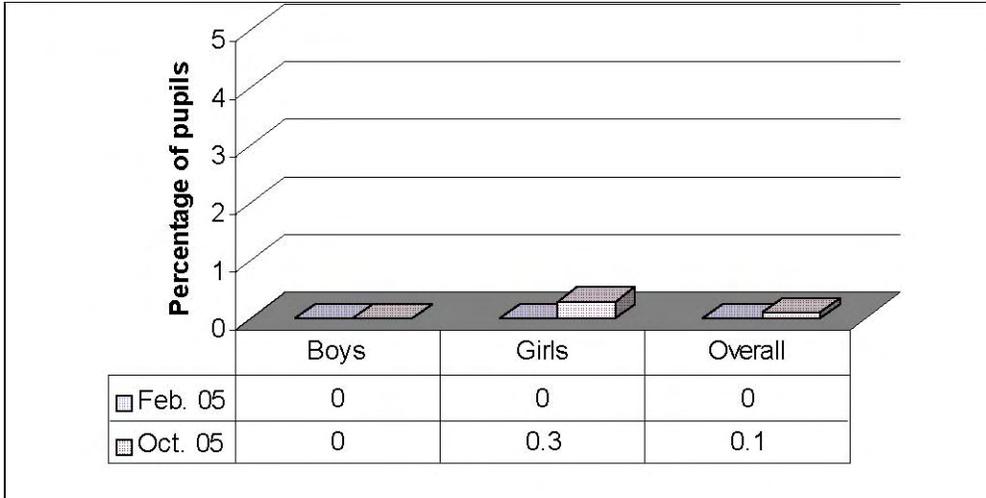
As shown in Table 19, the average gain in pupil scores for general studies was 14.1%, with girls and boys both making significant gains.

Table B14: Average score gain of standard 3 pupils in general studies

Sex	February 2005	October 2005	Average Percent Gain
Boys (n=669)	44.48	57.73	13.25
Girls (n=650)	40.48	55.43	14.95
Overall (n=1319)	42.48	56.58	14.10

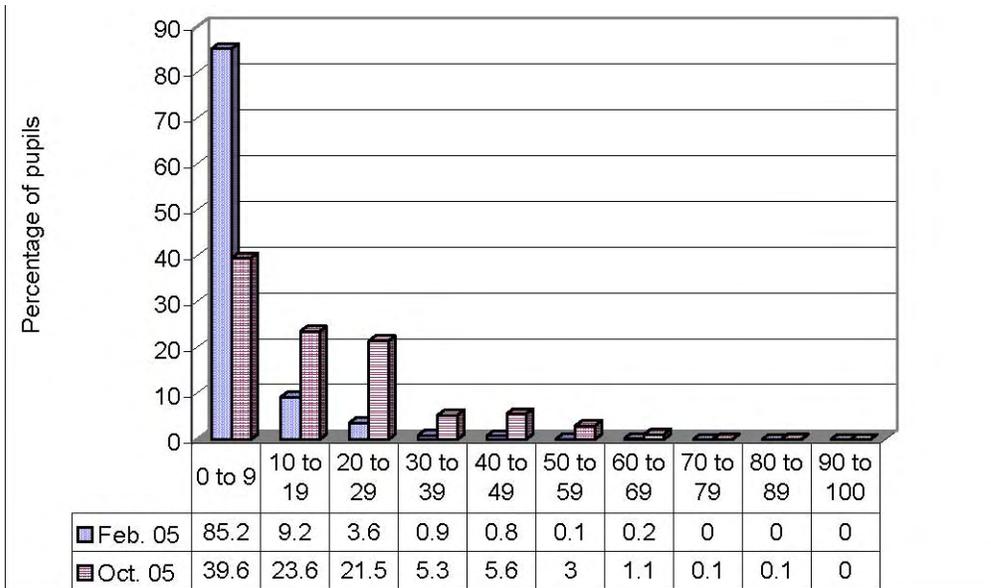
Standard 6 pupils were assessed in science. Figure B23 shows that there was a 0.1% increase in pupils' full mastery level from 0.0% during baseline. It was noted that nearly all of the pupils remained in the non-mastery.

Figure B23: Standard 6 pupil learning gains in science (full mastery level)



Looking at the interval 0 to 9% in Figure B24, about ½ ($85.2-39.6=45.6\%$) of the pupils moved out of this interval by October 2005 when compared to February 2005. Figure 25 also shows that only 0.3% of the pupils scored 50% and higher during baseline while 4.1% scored 50% and higher by October 2005. Overall, Figure B24 illustrates that pupils improved their understanding of mathematics concepts by October 2005.

Figure B24: Change in standard 6 pupils' science performance within 10% intervals



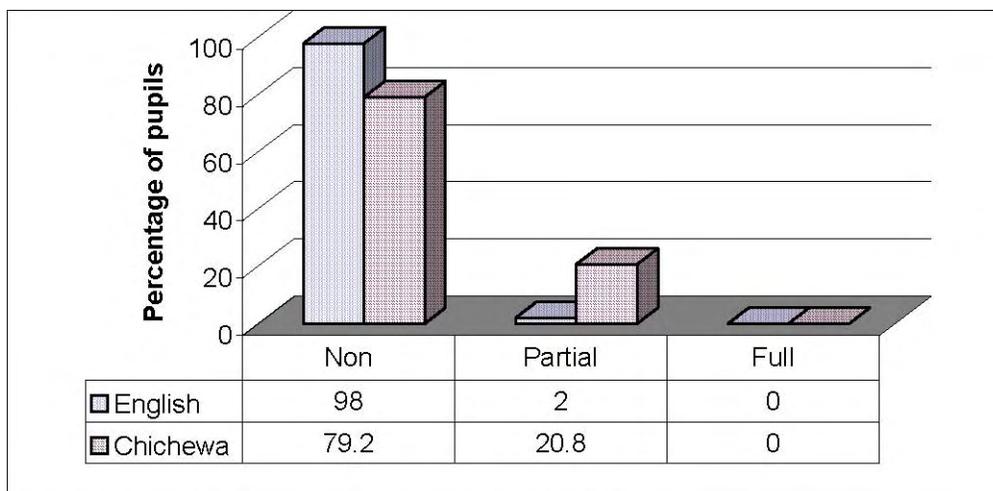
Calculating average scores, there is an improvement between baseline and follow-up results where boys register an average percent gain of 12.56 and girls an average gain of 11.64 (see Table B15). Overall, average score gain increased from 4.61 during baseline to 16.73 during follow-up. The gain indicates that Standard 6 pupils improved their understanding of concepts in science.

Table B15: Average score gain of standard 6 pupils in mathematics

Sex	February 2005	October 2005	Average Percent Gain
Boys (n=352)	4.98	17.54	12.56
Girls (n=346)	4.24	15.88	11.64
Overall (n=698)	4.61	16.73	12.12

As mentioned, to understand this poor performance in mathematics and science, MTTA/MESA designed Chichewa questionnaires which were administered along side the English. By examining the difference in percentages of levels of mastery for the questions asked in English and later in Chichewa, it can be deduced that the use of English language as a medium for instruction is standard 6 is problem. Pupils do not comprehend questions in English but are better able to answer the questions correctly when they are asked in Chichewa (Figure B25).

Figure B25: Performance of standard 6 pupils in science when first asked in English then later in Chichewa



With 98.5% of the Standard 6 pupils in the non-mastery levels during baseline in February 2005 when asked questions in English but over 20% moved to partial mastery when asked questions asked in Chichewa after failing the same questions when they were first asked in English. It could be deduced that pupils failed to understand the questions in English but were more able to do so when asked in Chichewa. The fact that pupils in the lower primary are taught in Chichewa and only English as a subject may effect their comprehension when they join upper primary. MTTA will work with teachers to improve their skills.