

## ACHIEVING OUR GOALS AND TRANSFORMING OUR SCHOOLS:

### *Best Practices in the Malawi Teacher Training Activity*



**June 2008**

This report was produced for review by the United States Agency for International Development Contract No: GS 10F-0112J Order No: 690-M-04-00260-00. It was prepared by Nancy Kendall for Miske Witt & Associates, under a subcontract to the American Institutes for Research. The Malawi Teacher Training Activity is implemented by the American Institutes for Research in partnership with Malawi Institute of Education, Miske Witt & Associates, Inc., and Save the Children, US.





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# ACHIEVING OUR GOALS AND TRANSFORMING OUR SCHOOLS:

*Best Practices in the Malawi Teacher Training Activity*

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# FOREWORD

The release of this report marks a significant breakthrough of the Malawi Teacher Training Activity (MTTA) in its effort to improve the quality of education in Malawi. Since 2004, when the project was launched, MTTA has worked tirelessly to improve the quality of education through improving primary school teachers' professional skills as well as improving teachers' content knowledge in English, mathematics and science. This has been achieved through a combination of sustained, systematic in-service and pre-service training and support, development and provision of training materials, teacher support systems and quality feedback to teachers.

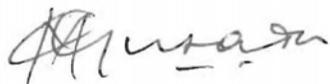
Through the impressive efforts of MTTA's staff, partner organizations, government partners at the zonal, district and national levels and the dedicated efforts of teachers and head teachers, significant outcomes have been achieved: 78% of Standards 1 – 8 teachers in MTTA's four target districts of Kasungu, Machinga, Mzimba South and Phalombe are now able to teach English, mathematics and science competently using participatory methods; and pupils' subject mastery levels in the same core subjects has increased.

The report demonstrates that *effective school leadership, an active supportive parent or community group, positive teacher-to-teacher relationships and engaged learners* are key to school effectiveness. There is no doubt that visionary school leadership energizes both teachers and learners to engage in productive work. Quality school leadership often transforms school culture, and learners, teachers, and the community tend to rally together to achieve the vision of the leadership at school.

It is pleasing to note that after almost four years of implementation MTTA is now able to share the best practices and lessons learned from the implementation processes with other education experts, particularly as the report assists to identify and analyze the important school-level factors that have affected MTTA's impact on teaching and learning processes in schools.

USAID/Malawi's role in supporting, promoting and ensuring the extension of MTTA for a further seven months from January to July 2008 is greatly appreciated. The extension enabled MTTA to, among other things, disseminate lessons learned, help to perpetuate its best practices and to truly share as well as inform the transfer and uptake of the various elements of the project into the national education reform. The extension period helped also to strengthen partnerships and linkages between MTTA on one hand and the various PCAR stakeholders on the other. This moved beyond MTTA's traditional school and district levels to direct support and connections to MOEST headquarters, Ministry directorates as well as development partners.

Finally, I would like to thank Dr. Nancy Kendall and her skilled and dedicated team responsible for preparing this report as well as education officials, teachers, parents, learners and community members whose willingness to give of their time and to share their experiences made this study and report a reality.



Charles Gunsaru  
Director, Malawi Institute of Education



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# AUTHOR'S ACKNOWLEDGEMENTS

Many people provided invaluable assistance in conducting the research and writing in this report. First, we would like to thank Shirley Miske and Sarah Koehler of Miske Witt and Associates for their support throughout the research and writing process. This report is based on the insights arising from initial research and planning conducted by Dr. Miske and Chaplain Katumbi of MTTA. Many thanks also to the staff of the MTTA central office, particularly Simeon Mawindo, Chief of Party, and Chaplain Katumbi, Director of Evaluation, for their support in conducting the research and providing all of the administrative and backstopping support necessary to move two research teams across the country in a short period of time. Mr. Mawindo and Mr. Katumbi freely gave of their time to participate in interviews related to the research and to think about the outcomes and lessons learned arising from the research. Others from the MTTA central office, including Fritz Kadyoma, Rath Kathewera, Douglas Mbingwa, and Laura Ivey participated in interviews about the project.

MTTA staff at the district level played integral roles as researchers, coordinators, and interviewees. They made the research teams feel welcome in their districts, informed schools and communities of our arrival, and organized the research schedules. They troubleshoot when things did not work and provided important insights into the school-level practices that we observed.

The Ministry of Education Primary Education Advisors for each of the schools that we visited played an important role in our access to schools and communities, and often happily and actively participated in the research as interviewees and observers. Many thanks to them for their time and energy, and for smoothing our access to schools and arranging access to community members.

Representatives of the MTTA partner organizations, Lester Namathaka (Save the Children US) and William Banda (Malawi Institute for Education), met and talked with us about their programming, taking time on weeknights and over the weekend to accommodate our busy field research schedule. Many thanks to them for their time and insights.

Staff from the Creative Centre for Community Mobilization were invaluable in identifying the research team; many thanks to them for their willingness to lend their expertise to this effort.

Most of all, our sincerest thanks to the district education officials, school officials, teachers, pupils, and community members who invited us into their schools, classrooms, and homes and gave freely of their time and energy for this report. It is our hope that this report reflects their experiences with MTTA, the remarkable efforts and innovations that so many of them make on a daily basis, and their hopes for the future of their schools and their children's lives.



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# ACRONYMS

CPD	Continuing Professional Development
CPEA	Coordinating Primary Education Advisor
DEF	District Education Facilitator
DEM	District Education Manager
FGDs	Focus Group Discussions
FPE	Free Primary Education
HT	head teacher
IBB	International Book Bank
INSET	In-Service Training
JCE	Junior Certificate of Education
MSCE	Malawi Secondary Certificate of Education
MESA	Malawi Education Support Activity
MTTA	Malawi Teacher Training Activity
NICE	National Initiative for Civic Education
PD	professional development
PEA	Primary Education Advisor
PCAR	Primary Curriculum and Assessment Reform
PTA	Parent-Teacher Association
PSLE	Primary School Leaving Exam
SMC	School Management Committee
SME	science, mathematics, and English
Std	Standard
TALULAR	Teaching and Learning Using Locally-Available Resources
TDC	Teacher Development Center
TTC	Teachers' Training College
USAID	United States Agency for International Development
ZINFA	Zonal In-Service Facilitator



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# EXECUTIVE SUMMARY

## Introduction

This report presents the results of a study conducted in July 2007 to document the best practices and to analyze the lessons learned from key elements of the Malawi Teachers Training Activity (MTTA).. MTTA is a three-and-a-half year initiative funded from August 2004 to July 2008 by the United States Agency for International Development (USAID)/Malawi, in collaboration with the Government of Malawi. It was supported and built upon efforts by various development partners, including UNICEF and DfID.

MTTA aims to improve students' learning by improving the quality of teaching in Malawi. Its activities include: (1) in-service teacher training (INSET)<sup>1</sup> and support for improved content knowledge in science, mathematics, and English (SME); (2) materials to support teachers (i.e., resource books and English language books provided to Teacher Development Centers [TDCs]); (3) support to Teacher Training Colleges (TTCs) to improve pre-service teacher training in SME, social studies, and life skills; and (4) the development of HIV/AIDS prevention clubs and materials.

The project targeted all government primary schools in four districts: Phalombe (Southern Region), Machinga (Southern Region), Kasungu (Central Region), and Mzimba South (Northern Region).

## Research Design

After two years of MTTA implementation, the formal project assessments of teachers' and pupils' skills and SME content knowledge revealed that teachers' and pupils' learning outcomes had improved significantly in a number of schools. Eager to understand what contributed to these findings, the MTTA team decided to explore what contributed to teacher and pupil success at these sites. What were the "best practices" of MTTA that could be learned from teachers and pupils in these settings?

The study aimed to answer the following questions, as they related to the first two activities listed above (i.e., in-service teacher training and materials support):

1. Were gender differences evident in classroom practices, teacher assignments, pupil behavior, or other aspects of the schooling experience in each school visited? If so, what were they and (how) did they appear to be affected by the MTTA project?
2. What factors distinguished the three types of schools (high-performing, progressing, and low-performing) from each other?

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<sup>1</sup> Since teachers' ongoing professional development opportunities were referred to as "INSET" (in-service training) during MESA and the first years of MTTA, this document uses that term instead of the newer acronym CPD (Continuing Professional Development).

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3. What were the quality and culture of teaching and learning (particularly in SME in standards 3 and 6) and the level, quality, and type of professional development at each school? (How) did these two issues interact?
  4. (How) was the MTTA project incorporated into daily school activities in each school? Was there evidence of local innovations on any project activities? Was there evidence of local ownership of the project? Was there evidence of potential project sustainability?
  5. What factors within a district led to some schools using project activities and resources to achieve positive learning results for pupils and teachers, while others did not?
  6. What appeared to be the key differences within and across schools and districts that affect how the project was implemented and how successful it was at improving learning?

In order to examine these questions, two research teams conducted one-day qualitative studies of ten MTTA schools in all four districts served by the project. The teams visited five schools identified by MTTA staff or by the MTTA database as highest-performing schools; three schools selected from the MTTA database as progressing schools; and three schools selected from the MTTA database as low-performing schools. Three of the selected schools were urban schools, seven were rural schools. Research methods included interviews, observations, focus group discussions, and document analyses conducted with parents, teachers, pupils, MTTA officials, and local and district education officials at each school.

## Best Practice Findings

Based on the results of the research described above, the highest-performing schools had this set of “best practice” characteristics in common:

- *Effective school leadership.* In the top schools, this leadership could be appropriately described as visionary.
- *An active, supportive parent or community group.* This group interacted regularly with school personnel and pupils around a wide range of school activities and issues, which were not limited to material support or infrastructure development.
- *Positive teacher-to-teacher relationships.* Teachers perceived each other primarily as colleagues, professional co-learners, and potential helpmates to improve their teaching skills.
- *Engaged learners.* The pupils had high educational and career aspirations and believed that their teachers were dedicated to pupils’ learning.

In all but one of these schools, the schools and classrooms were characterized by:

- Present, active, and prepared teachers who were accustomed to being observed and mentored by other teachers and education personnel
- The effective use of TALULAR materials (Teaching and Learning Using Locally-Available Resources) during lessons
- A mixture of whole group and small group teaching and learning opportunities for children

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- Pupils who were on-task for all or most of the class period
  - Gender-equal classroom settings in which boys and girls had equal chances to participate in class discussions

At the highest-ranked schools, interviewees' responses about the effects of MTTA on school relations and classroom practices could be interpreted as representing a "mission-driven" culture, in which all teachers were united behind a vision of their own and pupils' improvement. The head teacher most often served as the leader for this mission-driven approach, with the community playing an important supportive role. For example, the head teacher from the second-ranked school said, "MTTA has made leaders." He credited the project not only with building his own leadership skills, but he also claimed, "We push ourselves mentally; we are different teachers now." Each teacher, he claimed, had been transformed by learning how to improve her or his own teaching and by becoming excited to learn once again. This shift allowed teachers to view each other as colleagues and as people who could learn from each other. This spirit of collegiality and "everyone-as-learner" spilled over into the classrooms, into teachers' interactions with one other, and into interactions between the school and the community. Significant international research exists on the positive effects of a mission-driven culture on learning and teaching environments. The highly-ranked schools in this study might very well be examples of the effects of a mission-driven approach in a Malawian school.

Each of the successful schools was unique in the learning opportunities that it offered to pupils and in the school culture that emerged to support improved teaching and learning. Each school incorporated aspects of the MTTA project into its daily practices, and each innovated on the project in different ways. The full report provides extensive case studies of the top two schools, and briefer examinations of the next three schools. The case studies include data gathered from each school about teacher, pupil, and school characteristics; photographs of the school and classrooms; accounts of classroom practices in each school; and descriptions of various aspects of the school. These include school-community relations, school leadership, pupils, teacher relations, and MTTA practices at the school.

The case studies reveal the complexities of effective project implementation and improved pupil learning. They also point to the different constraints and possibilities faced by schools with different resource bases (infrastructure, teachers, community members, textbooks).

The quantitative data collected by the MTTA project indicate that the project more than met its original targets to improve students' performance on standardized SME exams in standards 3 and 6. MTTA similarly met and reached its goals in improving teachers' content knowledge as measured by standardized tests in these three subjects.

This research revealed some of the mechanisms through which these learning gains occurred. The project transformed teacher-pupil relations in many of the observed schools, creating safer, more interesting, more academically challenging, and perhaps more gender-equal sites for many students. MTTA had remarkable effects on classroom practices, and through them, on the quality and frequency of pupils' learning opportunities. Teacher relations were entirely transformed in high- and some medium-ranked schools, resulting in a culture of open discussion about teaching needs and areas

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of improvement among teachers and between teachers and their supervisors. This transformation in turn affected teachers' sense of professionalism and of their own role as learners, and appeared—in at least some cases—to be correlated with improved school-community relations and greater respect for teachers as professionals on the part of parents and local leaders.

MTTA had greater effects when the schools in which it was introduced were more highly functional and where teachers had some time and energy to spend on additional professional development. Nonetheless, MTTA had a visible, positive effect on many of the middle- and low-ranked schools, and this effect was all the more remarkable given the constraints to improved pupil performance that existed at these schools (e.g., resources, leadership). Across all but the lowest-ranked of the schools visited for this research, district personnel, teachers, and parents described in detail the benefits of MTTA for their school and requested that it be extended—in time, in subject matter, and in geography. It was remarkable how often people echoed the thoughts of one head teacher, who said that at their school they “just feel sorry for our friends. When we meet at district meetings or in trainings, we can see how they are behind and they are pleading for MTTA. This [MTTA] should be available everywhere so that our friends also benefit. We cannot say that the country has benefited with [implementation in only] four districts, no, and if the government is serious about development then it should make this available to every district.”

Such a response speaks to the transformation that MTTA wrought in many schools—a transformation that resulted in improved students' learning through its effects on school culture; teachers' sense of professionalism and their ability to be co-learners; school-community relations; pupils' classroom experiences; schools' access to information about innovations and best practices in other schools throughout the project's target districts; and some district officials' access, through MTTA staff, to valued information about the performance of head teachers and teachers in their schools.

## **Lessons Learned from MTTA**

The report also includes data on the five lower-performing schools, which were generally characterized by ineffective or dysfunctional school leadership; negative or disaffected school-community relations; minimal teacher interaction around classroom practices or pupil learning; pupils who felt that they were not receiving a strong education (as measured by pupil selection to secondary schools following primary school completion); and classrooms in which teachers were occasionally absent and pupils spent most of their time off-task. In these schools, project activities were not implemented as completely, and the activities had less of an effect on teachers' relationships and on classroom practices than in the high-ranked schools.

The research revealed important differences between the higher- and lower-performing schools, and there were lessons learned about how the best practice schools fostered high-achievement environments, about what led some schools to have less success at transforming teacher practices and improving student learning, and about what aspects of the MTTA project might most usefully inform future programming for lower- and higher-performing schools. Below, we highlight 10 lessons learned about MTTA project activities:

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1. All of the high-ranking schools experienced a shift in school culture towards a focus on quality teaching and learning; this shift did not occur in low-performing schools. MTTA's administrative structures and in-service training approach appeared to be necessary, but not sufficient, inputs to support a broad cultural shift in schools. In the future, programming might be developed to provide expanded project support for school-wide cultural change.

2. The MTTA project achieved a high level of ownership in schools because its goals and activities were aligned with teachers' and pupils' needs and daily experiences. MTTA addressed teachers' professional development and daily classroom needs as well as pupils' needs and aspirations. This was a strength of the project design that should be incorporated into future education projects aimed at improving teaching and learning.

3. Strong leadership was critical to the success of the project at a school, and more generally, to the learning opportunities available to pupils in a school. Existing strong leaders were able to leverage MTTA to transform their school culture; many schools that were lower-performing did not have a school leader who could use the project as leverage for such a change. Future projects might directly address the need for effective leadership by incorporating additional support for existing leaders and/or by more systematically fostering new leaders and leadership approaches.

4. By and large, the observed classrooms reflected an awareness of gender issues and a move towards gender equality in classroom practices. This finding points to the importance of continuous, long-term investment in desired outcomes (gender equity in the classroom has been a focus of USAID-funded education projects in Malawi for over 15 years), and provides a foundation on which to build future gender interventions for teachers, administrators, and community members.

5. The project provided opportunities for teachers, administrators, and ideas that embodied best practices to circulate throughout the MTTA districts. This mechanism not only helped to disseminate the project's best practices, it also fueled innovation and rewarded individuals and schools that were performing well. Future programming should continue and expand on this activity.

6. Three project activities (small group learning, TDC libraries, and TALULAR materials) were key to supporting improved classroom practices and students' learning opportunities. Lessons about best practices can be drawn from each, and the activities should be incorporated into future programming.

7. The project's INSET approach and administrative structures appeared to be very effective, providing teachers with the support they needed to improve their content knowledge and their teaching practices. According to interviewees, the model that the project adopted—beginning with a top-down training approach and shifting towards a bottom-up approach over the course of the project—was a very successful way to assure both the quality of trainings and the creation of local experts. This model has already been adopted by other education projects in Malawi, and should continue to be used and improved in future programming.

8. Although school resources were not an absolute determinant of project success, the higher-performing schools were generally better-resourced (particularly in terms of

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school staffing). In order to improve student learning in very under-resourced schools, future programming might differentiate between better- and less-resourced schools and provide a range of activities and interventions that address the different needs of these schools. In particular, teachers who taught in schools that did not have at least one full-time teacher per grade level had much higher workloads than teachers in other schools. This generally limited their participation and interest in the project, as well as their progress towards improved teaching practices. The biggest difference appeared to be between the capacities of schools that had fewer teachers than standards at the school (e.g., five teachers for eight standards) and schools that had a sufficient number of teachers (one teacher per standard). Schools with severe teacher shortages were producing excellent learning opportunities for pupils; indeed, the fourth and fifth ranked schools had only four and five teachers, respectively. However, the capacities of these teachers and schools were fundamentally limited by these shortages, as was their ability to participate fully in project activities.

9. The MTTA design is dependent in large part on the capacity and desire of school- and zone-level personnel to promulgate the project and its goals. In understaffed schools, MTTA volunteer staff had less time to dedicate to the project because of their heavy teaching loads, again constraining the project's effects. Understaffed areas may require additional support in terms of project staffing and activities implementation.

10. Schools seldom collected data for their own use, although data is often collected and treated with care in fulfilling bureaucratic mandates. Future programming might incorporate locally-designed data collection activities, similar to the TALULAR activities used to generate teaching/learning materials, to provide another tool for schools to assess and improve students' learning.

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# BEST PRACTICES IN THE MALAWI TEACHER TRAINING ACTIVITY

When the Malawian government declared Free Primary Education (FPE) in 1994, enrollment rates in primary school jumped from 1.8 to 2.8 million children in less than six months. Resources for school infrastructure, materials, teacher training, and system development did not increase at the same rate. In order to address the growing teacher shortage, the government lowered the educational requirement for new teachers (from a Form 4 certificate to a Form 2 certificate) and provided a three-month formal training for new teachers before they entered classrooms, compared to the one or two years offered previously. Although these teachers were supposed to receive additional formal training and support once they began teaching, in practice, they—and most teachers in fact—received relatively little support from the resource-strapped Ministry of Education after FPE. This situation was exacerbated when then-President Muluzi declared a teacher hiring freeze. Teacher Training Colleges operated at low capacity during that period. These events created a situation in many areas in which teacher content and pedagogical knowledge, as well as sense of professionalism and value, declined during the post-FPE era. By some measures, including the perceptions of some parents, teachers, and Ministry of Education personnel (Kendall 2007), student learning also declined during this time.

## **MTTA Background and Description**

The Malawi Teachers Training Activity (MTTA) is a three-year initiative that was funded in 2004 by the United States Agency for International Development (USAID)/Malawi, in collaboration with the Malawi government. MTTA aims to improve the quality of teaching in Malawi, a central component for improving students' learning and educational quality. MTTA is composed of several in-service and pre-service training and support activities for teachers, all of which are designed to address existing weaknesses in the system and the teaching cadre. The project is also designed to prepare teachers for a different set of issues, curricula, and teaching approaches than existed in the pre-FPE era. These activities include in-service teacher training and support for improved content knowledge in science, math, and English (SME); materials support to Teacher Development Centres (TDCs), especially in SME; and support to Teachers' Training Colleges (TTC) to improve pre-service teacher training in SME, and Life Skills. The project targets all governmental primary schools in four districts: Phalombe (Southern Region), Machinga (Southern Region), Kasungu (Central Region), and Mzimba South (Northern Region).

MTTA was originally designed to complement an ongoing USAID-funded education project called the Malawi Education Support Activity (MESA). MESA provided in-service teacher training on child-centered, gender-fair, and active-learning pedagogical approaches. MESA also included a number of activities designed to engage communities in ownership and improvement of their school and to support teachers and pupils in these new approaches to learning. MESA was terminated earlier than expected, leaving MTTA to either address some of these pedagogical issues in their own work or focus only on teachers' content knowledge without other project support for pedagogical training.

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MTTA chose to incorporate certain aspects of MESA, primarily support for in-service and pre-service teacher training in student-centered, gender-fair, and active learning activities, though some of the mechanisms for supporting these goals differ from those of MESA. MTTA does not provide support for community involvement in the school.

Over the first two years of the project life, in-service support was designed around a cascade model. MTTA conducted a district-wide teachers' needs assessment survey which guided the development of relevant in-service training manuals by a specially selected national core group of trainers comprising Ministry of Education, Science, and Technology officials, professional staff from the Malawi Institute of Education, TTC tutors, and practicing teachers. With the guidance of MTTA short-term assistance, the core group of trainers developed strategies for training an effective cadre of district Trainer of Trainers of PEAs and project-identified Zonal In-service Facilitators (ZINFAs) for each district. These Trainers of Trainers in turn trained Cluster Mentor teachers and school-based Trainer Heads identified among the teachers within each cluster or school.

In the second half of its life, this project switched to a more bottom-up training approach. This approach entails getting teachers at cluster level to identify their needs as well as teachers who can provide assistance. These teachers then meet with all teachers in a workshop to share experiences and expertise with one another. In this way, teachers with outstanding performance share their expertise with other teachers and at the same time seek assistance where they experience challenges. This approach builds on the content knowledge and pedagogical skills teachers learned through the previous cascade trainings.

The direct link between MTTA's bottom-up approach and PCAR's school-based CPD model is worth noting. Both focus on mentoring and supervision of individuals at school, cluster, and zonal levels:

- *School-based trainer heads* – subject teachers selected to facilitate school-based training and serve as instructors
- *Cluster-based mentor teachers* –practicing teachers available to assist teachers in specific academic subjects and instructional practice through field-based supervision
- *Zonal In-Service Facilitators (ZINFAs)* – teachers selected by MTTA and district education partners for having outstanding proficiency in content knowledge and teaching skills (These teachers volunteer to assist Ministry of Education Primary Education Advisors [PEAs] in the coordinating, conducting, and overseeing of teacher supervision and training at zonal level.)

The project collected regular data to examine the effects and effectiveness of the MTTA program. The largest of these efforts collected data in 15 percent of schools in each of the target districts. The project randomly selected schools from a list of all schools in the district. At each selected school, the project randomly selected 16 pupils in standard 3 and 16 pupils in standard 6 to take exams in SME. MTTA then asked all teachers in the selected schools to take the Primary School Leaving Exam (PSLE), the test that their students would take at the end of standard 8. These data were collected three times over the course of the project: at the end of the first school year, and at the beginning and end of the second year. Teacher scores were also collected again in the third year of the project.

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These data allowed the project to examine and compare levels of SME mastery among pupils and teachers before and after project intervention, over the course of three years within each school, and over time for each teacher. The project has conducted analyses of the data that indicate MTTA more than met the pupil learning improvement goals that had been set for the project (e.g., see the description of high-performing schools below). The data also indicated that some schools did significantly better and some schools made significantly more progress than others. In fact, there appeared to be three types of school responses to the MTTA project:

1. *High-performing schools.* These were schools in which 50 percent or more of the teachers and learners were at full mastery level on the standardized exams two years after the project launch in 2004.

2. *Low-performing schools.* These were schools in which teacher and pupil scores on the standardized exams showed insignificant or no change over the two-year testing period. The number of schools which showed negative change was not analyzed, but the reasons for negative changes at a school appear to have been linked to changes such as loss of a visionary head teacher, or the random selection of a school with poorly performing students. On each round of testing, some teacher and student scores showed a negative change. For example, in Standard 6 English between February and October 2006, 18.4% of students showed negative change.

3. *Progressing schools.* These were schools in which there was a significant and positive change in teacher and pupil performance on the exams between the 2004 and 2006 rounds of testing. These were generally schools that took more time to begin performing well and so, although they improved significantly between the two test periods, they did not reach the 50 percent or more full mastery level on the 2006 exams.

Although all three types of schools are of interest in understanding how and why the MTTA project differentially affects schools, the project was particularly interested in understanding what was happening in the progressing and high-performing schools, so as to draw best practice lessons from these comparisons that could inform future project activities.

The research analyzed in this report was designed to complement and inform the quantitative data described above. This research collected qualitative data that sheds light on why schools in the same district and around the country responded differently to the same project inputs and what lessons and best practices might be drawn from schools in which progress and achievement were high.

This research focused on the in-service components of the MTTA project, which include

- In-service content (SME) and pedagogy (student-centered, gender-fair, and active-learning approaches), in-service teacher training (INSET), and mentoring and supervision
- In-service support for teacher development of Teaching and Learning Using Locally-Available Resources (TALULAR) materials
- International Book Bank (IBB) donations of SME materials to the TDC, and provision of teachers' resource guides in SME to primary schools

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## Research Context

As stated previously, the study focused on understanding three interrelated aspects of the MTTA in-service programming: in-service content (SME) and pedagogy, teacher training, and mentoring/supervision; in-service support for teacher development of TALULAR materials; and IBB donations of SME materials to the TDC and provision of SME teachers' resource guides to primary schools.

The study was originally designed to answer the following questions:

### **Question 1: What are the factors that contributed to the majority of MTTA standard 3 pupils in a set of schools performing at full mastery level in English comprehension?**

Sub-questions:

1. How did the teachers in this set of schools perform on the English assessment? On the mathematics assessment and science assessment? On the teacher observation assessments?
2. In the schools in which pupils performed best in standard 3 English comprehension, did the same pupils also perform exceptionally well in mathematics and science? Did pupils in other schools outperform this set of pupils on a particular subject matter?
3. Are there obvious gender differences within those schools on the assessment, either for pupils or for teachers?
4. What are the factors that distinguish those schools from the others (e.g., pupils, teachers, head teachers, schools, parents and communities, MTTA interventions)?
5. What is the quality of teaching (particularly in SME in standards 1, 2, and 3) and the level of professional development in these schools?

### **Question 2: What are the factors that contributed to the majority of standard 3 pupils in a select number of schools demonstrating significant learning gains?**

Sub-questions:

1. How did the teachers in this set of schools perform on the English assessment? On the mathematics assessment and science assessment? On the teacher observation assessments?
2. In the schools in which pupils' performance increased significantly in standard 3 English comprehension, did the same pupils' performance also increase in mathematics and science?
3. Are there obvious gender differences within those schools on the assessment, either for pupils or for teachers?
4. What are the factors that distinguish those schools from the others (e.g., pupils, teachers, head teachers, schools, parents and communities, MTTA interventions)?
5. What is the quality of teaching (particularly in SME in standards 1, 2, and 3) and the level of professional development in these schools?

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The original research plan was modified slightly following an initial research planning meeting in Malawi with MTTA project team members. They requested that the following issues also be addressed in the Best Practices study:

1. Some schools that were considered low-performing be included in the research to improve the project's understanding of why these pupils, teachers, and schools had not responded to the project in the same ways as Best Practice and progressing schools with similar environmental and resource constraints.
2. Schools in all three regions of the country, not just the Northern and Central region, be included in the research so as to yield insights into potential differences across regions in the practices, effects, and effectiveness of the project.
3. Standard 6 as well as standard 3 pupils and results be considered, as progress and the results of the project on students' long-term achievement, teacher behavior and achievement, classroom practices, and school culture may be more fully understood by looking across the grades; and teachers, parents, and pupils are strongly focused on standard 8 Primary School Leaving Exam (PSLE) and secondary school selection results as an outcome measure of the project.

The research questions were modified to address the three issues above. This resulted in six research questions, the first three of which are variants of sub-questions 3, 4, and 5 from questions 1 and 2 above:

1. Were there gender differences evident in classroom practices, teacher assignments, pupil behavior, or other aspects of the schooling experience in each school visited? If so, what were they and (how) did they appear to be affected by the MTTA project?
2. What are the factors that distinguish each type of school (high-, progressing, and low-performing) from each other (e.g., pupils, teachers, head teachers, schools, parents, communities, MTTA interventions, school culture)?
3. What is the quality and culture of teaching and learning (particularly in SME in standards 3 and 6) and the level, quality, and type of professional development at each school? (How) do these two issues interact?
4. (How) is the MTTA project incorporated into daily school activities in each school? Is there evidence of local innovations on any project activities? Is there evidence of local ownership of the project? Is there evidence of potential project sustainability?
5. What are the factors that appear to lead, within one district, to some schools using project activities and resources to achieve positive learning results for pupils and teachers, while others do not?
6. What appear to be the key differences within and across schools and districts that affect how the project is taken up and how successful it is at improving learning?

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## Research Design

An initial research design was planned that included having a team of three researchers visit four schools in each of the project's four districts. The schools would include three schools from the quantitative data set (a highest-performing, lowest-performing, and progressing school), as well as the school identified by MTTA field staff as the best-performing school in the district, regardless of whether it had been randomly selected as a school to be included in the quantitative data set. This design would allow for a comparison of qualitative and quantitative information across the broadest range of school performance in the quantitative data set, as well as allow for additional "best practice" information to be collected from the school in each district that was regarded as the highest-performing by field staff.

In each selected school, information would be collected from the following stakeholders:

- School and community levels: parents and local leaders, pupils, teachers, head teachers, and school-based observations
- MTTA Cluster, Zonal, and District levels: Cluster mentor teachers, Trainer heads, Zonal In-Service Facilitators (ZINFAs), and District Education Facilitators (DEFs)
- Ministry of Education Zonal and District levels: Primary Education Advisor (PEA), the District Education Manager (DEM)

The proposed research design addressed the six questions by (1) collecting information from high-performing and progressing schools in the project catchment area; (2) collecting information about the schools identified by MTTA staff as the best performers in each region of the country,<sup>2</sup> and (3) collecting information about the range of project schools' performance in at least some districts, so as to better understand what could lead schools in similar environments to different outcomes.

## Research Methods and Practices

Based on the three-tier classification of schools described earlier and this research plan, the author and MTTA staff identified schools in the data that exemplified low-performing, progressing, and high-performing schools in each of the project's four target districts. (Hereafter, the terms low-performing, progressing, and high-performing schools refer to a mix of quantitative data based on text scores, and qualitative data based on observation of school performance. When a distinction between schools is made based on data type, schools will be referred to as data-schools [i.e., schools categorized using quantitative data] and staff-selected schools, [i.e., schools categorized using qualitative data].)

After consultation with MTTA team members, we decided it was more important during this exploratory research to collect information from a full range of stakeholders in a smaller number of schools than to collect information from fewer people in a larger range

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<sup>2</sup> The quantitative data were collected from a random sample of 15 percent of schools in each of the project districts; the schools identified as the best-performing school in each district by MTTA staff were schools that had not been included in the quantitative data collection process.

of schools, particularly given the realities of travel time between schools and the school calendar during the research period.

Further discussions with MTTA staff and educational researchers led us to conclude that it was important to understand best practices in all three regions of the country, but that the most intriguing research outcomes and school successes were to be found in the Northern and Central regions.<sup>3</sup> Therefore, the team decided to visit one school each in Machinga and Phalombe districts (the progressing school in Machinga, and the staff-identified top-performing school in Phalombe district), and the full set of four schools each in Kasungu and Mzimba South districts. In all, two research teams visited ten schools, five of which were identified as top-performing schools in their districts, three of which were identified as progressing schools, and two of which were identified as low-performing schools. The final schools visited are presented in table 1, below.

**Table 1. Schools Visited<sup>4</sup>**

	Mzimba South	Kasungu	Machinga	Phalombe
High-performing (staff selected)	Mpoloni	Chisekese		Gwedeza
High-performing (data school)	Monekera	Msamba		
Progressing (data school)	Mpata	Njoka	Sambani	
Low-performing (data school)	Maleka	Tsoka		

The author worked with members of the MTTA staff, particularly Director of Evaluation Chaplain Katumbi, to identify the research activities that would best capture lessons learned and best practices from the various project stakeholders outlined above. The final research program included the following activities:

#### Observations

- Observations of standard 3 and standard 6 classrooms (the standards targeted by the project), and in particular SME classes in these two standards (Observations were conducted by multiple members of the research team, and each observation was conducted for the entire class period.)
- A brief observation of the school and head teacher’s office at each school
- Observations of other school activities that occurred during our time at each school, such as morning assemblies, after-school club activities, and community school-based self-help projects

<sup>3</sup> This finding mirrors longstanding historical and contemporary differences in educational resources, practices, and institutions across the country’s three regions. Generally, the Northern region has the most established and highest-performing formal schooling system, followed by the Central and then the Southern region. It is therefore not at all surprising that the same differences in overall quality and outcomes can be seen in the results of the project.

<sup>4</sup> All school and teacher names are pseudonyms.

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### Interviews

Interviews were held with

- The standard 3 and standard 6 teachers whose classes were observed
- The head teacher
- District and Zonal Ministry of Education personnel (where possible, the District Education Manager, the District officer for Primary Education, the Coordinating Primary Education Advisor (CPEA), and the selected school's PEA)
- District, Zonal, and Cluster-level MTTA personnel (where possible, the Zonal In-Service Facilitator (ZINFA), the Cluster Mentor Teacher, and the head teacher), and with the MTTA District Education Facilitator

Interviews generally lasted from 45 to 60 minutes; time constraints did not allow for follow-up interviews during this round of data collection.

### Focus Group Discussions

Focus Group Discussions (FGDs) were held with

- approximately six boys and six girls from the observed standard 6 class
- approximately six women and six men who were involved in the school as parents, as local leaders, and/or as members of the PTA or School Management Committee

FGDs generally lasted from 35 to 45 minutes and were conducted in single-sex groups by a same-gender member of the research team whenever possible.

The research protocols for these activities were designed to elicit open-ended responses and capture information both on topics that were expected by the research team to be important, and on those that emerged from observations and discussions as important to understanding MTTA's successes and failures in each school visited. So, for example, researchers were urged to follow up on answers they received to protocol questions in a manner that would reveal thematic issues related to best practices and lessons learned, and to have open and honest conversations with interviewees about what we were doing and why and about how interviewees felt about the project and its activities and effects. The training and practices of those conducting the research were aimed at creating an open, inviting environment in which interviewees and those being observed felt comfortable that they were not being judged and that their opinions and ideas were truly valued. In most situations, we were able to build this rapport with school personnel, parents, and (perhaps to a lesser extent) pupils.

The author worked with the original question outline developed by Shirley Miske, Chaplain Katumbi, and other members of the MTTA staff to create research protocols that would address both the original questions posed for the research and the additional questions identified by MTTA staff at the start of the research process. The decision to get in-depth information from each person with whom we spoke limited the number of people per day that could be interviewed, but made the information collected richer.

Two teams of three researchers each, working in parallel in two districts, collected data. In all but one case, the researchers had extensive experience in Malawian schools as teachers, school inspectors, education advisors, or educational researchers. The sixth team member had experience as a social science researcher and was selected because

of his excellent interview and observation skills. All team members, plus three additional backup researchers, received a half-day, office-based training in which they learned about the MTTA project, reviewed drafts of the research instruments, met one another, and shared some of their research experiences. The expanded team also participated in a one-day field testing of the instruments, which was conducted in the Machinga progressing school.

The field testing process was critical for identifying needed protocol corrections, for identifying researcher behaviors that needed to be addressed in further training (for example, some of the inspectors initially assumed an inspectorate role vis à vis the teachers; this was not a stance conducive to this research, but was successfully corrected once observed), and for making decisions about how to conduct the research (for example, it was decided during the field test that the parents' group needed to be divided by gender in order to hear women's voices, even if this meant cutting other research activities). Following the field testing, instruments were once again revised, and another training held to provide researchers with feedback on their performance, to address issues related to appropriate roles and activities for researchers, and to answer any questions that the research team might have. Data collection then began in the selected schools. See table 2 for the daily schedule of researchers.

**Table 2: Typical Daily Schedule for Research**

	Researcher 1	Researcher 2	Researcher 3
Pre-bell	Arrive at school with DEF; introduction to HT and teachers, discussion about goals of the research		
Period 1	Std 3 observation	Std 6 observation	Interview with PEA
Period 2	Std 3 observation	Std 6 observation	Interview with ZINFA
Period 3	BREAK: expand notes	BREAK: expand notes	
Period 4	FGD with female community members	FGD with male community members	Interview with cluster mentor teacher
Period 5			Travel to TDC and interviews with District officials
Period 6	Interview with Std 3 teacher	BREAK: expand notes	
Period 7, end of school day, until about 4 pm	FGD with female Std 6 pupils	FGD with male Std 6 pupils	Interview with head teacher
	BREAK: Expand notes	Interview with Std 6 teacher	Interview with Deputy head teacher or expand notes
Evening	Expanding individual notes; group meeting to discuss the day and create an overview of the school		

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In all 10 of the schools, we were able to collect the following information:

- Observation of standard 3 and/or 6 classroom
- Observation of the school and office
- FGD with male and female standard 6 pupils
- Interview with standard 3 and/or 6 teacher
- Interview with head teacher, including collection of basic pupil, teacher, and school data (though in some cases, the head teachers did not have complete information)
- FGD with parents and community leaders

In almost all of the schools, we were also able to collect the following information:

- Interview with the cluster mentor teacher for the school cluster
- Interview with the ZINFA for the school zone
- Interview with the PEA for the school zone

In some of the schools, we were able to also collect the following information:

- Interview with the head teacher mentor for the cluster
- Data from the school on secondary school selection patterns over the course of the project
- Interview with the CPEA for the district
- Interview with the District Education Manager for the district
- Interview with the District Officer for Primary Education for the district

In all schools, we collected any additional information that appeared relevant or was made available to us. For example, on one trip to interview the ZINFA, we found him teaching. This was an unusual situation, as ZINFAs usually are drawn from fully-staffed schools and do not have teaching responsibilities. We observed his class before the interview (which provided us with additional information about teaching in the area and assured that his teaching schedule was not interrupted), then returned to the original school research site. At many schools, we interviewed more than two teachers and observed additional classes as time allowed.

## **Analysis**

The data collected from the research were extremely rich. It included activity-by-activity accounts of dozens of hours of class time, interview and focus group discussion transcripts, researcher observation notes about the school and various activities that occurred there, and in some cases, additional materials provided by the school (such as records of annual pass rates). We did not tape record interviews, focus group discussions, or classroom observations, but researchers were trained to take detailed notes during interviews and observations and to expand these notes after the activity. The times left free in the daily research schedule were important to assure that notes were expanded directly after research activities, when the events were still fresh in researchers' minds. The MTTA project also contributed reports, test scores, and other sources of information. For the purposes of this study, "school data" refers to data collected by MTTA for the MTTA project.

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This section offers two complementary analyses of these data, each aimed at elucidating the six research questions outlined previously. The first analysis presents case studies of the two top performing schools, as ranked by the researchers, and describes in detail both how the success evident in each school was influenced or enhanced by the MTTA project, and how the school's qualitatively-judged success compared to the quantitative data on the school collected by the project.

The second analysis draws on data from all 10 schools to create a general model of teaching and learning in each type of school observed (high-performing, progressing, and low-performing). It examines the different ways MTTA operated in these three types of schools, the lessons learned from each type of school, and how observed best practices might be used to improve performance of future projects aimed at improving teacher and pupil performance. This section directly addresses the six questions outlined above, drawing lessons learned from the first analysis to conclude the section with areas for future research and project activities.

## Successful School Case Studies

At the end of the research process, the team met to discuss the research experience and to rank the schools observed. There was no disagreement that three schools stood out as the top performers, and that two more schools could be considered examples of schools that were doing very well at adopting and adapting the MTTA project and educating their pupils, even sometimes with very limited resources. All of these schools were located in the Northern and Central regions. These schools were, in order:

1. Maleka (Mzimba South district; originally selected as the low-performing school in the district based on the quantitative data)
2. Chisekese (Kasungu district; originally selected as the highest-performing school in the district by the MTTA staff)
3. Mpoloni (Mzimba South district; originally selected as the highest-performing school in the district by the MTTA staff)
4. Msamba (Kasungu district; originally selected as the high-performing school in the district based on the quantitative data)
5. Monekera (Mzimba South district; originally selected as the progressing school in the district based on the quantitative data)

There was incomplete agreement among the researchers on the order of the remaining five schools. The list below reflects a general consensus, but schools 6, 7, and 8 had strengths and weaknesses that made them difficult to compare. There was more consensus on the order and ranking of schools 9 and 10.

6. Tsoka (Kasungu district; originally selected as the low-performing school in the district based on the quantitative data)
7. Gwedeza (Phalombe district; originally selected as the highest-performing school in the district by the MTTA staff)
8. Sambani (Machinga district; originally selected as the progressing school in the district based on the quantitative data)
9. Mpata (Mzimba South district; originally selected as the high-performing school in the district based on the quantitative data)

10. Njoka (Kasungu district; originally selected as the progressing school based on the quantitative data)

In some cases, the qualitative rankings differed from those based on the MTTA quantitative data. For example, the first school in the list above, Maleka, was actually selected to serve as the low-performing school data site for Mzimba South district. Tsoka, selected as the low-performing school for Kasungu district, was ranked well above the progressing school in Kasungu district. Gwedeza, selected as the highest-performing school in Phalombe, ranked below over half of the schools from Mzimba South and Kasungu. Mpata, selected as the high-performing school in the district based on the quantitative data, was ranked second-to-last based on the qualitative research. The table below presents some of the quantitative data concerning the ten research schools. They are listed in order of their ranking based on the qualitative data:

**Table 3. School Ranking Based on Qualitative Data**

	Student Std 3 English scores (non-, partial-, full-mastery)	Student English scores direction of change (no change, positive, negative change)	Student Std 3 math scores (non-, partial-, full-mastery)	Student math scores direction of change (no, positive, negative change)	Teacher English scores (non-, partial-, full-mastery)	Teacher direction of change (no, positive, negative change)
Maleka	91/9/0	46/36/18	0/100/0	0/100/0	14/86/0	50/46/4
Chisekese	N/A					
Mpoloni	N/A					
Msamba	18/36/46	18/82/0	0/91/9	9/46/46	0/60/40	20/80/0
Monekera	23/15/62	8/92/0	0/75/25	8/69/23	0/100/0	25/50/25
Tsoka	100/0/0	78/11/11	22/78/0	0/78/22	0/89/11	22/78/0
Gwedeza	N/A					
Sambani	43/43/14	29/71/0	14/71/14	14/57/29	0/75/25	0/100/0
Mpata	56/44/0	11/89/0	0/89/11	0/89/11	0/50/50	50/50/0
Njoka	71/29/0	29/71/0	14/86/0	0/86/14	0/71/29	43/57/0

There are a number of reasons why the quantitative and qualitative data may have resulted in different rankings in some cases. First, what is happening at schools may change radically from year to year as leaders arrive or depart, famine or a good harvest occur, or a new school opens nearby. In the top two schools, the head teachers had joined the schools three and two years ago respectively, and by all accounts had transformed the schools over that time period. Both schools, field staff claimed, were extremely low-performing schools (as measured by their judgments) when the project began. A transformation in school culture and daily practices, evident in the qualitative observations, might take time to affect pupil exam scores.<sup>5</sup>

<sup>5</sup> Although only we were aware of the “official” ranking of each school at the time of the research, the DEFs often commented about their perceptions of school quality during the research process. It is possible that these comments had an effect on the research team’s perceptions of the quality of each school, but the

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Second, the practices that appear to the qualitative eye to constitute a better-functioning school may not translate into higher teacher or pupil test scores. The qualitative rankings reflect the types of interactions that occurred between teachers and pupils, the level of project activity in the school, and our sense of the quality of education that pupils were receiving. This information may or may not correlate strongly with teacher and pupil exam scores. One way to understand better the correlation between our qualitative judgments and pupil and teacher exam scores would have been to conduct the pupil and teacher SME exams again in these 10 schools or to gather information on Primary School Leaving Exam (PSLE) pass rates at each school over the past four years to see if there is a longer quantitative trend in the direction of our qualitative rankings.

Finally, there were some issues that may have limited the efficacy of the quantitative data, and in particular the efficacy of our use of these data. Because different pupils were randomly selected to take exams during each year of the project, directly comparable pupil scores are only available for data collected within one school year. This was done in 2006, and these were the data used to select schools. Upon closer inspection, there are two potential problems with using the data in this way. First, the number of pupils who were present to take the exam both times varied across schools, from a high of 13 to a low of 7 (out of 16). Therefore, how representative the data are of performance at each school varies significantly across schools. (It could be argued that the number of pupils present both days could be a signal of higher attendance, an indirect measure of quality.) Second, because of the high recidivism rates, it could be argued that data should actually be compared across years, with beginning-of-the-year scores and end-of-the-year scores being compared over a longer number of years to track improved pupil exam scores. At the beginning of the year, the scores in most schools are likely to reflect achievement rates of a broader range of pupils; scores from the end of the year are likely to reflect the achievement rates of a smaller range of pupils who are more likely—due to lower opportunity costs, better performance, or sheer luck—to still be in school. In other words, within-year-comparisons may be of apples and oranges or they may be of apples and apples; and the changes in scores may reflect real changes, or they may reflect the shrunken pool of remaining pupils. This study does not review these options in detail, but aims simply to lay out some of the reasons why the qualitative and quantitative data may have differed. It should be noted that these data issues are of much less concern when looking at trends across the entire pool of schools and pupils. However, they may be more problematic in understanding the progress of individual schools.

Because this research used the quantitative data as a starting point but was focused primarily on collecting qualitative information on schools, and because two out of the three top-ranked schools were not schools in which quantitative data were collected (they were the schools selected by field staff as the highest-performing), this report will refer to high-, medium-, and low-performing schools in relation to the rankings listed above in Table 3. These rankings are based primarily on qualitative data, although most schools initially were selected based on quantitative data to ensure a wide range of variety.

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research was designed to provide us with enough data on the various aspects of educational quality that we were examining that such biases could be noted in the analysis process and discussed.

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The top five schools are referred to as high-performing schools, the next three as medium-performing schools, and the bottom two as low-performing schools. The notion of a “progressing” school was difficult to categorize qualitatively. Research team members generally felt that the high-performing schools were all making active efforts to improve student learning. There were some efforts at the medium-performing schools to do the same, but these efforts either appeared less effective (for example, TALULAR were used, but not in ways that appeared to improve learning) or were uneven (for example, at Gwedeza, the school had built a science center modeled on the Chisekese center, but this center was significantly less functional and did not appear to be used by the pupils). Whether these schools could be considered progressing, then, depends on how one measures progress, and there were few qualitative signs at the medium-performing schools that the efforts to progress would result in improved learning or improved school experiences for pupils.

In the case studies below, we examine the shape and scope of the top two schools’ high performance and the roles that MTTA has played in fostering such success. Each case study includes a tabular overview of teacher, pupil, school, and classroom characteristics. Narrative information on areas central to MTTA project performance and broader school success is provided on the following sub-sections:

- Infrastructure and personnel
- Head teacher and school leadership
- Teachers and teaching at the school (including vignettes from one of the observed classrooms)
- Pupils at the school
- School-community relations
- MTTA at the school, cluster, zone, and district

Each case study highlights different themes related to the potential effects of the MTTA project on schools. Maleka serves as an example of the exciting classroom-based transformations that have occurred in response to the MTTA project. In classroom after classroom, we observed children learning in new ways and teachers teaching in new ways that appeared to improve learning opportunities and processes, pupils’ sense of their abilities, the general quality of pupil’s daily educational experiences, and the opportunities presented to pupils and teachers to work together towards shared learning goals. For this reason, the majority of the Maleka case study focuses on classroom-level practices. In Chisekese school, classroom practices had changed, but even more evident were transformations in the broader learning experiences provided to pupils through the school. Chisekese had adopted a range of before-school and after-school activities that engaged pupils in hands-on learning and community service work and linked these activities to community engagement in the school. For this reason, the Chisekese case study focuses on the before- and after-school innovations implemented by the school that supported hands-on, multi-site, and lifelong learning approaches. These approaches not only changed the shape and scope of community-school relations, they also heralded a remarkable shift in thinking about what constitutes learning, who can do it and where, the roles of teachers in pupils’ intellectual and social lives, and the connections between learning and the worlds of work and community.

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Maleka and Chisekese are also examples of what strong leadership can accomplish in a previously poorly-performing school. In both cases, according to the DEFs, the arrival of a new head teacher within the last three years had resulted in a transformation of school practices and successes. The section on school leadership in the Maleka and Chisekese case studies provides details about lessons learned and best practices in this arena.

These two longer case studies are followed by briefer descriptions of the teaching and learning observed at the other three schools ranked in the top five by the research team. These briefer vignettes are designed to give a sense of the differences that existed across the five schools and are particularly important to highlight the resource differences that existed between the top three schools and the next two schools, both of which were more rural and faced significant teacher shortages. The fact that the top three schools had much less severe teacher shortages than most other schools visited is an extremely important point; what was possible in a school with enough teachers in terms of children's opportunities to learn, teachers' opportunities to work together or observe each other, and teacher energy for extracurricular activities was simply not possible in a school without enough teachers.

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# CASE STUDIES: FIVE SUCCESS STORIES

The following case studies are presented in descending order, from the highest- to the lowest-ranked school.

## Maleka

Maleka is an urban primary school located right next to Mzimba Secondary School in the heart of the city center. Maleka serves a relatively poor urban population; the classrooms are in moderately poor condition, most have no furniture, and the number of textbooks is far fewer than the number of pupils. In all of these respects, Maleka is quite similar to most of the rural schools we visited. However, the school did have more teacher resources than the rural schools, and there were other signs that it enjoyed a resource advantage over its rural (but not its high-performing) counterparts. For example, there was evidence of many more active development projects at the school, and the head teacher's office had additional teacher resources that had not made their way out to rural schools (such as various textbooks and teachers' guides). Maleka was by far the largest school visited, with 1,834 pupils and 34 teachers. This sheer size also influenced school operations and relations quite differently than was the case in the smaller, mostly rural, schools visited for the research.

Maleka was, according to the MTTA 2006 quantitative data, one of the worst-performing schools in Mzimba South district. Mastery rates were extremely low for teachers and pupils (for example, 91% of standard 3 pupils scored a "non-mastery" on the 2006 end-of-year English exam, and no teachers scored full mastery on the English exam), and there was less change in a positive direction over the course of the 2006 academic year in these scores than in other schools. In fact, while sitting in the MTTA office in Zomba, we selected Maleka as an exemplar of a low-performing school. We assumed we would be able to contrast this urban educational experience to Mpoloni, the school selected by staff members as the highest-performing school in Mzimba South district, to provide contrasting accounts of the effects of the project in urban schools (all other schools in the sample were rural schools). However, when we met with the DEF, it was clear that we were in for



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a surprise. He informed us that Maleka was not a low-performing school, and moreover that it was one of the best, if not the best, school in Mzimba South now. His explanation? The school had been horrible, but a new head teacher had turned it around in the last three years to the point where it now competed with much better-resourced urban schools, such as Mpoloni, in the quality of education that it provided to pupils.

We arrived at the school just before the morning bell rang. Maleka showed evidence of being well-managed and well-maintained from the start; a senior boy had taken a drum from the head teachers' office to call all of the pupils to order for the morning assembly. Most pupils were already present and waiting for assembly to begin, even though the school starts at 7 a.m. In fact, many of the older pupils, boys and girls, were sweeping the school grounds when we arrived, apparently without teacher supervision. They would later tell us in FGDs that this was one of the activities that they looked forward to at school, and that they took pride in the neat appearance of their school. Teachers were present at the assembly grounds helping children form lines and leading them in their morning routine once the drum was struck. There were home-made wastepaper baskets attached to branches stuck into the ground at regular intervals around the school grounds, and there was almost no litter on the grounds. There were well-tended trees and bushes scattered around the central courtyard, which was surrounded on three sides by older classroom blocks.

Despite being located in the middle of the boma,<sup>6</sup> the school felt like an island of calm and order; the grounds were clean and well-manicured, noise was minimal when pupils were in class, and relatively few community members cut across the school grounds to get somewhere (although a number of community members came to school to see the head teacher or a teacher). We learned that the grass pagodas in the main courtyard (see photograph on previous page) had been erected by parents to provide students with shaded gathering spaces during break, or to provide a space for teachers to take their classes when they wanted to be outside or to have pupils take part in a science experiment.

Pupils and teachers interacted positively throughout the assembly. At the end of the assembly, pupils eagerly streamed to their classrooms. A few children from each class, mostly boys, went to the head teacher's office and came out carrying the textbooks for their respective classes. All the other pupils were escorted into their classrooms by their teachers, all of whom were present on both days we visited the school. We entered the head teachers' office to find him waiting for us, surrounded by pupil-made artwork, detailed administrative notes, and boxes of pupil exercise books.

He was eager to talk to us, as were his teachers. A number of teachers actually requested that we visit their classes, even though they did not teach standard 3 or 6. Such eagerness to be observed and obvious delight in their teaching was singular in our research experience.

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<sup>6</sup> The *boma* is the seat of government for the district.



The head teacher's office, Maleka

**Table 4. School Information – Maleka**

<b>SCHOOL INFORMATION</b>	
Where are pupils learning?	Mostly in permanent classrooms; Std 4 is in a semi-permanent structure
Where are students sitting?	On the floor through Std 4, then on parent-made foam seats or benches in Std 5-8
Are the chalkboards legible?	Some are, some are not; none are new or in very good condition
Does teacher have adequate chalk and dusters?	Yes
Total school enrollment	1834
Official Teacher : Pupil ratio	1 : 54
How many English books available at the school?	542
How many math books are available at the school?	522
How many general studies/ science books are available at the school?	163
How many Life Skills books are available in the school?	N/D

Maleka was, as noted earlier, the largest school that we visited. Official enrollment stood at 1,834 pupils, with more girls than boys enrolled through standard 6. Repetition rates averaged 29% and varied from a high of 46% in standard 1 to a low of 10% in standard 6. Boys' repetition rates (average 31%) were slightly higher than girls' (average 27%). As in all schools, Maleka reported a nominal dropout rate of 0.5%; these data obviously do not account for the declines in enrollment from 327 pupils in standard 1 to

75 pupils in standard 8; current standard 8 enrollment is 23% of what would be expected if all children moved through school in eight years.<sup>7</sup>

**Table 5. Pupil Information – Maleka**

<b>PUPIL INFORMATION</b>			
	Official Enrollment	Repetition	Dropout
Std 1 Female	160	83	0
Std 1 Male	167	69	0
Std 3 Female	166	12	0
Std 3 Male	138	27	0
Std 6 Female	83	8	0
Std 6 Male	59	6	0
Std 8 Female	32	5	2
Std 8 Male	43	15	1
Total Female	951	255	7
Total Male	883	270	3
<b>TOTAL</b>	<b>1834</b>	<b>525</b>	<b>10</b>

Maleka had 34 teachers. The vast majority of the teachers at Maleka are female; this is not unusual for an urban school, but is unheard of in rural schools. The head teacher, who was in his third year at the school, did not teach regularly. This was an unusual practice for the schools that we visited, and one that was made possible by a proportionately greater number of teachers than in the other high-performing schools. It was also made necessary by the administrative load of such a large school.

Data were collected on 19 teachers at the school. These data indicated that 63% of Maleka’s teachers had an MSCE qualification, and 58% had been trained and recruited before the introduction of FPE. Seventy-nine percent had been teaching at Maleka for longer than five years.

All of the teachers claimed that they had attended so many MTTA INSETs that they could not remember the exact number. They had attended INSETs held at the school, the cluster, and the zonal levels. The head teacher showed us the school’s schedule for school-based INSETs, which was impressive. Some of the teachers had been selected by the project as expert trainers for national, district, and zonal trainings in other parts of Malawi, and therefore had participated in project activities outside of their own area.

<sup>7</sup> In all cases where given, this number assumes a constant standard 1 enrollment rate over the eight-year period and an equal number of pupils transferring in and out of the school each year. These assumptions may not be true in individual cases, although the only school that reported any significant changes in enrollment was Mpata, where the school standard 1 enrollment declined by 300 pupils in one year, apparently as pupils decided to enroll in a nearby higher-performing school.

**Table 6. Teacher Information – Maleka**

TEACHER INFORMATION						
Teacher	Sex	Std they teach	Qualification	Began teaching in 1994 or later?	More than 5 years at this school?	How many MTTA INSETs attended?
1	M	HT	MSCE	No	No	Yes, many
2	F	6	MSCE	No	Yes	Yes, many
3	F	4	MSCE	No	Yes	Yes, many
4	F	7	JCE	No	Yes	Yes, many
5	F	8	MSCE	No	Yes	Yes, many
6	F	1	JCE	No	Yes	Yes, many
7	F	7	MSCE	No	Yes	Yes, many
8	M	6	MSCE	No	Yes	Yes, many
9	M	8	MSCE	No	Yes	Yes, many
10	F	3	JCE	No	Yes	Yes, many
11	F	5	JCE	No	Yes	Yes, many
12	F	1	MSCE	Yes	Yes	Yes, many
13	F	1	MSCE	Yes	Yes	Yes, many
14	F	3	JCE	Yes	No	Yes, many
15	F	2	JCE	Yes	No	Yes, many
16	F	6	JCE	Yes	Yes	Yes, many
17	F	8	MSCE	Yes	No	Yes, many
18	F	4	MSCE	Yes	Yes	Yes, many
19	F	7	MSCE	Yes	Yes	Yes, many

### *Classroom Observations*

We observed seven classes at Maleka, far more than at other schools. This was facilitated by the author spending an additional half-day at the school, following a full day of observations by a three-person team. We observed one standard 1 class, one standard 3 class, three standard 6 classes, and one standard 7 class. Generally, our findings were similar across the classes, although the standard 1 class stood out as one of the most exceptional classes we have ever observed. All of the classrooms were notable for the effort that had been made to make them welcoming and resource-rich learning environments. All had TALULAR materials on the walls; all classrooms had a learning corner of some sort (either one where teachers had placed a collection of TALULAR materials, a science corner, or shop corner), and most had word trees and TALULAR charts and drawings on the floors and walls. Although the classrooms were generally not in great repair, the atmosphere of the classrooms was significantly improved by these resources, and all of the classrooms were swept clean and were in as good physical condition as possible. Below, information is presented about three of the observed classes:

**Table 7. Classes Observed – Maleka**

Enrollment	Std 3 Math	Std 6 Math	Std 6 English
Official Girls	61	53	38
Official Boys	38	32	30
Observed Girls	44	28	32
Observed Boys	26	6	27
% enrolled girls present	72 % present	53% present	84 % present
% enrolled boys present	68 % present	19% present	90 % present

**Table 8. Standard 3 Math – Maleka**

	YES	NO
Are students seated in groups at some point during the class period?	X	
Are there TALULAR and other teaching materials on the walls or in the classroom?	X	
Does the teacher use TALULAR during the class?	X	
Is the classroom a welcoming environment?	X	
Does the teacher make content mistakes during the class?		X
Does the teacher integrate materials from other subjects into the class?		X
Were pupils actively engaged in the class?	X	
Did the teacher have good control of the class and a good relationship with the pupils?	X	
Did the teacher display gender equity (for example in calling on pupils) during the class?	X	

**Table 9. Standard 6 Math – Maleka**

	YES	NO
Are students seated in groups at some point during the class period?	X	
Are there TALULAR and other teaching materials on the walls or in the classroom?	X	
Does the teacher use TALULAR during the class?	X	
Is the classroom a welcoming environment?	X	
Does the teacher make content mistakes during the class?		X
Does the teacher integrate materials from other subjects into the class?		X
Were pupils actively engaged in the class?	X	
Did the teacher have good control of the class and a good relationship with the pupils?	X	
Did the teacher display gender equity (e.g., in calling on pupils) during the class?	X (researcher says yes, but calling patterns favor boys)	

**Table 10. Standard 6 English – Maleka**

	YES	NO
Are students seated in groups at some point during the class period?	X	
Are there TALULAR and other teaching materials on the walls or in the classroom?	X	
Does the teacher use TALULAR during the class?	X	
Is the classroom a welcoming environment?	X	
Does the teacher make content mistakes during the class?	X	
Does the teacher integrate materials from other subjects into the class?	X (science)	
Were pupils actively engaged in the class?	X	
Did the teacher have good control of the class and a good relationship with the pupils?	X	
Did the teacher display gender equity (e.g., in calling on pupils) during the class?	X	

All of the observed classes actively incorporated the pedagogical lessons, with teachers effectively utilizing small group and active learning approaches and using TALULAR to strengthen class work. Teachers were consistently present in the classrooms, prepared for the class (e.g., they had prepared complete and appropriate lesson plans), knowledgeable about the subject content they were teaching (although quite a number made at least one small content mistake), and visibly confident in their control of the classroom and their teaching approaches. Pupils were well-behaved, generally on-task, and appeared to be learning in all of the classes. There were visible formal learning resource shortages in most of the classes (such as textbooks), but these shortages were alleviated in part by the small group approaches and TALULAR materials adopted by the teachers. In all of the observed classes, pupils appeared comfortable with one another and with the teacher. There appeared to be a shared sense of safety at and support for the school on the part of boys and girls whom we observed and with whom we spoke. In some classes, such as the standard 1 class, pupils had a palpable excitement for their class work and the learning process. The teacher effectively channeled and encouraged their excitement throughout the observed class period. (See Annex from Maleka School for descriptions of a standard 1 math class and a standard 6 math class).

We observed two issues in most schools that practiced group work—issues that were more notable in the standard 6 classroom than the standard 1 classroom and were even more notable in the standard 6 English classes.

I. When TALULAR materials were only available at the small-group level (e.g., because they had to be made by the teacher or a large number were needed to complete problems), the team leaders tended to monopolize the time spent manipulating these materials. The use of team leaders was explicitly supported and encouraged by MTTA to promote school group teaching and learning. This practice proved useful overall, although teachers frequently selected boys and did not pay attention to gender equality.

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2. In most cases, it appeared difficult for the teacher to ensure that all pupils had sufficient, and sufficiently difficult, problems to keep them occupied throughout the class period. This was particularly true in English classes that were using a “reading corner” format, where the teacher was trying to work with one group of pupils at a time to assess their reading progress. In these cases, where the teacher could not circulate to judge pupils’ progress and when it was not clear how to build upon the activity or they finished early, the pupils tended to disengage with their learning materials and the problems they were given before the end of the group work session. In most of these cases, the pupils then sat silently, listening to their fellow pupils read aloud to the teacher and listening to the teachers’ corrections of the other pupils.

These two issues point to the complexities of effectively programming for group work in very large classes with a wide range of pupil capacity. Maleka was the school in which we saw the least time-off-task by pupils working in small groups, but in all of the schools, including the high-performing schools, this was a problem, especially in English class. Time off-task was a significant problem in classes that did not utilize group work, so this is not to say that the problem of time-off-task was greater in group work than in non-group work situations. Instead, we raise the issue because, unlike in large group classes, the group work format offers the opportunity of addressing this issue more directly and (likely) more effectively.

In most group work settings we observed, the teachers utilized group captains to help them keep order and present materials to pupils. Although teachers’ use of, and in some cases reliance on, team leaders to organize most of the pupils’ learning was beneficial in many ways (i.e., it freed up the teacher to concentrate on a smaller group of students; it assured that the class was orderly even when it was divided into groups; and it provided the possibility of regular interaction between pupils about learning issues), we regularly observed some pitfalls. First, the team leaders received more time with the teacher and much more time with manipulables than did other pupils. Teachers reported that they selected the group leaders based on subject exam scores that pupils took in the beginning of the year, though occasionally the teachers would substitute a girl with a lower score for a boy with a higher score in an effort to improve gender equality. Because team leaders were not rotated, this meant a small number of high-achieving pupils received significantly more opportunity to learn than their counterparts. Second, because there were no other team positions used by the teachers observed (for example, a secretary, a resources person, and other roles that may or may not be rotated), there were no opportunities for other pupils to practice leadership roles in the class. Teachers’ reliance on pupils who have more content knowledge than other pupils to help them manage the class is understandable, but it may not produce equitable opportunities in the classroom.

### *Infrastructure and Personnel*

Maleka had good, but in no way unusually good, classroom and office infrastructure. Maleka is an urban school, but it is a poor urban school, and unlike some of its wealthier counterparts (e.g., Mpoloni) it did not appear to have more furniture or many more wealthy parents than its rural counterparts. Although a slightly higher number of children in the standard 6 classroom wore shoes than in high-performing rural schools (e.g., Chisekese in Kasungu), this difference was not significant, and there was no

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difference in the rates of jerseys worn by standard 3 pupils. In other words, although this school, like all urban schools, had some additional resources not found in rural schools, the differences may not have been that significant.

As is often the case in urban schools, Maleka did have an advantage over rural schools in terms of teacher and administrative resources. For example, Chisekese, the second-ranked school in the study and a rural school, had an official teacher: pupil ratio of about 1: 107 students. Maleka had an official ratio of 1: 59. Although this is a significantly better ratio, it is arguable whether it constitutes the difference between a classroom in which it is easy to provide personal attention to pupils and a classroom in which it is not. Maleka did have many more printed materials at its disposal than most of the rural schools visited; for example, the head teacher's office had more books and printed materials than the entire TDC in Mharawe zone in Mzimba South. However, it was unclear how often teachers and pupils had access to these additional printed materials, or how often they were incorporated into classes.

Maleka's infrastructure had been upgraded in a number of ways by the community, which was actively involved in supporting infrastructure upgrades. The parents had, at the head teacher's request, provided foams that older pupils were using as seats in the upper grades. Parents were building grass-thatched gazebos to provide covered play and learning areas for pupils, and they were active in various other initiatives around the school, including one aimed at securing more land for the school and expanding the existing permanent classroom structures. The school responded to this parental support by assuring that the infrastructure was kept in the best order possible. Textbooks were stored in the head teacher's office; the school grounds, though extensive, were kept pristine; and all of the classrooms were as lively and as learning-intensive as was possible given school resources. There was no running water or electricity at the school, as is true for most Malawian primary schools and as was true for all schools in our sample except for Mpoloni.

### *The Head Teacher and School Leadership*

The most marked and remarkable characteristic that set Maleka apart from most other schools visited was the gifted head teacher at its helm and the talented group of teachers who supported him. The head teacher had been transferred to the large—and by all accounts troubled—school only three years previously. Before his arrival, the school had dismal MTTA teacher and pupil exam scores, PSLE pass rates, and pupil selection rates to secondary school. Community members were generally not involved in the school and teachers were disaffected. Mr. Mkandawire, the new head teacher, and other teachers described parents in 2005 as “ignoring” the school.

By all accounts, Mr. Mkandawire and a core cadre of teacher-leaders from whom he gained early support have transformed the school in three years. He credited the MTTA project for playing a large role in facilitating this transformation. It was evident in discussions with him that he was able to use the project to leverage very positive changes in learning opportunities, school-community and head teacher-teacher-pupil relations, and the overall culture of the school, but his own acute political skills also played a central role in the school's revitalization.

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Mr. Mkandawire reported that when he arrived and realized how disaffected the community was, he moved quickly to offer new elections for the Parent-Teacher Association (PTA) and the School Management Committee (SMC). These organizations were completely overhauled under his supervision. He provided what he termed “civic education” to the community before the elections in which he discussed the official roles of the organizations and urged community members to elect people who were “less negative” and who would support the rehabilitation of the school’s aging infrastructure. He said that he told the community, “I am a technical officer. I can move any time. This is your school, and if you show initiative, the government will support you.” The community listened and voted in a new slate of committee members. The SMC and PTA promptly built a new school block, and the government pledged to support the construction of additional school blocks as Mr. Mkandawire predicted.

At the same time that he was mobilizing the community, Mr. Mkandawire also had to mobilize the teachers, who were disaffected and uninterested in their teaching practices and careers after years of working at a dysfunctional school. He worked to create individual relationships with each teacher, as well as to create situations in which he and the teachers could discuss school matters together. He also worked to boost what he termed “teacher morale,” which he said was very low. He found that many teachers were happy to cooperate with his plans to improve the school; they had simply been demobilized for many years prior to his arrival. He worked to “explain their [teachers’] role” and to get them focused on their responsibility to pupils. Then he and the teachers discussed how to improve pupils’ experiences. This led to a series of activities, from planned INSETs on teaching approaches to the head teacher and teachers jointly requesting that the parents make foams for the older pupils to sit on in class.

The District Education Manager (DEM) saw their work together and was impressed enough to vow to support the school and the teachers. He promised chairs, which had not yet arrived at the time of the research, and he also provided a great deal of advice to the head teacher and teachers about how to improve the school. The PEA for the area also visited regularly to provide advice and boost morale. Mr. Mkandawire said that once people saw the new energy, they wanted to encourage and support it, which in turn encouraged the teachers and him further in what he calls their “collective job.”

Mr. Mkandawire acknowledged that some teachers were initially wary of him. Some left the school in protest, others were sure that he was ambitious for himself and had to be convinced over time that his plans would actually benefit the school. Those who remain are converts and strong supporters of the head teacher and this new approach to teaching and learning. As with the PTA and SMC overhaul, there were casualties from Mr. Mkandawire’s reform agenda, but those who believed in his message have reaped the fruits of a much more positive and productive work environment.

Mr. Mkandawire said that MTTA was a valuable tool in his work to transform the school. As he described it, before MTTA, he and some of the teachers were trying to do some of the activities that the project would later introduce (such as active learning and content knowledge improvement) but did not know how to do them properly. This was particularly the case, he said, in the three subjects targeted by the project. Most importantly, before MTTA teachers and administrators were not equipped to identify their own problems in their teaching and to address these problems. There were no

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opportunities for professional development (PD), and certainly not for PD that addressed the needs of teachers at the school. MTTA provided a mechanism for addressing teachers' and schools' content, pedagogical, and material needs. Through the INSET system, provision of teacher resource materials, and monitoring activities that the project introduced, school personnel were able to learn how to help themselves learn.

Mr. Mkandawire and his teachers fully adopted the project's challenge that they become engaged in their own PD. They were very active in organizing and attending school-based INSETs, as well as cluster-level INSETs. Mr. Mkandawire had a schedule of the school-based activities on his wall, with notes next to the regular entries about how the activities proceeded. There were activities planned regularly throughout the school year. The teachers also met regularly with each other. Many teachers joined sub-groups that formed around subject matter or standards (e.g., a math club for teachers and regular meetings of all of the standard 1 teachers). Many accessed the IBB books or other resources the project provided to support their efforts to upgrade their qualifications. Teachers were monitored regularly and by multiple people. Mr. Mkandawire said with pride that his teachers now enjoy being observed. Their eagerness to have us observe their classes supported his claim.

The effects of the project activities, claimed Mr. Mkandawire, were diverse and positive. Professional interaction was freer, with teachers regularly and comfortably asking each other about problems with content or pedagogy. This change in interaction was particularly visible in the classes where a lot of teachers teach the same grade level; these teachers regularly meet to help one another solve problems. This shift towards teachers-as-learners boosted teacher morale and pride in their work, especially in science and math, where many teachers felt unsure of their content knowledge. Mr. Mkandawire said that the project is "retraining teachers on how to deliver subjects and master knowledge."

Mr. Mkandawire also felt that the project encouraged teachers' ambitions. A number of the teachers used the project's reference materials, particularly the IBB books, to upgrade their certifications and exam scores. Five teachers had already upgraded at the time of the research, and one teacher, who began with a JCE certificate, upgraded his scores to the point that he was selected to and is currently attending Domasi College. Eight teachers had formed a study group that meets from 4 to 6 p.m. three days a week in order to study together for their MSCSEs. The group was taught by secondary school teachers (who were paid a nominal fee), but they had also called other teacher-experts from nearby schools to come and tutor them in particular subjects and had even invited the DEF to come talk with them. Mr. Mkandawire held workshops based on IBB books, which he said are also very useful to school leaders. For example, he read a book on making weekly progress reports and then held a seminar on the subject for his teachers.

MTTA has also significantly influenced teachers' practices. Groupwork, Mr. Mkandawire and other teachers interviewed said, is not easy. MTTA equipped them with information and gave them the confidence to try this method out. Teachers were becoming comfortable with the approach, having seen its positive effects on pupil outcomes. Mr. Mkandawire offered a series of monthly seminars on the topic to help teachers work through the new approach; the seminars used materials from the project as well as teachers' experiences at the cluster- and zonal- level INSETs and visits from the PEA and the DEF to boost teachers' confidence in their group teaching skills. He also created

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a system in which teachers are regularly observed by MTTA personnel and himself and which provides support for improved classroom practices.

The school had also very actively taken up creating TALULAR for use in their teaching. Parents had come in to help teachers make materials, and the school had participated in cluster-based trainings in which they learned about new types of TALULAR, particularly in science, from their fellow cluster schools. Once teachers felt confident in their subject knowledge, had teaching materials and a confidence in their capacity to teach, and knew that their colleagues would be cheering their successes, Mr. Mkandawire said they were eager to practice what they had learned. Generally, he felt, they were successful. He encouraged daily pupil monitoring and continuous assessment and checked records to make sure that teachers were taking daily notes of what pupils were able and not able to do.<sup>8</sup> It is a very big task, he said, but improvement was visible. Because he did not teach, he was able to supervise each teacher at least once—and often twice—a week, providing remedial support where it was needed. In this way, teachers were equipped with the skills to improve pupils' learning, and they were provided with constant support and guidance to reach this goal. The head teacher served primarily as a facilitator for school change, and he was very good at it.

### *Teachers and Teaching at the School*

The discussions and observations with teachers indicated that relationships among teachers at the school were good. They worked together easily, helping each other with content knowledge and problems they experienced in their classrooms. As one teacher said, "Everyone is ready to learn from our friends." The teachers provided broad support for one another, but this support was most evident in the arena of MTTA activities, particularly in group work approaches. Of all the schools visited, group work appeared most effective and widespread at Maleka. Teachers had good group teaching strategies, often used TALULAR in ways that strengthened the group experience, and used group work to manage and improve learning effectively in very large classes. Groupwork activities and innovations appeared to be boosted by the broad teacher support that existed for these practices and teachers' willingness—and in some cases, evident desire—to view each other as resources for further learning and self-improvement. As discussed above, a new teacher who had transferred from Karonga joined the staff in the term preceding this research. We observed her very effectively implementing group work in her classroom. She had never used this method before arriving at Maleka and had been trained entirely by her colleagues.

Teacher absenteeism, according to the head teacher and teachers, occurs only when someone is ill or attends a funeral (this was a common finding across the high-performing and progressing schools), and teachers felt very free to approach one another with any problems or questions that they had. Some of the older teachers were particularly sought-after mentors and reported greatly enjoying their new role. Generally, teachers talked about viewing each other as colleagues and friends. They all expressed a great deal of support for improving pupil learning and achievement, for the

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<sup>8</sup> In all cases where continuous assessment was used, teachers were only expected to assess the pupils with whom they worked in the small group setting. Each pupil was therefore assessed about once a week.

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head teacher's plans for achieving this goal, and for their own capacity to improve their teaching and to support their fellow teachers in their efforts.

In many senses, teachers' responses to questions about their own practices and the teachers' communities of practice could be understood to represent a "mission driven" culture, in which all teachers were united behind a vision of their own and pupils' improvement. The head teacher served as the leader of this mission-driven approach, but the teachers who remained at the school remained, in part, because they shared this vision. There is significant research in the U.S. on the positive effects on learning and teaching environments of being mission-driven; Maleka might very well be an example of the effects of such an approach in a Malawian school.

### *Pupils at the School*

Standard 6 pupils who participated in the FGDs reported that they enjoyed school because they were well taught and supported by their teachers, that they received extra teaching when they struggled in a subject and homework from their classes, learned all subjects, and were allowed to play during physical education class. Pupils reported feeling cared for by teachers who gave them individual help when they were failing, encouraged their progress, and counseled them when needed. Teachers also revised lessons after exams and displayed charts that helped students remember previous exercises. Pupils reported that teachers were generally hard-working and kind, and that these were characteristics that they appreciated. Pupils said that they were seldom absent, and that teachers did follow up with their families on their absences. Depending on the reason for their absence, they were sometimes punished at school for absence or late arrival. The pupils with whom we spoke did have friends who had dropped out of school; they reported that their friends had dropped out because their parents died, because they married, because their families needed them to sell goods at the market full-time (boys), or because they "want decent things" and turned to exchanging sex for goods (girls).

Pupils also reported that their fellow pupils were important sources of encouragement for continuing their schooling and working hard. They said that pupils encouraged each other to read during breaks, to ask each other questions, to compete for better positions in the tests, and to do their homework with friends. Pupils reported looking forward to reading every day at school and to keeping the school looking neat (sweeping, mopping, planting and watering flowers); they took obvious pride in their well-groomed school.

All pupils, with the exception of one, reported that they hoped to continue their schooling through to university, and they wanted to move to one of the country's four largest cities. Their career aspirations included president, pilot, army commander, NGO employee, and accountant for the boys; and teacher, nurse, lawyer, NGO employee, and accountant for the girls. Every pupil had a sibling who had continued on to secondary school—a very big difference from pupils in most rural schools. All of the boys said they planned to marry and have children (either two or three), while about half the girls were undecided. This was also different from their rural counterparts, most of whom reported that they planned to marry and have children.

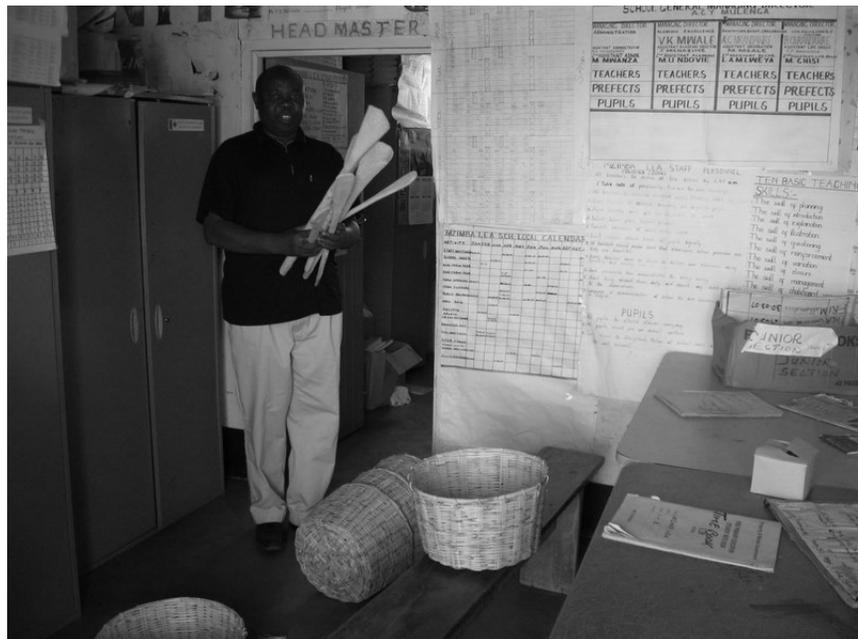
Unlike many pupils in rural schools, Maleka's pupils reported that they read outside of class. They mostly read their textbooks, but they also had access to a NICE office, which has a library, and to some newspapers and magazines. Like their rural counterparts, some of the pupils had significant home responsibilities and felt that these responsibilities, particularly being sent to sell goods at the market, limited their time to study (this was more true for boys than girls, who were more likely to report being kept home to take care of younger siblings). Nonetheless, when asked how they would improve the school if they were head teacher, the pupils responded that they would electrify the school and introduce night studies for pupils, thus increasing the daily opportunities to learn. They also recommended stronger discouragement of early marriages and the construction of more school blocks and teacher houses.

In our observations of pupils, they were generally on time to school, on task in class, and consistently engaged in their learning experience. The school did have a problem because of its location right next to the secondary school: secondary school pupils occasionally lured primary school pupils out to drink or have sex. The school had taken steps to try to address the problem, though, and the SMC and PTA were looking into additional steps that could be taken. Generally, however, at this school, pupils were excited to learn, teachers were excited to teach, and pupils were both learning and enjoying their time at school. It appeared that few pupils had safety concerns and the school environment was not conducive to pupil-teacher relations (especially given the high proportion of female teachers) or pupil-pupil relations. This stood in sharp contrast to the daily educational experiences observed at some other schools in the sample.

### *School-Community Relations*

As discussed previously, the head teacher had engaged the community in a number of ways. The revamped SMC and PTA were now extremely active at the school. The community had organized under their direction to offer more land for the school to use for construction of additional school blocks and teachers' houses. A group of parents came to the school to teach creative arts; we were able to see some of the products of these classes, which were wonderful. Parents were also actively involved in small construction and beautification projects on the school grounds, such as the construction of gazebos.

Although many of the parents' activities in the school were related to parent labor, most parents were educated up to or through secondary school, a major difference from parents at most



*The head teacher displays some of the crafts made by Maleka pupils in parent-taught creative arts classes*



*A parent-built gazebo on the Maleka school grounds*

other schools. This, along with the urban environment, allowed them to be involved in the school and their child's education in ways that might have been more difficult for less educated, rural-based parents. For example, they lobbied the DEM for resources and teachers and lobbied the District Commissioner to address the beer-brewing activities that take place near the school. Their easy access to these officials and their comfort in lobbying on behalf of the school stood in contrast to the activities of parents at many rural schools.

The parents who participated in the community FGDs reported that most parents were not part of the official labor force, and they had to rent land on which to live and farm. They described their days as filled with income generating activities (mostly small businesses) that left them little time to interact with their children. Parents said they did not have money to buy reading materials for their homes and did not have time to help children with homework. They felt that the school was doing a very good job of educating their children, measured largely by secondary school acceptance rates. They felt MTTA had improved the school by helping teachers “teach confidently” and form subject associations. They felt the school needed more resources, such as textbooks, but felt that the school was on track and had very strong leadership.

Parents expected that schooling would lead to formal employment of their children in the government or by companies, that it would make their children more independent, and that it would make them more development-minded. Some parents pointed out that less-educated people were sometimes doing better financially than those that were better-educated, and that this reality sometimes discouraged parents and pupils, but most expressed the belief that schooling was still the most likely path to economic and social success. Parents reported that the children most likely to be out of school were those without parents or those who were parented by businesswomen. In both cases, they said that children did not receive the support needed to remain in school, and most were pulled out of school in order to work.

### *MTTA at the School, Cluster, Zone, and District Levels*

At Maleka, the entire MTTA support system worked, from the top to the bottom. The PEA, the ZINFA, the Cluster mentor teacher, and the head teacher all worked together regularly and well to create INSETs and to monitor teachers' learning. A number of the teachers had been asked to visit other schools and clusters to teach others how to do this well. Although the impetus to continue and innovate on the program may have started with the head teacher, every single person in the process was working towards similar goals or at the least was not impeding those who had taken on the project. We did not observe any other school in which so many levels of educational personnel were

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actively involved in supporting MTTA activities, nor any other area where district-level personnel were as involved in the project.

The research team rated the PEA for this area as the strongest they observed at any of the schools. She moved around frequently within her zone and played an active role supporting the project (e.g., by helping to identify resource teachers in various subject areas across schools). The PEA and the ZINFA appeared to have a very positive working relationship, something that was not the case in some other schools, and in fact both spoke very highly of each other. The PEA fostered a teamwork approach in her zone, sharing work plans, sometimes even transporting the ZINFA with her to conduct observations jointly. The ZINFA was in the process of upgrading his certification using the IBB materials and said he was studying financial accounting “to learn new things.” The Mzimba DEM even played an active role in the project at the school; the PEAs in the district reported that he monitored the INSET trainings and regularly asked how teachers were faring with various MTTA activities.

The alignment of people actively supporting the project and the sense of camaraderie—as opposed to competition—observed between the PEA and ZINFA, between the cluster mentor head and the head teacher, and among various teachers within and across schools pointed to a well-functioning support system for project activities and practices. Such alignment was visible to some extent in all of the best-functioning schools and pointed to the multiplier effect that seemed to occur when everyone potentially involved with the project was on board. The benefits of such an alignment for project outcomes are multiple: first and foremost, in an aligned system, there are positive redundancies. If a head teacher must teach full time but the ZINFA and cluster mentor teacher are active and able to observe teachers, then the supervision system can be maintained. If the ZINFA is weak, teaches a full load, or is located in a zone where schools are very far apart, support from the PEA assures that all schools can be visited, or that two zonal-level personnel can collect information about INSET topics of interest to teachers. If all of these people are working together, working well, and have time to fulfill all of their duties, these “redundancies” result in an extremely rich PD environment that provides multiple forms of support for teachers looking to improve their teaching practices. According to people’s reports, such environments appeared to have a much greater chance of sustaining project practices because multiple actors are eager to keep the ball rolling.

Most schools we visited were not lucky enough to have a well-aligned and functioning support system. Some had people filling key positions who appeared less suited or talented to their roles than those observed at Mzimba boma. In other schools, people in the support system wanted to play a positive role, but were severely hamstrung by the staff shortages that existed in their areas. In many of the rural areas visited, there were extreme teacher shortages in all schools in a cluster and zone, resulting in little time for the cluster mentor teachers, ZINFAs, and other staff to spend on project activities. Teachers in these areas were usually so overworked that they were more resistant to spending additional time on after-school training activities, particularly when they were unpaid. PEAs and other district staff often reported having transportation constraints that limited their ability to play a regular role in supervision or other project activities in some rural schools. These types of constraints limited the capacity and efficacy of the project support systems, in some cases, nearly crippling school, cluster, zonal, and

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district efforts even in situations where people supported the project and effectively implemented aspects of the project activities.

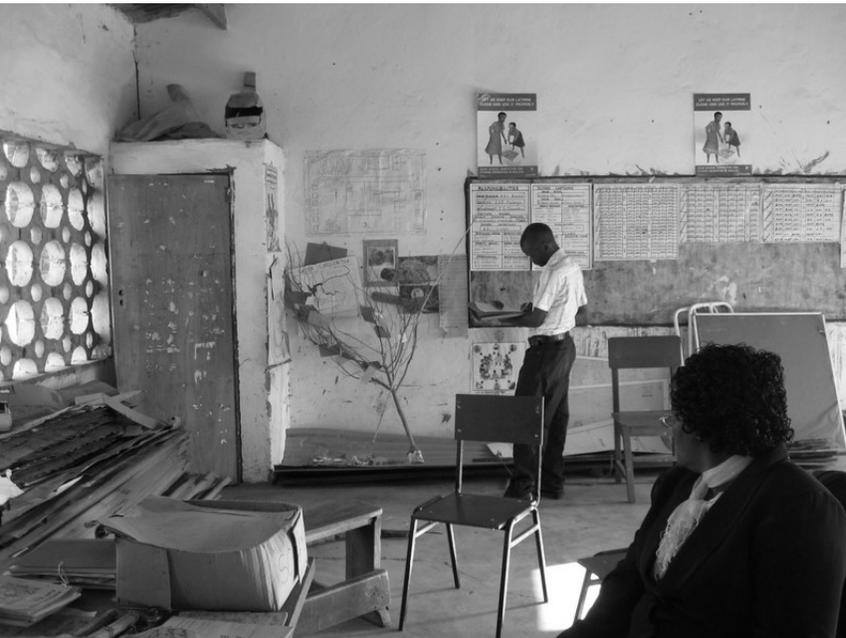
## Chisekese

Chisekese, located in Kasungu district, is a rural school situated next to a main dirt road on which quite a few trucks and cars pass each day. Teachers say it is relatively easy to get in and out of the city boma because of this road; the trip takes about two hours each way. The school grounds and buildings, although not particularly resource-rich, are well-maintained and well cared for. The TDC for the zone is located behind the building furthest from the road and has very nice latrines built next to it. There is a lot of activity around the school because of the road and the borehole water pump at the school; community members and visitors pass by with some frequency. The community members that we observe interact in a friendly and familiar manner with school personnel when they pass, and the pupils seem at ease and happy to be at school. The classrooms themselves are devoid of furniture (even the upper standards), but they all have TALULAR materials hanging on the walls and in the classrooms, livening up the atmosphere a great deal.

The head teacher's office, which also serves as a teachers' meeting room, is one of the classrooms in the oldest-looking classroom block. It is full of stacks of iron sheets, textbooks, TALULAR materials (such as abacuses, cardboard and wire helicopters, word trees, and so forth), and desks at which the teachers can sit. There are many handmade posters on the wall, including one on how to keep a log for students' grades and one on "Acts of Misconduct" that lays out various potential teacher misbehaviors and the punishments that will result.

The school itself consists of classroom blocks that surround a small central courtyard. In the courtyard one area was sectioned off with a wooden railing. When we approached it, we found that the school had made a very good map of Malawi in the ground, complete with lakes, rivers, the district bomas, and even Likoma Island. They also had created a set of "practice" weather stations (described in more detail below). There is an active MTTA HIV and AIDS School Club Initiative (HASCI) club at the school and members of the group begin each morning with "broadcasts" about HIV/AIDS-related topics that community members often come to watch.





The school office at Chisekese

The morning of our visit, the school assembly begins on time with songs. The assembly is well-organized, although it consists of fewer pupils than are officially enrolled in the school. Those pupils who arrive late simply join the lines and continue with the activities. After assembly, pupils stream into their classrooms followed by their teachers.

Like most schools we visited, the classrooms themselves have few resources. Although the chalkboards are all relatively legible, there is no furniture for pupils, so all children sit on the

ground during their lessons. The teachers do not have adequate chalk or dusters, despite the head teacher's and teachers' visible efforts to conserve even very small chalk nubs. According to the head teacher, the MTTA project saved Chisekese from running out of chalk by a special delivery that included portable chalkboards and a good supply of chalk and dusters. MTTA selected a limited number of schools that had achieved good progress to receive these "incentive packages." Although pupils have some textbooks, there are relatively few; across the grades, there is about one English and one math textbook for every four pupils; and one general studies/science textbook for every three pupils.

**Table 11. School Information – Chisekese**

SCHOOL INFORMATION	
Where are pupils learning?	Permanent classrooms
Where are students sitting?	On the ground
Are the chalkboards legible?	Yes
Does teacher have adequate chalk and dusters?	No
Total school enrollment	1174
Official Teacher : Pupil ratio	1: 107
How many English books available at the school?	333
How many math books are available at the school?	273
How many general studies/ science books are available at the school?	419
How many Life Skills books are available in the school?	146

Chisekese is a large school with an enrollment of 1174 pupils. As with most schools, slightly more girls than boys are enrolled in all of the standards (618 versus 556), but by standard 8, there are slightly more male than female pupils (48 versus 41). Repetition rates in standard 1 are much higher for boys than girls (37% versus 12%), but even out to approximately 30% for boys and girls by standard 3. Repetition rates decline after

standard 3. Reported dropout rates, as was the case in all schools we visited, were very low (a total of 39 pupils for the entire year); this number obviously cannot reflect how many children actually do not come to school and attend with regularity from standard 1 to standard 8. Total graduation rates are about 28% of what would be expected if all pupils moved through school in eight years.

**Table 12. Pupil Information – Chisekese**

<b>PUPIL INFORMATION</b>			
	Enrollment	Repetition	Dropout
Std 1 Female	186	24	0
Std 1 Male	132	36	0
Std 3 Female	99	27	2
Std 3 Male	65	22	3
Std 6 Female	51	9	5
Std 6 Male	41	2	0
Std 8 Female	41	6	0
Std 8 Male	48	11	4
Total Female	618	121	20
Total Male	556	158	19
<b>TOTAL</b>	<b>1174</b>	<b>279</b>	<b>39</b>

Chisekese School has 11 teachers, resulting in an official teacher: pupil ratio of 1: 107. The school also has six teacher trainees from the local Teachers' Training College (TTC). The teacher trainees are at the school for one year and are an active part of the school community. In fact, they are the sole teachers for standards 3 through 6 at the school. By including the teacher trainees, the teacher: pupil ratio falls to 1: 69 (about 10 pupils more per teacher than Maleka). Of the official teachers, four are female. This is a high number at a rural school and is due to the fact that there are three teacher couples at the school. Five teachers, including three female teachers, hold JCE certificates; the other teachers, including five of seven male teachers, hold MSCE certificates. About one-half of the teachers have been at Chisekese for at least five years; only three began teaching before 1994. The head teacher reported that all teachers at the school had attended at least 25 to 30 INSETs over the past few years and that cluster and school levels continued to hold INSETs. Many teachers, mostly male, had upgraded their certificates in the past few years with support from the program (for example, through the IBB books at the TDC and discussions about forming MSCE upgrade study groups).

**Table 13. Teacher Information – Chisekese**

TEACHER INFORMATION						
Teacher	Sex	Std they teach	Qualification	Began teaching in 1994 or later?	More than 5 years at this school?	How many MTTA INSETs attended?
1	M	1	JCE	No	No	25-30
2	F	1	JCE	Yes	Yes	25-30
3	F	2	JCE	Yes	No	25-30
4	M	2	JCE	No	Yes	25-30
5	F	3	MSCE	Yes	No	25-30
6	F	3	JCE	Yes	Yes	25-30
7	M	7/8	MSCE	Yes	Yes	25-30
8	M	7/8	MSCE	Yes	No	25-30
9	M	7/8	MSCE	No	Yes	25-30
10	M	7/8	MSCE	Yes	Yes	25-30
11	M	7/8	MSCE	Yes	No	25-30

Note: The school also has 6 teacher trainees from the TTC. The teacher trainees teach all of the standard 3, 4, 5, and 6 classes.

### *Classroom Observations*

We observed six classes at Chisekese, two standard 2 SME classes, two standard 3 SME classes, and two standard 6 SME classes. All of the classrooms were notable for the effort that had been made to make them welcoming and resource-rich learning environments. All of the classrooms had TALULAR materials on the walls and in the corners of the room, and most had word trees and TALULAR charts and drawings on the walls. Some of the classes had group names (such as zebra or elephant) hanging from the ceiling, indicating where children sit for regular group work. These resources significantly improved the atmosphere of the classrooms. All of the classrooms were swept clean and were in as good physical condition as possible. Teachers generally incorporated group work into their lessons and generally appeared to have very good rapport with their pupils.

**Table 14. Classes Observed – Chisekese**

Enrollment	Std 2 English and Math	Std 3 General Studies	Std 3 English	Std 6 Math	Std 6 English
Official Girls	74	101	101	32	33
Official Boys	80	65	65	40	22
Observed Girls	50 (10 arrive late)	71	57 (1 arrives late)	33	33 (4 arrive late)
Observed Boys	64 (12 arrive late)	54	45 (3 arrive late)	22	22
% enrolled girls present	68%	70%	56%	103%	100%
% enrolled boys present	80%	83%	69%	55%	100%

**Table 15. Standard 2 English – Chisekese**

	YES	NO
Are students seated in groups at some point during the class period?	X	
Are there TALULAR and other teaching materials on the walls or in the classroom?	X	
Does the teacher use TALULAR during the class?	X	
Is the classroom a welcoming environment?	X (but too crowded to enjoy)	
Does the teacher make content mistakes during the class?		X
Does the teacher integrate materials from other subjects into the class?		X
Were pupils actively engaged in the class?	X (but there were extend-ed periods of time where they disengaged within some of the groups)	
Did the teacher have good control of the class and a good relationship with the pupils?	X	
Did the teacher display gender equity (for example in calling on pupils) during the class?		X

**Table 16. Standard 2 Math – Chisekese**

	YES	NO
Are students seated in groups at some point during the class period?	X	
Are there TALULAR and other teaching materials on the walls or in the classroom?	X	
Does the teacher use TALULAR during the class?	X	
Is the classroom a welcoming environment?	X (but too crowded to enjoy)	
Does the teacher make content mistakes during the class?		X
Does the teacher integrate materials from other subjects into the class?	X	
Were pupils actively engaged in the class?	X	
Did the teacher have good control of the class and a good relationship with the pupils?	X	
Did the teacher display gender equity (for example in calling on pupils) during the class?	X	

**Table 17. Standard 3 General Studies – Chisekese**

	YES	NO
Are students seated in groups at some point during the class period?	X	
Are there TALULAR and other teaching materials on the walls or in the classroom?	X	
Does the teacher use TALULAR during the class?	X	
Is the classroom a welcoming environment?	X (but too crowded to enjoy)	
Does the teacher make content mistakes during the class?	X (but minimal)	
Does the teacher integrate materials from other subjects into the class?		X
Were pupils actively engaged in the class?	X (about 60%)	X (about 40%)
Did the teacher have good control of the class and a good relationship with the pupils?	X	
Did the teacher display gender equity (for example in calling on pupils) during the class?		X

Note: There are regularly two teachers in the standard 3 classrooms. In one classroom the second teacher is actively involved in pupils' learning (for example, circulating and answering questions); in the other the second teacher did not interact with the class until it was his turn to teach the subject matter.

**Table 18. Standard 3 English – Chisekese**

	YES	NO
Are students seated in groups at some point during the class period?	X	
Are there TALULAR and other teaching materials on the walls or in the classroom?	X	
Does the teacher use TALULAR during the class?	X	
Is the classroom a welcoming environment?	X	
Does the teacher make content mistakes during the class?		X
Does the teacher integrate materials from other subjects into the class?		X
Were pupils actively engaged in the class?	X	
Did the teacher have good control of the class and a good relationship with the pupils?	X	
Did the teacher display gender equity (for example in calling on pupils) during the class?	X	

**Table 19. Standard 6 Mathematics – Chisekese**

	YES	NO
Are students seated in groups at some point during the class period?	X	
Are there TALULAR and other teaching materials on the walls or in the classroom?	X	
Does the teacher use TALULAR during the class?		X
Is the classroom a welcoming environment?	X	
Does the teacher make content mistakes during the class?		X
Does the teacher integrate materials from other subjects into the class?		X
Were pupils actively engaged in the class?	X	
Did the teacher have good control of the class and a good relationship with the pupils?	X	
Did the teacher display gender equity (for example in calling on pupils) during the class?	X	

**Table 20. Standard 6 English – Chisekese**

	YES	NO
Are students seated in groups at some point during the class period?		X
Are there TALULAR and other teaching materials on the walls or in the classroom?	X	
Does the teacher use TALULAR during the class?		X
Is the classroom a welcoming environment?	X	
Does the teacher make content mistakes during the class?	X	
Does the teacher integrate materials from other subjects into the class?	X	
Were pupils actively engaged in the class?	X	
Did the teacher have good control of the class and a good relationship with the pupils?	X	
Did the teacher display gender equity (for example in calling on pupils) during the class?	X	

## Classroom Observation

Classroom-based learning at Chisekese generally reflected an incorporation of many MTTA pedagogical and content approaches and appeared to support positive pupil learning. In comparison to Maleka, the quality of learning opportunities in classrooms appeared to be a bit weaker, particularly in introducing innovations on MTTA approaches to fit their classrooms better and to assure that all pupils are on task most of the time. However, it should be noted that class sizes, particularly for standard 3, were much larger at Chisekese than at Maleka and teachers were visibly overwhelmed when trying to supervise all of the pupils throughout a lesson.



The following observation notes, from the standard 2 English and math classes, provide an example of the types of teaching and learning we observed at Chisekese. The project identified the English teacher as a model teacher. She has participated in district and national workshops before. The photograph above is of the described class.

The classroom is filled with teaching and learning materials, both homemade and pre-made. Everywhere the pupils look, even the ceiling, there is something from which they can learn. As one of the researchers notes, “the walls are talking.” The classroom itself is crowded, even though only 114 out of 156 pupils are present on the day of the observation. There is no furniture for the pupils, nor is there room for any. This is the first period of the day, and there is a relatively constant stream of late pupils for the first ten minutes of the observation (a total of 22 pupils enter late). When the latecomers enter, they simply join their groups as quietly as possible.

The English teacher, Mrs. Bisa, is the head teacher’s wife and shows the same enthusiasm and dynamism that he does in his work. She is joined by Mr. Kamba, the math teacher, who helps her at various times by circulating among the pupils while they are doing group work. While she is lecturing, however, he sits in a chair at the side of the room. She behaves similarly when he teaches math during the next period. Mrs. Bisa reports that they worked together on many of the TALULAR materials and try to coordinate their classes. This is evident in today’s back-to-back classes, where they work off of one another to create a multi-subject exploration of shopkeeping, buying, and selling.

The class begins with the pupils ordered into rows, but they soon move into eight gender-mixed groups of about 12 pupils each. The pupils are obviously used to group work and move smoothly to gather under their respective group names, which are hung from the ceiling, and are accompanied by photos cut from magazines of the various animal names of the groups.

The teacher begins the class by holding up a paper with the word “shopkeeper” written on it. She asks, “Who can read it?” She calls on a boy, who answers correctly; she responds, “Good, he is right.” She then has all of the pupils repeat the word three times in unison. She then calls individually on two more boys and a girl to repeat the word. Next she holds up the word “clothes” and calls on a boy, who correctly reads the word. She has all of the pupils repeat the word five times, then calls on two girls and a boy to say the word individually. Then she asks, “Who can come here and be a shopkeeper?” Almost all boys raise their hands; she calls on one, who comes forward. She holds up a homemade “shop” exhibit, in which various items are arranged on a cardboard stall with prices next to them. She asks the pupils, “This one is a \_\_\_\_\_?” They respond, “Shop!” “And this one,” she says pointing to the boy, “is a shopkeeper. Who can come buy?” She calls on a boy whose hand is raised.

The shopkeeper asks, after a gentle reminder from the teacher, “What do you want?” The other boy responds “I want to tea.” The teacher stops the exercise and has the boy and then the class respond, “I want a packet of tea.” The pupil appears to be trying to say “I want to buy tea” but eventually responds “I want a packet of tea.” After he says this, the teacher hands him the tea, while the “shopkeeper” stands by.

The two boys are told to sit down and the teacher brings out a pile of clothes. She holds up one. “This is a cloth!” She holds up a second and says, “This is a cloth!” She holds up a third and says, “This is a cloth!” She then puts the pieces together and says “These are clothes!” She repeats the distinction once more, then tells the pupils to get into their groups. They scramble to do so. After a few seconds, the teacher says, “Silence!” The pupils repeat “silence,” and then quiet down quickly.



*Items for sale at the “shop” in a Chisekese School classroom.*

The classroom is small enough that the groups are packed into the room, with small backs touching other small backs in neighboring groups. Nonetheless, pupils remain relatively focused on their groups during the start of each group activity and whenever a teacher is working with them. The groups sit in silence as the teacher distributes various TALULAR materials to different groups. One group gets a poster paper with an exercise written on it. Another gets a poster with word cut-outs, which they are supposed to arrange into a sentence. Another gets words written on pieces of cardboard. One group is brought up front to work on new material with the teacher. The teacher walks quickly around to give directions to each group, but her directions are incomplete. For example,

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one group has a piece of poster paper on which they are supposed to match cut-out words to pictures drawn on one side. The teacher comes over, puts the word “boy” next to the picture of the boy and goes to the next group. The explanations may have been brief because the pupils have done these activities many times before, as is suggested in the group work guidelines the teachers follow.

The math teacher is also walking around the class at this point trying to help groups that are unsure of what to do. Two of the groups are on task and remain on task throughout the exercise; they have been given more complex tasks that take more time. But many of the other groups finish their assignment rapidly, (the pupils are obviously familiar with the materials) and then sit looking at each other or the class, unsure what they should do next.

The group closest to my observation point has completed their activity correctly, but all of the materials were controlled by three members of the group. The rest watched them put together the answers and then sat silently when they were done. I walk over to work with the group that has the drawings that are supposed to be matched to words; they are able to place the correct word with the correct drawing even when the words are scrambled, but once we complete this exercise for a second time, there is really nothing for them to do. Throughout the exercise, the materials are controlled almost entirely by the group leader.

The teacher has gone over to work with the group that has to put together a sentence from various word cut-outs. They have put together the sentence incorrectly, but when asked to read it aloud, read it in the correct order by heart, not noting their mistake. The teacher corrects them and explains the mistake, then moves on to the next group. With four adults (the DEF, who accompanied us, also joined in) working the room, pupils are generally kept on task, but as soon as an adult is not present, most groups that have finished their assignment sit quietly without doing anything. Of course, there are usually not four adults in the room. The teacher has spent very limited time with any one group, including the group learning the new material, leaving it to the group leader to teach the rest of the group.

After about twelve minutes, the teacher signals for the groups to rotate two at a time and repeats giving directions to each group. In the group reading the new story, the group leader is pointing to each word and having other group members read in unison. They do this well. By the time the last group has shifted, the teacher calls a halt to the activity and has the pupils return to sitting in rows.

“Who can write ‘clothes?’” she asks. She calls on a boy, who comes up to the chalkboard and writes: ‘clotns.’ “Is he right?” There is a chorus of “yes.” She asks again, “Is he right?” Now, the pupils chorus “no.” She calls on a second boy, who comes up and writes: ‘clonts.’ “Is he right?” “No!” chorus the pupils. She calls on a third boy, who turns around and intently studies a story that is displayed on the back wall and that includes the word “clothes.” He memorizes it from the story, then comes up and writes the word correctly. The teacher laughs when she sees what he is doing and tells the other pupils to clap hands for him. She then asks for a pupil to come up and write ‘shopkeeper.’ The boy

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she calls on studies the same story, which also contains the word ‘shopkeeper,’ but when he comes up to the board he finds himself unable to write it. She asks who can come help him and asks, “Where are the girls?” She pauses to see if any girls’ hands go up; when none do, she calls on a boy to come up next. He writes: ‘shuqeeqd.’ “Is he right?” A loud chorus of “no’s!” from the pupils. “Good,” she replies and writes out the word for them.

It is now time for the math class; Mrs. Bisa sits down and Mr. Kamba stands up. He speaks in Chichewa throughout the lesson and the students relax as they move into more familiar linguistic territory. He asks the pupils, “Were you just learning about shopkeeping?” They answer yes. He says they will now have a lesson about “Kuchotsera dalama.” As the English teacher moves around organizing the pupils into neat rows, the math teacher walks around holding up various coins and asking the pupils what the picture on each coin is. He walks each line, showing each pupil the various coins and pointing out which animal or picture is associated with which coin amount. He then takes out money and gives it to the shopkeeper, who is the same boy as from the last class. He tells the class that a sweet costs 1 Tambala (1t) and then writes on the board:

Switi [sweet]	1t
Macheso [matches]	10t
Mafuta [oil]	20t

He calls on a girl, hands her money and tells her to buy matches. She comes up, counts out the correct change and hands it to the shopkeeper. The teacher says, “Well done!” He then tells the two pupils to have a complete conversation about buying and selling matches. They do so, but the boy initially gives the girl the wrong price. The teacher stops him. The boy turns to examine the board for a few seconds and then turns around and gives the correct price. The teacher next calls on a boy and tells him to buy oil. He only gives the boy a 50t coin. The shopkeeper has to make change; he knows how much he should give, but is unsure which coins are worth which amounts. With a little help from the teacher, he counts out the correct change. “Well done!” says the teacher. He goes through this exercise twice more, once with a boy and once with a girl. He then has the pupils get into their groups and hands out a sum for each group to complete. Each child takes out their notebook and writes:

$$\begin{array}{r} 20t \\ -10t \end{array}$$

The math and English teacher are circulating, helping pupils with the problem. They are encouraging those who have not yet solved it, praising those who have, and marking pupils’ notebooks as they finish. As soon as all of the pupils in one group have finished the sum, the teacher exchanges it for a new sum and continues correcting pupils’ work. Many pupils are now holding up their books for correction. There are too many for the two teachers to complete. Pupils are competing to try to get their notebook corrected, but the teachers cannot make much of a dent in the crowd. Most pupils are left without a mark, which visibly disappoints them. The math teacher eventually wades to the front of the room and writes on the board:

$$\begin{array}{r} 56t \\ - 13t \\ \hline \end{array} \quad \begin{array}{r} 81t \\ - 51t \\ \hline \end{array}$$

He gives these as problems for all of the pupils to do. He then calls on the same boy who previously served as shopkeeper to help the class with the problem. The teacher says “6 minus 3?” “3!” responds the class. “5 minus 1?” “4!” responds the class. He does the same with the second problem, having the boy fill in the class’s answers. He then erases the answers and calls on another child. “I want a girl,” he says, calling on one whose hand was not up. The girl comes up with her pen stuck in her mouth. He puts his own pen in his mouth, mimicking her, takes his pen out, and makes her take hers out. The girl just stands there until the teacher tells her to call on pupils to help her answer the question. She calls on a girl, then a boy; the pupils are reminding her she needs to put the tambala sign on the answer, which she does. She calls on one more boy to finish the answer, which is correct. The pupils are then released for break; about 15 stay in the classroom copying sums.

As will be discussed later in this case study, the teaching reflects a use of real-life situations to improve pupils’ learning opportunities, something at which the school appeared to excel. The teachers were engaging and obviously had a good rapport with the pupils, even though the class was very large. The teachers used TALULAR materials well. The group work theoretically provided more time-on-task and chances to work with manipulables for pupils than would have been the case in a whole-group class. However, as was the case in Maleka, when TALULAR materials were distributed to groups, a very small number of pupils monopolized these materials. Likewise, although the math teacher was able to keep more pupils on task within groups, both teachers had a difficult time keeping pupils on task throughout the group work period because the tasks pupils were given to do were insufficient to keep them occupied. Contrary to some expectations, pupils appeared to be on task more frequently during the large group work than the small group work.

### *The Head Teacher and School Leadership*

Chisekese’s head teacher, Mr. Chirwa, transferred to the school two years ago. District education personnel said that the school was very weak and poorly managed when he arrived. In two years, he revitalized the school. Mr. Chirwa is a younger man, extremely engaging and dynamic. He was visibly excited when he talked about what the school was doing and particularly about the kinds of innovations, new ideas, and new connections that he and the teachers were exploring. Mr. Chirwa had received limited leadership training; he said that the only head teacher training he received was actually through MTTA, when he was taken as a facilitator for the national core training and when he attended the trainings for trainer heads in his district. It was at these trainings that he learned about management, supervision, and data collection, among other things. The trainings were particularly useful to him, he said, because they simplified content knowledge, methods, and approaches (such as participatory approaches) so that they were easy for teachers to learn and use. According to Mr. Chirwa, “MTTA has made leaders.” He credited the project not only with building his own leadership skills; he also claimed, “We push ourselves mentally, we are different teachers now.” Each teacher had been transformed by learning how to improve their own teaching and by becoming excited to learn again. He



said that the MTTA pedagogical and content tools were particularly effective in practice and that this allowed teachers to “even enjoy classes now.”

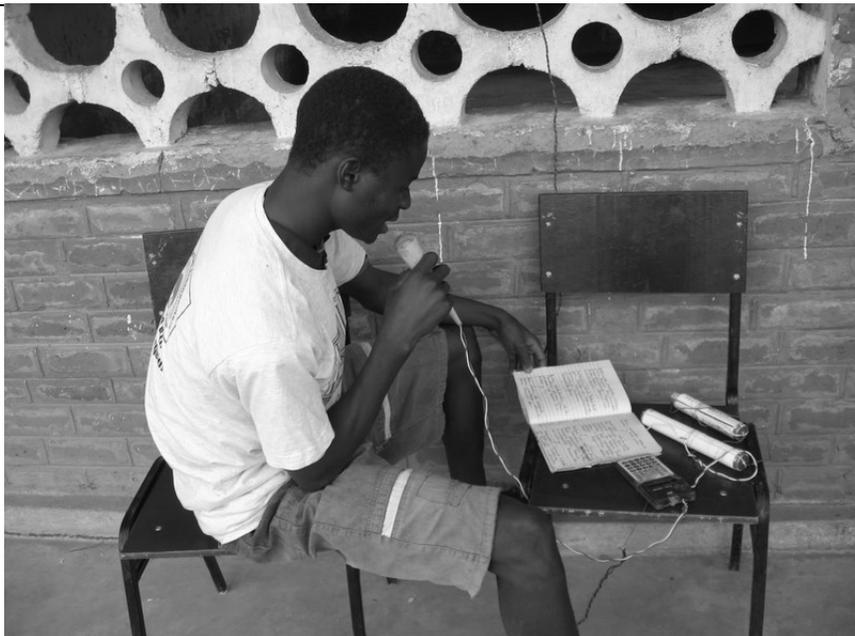
As with Mr. Mkandawire at Maleka, Mr. Chirwa was very active in organizing MTTA activities for his teachers. He organized two school-based INSETs a term and there were an additional one to two cluster-based INSETs a month. The school-based INSETs focused on individual teachers’ problems, while the cluster-based topics were broader and often drew on one school’s or one expert’s experiences. For example, Mr. Chirwa facilitated a cluster-level INSET on creating science clubs after Chisekese’s science club became so successful. He also facilitated an INSET on questioning and answering techniques on the PSLE after he was selected to mark exams for the Malawi National Examinations Board (MANEB) the previous year. At the school level, they held INSETs on schemes of work and lesson plans that reviewed the PCAR approaches and current teacher practices.

Mr. Chirwa’s descriptions about his work were full of examples of how he had drawn on outside resources to introduce new ideas about school performance and improvement. He capitalized on every opportunity he and other teachers had to travel, learn new things, and introduce these things to each other back at the school. This reflected the broader spirit within which the school operated, where people were constantly urged to come up with or bring in new ideas, talk them through with others, and reshape them to meet the teaching and learning needs of the school. It was this new culture of voracious learning and excitement about new ideas, coupled with a deep interest in learning through doing (be it traveling to see new ideas, having pupils physically make a map of Malawi [see photo at right], or learning about electricity by constructing movable circuits), that most defined Chisekese’s high performance during our observations. This culture defined teachers’ and pupils’ experiences at the school and appeared (along with the project itself) to be largely responsible for the blossoming of after- and pre-school activities available for pupils, and for the positive community-school relations that existed at the school. Some of these activities are described in greater detail below.

*Pupil-run daily radio station announcement at  
Chisekese School*

When Mr. Chirwa arrived at Chisekese, school–community relationships were tense, teachers were relatively disaffected, and pupil selection to secondary schools was dismal. As with Mr. Mkandawire, early on in his tenure, Mr. Chirwa focused on improving school-community relations and teacher morale and performance. The Cluster mentor teacher, a Chisekese teacher, was also intimately involved in this process.

With the head teacher’s support and encouragement, the Cluster mentor teacher sensitized parents to the different roles they could play in the school, talked with village leaders to help gain their support for the school, and helped to moderate disputes and problems that arose at Chisekese and surrounding schools. His position was recast, at least in part, as a “bridge between the school and the community,” and it appeared that both he and the community felt quite comfortable with him playing this role. It was evident during our visit that community members were involved with the school, taking part in and benefiting from extracurricular activities, and actively supporting the new administration.



As with Mr. Mkandawire, Mr. Chirwa also focused quickly on revitalizing teacher involvement in the school. About half of the official teachers had been teaching at the school for less than five years. Since Mr. Chirwa also played a key role in getting the TTCs to send teacher trainees to the school, the majority of his staff was relatively new to the area. Mr. Chirwa provided his teachers with a work environment that allowed them to experiment and bring their own innovations into their classrooms, while at the same time providing supervision and support for improved teaching and learning. For example, he celebrated and shared with visitors the radio station created by one of the newer teachers, which was used in the teacher’s science class to teach students about sound waves, among other things. The pupils used the radio station to broadcast daily announcements, while the teacher continued to try to tweak the station to expand the broadcast range so that the announcements could be heard by the community from their homes. Community members already came to the school grounds to listen to the announcements some days of the year—for example when test results were broadcast—but the teacher wanted to expand the radio transmission so that parents could listen to the daily broadcasts from home.

Mr. Chirwa also created space for many other innovative ideas for teaching, learning, and connecting with the community. For example, he successfully introduced the idea of creating a science club and then of building a weather station at the school. After the science club built a complete “mock” weather station, which was still in regular use by the club at the time of our observation, the National Meteorological Services came to observe it and decided to make Chisekese an official weather station site. They built a real weather station that takes national rainfall measures and is staffed by the science



*One of the Chisekese School science club's inventions*

club. The science club also took part in a number of other activities, including building operational, battery-powered cars and various science experiments.

The teacher liaison for the wilderness club and the MTTA-sponsored HASCI club worked with pupils and community members to create a beekeeping station which, in time, will provide resources for both clubs. Community members who are experts in beekeeping taught the clubs how to create the beehives and will help the clubs harvest their first round of honey this coming year. Pupils in the HASCI club worked with teachers and community

members to determine the community-based activities in which they would participate; they built permanent shelters for a number of elderly community members who were caring for orphans but who did not have adequate housing for the task. Some school-aged dropouts observed the HASCI club's activities and asked to join; they were allowed to do so in hopes that they would maintain and perhaps even strengthen their ties to the school.

Mr. Chirwa stated repeatedly the importance of praise, resources, and opportunities to keep everyone's excitement and energy up at the school. A number of teachers had been taken by MTTA to various national trainings, the school had received incentive packages from the project, and the school had received visitors, like us, that made them, he said, feel that their work was being encouraged and appreciated. He felt that these outside resources were integral to the school's success, and he used them skillfully to keep pupils, community members, and teachers feeling valued and able to innovate.

### *Teachers and Learning at the School*

The quality of teachers at the school was generally high; they were implementing a lot of innovations at the school and in the classrooms. Teachers used their TALULAR skills to great effects, often in partnership with pupils. They built a "mock" weather station at the school; worked with pupils to construct a ground map of Malawi with physical features; and operated a student-run, teacher-constructed radio station at the school. The science arena was doing particularly well in terms of innovation and teacher-pupil cooperation. The school had a vibrant science club, a teacher who regularly brought inventions into his classroom, a principal who regularly brought in new ideas about teaching and learning about science, and a district that had quite extensive and long-term science-focused expertise. The opportunities that pupils had to engage with scientific ideas, in the classroom and out, were astonishingly rich and were maintained by pupils in partnership with teachers.

The school was also unique because the teaching was markedly learner-centered in the classrooms and particularly in the after-school clubs. In some classrooms, for example, there were group learning activities in which other students served primarily as teachers for other pupils. Even in the standard 3 class described above, this type of student role was visible in



*The Chisekese School HASCI choir performs.*

the group leaders who became solely responsible for teaching the members of their group what the new story said. In non-classroom settings, pupils were accustomed to playing very active roles in their own learning. Pupils explained the weather station to us during our visit to the school, and pupils from the science club explained how the current worked that they used to operate a homemade car. The school's innovations thus often reflected a very pupil-centered component, and provided multiple learning opportunities for pupils in traditional and non-traditional environments.

### *Pupils at the School*

The pupils at Chisekese appeared to be a well-behaved group that was eager to be at school and to learn. Most were in uniforms and looked healthy and well-fed. Pupils were generally on-task in classrooms, with teachers present and actively engaged in their learning. On top of the excellent classroom-based opportunities for learning at Chisekese, a number of pupils, particularly older pupils, were involved in the school's extensive extracurricular activities. These included the science club, in which pupils were involved in various projects such as the weather station, the radio station, and the production of battery-operated models; the HASCI club, which attracted so much attention with their performances and choir that a number of out-of-school youth asked if they could join the group; and the wildlife club, which, with the HASCI club, was undertaking a beekeeping activity designed to raise funds for club activities. Some of these club activities lent themselves to pupils interacting with community members (such as the HASCI club, which built shelters for elderly members of the community who were fostering orphans), while others were more focused on school issues (such as the science club). The after-school groups consisted mostly of older pupils (standard 6 and above), and there were some marked gender differences in involvement (e.g., there were many more boys than girls in the science club, and many more girls than boys in the HASCI club). Nonetheless, the clubs appeared to play a vital role in pupils' excitement about school, and they certainly played an important role in pupils' opportunities to learn.

At Chisekese, pupils were encouraged to play public roles not usually available to pupils in Malawian schools. For example, pupils talked about the clubs' activities with us, not teachers, as would usually be the case. The older pupils in particular appeared to feel a sense of ownership of the school because of their public roles. The pupils were also doing very well on exams and secondary school selection, so they reported feeling that the school was benefiting them and was of high quality. The pupils who participated in FGDs generally expressed very strong support for the school and the teachers, and the multiple opportunities they had to learn in and out of the classroom.



## *School-Community Relations*

Community-school relations were positive at Chisekese; community members lobbied for additional teacher resources and development projects for the school from the DEM, and they reported being very involved in school decision-making. The parents were quite happy with pupils' performance at the school and with the new head teacher, who they felt was a very strong leader.

The community was not only involved in development projects, lobbying, and

decision-making at the school but also in the less traditional activities taking place at the school. Community members stopped by in the morning to hear the HASCI club's radio address broadcast over the school's radio station, they helped the school set up beekeeping activities, and elderly community members had shelters built for them by HASCI club members. These activities linked the school, pupils, and community members in a web of varied activities and learning relations.

## *MTTA at the School, Cluster, Zone, and District Levels*

As with Maleka, there was evidence that MTTA activities and structures were operating well across organizational levels in the Chisekese area. Teachers had regular opportunities to participate in PD activities and supervision, the school staff had regular opportunities to experiment with and innovate on current practices, and a number were involved in complex in-class and after-class learning activities with pupils. As with Maleka, a cultural shift at the school made teachers view each other as colleagues and people who could learn from each other, and the spirit of collegiality was evident in the classrooms and in teachers' interactions with one other.

To a greater extent than at Maleka, MTTA personnel at Chisekese expressed concerns about time limitations imposed by their own teaching schedules. Although there was not a teacher shortage as in many of the rural schools, there were too few teachers in the cluster to allow one or two to serve only or even primarily as MTTA personnel. Thus, ZINFA- and cluster mentor teacher-led activities were more limited than staff reported they would have liked by the time constraints they faced in their own teaching loads. Since the head teacher at Chisekese also taught full-time, he was not able to dedicate as much time as the Maleka head teacher to supervisory visits or to planning school-based INSETs. Nevertheless, the school, cluster, and zone were able to hold regular PD activities, and it was evident from our conversations and observations that the various members of the team got along very well and tried to help each other address the effects of limited resources (time, transportation, etc.) when possible. For example, the PEA gave the ZINFA rides or went with him for supervisions to more remote schools, a

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practice that only occurred at a few schools and that ensured much greater project coverage than would have been possible otherwise.

## Mpoloni

Mpoloni school has more visible resources than the other schools visited, including the other high-performing schools. Like Maleka, Mpoloni is in Mzimba South boma. Located behind the boma hospital, Mpoloni serves a student population that is better educated and wealthier than Maleka. The school was built by the World Bank as a model school. It has impeccably kept and well-built classrooms, a library stocked with books, school offices, and toilets. Each classroom has desks for all of the pupils, a new chalkboard, and electricity. The school is well-stocked with textbooks, and the classrooms have many teaching and learning materials. The toilets have running water, and there is even a fire hose on the campus. The school office has a computer for the head teacher's use. However, the school is not better-off than the first and second ranked schools in terms of teacher resources; the official teacher: pupil ratio was 1: 90.

The infrastructure was impeccably well-kept, and staff and students alike took obvious pride in its appearance and maintenance. The head teacher appeared to be generally well-respected and liked by her faculty, although there were complaints that she was biased in her assignment of teachers to classes, external workshops, and other trips. She appeared less knowledgeable about what her teachers were doing than other head teachers at the high-performing schools, but this may have been a reflection of the general trust that teachers displayed in each others' work and level of dedication to quality teaching.

The research team commented on the hardworking attitude of the teachers and the pupils at the school and on the skilled teaching strategies and methods that they observed. Teachers and pupils were interacting with teaching and learning materials, pupil participation was very high in most of the observed classes, and the teachers appeared to use an innovative and potentially more effective group work strategy not observed in any other school. One research team member noted that, in the two classes she observed, pupil participation was higher than teacher participation throughout the class period.

For example, in the observed standard 6 math class, the teacher had pupils arranged in groups of six to seven mixed-sex pupils. When the teacher introduced a new topic, he asked the class some general questions, organized the pupils into groups, and then called the group secretaries to collect each group's notebook. The teacher first assigned a problem that each pupil worked on individually (each pupil had to measure, and each pupil had the ruler necessary to complete this activity), but pupils were free to talk to one another if they had trouble solving the problem. After all of the pupils had solved this problem, the teacher gave a whole-class example of a problem,



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and then had the members of each group work together on assigned problems. The researcher noted that all members of the group were actively participating in the group activity, but the secretary recorded the group's response to the answer. As groups finished the first sum, they were given a second sum to solve jointly. Finally, the teacher gave each pupil two sums to solve individually. Unlike in the other schools visited, the teachers did not employ group leaders but instead used group secretaries, who were not in a position of authority over their colleagues.

It might be that teachers at the school felt less need to use group leaders because many pupils appeared to be more content-aware than pupils at the other high-performing schools. To illustrate this point, the head teacher arranged for standard 6 and 7 pupils to hold a focus group discussion with me in English; the pupils were quite fluent and used the focus group to interrogate me about educational practices in the U.S., about educational opportunities for them and for more rural peers in Malawi, and about opportunities for them to support improved educational practices in Malawi. These students were remarkable; it was also evident in the conversation that, for the most part, they came from family backgrounds more able to support out-of-school learning experiences (such as speaking in English with fluent speakers around the dinner table) than was the case with most other pupils at the other high-performing schools.

In part because of the school's additional resources such as electricity, and in part because of the remarkable dedication of the teachers and pupils to a high-quality education and to selection into secondary schools, standard 8 pupils attended school in the morning, afternoon, and again in the evening. Secondary school selection rates have increased every year over the past few years, and the quality of the schools to which pupils are selected has improved. The school even sent a student to the prestigious Kamuzu Academy in the last selection round.

In short, schooling is and has been for some time very serious business at Mpoloni. Pupils and parents as well as teachers have high expectations, which have led to a culture of seriousness and supportive competition for highly-prized secondary school selections. Pupil attendance rates were high in the observed classrooms, as was teacher attendance and preparation. Using the same measurements as those used for the previous schools, 74% of pupils who began standard 1 completed standard 8; in the other high-performing schools, this rate was not over 42%. School personnel indicated that MTTA had provided them with additional skills to improve learning at the school, and the head teacher associated the project's introduction with the rising secondary school selection rates the school experienced in recent years. Teachers used project teaching and learning approaches widely in observed classrooms and made innovations in these approaches to address the needs of the student population. Mpoloni was blessed with a student and parent population that in general was well-educated and better-off than at other schools, and the school itself had remarkably rich infrastructure and other resources to support pupils' learning. MTTA did not change the school culture in Mpoloni, but the project was happily received because it fit with the existing school culture and provided school personnel with additional tools to improve student learning.

The research team undervalued the school's potential as a site of best practices, because we felt that the school's success could not be disentangled from the resource base (both of Mpoloni school and of its pupils) that was superior to any other schools visited.

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We concluded that the lessons about pupil success could not be as easily translated from Mpoloni to other schools with fewer resources as could the lessons from the other four high-performing schools.

**Table 21. Pupil Information – Mpoloni**

<b>PUPIL INFORMATION</b>			
	<b>Enrollment</b>	<b>Repetition</b>	<b>Dropout</b>
STD 1 Female	102	8	0
STD 1 Male	120	38	0
STD 3 Female	92	17	0
STD 3 Male	100	40	0
STD 6 Female	56	17	0
STD 6 Male	61	17	0
STD 8 Female	62	18	1
STD 8 Male	75	24	0
Total Female	590	133	2
Total Male	683	182	1
<b>TOTAL</b>	<b>1273</b>	<b>315</b>	<b>3</b>



Table 22 shows that almost every teacher has passed the MSCE exam and that more than half began teaching before 1994, suggesting Mpoloni can draw upon the skills of an experienced teaching staff.

**Table 22. Teacher Information – Mpoloni**

<b>TEACHER INFORMATION</b>						
Teacher	Sex	STD they teach	Qualification	Began teaching in 1994 or later?	More than 5 years at this school?	How many MTTA INSETs attended?
1	F	HT/ STD 3	MSCE	No	N/D	Yes, N/D on number
2	F	8	MSCE	No	N/D	Yes, N/D on number
3	M	6	MSCE	No	N/D	Yes, N/D on number
4	F	5	MSCE	No	N/D	Yes, N/D on number
5	M	8	MSCE	No	N/D	Yes, N/D on number
6	F	1	JCE	No	N/D	Yes, N/D on number
7	F	4	MSCE	Yes	N/D	Yes, N/D on number
8	F	7	MSCE	No	N/D	Yes, N/D on number
9	F	7	MSCE	Yes	N/D	Yes, N/D on number
10	F	1	MSCE	No	N/D	Yes, N/D on number
11	F	8	MSCE	Yes	N/D	Yes, N/D on number
12	M	8	MSCE	Yes	N/D	Yes, N/D on number
13	M	8	MSCE	Yes	N/D	Yes, N/D on number
14	F	2	MSCE	No	N/D	Yes, N/D on number
15	F	5	MSCE	Yes	N/D	Yes, N/D on number

Students at Mpoloni have resources such as permanent classrooms, desks, and books, as can be seen in Table 23. There are not enough books, however, for every students. In some cases, ratios of books to students are less than one to 10.

**Table 23. School Information – Mpoloni**

SCHOOL INFORMATION	
Where are pupils learning?	Permanent classrooms
Where are students sitting?	Desks
Are the chalkboards legible?	Yes
Does teacher have adequate chalk and dusters?	Yes
Total school enrollment	1273
How many English books available at the school?	106
How many math books are available at the school?	318
How many general studies/ science books are available at the school?	360
How many Life Skills books are available in the school?	95

### *Classroom Observations*

**Table 24. Classes Observed – Mpoloni**

Enrollment	Std 3 English	Std 6 English
Official Girls	42	29
Official Boys	54	32
Observed Girls	40	26
Observed Boys	50	26
% enrolled girls present	95%	90%
% enrolled boys present	93%	81%

**Table 25. Standard 3 English – Mpoloni**

	YES	NO
Are students seated in groups at some point during the class period?	X	
Are there TALULAR and other teaching materials on the walls or in the classroom?	X	
Does the teacher use TALULAR during the class?	X	
Is the classroom a welcoming environment?	X	
Does the teacher make content mistakes during the class?		X
Does the teacher integrate materials from other subjects into the class?	X	
Were pupils actively engaged in the class?	X	
Did the teacher have good control of the class and a good relationship with the pupils?	X	
Did the teacher display gender equity (for example in calling on pupils) during the class?	X	

**Table 26. Standard 6 English – Mpoloni**

	YES	NO
Are students seated in groups at some point during the class period?	X	
Are there TALULAR and other teaching materials on the walls or in the classroom?	X	
Does the teacher use TALULAR during the class?	X	
Is the classroom a welcoming environment?	X	
Does the teacher make content mistakes during the class?		X
Does the teacher integrate materials from other subjects into the class?		X
Were pupils actively engaged in the class?	X	
Did the teacher have good control of the class and a good relationship with the pupils?	X	
Did the teacher display gender equity (for example in calling on pupils) during the class?		X (the teacher calls on moderately more girls than boys but is otherwise equitable)

## Msamba

Msamba is a very rural, small, understaffed, and under-resourced school. It has only two permanent classrooms; all other classes were taught under temporary shelters. Five teachers cover standards 1 through 8. With a student population of only 242, it has a lower teacher: pupil ratio than the other high performing schools (1: 48), but because the teachers continue to keep pupils in eight separate grades, the teacher shortage significantly stretched the teachers' time and energies. Unlike the lower-performing understaffed schools we observed, the Msamba teachers teach all subjects and all standards despite this shortage. Pupil attendance rates were high in observed classes, even though we observed the school on a very cold day and most of the pupils did not have jerseys. Pupil completion rates, which stood at 34%, were the third-highest observed, after Mpoloni and Monekera.

According to teachers and parents, the head teacher at Msamba is a gifted leader with excellent managerial, organizational, and relational skills. He has made the best of the resources the school had and worked very successfully with the community to leverage as many additional resources as possible. School personnel reported that the project was being effectively implemented at all levels. The ZINFA, cluster mentor teacher, and PEA worked hand-in-hand on INSETs and were beginning to introduce new project activities after a transition (both the PEA and ZINFA were new in the area).

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The research team noted that the teacher quality appeared to be exceptionally high at the school; teachers appeared very knowledgeable, reported enjoying their jobs, and said they enjoyed improving their skills. Unlike any other school visited, every teacher in the school already had an MSCE certificate. A number of teachers were studying together to re-take the MSCE and improve their MSCE scores. One of the teachers has been identified by the project to serve as an MTTA facilitator at trainings conducted outside of the area.

Teachers were regularly present at school and used some of the MTTA classroom practices, but not with the regularity observed in the other high-performing schools. Classroom observations showed some use of participatory methods, very high pupil involvement in the classes, and equal opportunities given to both sexes in the classroom. In general, teaching styles were high-quality but more traditional, with more individual seatwork for pupils and more lecturing by teachers than observed in other high-performing classrooms. Classrooms had TALULAR materials, but they were not used during classroom observations. However, the team did observe pupils going back into the classrooms during breaks and using the TALULAR materials and their textbooks to study on their own.

There was evidence of very good relationships among teachers, pupils, and parents. Pupils and teachers interacted comfortably and in a focused manner around learning. There was an exceptionally good relationship between the school and the community, and the community has played a key role supporting improved learning and encouraging the teachers to keep up their hard work. For example, the community has molded bricks and built a new two-classroom school block, has built two teachers' houses (these do not have roofs, as the community cannot afford the needed iron sheets; they are looking for a donor), and built temporary classroom structures with plastic paper roofs to address the continued classroom shortage. Parents and teachers also interacted in a more social manner, making clear the extent to which the community felt real ownership of the school, and vice versa. For example, parents and teachers shared maize, and the parents even used the head teacher's house to prepare a meal for the research team, saying "The visitors were not [only] for the school, but also for us."

The community and the teachers did complain about the effects on the school of being in such a rural location. For example, the school had no female teachers to "serve as role models for the girls," which was blamed on the location of the school. Parents and teachers complained that the TDC was very far from the school and as a result the PEA and district officials had largely ignored the school. When the new PEA visited the school, the community and teachers reported receiving him with open arms, hoping he would relay their problems to the authorities and help the school secure additional teachers and resources to finish infrastructure development. So far, these hopes had not been fulfilled. The community wanted to take whatever steps they could to support their pupils' education with the resources available to them, but they said that because they were uneducated and "do not know the information", they could only play limited roles in their children's education. They said they remained dedicated to their children's success through schooling because they had seen other people do well through education, and they believed that their children could eventually succeed in a similar manner.

While strongly focused on their children's education, the parents also wanted educational services for themselves, both to increase their own capacity and to provide better support for their children. The female focus group, for example, said that they

had lobbied for the introduction of literacy and homecraft classes (such as needlework) in the area, but without success. In the meantime, because they could not afford additional reading materials, the parents and pupils reported that sometimes parents would snatch their children’s textbooks to read at home. Having heard about the project’s distribution of SIPs, the parents expressed annoyance when they discovered the research team had not brought teaching and learning materials for the school. They requested that the project consider them for these types of incentives, which could provide the community with additional teaching and learning resources.

In short, despite the intense resource constraints under which the school was operating, teachers, pupils, and the community at Msamba were working together to create as high quality a learning environment as was possible. Because of the close cooperation between the community and the teachers, the latter felt their work was valued and every community-level effort was being made to support improved teaching and learning conditions at the school. In turn, parents felt that the teachers were hard-working, knowledgeable, and were serving their children well. Pupils echoed this sentiment, and took steps on their own (with the support of their teachers) to maximize their learning opportunities. In no other school we observed did so many pupils re-enter the classroom during breaks to continue their studies or to use TALULAR materials to learn on their own.

The school culture was strongly focused on high-quality teaching and learning, and there was a noted perception of teachers as valued professionals in the area. The MTTA project was functioning well in this environment, and many of the project’s key content and pedagogical messages had been incorporated to some extent into classroom practices. However, the school’s access to project activities was limited, in part because of their remote location, in part because of the recent turnover in local MTTA personnel, and in part because teachers felt that their responsibilities were already too time-consuming to take on many additional unpaid responsibilities or activities. Although teachers reported that the INSETs they attended had greatly improved their skill sets, there was a general sense that teachers did not have time to attend an unending stream of such trainings, nor did they necessarily need them. Teachers were proud of the quality of education that they provided, and rightly so by all observations and accounts.

**Table 27. Pupil Information – Msamba**

<b>PUPIL INFORMATION</b>			
	<b>Enrollment</b>	<b>Repetition</b>	<b>Dropout</b>
STD 1 Female	38	12	0
STD 1 Male	33	13	0
STD 3 Female	19	3	0
STD 3 Male	13	4	0
STD 6 Female	2	0	1
STD 6 Male	6	0	0
STD 8 Female	2	1	0
STD 8 Male	15	4	0
Total Female	122	16	1
Total Male	120	27	1
<b>TOTAL</b>	<b>242</b>	<b>43</b>	<b>2</b>

As can be seen in Table 28, all teachers at Msamba have passed the MSCE, and almost all are experienced male teachers. Except in one case, all also teach three different standards.

**Table 28. Teacher Information – Msamba**

TEACHER INFORMATION						
Teacher	Sex	STD they teach	Qualification	Began teaching in 1994 or later?	More than 5 years at this school?	How many MTTA INSETs attended?
1	M	2, 4, 5	MSCE	No	No	7
2	M	4, 6, 8	MSCE	Yes	Yes	7
3	M	2, 3, 5, 7	MSCE	Yes	No	7
4	M	1, 8	MSCE	Yes	Yes	7
5	M	5, 7, 8	MSCE	Yes	Yes	7

**Table 29. School Information – Msamba**

SCHOOL INFORMATION	
Where are pupils learning?	All Stds are in temporary classrooms except for Stds 7 and 8
Where are students sitting?	Pupils sit on the ground through Std 5, then on desks
Are the chalkboards legible?	Yes
Does teacher have adequate chalk and dusters?	Yes
Total school enrollment	242
How many English books available at the school?	95
How many math books are available at the school?	54
How many general studies/ science books are available at the school?	9
How many Life Skills books are available in the school?	0

### *Classroom Observations*

**Table 30. Classes Observed – Msamba**

Enrollment	Std 3 Math	Std 3 English	Std 6 Math	Std 6 English
HT official Girls	19	19	2	2
HT official Boys	13	13	6	6
Teacher official Girls	21	21	2	2
Teacher official Boys	13	13	5	5
Observed Girls	15	15	2	2
Observed Boys	12	12	5	5
% Teacher officially enrolled girls present	71 %	71 %	100 %	100 %
% Teacher officially enrolled boys present	92 %	92 %	100 %	100 %

The following tables show the complexity of teacher adaptation which can take place, with good practices used in some cases and not others. For example, in standard 3 and 6 math and standard 6 English the teacher has TALULAR material on the wall, but does not use it during class (see Tables 31, 32 and 33). The teacher may also have good control of the class and have a good relationship with students, but does not practice gender equity (see Table 33).

**Table 31. Standard 3 Math – Msamba**

	YES	NO
Are students seated in groups at some point during the class period?	X	
Are there TALULAR and other teaching materials on the walls or in the classroom?	X	
Does the teacher use TALULAR during the class?		X
Is the classroom a welcoming environment?	X	
Does the teacher make content mistakes during the class?		X
Does the teacher integrate materials from other subjects into the class?		X
Were pupils actively engaged in the class?		X
Did the teacher have good control of the class and a good relationship with the pupils?	X	
Did the teacher display gender equity (for example in calling on pupils) during the class?	X	

**Table 32. Standard 6 Math – Msamba**

	YES	NO
Are students seated in groups at some point during the class period?		X (pupils are seated in pairs, but do not do pair work)
Are there TALULAR and other teaching materials on the walls or in the classroom?	X	
Does the teacher use TALULAR during the class?		X
Is the classroom a welcoming environment?		
Does the teacher make content mistakes during the class?		X
Does the teacher integrate materials from other subjects into the class?		X
Were pupils actively engaged in the class?		X (pupils were engaged and very focused, but worked quietly most of the time and teacher lectured most of the rest of the time)
Did the teacher have good control of the class and a good relationship with the pupils?	X	
Did the teacher display gender equity (for example in calling on pupils) during the class?	X	

**Table 33. Standard 6 English – Msamba**

	YES	NO
Are students seated in groups and doing group work at some point during the class period?	X (pair work)	
Are there TALULAR and other teaching materials on the walls or in the classroom?	X	
Does the teacher use TALULAR during the class?		X
Is the classroom a welcoming environment?	X	
Does the teacher make content mistakes during the class?		X
Does the teacher integrate materials from other subjects into the class?	X	
Were pupils actively engaged in the class?	X	
Did the teacher have good control of the class and a good relationship with the pupils?	X	
Did the teacher display gender equity (for example in calling on pupils) during the class?		X (boys called on and participating more than girls)

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## Monekera

Had it not been for the shortage of teachers at the school, the research team members felt that Monekera would actually have been ranked second in Mzimba South. As it was, they felt that the school ranked a close third to Mpoloni School because of the innovations the school was implementing under their own initiative and with fewer resources than most of the other high-performing schools. Monekera is a well-kept school in a very rural part of Mzimba South. There was no easy transportation to town or to other services. The school itself was described by the research team as “smart,” with well-built and clean latrines, well-maintained classroom blocks, and orderly and appealing school grounds. The school has a shortage of teachers’ houses; the head teacher lived in the only one currently built for the school.

The school has a severe teacher shortage, with only four teachers (including the head teacher and a volunteer teacher) to cover eight classes. This was not unusual in the rural schools we visited, particularly the middle- or lower-performing schools, nor was it unusual in rural schools across the four project districts. The steps that Monekera school had taken to address the shortage, however, were unusual. They had arranged their own shifting system and practiced it effectively. Pupils and teachers were punctual and orderly during the morning assembly, and despite the movement of pupils in and out of the school throughout the day due to the shifting system and a school feeding program implemented at the school, the school remained an orderly and well-functioning environment in which pupils knew where they should be and in which teachers were providing good educational experiences in their classrooms.

We observed the teachers using group work and TALULAR methods very effectively in their classrooms, both of which they reported they learned from funded MTTA trainings. Generally, the classrooms were barer at this school than at others, with few materials on the walls or in the corners, and stones were the most frequently used TALULAR materials. On the other hand, the teachers used a mixture of very innovative teaching methods (e.g., TALULAR manipulables to teach division and play acting to teach English). Teachers complained that they were unable to complete lesson plans for all of their classes because of a lack of light in the evening and sheer exhaustion. Although the teachers reported that the school did not hold INSETs and they were not supervised by the head teacher, the cluster mentor teacher (who was also the head teacher and who taught two classes), or ZINFA, the teachers did report that they were supervised by the PEA. In addition, they said that teachers experiencing problems teaching a subject would go observe whichever teacher at the school was known to be best at teaching that subject. They also reported that they felt free talking to one another about problems they were encountering, and that they eagerly tried new approaches to which they were introduced. Two of the teachers were attending study groups to prepare to upgrade their certifications.

As with Msamba, perhaps the most striking aspect of the school was the very close cooperation and care observed between the school and the community. Most parents were uneducated and poor; although the area was very cold, even most older pupils did not have jerseys. Nonetheless, the parents invested time and their own resources in the school regularly. The community worked very closely with the school and had taken numerous steps to address the resource shortages faced by the school. They had been

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actively lobbying the PEA for more teachers. They also worked hand-in-hand with the teachers at the school to take other steps to improve the teaching and learning conditions. For example, the community supports the orphans at the school. They received money from MESA for this support and used it to purchase farming inputs and grow maize and beans. After harvesting the crops, the maize and beans were sold, and all of the money went to support the orphans (primarily by purchasing uniforms, notebooks, and pens). Since all of the money was used for these purchases, they presently do not have any money or materials to continue their support for the orphans. The community and school are working together to try to find other ways to get money to support this initiative.

In response to the community's lobbying for more teachers, the school was authorized by the district to identify and "employ" two volunteers, which they did. One had decided not to continue the position, but the second was teaching at the school during our visit. The volunteer is assisted by the community, which provides a very small "salary" that covers the cost of soap and some other necessities for the volunteer teacher each month. The community made this effort, they say, because they thought school would help their children in the long run and they felt that the teachers and the head teacher are very hardworking people, well-mannered, and well-integrated into the community. They did say that two teachers drank beer regularly, but noted that the teachers are "disciplined" about their drinking: they do not drink during working hours, they do not cause trouble when they are drunk, and they drink and socialize with the community members.

Observed attendance rates were comparable to those at other high-performing schools, though they varied across the two observed classes. In standard 3, 66% of all pupils (50% of boys and 77% of girls) were present. In standard 6, 81% of pupils (100% of boys and 63% of girls) were present. Completion rates (if all pupils moved through the school in eight years) were high and stood at 42%. Some pupils who participated in the FGDs did have older siblings or relatives who had continued on to secondary school. As with the other high-performing schools, all of the pupils reported that they hoped to continue on to university, and from there on to careers in the country's four major cities. Pupils expressed great appreciation for the teachers' dedication to their work, and generally felt they were learning very well at the school. There was a reported high number of orphans in the area, and pupils reported that children were most likely to drop out of school if they did not have resources to continue, or if their parents made them marry or leave school to work full time because their family did not have the means to support the child.

The PEA, who was very active and ran a well-maintained and "sharp" TDC, and the ZINFA said that it was difficult for them to conduct workshops at this school because of understaffing. It was impossible for teachers to meet for afternoon INSETs because they taught throughout the afternoon to cover all of the classes. If the PEA and ZINFA, who had a visibly comfortable and collaborative relationship, said they wanted to meet on the weekends for training, there was always low patronage of the meetings by teachers. They reported that most of the teachers were unwilling to attend unpaid workshops, and that when the ZINFA traveled around to identify needs and ask the teachers to meet, the teachers asked how much they would receive for the training. When they were told there is no payment, they protested. The teachers did attend paid trainings, and they implemented what they learned from funded trainings. The PEA and ZINFA

both noted that it was hard to find fault with the teachers' behavior outside of this issue, but it created frustration for the PEA and ZINFA because the teachers were so responsive when they attended the meetings and were able to translate the trainings into improved learning experiences for pupils.

The teachers' hard work and dedication to provide a good education despite their resource shortages paid off, both in terms of their positive relationship with the community and in terms of students' performance. Despite the teacher shortage, all classes meet regularly, and standard 8 pupils even meet for additional lessons to prepare for the PSLE. Pupils were selected to secondary school regularly, and the parents and pupils thankfully acknowledged the work that the teachers put in every day to achieve these results.

**Table 34. Pupil Information – Monekera**

PUPIL INFORMATION			
	Enrollment	Repetition	Dropout
STD 1 Female	40	9	0
STD 1 Male	29	6	0
STD 3 Female	13	1	0
STD 3 Male	8	3	0
STD 6 Female	16	0	0
STD 6 Male	10	0	0
STD 8 Female	12	6	0
STD 8 Male	17	8	0
Total Female	128	25	1
Total Male	142	28	0
TOTAL	270	53	1

**Table 35. Teacher Information – Monekera**

TEACHER INFORMATION						
Teacher	Sex	STD they teach	Qualification	Began teaching in 1994 or later?	More than 5 years at this school?	How many MTTA INSETs attended?
1	M	HT/ Std 3 and 7	MSCE	Yes	Yes	Yes, many
2	M	Std 1 and 4	JCE	No	No	Yes, many
3	M	Std 5 and 8	MSCE	Yes	Yes	Yes, many
4	M	Std 2 and 6	JCE	N/D	N/D	Yes, many

Only two of the four teachers at Monekera have passed the MSCE, as is shown in Table 35. Yet all teachers teach two standards, with the two less-qualified teachers also teaching upper standards.

Table 35 also records teachers' responses to how many MTTA INSETs they attended (i.e., "many"). It is important to note that teachers themselves did not always distinguish between MTTA inputs and inputs from other organizations or agencies. One example of this is trainings. Teachers may not have known or have been able to recall which trainings MTTA facilitated and which ones were non-funded local trainings or provided by other development partners. The number of zonal or cluster or school trainings related to MTTA also varied, making comparisons even in terms of non-numerical estimates difficult.

**Table 36. School Information – Monekera**

<b>SCHOOL INFORMATION</b>	
Where are pupils learning?	4 permanent (Stds 1, 6, 7, 8), 4 temporary classrooms
Where are students sitting?	Floor from Std 1-5, chairs in Std 6-8
Are the chalkboards legible?	Yes
Does teacher have adequate chalk and dusters?	Yes
Total school enrollment	270
How many English books available at the school?	93
How many math books are available at the school?	121
How many general studies/ science books are available at the school?	117
How many Life Skills books are available in the school?	94

# MTTA IN HIGH-, PROGRESSING, AND LOW-PERFORMING SCHOOLS: A COMPARISON

Having examined how MTTA operated to improve teaching and learning in the schools judged to be high-performing in this study, this section examines how the MTTA project differed in its effects in high-, middle-, and low-ranked schools.

The section begins with a tabular overview of teachers, pupils, school characteristics, and classroom observations in the remaining five schools. It then concludes with a comparative analysis across all ten schools of the six questions posed in the research.

As the qualitative judgment of school ranking declines, so does the quality and completeness of data that the school has available on their own pupils and teachers. Although all of the data collected from all of the schools displayed some weaknesses (see below), many of the low-ranked schools simply did not have data available on school actors and resources, even though most of the information for which we asked is reported annually by the school to the district. For example, in Njoka's case, the head teacher said he had given the pupil enrollment and retention data to the TDC but had not kept a copy for himself.

At Tsoka, another low-ranked school, the available data reflects challenging issues facing the school and the school population. For example, Table 37 shows relatively low repetition and dropout rates. During the course of four years, only 15 female students dropped out. Yet enrollment dropped by more than half for female students during the same time period, from 105 in standard 1 to 42 in standard 8. This suggests retention is an issue for female students and a challenge for the school.

## Tsoka

**Table 37. Pupil Information – Tsoka**

PUPIL INFORMATION			
	Enrollment	Repetition	Dropout
STD 1 Female	105	14	2
STD 1 Male	110	11	3
STD 3 Female	75	21	2
STD 3 Male	71	28	5
STD 6 Female	57	13	7
STD 6 Male	39	7	3
STD 8 Female	42	13	4
STD 8 Male	33	8	1
Total Female	529	111	21
Total Male	473	118	24
TOTAL	1002	229	45

Based on standard 1 enrollments, 35% of the students are reaching standard 8.

The data in Table 38 show that more than half of the eight teachers at Tsoka do not have a MSCE qualification. Also, most of them have been at the school less than five years. Despite the implied need for teacher professional development, there are no data on how many MTTA INSET trainings the teachers attended.

**Table 38. Teacher Information – Tsoka**

TEACHER INFORMATION						
Teacher	Sex	STD they teach	Qualification	Began teaching in 1994 or later?	More than 5 years at this school?	How many MTTA INSETs attended?
1	M	4, 8	MSCE	No	No	N/D
2	M	1	JCE	No	No	N/D
3	M	7	JCE	No	No	N/D
4	M	5, 8	JCE	Yes	No	N/D
5	M	3	JCE	Yes	Yes	N/D
6	M	5, 8	MSCE	Yes	Yes	N/D
7	M	2	MSCE	Yes	No	N/D
8	M	5, 8	JCE	No	No	N/D

The learning conditions at Tskoka are challenging, as shown in Table 39. Not all students are learning in permanent classrooms, and most of the younger students do not have access to chairs. Also, the pupil teacher ratio is high, with one teacher for every 125 students. Poor learning conditions, especially at the lower levels, may contribute to the fact that only 50% or less of enrolled students were present during a Standard 3 classroom observation (see Table 40).

**Table 39. School Information – Tsoka**

SCHOOL INFORMATION	
Where are pupils learning?	Stds 1 and 2 are in semi-permanent classrooms; Stds 3, 4, 5 are in mud floor classrooms; and Stds 6, 7, 8 are in permanent classrooms
Where are students sitting?	Stds 1, 2, 3, 4 are on the floor; Std 5 students are on the floor or on chairs, and Std 6, 7, 8 students are in chairs
Are the chalkboards legible?	All need painting
Does teacher have adequate chalk and dusters?	Yes
Total school enrollment	1002; official teacher:pupil ratio of 1:125
How many English books available at the school?	608
How many math books are available at the school?	687
How many general studies/ science books are available at the school?	736
How many Life Skills books are available in the school?	371

**Table 40. Classrooms Observed – Tsoka**

Enrollment	Std 6 English	Std 6 Math	Std 3 English	Std 3 Math
HT official girls	57	57	75	75
HT official boys	39	39	71	71
Teacher official girls	38	38	72	72
Teacher official boys	28	28	75	75
Observed Girls	37	37	28	29
Observed Boys	28	28	36	39
% enrolled girls present	97 %	97 %	39 %	40%
% enrolled boys present	100 %	100 %	48 %	52 %

Table 41 suggests that while teachers at Tsoka display a number of skills, many of their pedagogical practices do not reflect current standards as taught in MTTA INSET trainings. For example, a teacher in Standard 6 English displayed control of the class, gender equity, ability to engage students, and the ability to place students in groups. But this same teacher did not use TALULAR materials or integrate materials from other subjects into the class and made content mistakes. A similar pattern was noticed while observing a teacher in Standard 6 Math, with the exception the teacher used TALULAR materials (see Table 42). These findings underscore the importance of ongoing teacher professional development in MTTA zones, especially in resource-poor schools, long after the MTTA project has ended.

**Table 41. Standard 6 English – Tsoka**

	YES	NO
Are students seated in groups and doing group work at some point during the class period?	X	
Are there TALULAR and other teaching materials on the walls or in the classroom?	X	
Does the teacher use TALULAR during the class?		X
Is the classroom a welcoming environment?	X	
Does the teacher make content mistakes during the class?	X	
Does the teacher integrate materials from other subjects into the class?		X
Were pupils actively engaged in the class?	X	
Did the teacher have good control of the class and a good relationship with the pupils?	X	
Did the teacher display gender equity (for example in calling on pupils) during the class?	X	

**Table 42. Standard 6 Math – Tsoka**

	YES	NO
Are students seated in groups and doing group work at some point during the class period?	X	
Are there TALULAR and other teaching materials on the walls or in the classroom?	X	
Does the teacher use TALULAR during the class?	X	
Is the classroom a welcoming environment?		
Does the teacher make content mistakes during the class?	X	
Does the teacher integrate materials from other subjects into the class?		X
Were pupils actively engaged in the class?	X	
Did the teacher have good control of the class and a good relationship with the pupils?	X	
Did the teacher display gender equity (for example in calling on pupils) during the class?	X	

Tables 43 and 44 suggest that at lower grade levels, students at Tsoka may face greater learning challenges related to poor teaching. During observations of Standard 3 English and math, the teacher did not have control of the class and pupils were not engaged. Although TALULAR materials were on the wall, the teacher did not use them during the class or used them as a substitute for textbooks, and the classroom was not a welcoming environment. Group work was limited to pair work, or not done at all. Poor teaching may be related to the fact that the Standard 3 teacher at Tsoka does not have an MSCE qualification.

**Table 43. Standard 3 English – Tsoka**

	YES	NO
Are students seated in groups and doing group work at some point during the class period?	X (pair work)	
Are there TALULAR and other teaching materials on the walls or in the classroom?	X	
Does the teacher use TALULAR during the class?	X	
Is the classroom a welcoming environment?		X
Does the teacher make content mistakes during the class?		X
Does the teacher integrate materials from other subjects into the class?		X
Were pupils actively engaged in the class?		X
Did the teacher have good control of the class and a good relationship with the pupils?		X
Did the teacher display gender equity (for example in calling on pupils) during the class?	X	

**Table 44. Standard 3 Math – Tsoka**

	YES	NO
Are students seated in groups and doing group work at some point during the class period?		X
Are there appropriate TALULAR and other teaching materials on the walls or in the classroom?	X	
Does the teacher use TALULAR during the class?	X (very few textbooks available so uses TALULAR instead)	
Is the classroom a welcoming environment?		X
Does the teacher make content mistakes during the class?		X
Does the teacher integrate materials from other subjects into the class?		X
Were pupils actively engaged in the class?		X (and they were very cold)
Did the teacher have good control of the class and a good relationship with the pupils?		X
Did the teacher display gender equity (for example in calling on pupils) during the class?	X	

Gwedeza, another low-performing school, does not have data on repetition and dropout rates, as is shown in Table 45. However, it appears enrollment drops off steeply after Standard 1, with less than a third of students still enrolled by Standard 3.

## Gwedeza

**Table 45. Pupil Information – Gwedeza**

PUPIL INFORMATION			
	Enrollment	Repetition	Dropout
STD 1 Female	299	N/D	N/D
STD 1 Male	300	N/D	N/D
STD 3 Female	69	N/D	N/D
STD 3 Male	88	N/D	N/D
STD 6 Female	21	N/D	N/D
STD 6 Male	21	N/D	N/D
STD 8 Female	15	N/D	N/D
STD 8 Male	26	N/D	N/D
Total Female	716	N/D	N/D
Total Male	652	N/D	N/D
TOTAL	1368	N/D	N/D

The interviewer noted that the head teacher did not have data available for the rest of the questions. Later discussions with the head teacher revealed that he, as with almost every other head teacher visited, believed there were very few dropouts at the school. Based on standard 1 enrollments, 7% of the pupils are reaching standard 8.

Almost half of teachers have MSCE qualifications at Gwedeza, and several have been at the school more than five years, as shown in Table 46. These teachers attended six MTTA INSET trainings, as opposed to two MTTA INSET trainings by the other teachers, which may suggest teachers actively participate in trainings given an opportunity.

**Table 46. Teacher Information – Gwedeza**

TEACHER INFORMATION						
Teacher	Sex	STD they teach	Qualification	Began teaching in 1994 or later?	More than 5 years at this school?	How many MTTA INSETs attended?
1	M	8, 6, 7	MSCE	Yes	Yes	6
2	M	1	MSCE	Yes	Yes	6
3	M	4, 6	JCE	No	No	2
4	M	3, 6	MSCE	Yes	No	2
5	M	2, 6	JCE	No	No	2
6	F	5, 6	JCE	Yes	No	2
7	F	7, 8, 6	JCE	Yes	No	2

Learning conditions at Gwedeza are somewhat difficult, despite the existence of permanent classrooms. As shown in Table 47, teacher-pupil ratios are extremely high, with one teacher for every 195 students and some students sit on the floor. Although there are chalkboards, teachers do not have enough chalk and dusters to use them throughout the year.

**Table 47. School Information – Gwedeza**

SCHOOL INFORMATION	
Where are pupils learning?	Permanent Classrooms
Where are students sitting?	Stds 1 and 2 on the floor, all other Stds at desks
Are the chalkboards legible?	Yes
Does teacher have adequate chalk and dusters?	Not for the whole year
Total school enrollment	1368; official teacher:pupil ratio of 1:195
How many English books available at the school?	466*
How many math books are available at the school?	239 (amount reported for Std 1 only)
How many general studies/ science books are available at the school?	N/D
How many Life Skills books are available in the school?	N/D

\*The interviewer noted that the data provided about textbooks was “unreliable,” and said “the head teacher does not keep reliable data for the school resources; failed to give us data for the other classes for different areas; and has problems in data management.”

### Sambani

**Table 48. Pupil Information – Sambani**

PUPIL INFORMATION			
	Enrollment	Repetition	Dropout
STD 1 Female	91	18	0
STD 1 Male	86	20	0
STD 3 Female	68	9	1
STD 3 Male	69	11	3
STD 6 Female	33	3	2
STD 6 Male	33	4	1
STD 8 Female	14	0	3
STD 8 Male	30	3	1
Total Female	442	51	12
Total Male	476	57	16
TOTAL	918	108	28

Based on standard 1 enrollments, 25% of the pupils are reaching standard 8.

Slightly more than half of the teachers at Sambani have MSCE qualifications, and almost all have been at the school more than five years, as shown in Table 49. All teachers attended at least six MTTA INSET trainings.

**Table 49. Teacher Information – Sambani**

TEACHER INFORMATION						
Teacher	Sex	STD they teach	Qualification	Began teaching in 1994 or later?*	More than 5 years at this school?*	How many MTTA INSETs attended?
1	M	1	JCE	Yes	Yes	6-10
2	M	2	JCE	Yes	Yes	6-10
3	M	3	MSCE	Yes	No	8-10 (and is the mentor teacher)
4	F	5	JCE	Yes	Yes	6-10
5	M	6	MSCE	Yes	Yes	8-10
6	F	7	MSCE	Yes	Yes	8-10
7	M	8	MSCE	Yes	Yes	6-10

\*Because of data collection issues that were addressed in the later data collection phases, these data may not be correct.

**Table 50. School Information – Sambani**

SCHOOL INFORMATION	
Where are pupils learning?	In permanent classrooms
Where are students sitting?	On the floor
Are the chalkboards legible?	All are legible except Std 5
Does teacher have adequate chalk and dusters?	Yes
Total school enrollment	918; official teacher:pupil ratio of 1:131
How many English books available at the school?*	242
How many math books are available at the school?*	339
How many general studies/ science books are available at the school?*	148
How many Life Skills books are available in the school?*	90

\*Because of data collection issues that were addressed in the later data collection phases, the English, math, and general studies/science data reflect the number of books in standards 1, 2, 3, and 6 only. Total school enrollment for standards 1, 2, 3, and 6 is 690. The Life Skills books reflect the number of books in standards 1 and 2 only. Total school enrollment for standards 1 and 2 is 487.

**Mpata****Table 51. Pupil Information – Mpata**

<b>PUPIL INFORMATION</b>			
	Enrollment	Repetition	Dropout
STD 1 Female	21	6	0
STD 1 Male	37	17	0
STD 3 Female	17	6	0
STD 3 Male	30	12	0
STD 6 Female	14	2	0
STD 6 Male	21	4	0
STD 8 Female	18	4	1
STD 8 Male	14	7	0
Total Female	142	36	1
Total Male	196	64	0
<b>TOTAL</b>	<b>338</b>	<b>100</b>	<b>1</b>

Based on standard 1 enrollments, 55% of pupils appear to be reaching standard 8. In the case of Mpata, however, we know that the school's enrollment dropped by almost 200 pupils between this year and last year, so completion rates are likely much lower. Parents reported that the drop was caused by pupils and parents deciding to attend a nearby school that was felt to be of better quality.

**Table 52. Teacher Information – Mpata**

<b>TEACHER INFORMATION</b>						
Teacher	Sex	STD they teach	Qualification	Began teaching in 1994 or later?	More than 5 years at this school?	How many MTTA INSETs attended?
1	M	2, 4	JCE	No	N/D	N/D
2	M	8	MSCE	No	N/D	N/D
3	M	1, 3	JCE	No	N/D	N/D
4	M	3, 6	JCE	Yes	Yes	N/D
5	M	3, 5	JCE	Yes	N/D	N/D
6	M	7	MSCE	Yes	N/D	N/D

**Table 53. School Information – Mpata**

SCHOOL INFORMATION	
Where are pupils learning?	Permanent classrooms
Where are students sitting?	On the floor through Std 5, then on desks
Are the chalkboards legible?	Yes
Does teacher have adequate chalk and dusters?	Yes
Total school enrollment	338; official teacher:pupil ratio of 1:48
How many English books available at the school?	424
How many math books are available at the school?	409
How many general studies/ science books are available at the school?	260
How many Life Skills books are available in the school?	139

**Njoka****Table 54. Pupil Information – Njoka**

PUPIL INFORMATION			
	Enrollment	Repetition	Dropout
STD 1 Female	N/D	N/D	N/D
STD 1 Male	N/D	N/D	N/D
STD 3 Female	N/D	N/D	N/D
STD 3 Male	N/D	N/D	N/D
STD 6 Female	N/D	N/D	N/D
STD 6 Male	N/D	N/D	N/D
STD 8 Female	N/D	N/D	N/D
STD 8 Male	N/D	N/D	N/D
Total Female	N/D	N/D	N/D
Total Male	N/D	N/D	N/D
TOTAL	807	N/D	N/D

Head teacher does not have any enrollment records for the school. He says that if we want them, the TDC does have the records. As with other head teachers we ask, he says that dropouts versus transfers are determined by investigating the matter with a relative of the pupil. In practice, however, they often fail to do this investigation. Parents also often fail to come and ask the head teacher for a transfer letter, as they are supposed to do.

**Table 55. Teacher Information – Njoka**

TEACHER INFORMATION						
Teacher	Sex	STD they teach	Qualification	Began teaching in 1994 or later?	More than 5 years at this school?	How many MTTA INSETs attended?
1	M	HT/ Std 2	MSCE	No	Yes	Yes, all that have been offered
2	M	8	JCE	Yes	Yes	Yes, all that have been offered
3	F	1	JCE	Yes	Yes	Yes, all that have been offered
4	M	6	MSCE	Yes	Yes	Yes, all that have been offered
5	M	6	MSCE	Yes	No	Yes, all that have been offered
6	F	6	MSCE	Yes	No	Yes, all that have been offered

Note: The standard teaching reported for each teacher appears to have been their “official” teaching assignment. We did see teachers teaching standards 3 and 5, though they received limited teacher time. The uneven distribution of official teaching assignments mirrored uneven and disorganized teaching assignments in practice.

**Table 56. School Information – Njoka**

SCHOOL INFORMATION	
Where are pupils learning?	Permanent classrooms for Stds 1, 2, 6, 7, 8; temporary grass shelters for Stds 3, 4, 5
Where are students sitting?	Mixture of benches, desks, and chairs in all Stds
Are the chalkboards legible?	No, except for Std 8 classroom
Does teacher have adequate chalk and dusters?	No
Total school enrollment	807; official teacher:pupil ratio of 1:135
How many English books available at the school?	HT does not have records
How many math books are available at the school?	HT does not have records, but says that Std 6 has lots of math textbooks
How many general studies/ science books are available at the school?	HT does not have records
How many Life Skills books are available in the school?	HT does not have records

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## Analysis

Before offering analysis of the six research questions, it is useful to point out the overall finding: resources aside, some schools still performed better than others. While a causal claim cannot be made linking specific practices with outcomes, the following “best practice” characteristics were found at the highest-performing schools.

### **Best-practice characteristics:**

*Effective school leadership.* In the top schools, this leadership could be appropriately described as visionary.

*An active, supportive parent or community group.* This group interacted regularly with school personnel and pupils around a wide range of school activities and issues, which were not limited to material support or infrastructure development.

*Positive teacher-to-teacher relationships.* Teachers perceived each other primarily as colleagues, professional co-learners, and potential helpmates to improve their teaching skills

*Engaged learners.* The pupils had high educational and career aspirations and believed that their teachers were dedicated to pupils' learning

With these “best practices” in mind, we can consider the six research questions.

1. Were there gender differences evident in classroom practices, teacher assignments, pupil behavior, or other aspects of the schooling experience in each school visited? If so, what were they and (how) did they appear to be affected by the MTTA project?

For the most part, the classrooms displayed a high level of gender-equality in terms of how often teachers called on boys and girls, how teachers responded to correct and incorrect responses given by boys and girls, and the curriculum itself. There were occasional biases in favor of female pupils and occasional biases in favor of male pupils in some classes. Biases in favor of female pupils were most evident in classrooms where there were fewer female than male pupils, but the teacher called equally on males and females (often calling in a boy-girl-boy-girl pattern). Biases in favor of male pupils were most evident in classrooms where the teacher did not appear to be attending to whom they called on, or primarily called on pupils who raised their hands (who were predominantly male).

In most classrooms, pupils were called upon evenly (and the number of boys and girls present in the room was about even), groups and seating arrangements were mixed-sex,

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and the teacher's time, attention, and praise were evenly distributed. In one such class, the teacher made his knowledge of and feelings about gender equality clear after reading a passage in the social studies curriculum in which a girl is kept home from school to help her mother with chores. The teacher asked the girls how many had been asked to stay home to help their mother with chores. Most girls raised their hands. He then asked boys to raise their hands if they had been asked by their fathers to stay home from school to help with chores. Most boys raised their hands; this was an area with many cattle, and boys were regularly asked by their parents to herd the cattle. The teacher looked up at the research team and said "Yes, I just want to be clear that we should be gender sensitive. It is not only girls who are forced to stay from school!"

The opportunities that boys and girls had to interact with the teacher and to answer questions in a whole group format are obviously significant aspects of the gender dynamics in the classroom. Another gender issue that has arisen with regularity in Malawian classrooms is pupil-teacher relations. Particularly in the high- and medium-performing schools, there were no complaints about teacher-pupil sexual relations from any school stakeholders. Although such relations were not the focus of the research and no broad conclusions should be drawn from this sample, it could be hypothesized that cases of teacher predation on pupils may decline as teachers gain an increased sense of professionalism through the project; as gender-sensitive approaches become commonplace, rendering female pupils equally suited to the "pupil" role as males in the general school culture; and as pupils work more frequently in groups with the teacher serving as a facilitator throughout the school day.

In short, the level of gender awareness and of the general adoption of gender-sensitive teaching and learning practices in the schools was high. Credit for this high level of gender sensitivity goes in part to almost 15 years of Ministry of Education and USAID programming aimed at improving gender-sensitivity in classrooms. The one area in which this may not have been the case, and may be of interest in future programming, related to teachers' use of student group leaders in small-group work. As was discussed in the case studies, it appeared that this small group of pupils regularly received additional time with the teacher and with teaching/learning materials throughout the course of the day in classrooms in which small group work took place. Although some teachers deliberately balanced the gender of these team leaders, in most classes we observed, the team leaders were primarily boys.

It was less clear from the research whether the school work environment has been sensitized in a manner similar to that of the classrooms. By teachers' own accounts, MTTA has made many teachers, particularly female teachers, feel more confident teaching SME subjects, which many reported having previously felt they could not handle at the upper-grade levels. Whether female teachers are now being given opportunities to teach these subjects is another matter. Historically, female teachers in Malawian primary schools have been clustered in the lower grades, particularly the infant and junior sections. Distribution of female teacher in most of the schools visited appears to break this historic pattern. It would be useful to conduct investigations into past and current distributions of female teachers across grades and in administrative positions at project schools; a number of head teachers noted that they made decisions about who would teach what subject based on teachers' preferences and their own sense of what subject matter teachers could handle. Many female teachers self-reported feeling that the project equipped them to

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handle English, math, and science in the upper grades, and many of the female teachers at the visited schools were teaching in upper grades.

Although this was certainly not a large enough sample from which to draw any conclusions, MTTA cluster- and zonal-level staff were predominantly male, as was the school-level leadership selected by district education staff (there were slightly more women represented in the pool of PEAs). In many rural schools, there were no female teachers to fill these roles, but even where there were (such as in Maleka and Chisekese), the female teachers had not been selected for these roles. Research and programming on gender practices may therefore need to shift to examine more carefully issues of project staffing as well as classroom-level practices. MTTA, MESA, and the previous USAID projects that have focused direct and long-term attention on issues of gender equity and sensitivity appear to have had significant effects on classroom life; such an approach could do the same for addressing staffing issues, such as teaching distributions at the school level and leadership selection at the school, district, and national levels.

2. What are the factors (e.g. pupils, teachers, head teachers, schools, parents, communities, MTTA interventions, school culture) that distinguish each type of school (high-, middle-, and low-ranked) from each other?

### *School and Teacher Resource Factors*

Many factors play a role in distinguishing higher- and lower-ranked schools in this sample. The top three schools had more teacher resources than many of the lower-ranked rural schools, but the fourth and fifth-ranked schools did have teacher shortages. Two of the three top schools are urban, but because of the way that we sampled schools, the only one that was not expected to be in the top three was Maleka. Teachers' qualifications or years of experience did not seem to have much of an effect on overall performance; but schools in which all of the teachers had an MSCE qualification or in which a significant number of teachers were involved in upgrading activities were higher-ranked, and school environments in which teachers felt comfortable consulting one another as resources to improve their teaching performed at a higher level.

In high-ranked schools, teachers were present, they were in front of their classrooms teaching throughout our observation period, they were actively engaged with their students throughout class periods, and in most cases, they were using group work, active learning approaches, and TALULAR during their lessons. In all cases, the classrooms had positive, collegial atmospheres, which were nurtured by the teacher and collectively upheld by the pupils. Teachers regularly interacted with one another about their teaching practices, were regularly supervised and able to receive PD, and the school culture supported a strong work and learning ethic for all participants.

In contrast, teachers in low-ranked schools were less likely to be physically present in their classrooms, were less likely to engage pupils actively throughout the class period, and were less likely to use or to make effective use of group work, active learning approaches, or TALULAR during their lessons. Teachers seldom consulted one another to improve their own teaching practices, they only irregularly received PD activities or



*Gwedeza's after-school library.*

supervision, and they seemed to feel comparatively less responsibility either for pupils' learning or for their own practices. The school culture supported a minimum of effort for teachers, pupils, and parents alike to get through the day.

### *Pupil Factors*

A number of pupil issues affected pupil performance in school. When a significant number of pupils at a school had siblings who had attended secondary school, these pupils seemed to have higher aspirations for

schooling. But even at schools where pupils did not have these role models, pupils' aspirations were generally quite high. Aspirations did not seem to be closely linked to pupils' actual likelihood of continuing on to school; even in cases where a school had not had a pupil selected to secondary school in years, pupils still reported aspiring to continue to university.

Most pupils reported receiving relatively little direct learning support from their parents (for example, help with homework); this support, when it existed, was more likely to come from peer groups. In the high-ranked schools, pupils reported that their peers played an important role in encouraging them to continue their studies, and in some cases, pupils actually sat together regularly to complete their homework. In all schools, pupils reported having friends who had dropped out of school; in the low-ranked schools, pupils were more likely to report that friends had dropped out because they were bored or wanted to start making money, while in the high-ranked schools, pupils usually reported that their friends had been forced out of the school (for example, by their parents dying, or their need to make money to help support the family).

### *Community Relations*

In all five of the top schools, the school and the community worked closely together, and parents actively supported the teachers and their children. While positive school-community relations might not be a sufficient condition to create higher-quality learning environments, they did appear to be a necessary component of high performance at a school. In all of these schools, community members played central roles in improving aspects of teaching-learning practices. Community involvement ranged from activities such as parents coming in to teach pupils a certain subject in which they had expertise, to building school infrastructure, lobbying for more resources for the school, or engaging actively in their children's homework. In high-ranked schools with fewer teacher resources, community support may play a particularly important role in improving school performance (e.g., through the help of volunteer teachers when trained teachers are not available, through the advocacy work that parents may do with the district to get more teachers for the school, and through the additional support that the community might provide to teachers to encourage them in what can feel like an overwhelming and under-compensated job).

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In the middle- and low-ranked schools, community-school relations were more varied, from quite positive to quite negative. Community members at lower-ranked schools in the Northern and Central districts tended to be less involved than parents at the higher-ranked schools.

### *Project Functioning*

When the MTTA project functioned effectively across levels of social scale (school, cluster, zone, district), when there was systemic alignment and functionality, and when teachers received PD support and classroom supervision from multiple actors, the project had a greater positive effect on teaching practices and learning opportunities, and the project had more potential for sustainability. When the project did not function effectively across these levels—more likely in areas with significant personnel shortages—fewer of the teacher-focused project activities were occurring regularly, teaching and learning practices were less likely to have been affected by the project, and there was little evidence that project activities would be internally sustainable.

In the highest-ranked schools the project helped to create or reshape school culture to be supportive of teachers, so that they viewed themselves as professionals who could and should constantly strive to learn and grow. The project transformed the roles in which teachers in high-ranking schools saw themselves in three ways: (1) the project encouraged teachers who consulted one another and other people in their extended community to gain support and advice in how to improve their classroom practices; (2) the project provided resources that teachers could access to support their own certification upgrading; and (3) the project encouraged teachers and schools to view themselves as innovators and experts. This transformation affected teacher-community relations, teacher-pupil relations, and teacher classroom practices. In each of the high-ranked schools, as described previously, this school culture developed a bit differently and led to different types of innovations and educational practices. But in each one, evidence shows that the transformation was focused directly on improving classroom practices and pupils' learning—in and out of the class. This focus on learning, coupled with the shift in teachers' sense of authority and learning practices, also resulted in opportunities for pupils to play much more active roles in their schools than is generally the case in Malawian public schools. These new roles open spaces for pupils to practice leadership skills, to imagine learning as a lifelong process that does not take place only in classrooms, and to consider their fellow pupils as co-learners as well as competitors.

In the lower-ranked schools, this cultural shift had not occurred. Project activities and practices were occasionally visible, but they were not holistically connected to the schools' daily activities. For example, one teacher might be using small group instruction, but since no other teacher did, students could not benefit from multiple years of such practices and might, in fact, have a harder time adjusting to traditional classroom practices the next year. Likewise, one or two teachers might be trying to interact with each other or their pupils in a new way, but these interactions were not supported by the social relations established among other teachers or between other teachers and pupils. In such situations, the effects of the project were more limited and more personal. For example, the most common effect observed was individual teachers improving their own certification.

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## *School Leadership*

One of the most striking differences among high-, middle-, and low-ranking schools was observed in educational and project leadership. High-ranking schools were marked first and foremost by competent, engaged, and in most cases, innovative and inspiring head teacher leadership. For example, the top two schools were considered low-performing schools at the start of the project, but new head teachers turned the schools around and made them quite successful. In both cases, in the interviews we conducted with them, the head teachers talked about a set of tasks that they took on to improve the school: building and repairing school-community relations; creating a team environment in which teachers trusted one another and looked to one another for support; improving TALULAR materials; and creating learning-friendly, student-friendly classroom and school environments. In both schools, MTTA served as a key tool for each head teacher to support and leverage these changes. The head teachers and the schools also drew on other projects, institutions, and resources to support school improvement. In other words, in these environments, a project that the school leadership and personnel considered useful for meeting their goals could be taken up and implemented rapidly, effectively, with innovations to meet local needs, and with many of the expected project results (such as changes in pupil-teacher relations, classroom practices, use of TALULAR materials, or community involvement in or support for the school).

The head teachers made clear that MTTA was indeed an exceptionally useful project for them in their reform efforts, and that its effects were significant and widely felt at the school. Some of the reasons they gave for the project's success included making teachers' jobs easier once they started doing group work correctly, providing incentives for teachers to upgrade their knowledge and skills, improving students' standard 8 pass scores and secondary school acceptance rates, and transforming teacher relations in such a way that teachers felt they could use one another as learning resources in and outside of the class without fear of being judged by their colleagues.

In low-ranked schools, the school leadership could be described as either ineffective or dysfunctional. For example, in two schools the head teachers appeared to be kind men and very good teachers, particularly for younger children, but they were men who seemed unwilling to involve themselves in disputes. As leaders, they were therefore unwilling to confront teachers about misbehavior or to present new ideas and lobby for support for them. In both cases, we saw evidence of these men's teaching abilities, which were quite good, and their hard work, which stood out as exceptional. In both cases, these individual head teachers were using many of the project activities in their own teaching and using them quite effectively. Despite these efforts, both were in schools with a shortage of teachers, no leadership from a deputy head teacher, declining enrollment rates, and poor outcomes—in neither case had a single student been selected to secondary school in the last two years. They were not the types of leaders who could turn this situation around on their own.

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3. What is the quality and culture of teaching and learning (particularly in English, mathematics, and science in standards 3 and 6) and the level, quality, and type of professional development at each school? (How) do these two issues interact?

The quality and culture of teaching and learning that we observed varied widely. We observed teachers who had effectively incorporated the major pedagogical and content lessons of MTTA, and in many cases teachers who had even innovated on these lessons to create rich learning environments with significant opportunity-to-learn time for pupils. We also observed many interactions between teachers in high-performing and some progressing schools about how to improve their teaching. On the other hand, in one low-performing school the teacher did not show up for half of our observation, then presented a class with content mistakes and few active opportunities for pupils to learn, and did not interact with other teachers to improve teaching and learning. These classroom realities reflected not only individual teachers' skills and dispositions towards their work, but they also reflected markedly different school cultures related to teaching and professionalism, to learning and success, and to appropriate school and community relations.

In most schools the frequency of PD offered to teachers through school-, cluster-, and zonal-level INSETs and through teacher supervisory visits correlated with a learning-oriented school culture and positive teacher performance. It was not clear from this research what relationship exists between these two; however, it was clear in some schools that a transformation in school culture led in turn to fuller adoption of these activities, and the increased activities then led to improved teacher skills and performance. Transforming school culture, a concept that is widespread in current professional development programs for school leaders in the United States and other countries, was defined by the MTTA staff as a means to create an enabling teaching and learning environment. It entails:

- Teachers who adopt the role of professionals, co-experts, and colleagues, and who are encouraged to incorporate reflexivity into their teaching
- Enhanced learning opportunities for pupils
- Team work among teachers, pupils, parents, and education officials

Because we were not able to observe any of the trainings, we were not able to judge directly what content was actually included in the INSETs or the differences in the quality of activities offered in different places. Personnel at high-ranked schools were more likely to report that they had participated in school-level or cluster-level INSETs that covered different material than the INSETs offered at the zonal level. Such participation could be one potential measure of the quality of communication among project personnel about teachers' needs and their willingness to create new teaching materials without direct project support. On the other hand, in Monekera, one of the better-performing schools, the teachers reported not having attended any school- or cluster-based INSETs and receiving very limited supervision (i.e., they had only received one visit from their PEA and no visits from local MTTA staff, because MTTA staff had their own teaching responsibilities and there was a severe teacher shortage in the area).

Monekera's case raises a central issue in thinking through the potential relationships between teacher practices and PD practices: that of how many resources a school, cluster, and zone have to provide for PD activities and improved teaching practices. The

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Monekera case points to the ability of low-resourced schools to perform quite well in the classroom, despite a low level of PD activities, in situations where teachers are relatively well-trained and already dedicated to improving their own practices and their pupils' performance. The Monekera teachers themselves declared that the PD activities they had attended were integral to their new teaching approaches. That is, as stressed for time as these teachers were, it may be that they made more use of the few trainings they did attend, and were therefore able to leverage similar changes as those schools and teachers who were able to more regularly access such resources. However, in this research Monekera is the exception to a more general correlation between more PD received by teachers and higher quality observed teaching practices.

4. (How) is the MTTA project incorporated into daily school activities in each school? Is there evidence of local innovations on any project activities? Is there evidence of local ownership of the project? Is there evidence of potential project sustainability?

Incorporation of MTTA practices and activities differed significantly between higher- and lower-ranked schools. In higher-ranked schools, teachers' classroom practices were heavily influenced by the pedagogical and content knowledge lessons imparted by the project (as measured by observations and teacher's own views). In these teachers' classrooms, pupils learned in groups, regularly came in contact with TALULAR, occasionally were assessed using continuous assessment methods, and in general had positive, supportive, and active learning experiences led by dynamic and confident teachers. In lower-ranked schools, pupils were more likely not to learn in groups, not to come in regular contact with TALULAR (or were more likely to have TALULAR used in less academically meaningful ways), to have learning experiences that were in general less active and less consistent in their quality, and on occasion to be led by a teacher who was either making regular mistakes and/or who appeared to have negative relations with his or her pupils. These classes were more likely to be led by teachers who were not regularly discussing their teaching practices with anybody or who appeared less confident in their abilities. Most of the lower-ranked schools had one or two teachers who appeared to be quite gifted as educators, and these teachers were more likely to be using group work and other MTTA approaches than their colleagues. However, they were not teaching in an environment conducive to improved teaching and learning, and so their activities did not appear to translate into systemic changes in pupils' learning opportunities.

As noted above, schools in which MTTA practices were regularly observed in classrooms in general also had more extensive teacher PD activities scheduled as part of project activities. Although not daily in their occurrence, teachers were much more likely to have attended a PD meeting during the past month or two and to have been supervised recently in their classrooms. Teachers were more likely to report speaking regularly and freely with their colleagues about problems they were having in their classroom or issues that had arisen with particular pupils. They were also more likely to report that they invited their colleagues into their classrooms and visited colleagues' classrooms. Finally, teachers were more likely to have formed or joined various local groups that supported their professional development. In many schools, teachers had joined study groups to upgrade their certifications. In others, teachers had formed associations for content areas or standards.

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Not surprisingly, the schools in which teachers were most likely to have made innovations to project activities or approaches were the schools in which the most activities were occurring. Innovations ranged widely and included tweaking group work approaches; forming new sorts of teacher and pupil associations; and creating new roles for outsiders, community members, and pupils in project activities. These were also the schools in which teachers, parents, and project staff expressed the greatest sense of ownership in project approaches and their own classroom practices. In such schools, interviewees reiterated that at least certain aspects of the project (particularly classroom-level practices and school-based INSETs) would be sustained after the project concluded because these were now considered central school activities; they were just part of what one did as a teacher at the school. As one teacher noted, these activities were likely to be sustained because teachers had been convinced that in the long run, these activities made their jobs easier and better. Nevertheless, many of these same interviewees cautioned against believing that long-term sustainability would occur if key people in the project and school were moved. School leadership and PEA support for and organization of project activities were seen as particularly important to their sustainability. Other research from around the world supports this vital aspect of reforming or transforming schools: change occurs only when there is visionary leadership (this need not be the head teacher) that supports the transformation, and these reforms generally fade away if that leadership disappears or is moved away. People's sense that the project's sustainability rested on the continued involvement of a few key people is therefore well-supported by data on school performance around the world.

5. What are the factors that appear to lead, within one district, to some schools using project activities and resources to achieve positive learning results for pupils and teachers, while others do not?

As with the question of why schools perform well or poorly, there appear to be many components to this answer. Key factors include the resources available to the school, the quality and performance of school leadership, the quality and performance of project cluster- and zonal-level personnel, community support for the school and for project activities, and the ability of the project and supportive stakeholders to foment a transformation in school culture so that teachers are focused on learning and on improving their own professional stature.

Some of these factors were not easily influenced by the project, which did not have the mandate to address issues like teacher shortages or distribution, or community-school relations. It was evident, however, that addressing some of these factors would, in the long run, be central in supporting schools to create positive change in pupils' learning opportunities. For example, as innovative and effective as a school with five teachers for eight classes can be, it simply cannot do many of the things that a fully-staffed school can do.

The project was designed to provide the same inputs to all schools that it served, and there are reasons to favor this model. On the other hand, it is possible that the project would have been able to achieve even more positive outcomes by tailoring project inputs and activities to different schools' needs during the latter stages of the project. For example, in schools with large classrooms, the project might have provided resources for PD and teacher reading materials on classroom management and group

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work approaches for large classrooms. In rural schools, the project might have supported additional resources on how to effectively organize multiple shift classrooms, and/or how to do multi-grade teaching for at least some subjects. This “menu” approach to project inputs would have placed schools in the project driver’s seat, enabling teachers to decide what constituted their key needs, while providing the resources and ideas that interviewees identified as needed to affect change in these arenas.

The project also had in place some activities and mechanisms that supported schools learning from one another, and in this manner built on individual and school successes to provide innovative, home-grown ideas to other areas. Project activities like the Malawi Teacher Training Troupe, which was reported by interviewees to be extremely helpful in introducing new ideas and plans for implementing them in a new school, might in future projects be expanded in order to increase the flow of innovative ideas from one area to another. These activities also served as a reward system for the most innovative or highest-performing teachers and other leaders in each area, as they were selected to serve as experts in these groups. As Mr. Chirwa reminded us, reward systems are important for keeping up morale and the energy to continue to innovate; when a reward system effectively helps other schools and teachers, it is a win-win situation for all.

Future projects might also focus more directly on supporting school cultural change and on improved school leadership, two areas that appeared in this research to be central to schools’ performance but were not core activities in the original MTTA design.

6. What appear to be the key differences within and across schools and districts that affect how the project is taken up and how successful it is at improving learning?

The answer to the first part of this question is similar to the answer in number five, but the second part of the question (differences across schools and district) cannot be as easily answered with the research conducted for this study. Districts and regions in Malawi have quite different educational histories, and the Southern region has historically had fewer educational resources available for pupils and less community support for schools than in many areas in the Northern and Central regions (except perhaps for areas in the Central region with heavy Gule Wamkulu activities). This different historical distribution of educational resources across regions has not disappeared with the advent of FPE and has diverse effects on schools, teachers, pupils, and communities. Pupils in the South are more likely to have parents with little or no formal schooling; teachers in the Southern region are more likely to be from other regions than is the case in the Northern or Central regions, which may create linguistic and cultural barriers. In Muslim areas pupils are more likely to attend madrassas as well as or instead of formal schools; in parts of the South pupils are more likely to attend initiation ceremonies at some point than are pupils in the other regions; and it may be that Ministry of Education personnel in Southern districts are generally weaker than in the Northern and Central regions. Compounding the resource issues in schools, the Southern region is also the poorest region in the country and the one most heavily affected by HIV/AIDS, which can have a devastating effect on schools. Although poverty and disease rates vary tremendously across districts and areas within districts, on

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average communities in the Southern area are facing greater survival pressures. Pupils from this region may be more likely to have their educational trajectory affected by income-generating or patient caretaking responsibilities in the region.

There was little doubt based on this research—and supported by an extensive body of educational research on regional differences—that the schools in the Southern district performed on average at a lower level than the schools in the Northern and Central districts. To the extent that this occurred because of the issues outlined above, it is reasonable to propose that future projects tailor some activities and policies to address these differences. It might also be more important than in the other regions that Southern schools have opportunities to hear about new ideas and receive support to try them at their schools. For example, Gwedeza school in Phalombe had heard about Chisekese’s map and weather station activities and had created their own versions of these activities.

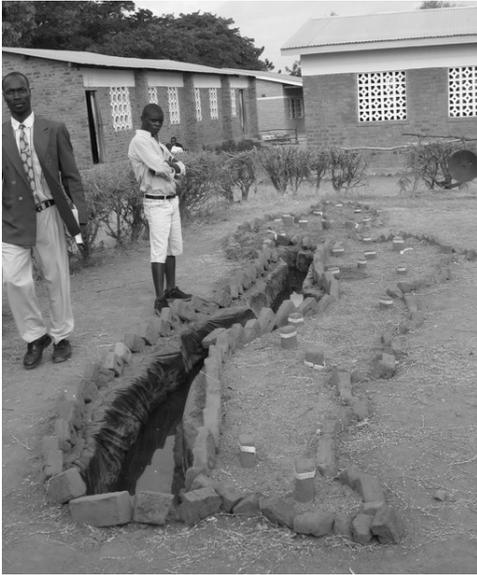


*Chisekese’s pupils demonstrate how to use one of the six components that made up their mock weather station*



*Gwedeza’s mock weather station, which included three components and was kept in a gated enclosure*

Unfortunately, the materials were kept away from pupils most of the time, in some cases were not functional, and were not being used to help foster non-classroom learning experiences. They were, in other words, rather pale imitations from the perspective of pupil learning opportunities. If the teachers at Gwedeza had the opportunity to talk with teachers, pupils, or education personnel from Chisekese about these activities, they might be able to make them more functional and useful. Likewise, Gwedeza teachers might travel to other schools to talk about their self-built library, which was an extremely effective way to provide IBB book access to pupils and to provide an after-school, educationally enriching activity for pupils.



*Chisekese's map of Malawi*



*Gwedeza's map of Malawi (kept behind an enclosure that pupils were not allowed to enter)*

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# DISCUSSION AND CONCLUSIONS

School quality and pupil learning experiences can rise or fall quickly. This appears to be determined largely by school leadership and shared visions for educational success. MTTA has played a direct role, particularly in Kasungu and Mzimba, in improving school leadership. For example, in both districts the DEFs are making recommendations for head teacher changes to district officials, and in some cases the project is serving as the primary provider of HT training.

## *The Impact of MTTA in Effective Schools*

In cases where school leadership is functional or good, MTTA has provided a transformational set of tools that can be used by schools in a variety of ways to improve teacher performance and pupil learning. MTTA supports many (particularly younger or more urban) teachers' desires to upgrade their skills and to feel and be perceived as knowledgeable and professional. MTTA makes teaching and learning easier with the pedagogical tools it introduces. It makes classrooms more welcoming. Its goals are well-aligned with the goals of teachers, pupils, parents, and district officials in many schools, so it does not feel to teachers like an add-on activity—instead, it is core to their desire and their reputation, because it directly affects their ability to know what they need to know in the classroom and to have pupils do well on standard 8 exams. The project also appears to be well-aligned with other educational reforms being put forward by the government, such as the Primary Curriculum and Assessment Reform (although there are some issues with vocabulary and approaches), World Vision, Save the Children, and Paper Making Education Trust (PAMET). In some cases, it appears that MTTA has actually led the way to introduce these activities and these structures (such as the mentor teacher/ZINFA structure now used by other actors); in others, there is a synergistic relationship among multiple projects that are all supporting similar goals.

## *The Impact of MTTA in Moderately Effective Schools*

In schools where there was tolerable leadership, teachers, and school-community relations, MTTA had positively affected some teaching and learning practices, and it had increased teachers' content knowledge and ability to participate in professional development activities. But these changes at times felt unstable, perhaps in large part because the project was not designed to address the additional hurdles that many of these schools faced and that threatened the progress teachers had made. In both the high- and low-ranked rural and understaffed schools visited, teachers were going to unpaid PD activities, but there was growing resistance in at least some areas (including a higher-performing but very short-staffed school) to participate in these activities without some compensation. One response to this resistance is that teachers need to appreciate that these activities will directly benefit them and should therefore be willing to participate without pay. But many of these teachers were teaching two full standards a day. They had, if they completed them all, 11 or 12 lesson plans to complete each afternoon. Some were also coming back to school to teach additional classes for

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standard 8 pupils. The head teachers in these schools participated in all of the activities discussed above, plus administration.

Many of these teachers reported feeling overwhelmed by their responsibilities, and yet, as they regularly pointed out, they were paid no more than colleagues in the city who worked in teacher-heavy urban schools and who might only be required to write lesson plans for and teach one or two subjects a day. Many of the teachers in rural schools that we visited were living in old, relatively run-down teachers' houses or had no housing available for them at the school. In contrast, urban teachers often had electricity, running water, and lived in town where they could access health, education, and social services, as well as have regular contact with their PEA. As one team member said, "Imagine graduating from Form 4 and then being posted to one of these schools to live in a house without even a cement floor. What has been the change, then?" While in one urban school teachers complained that it was difficult to reach the TDC because it was "two, maybe three" kilometers away, teachers in rural areas who complained about reaching the TDC often had seven to 14 kilometers to walk in each direction. Similar differentials in distance also existed in trying to reach the district officials in rural areas. Given these differences in resources among some schools, future projects might consider the possibility of incentives for teachers in extremely understaffed schools to attend some PD activities. These incentives need not be personal or monetary; they could, for example, include rewarding schools that have high PD attendance rates with incentive packages that benefit all teachers and pupils.

### *The Impact of MTTA in Less Effective Schools*

MTTA is not as effective in schools with ineffective leadership and poor community-school relations, and it appeared that it was harder, though certainly not impossible, for the project to perform well in understaffed rural schools.

In low-ranking schools with less severe teacher shortages and resource constraints, the primary barrier to improved learning appeared to be the skills and attitudes of the majority of teachers, coupled with a lack of strong leadership. In these schools, teachers appeared uninterested in using existing resources, much less new resources and ideas, to improve their teaching. Some indicated that it was not their job to upgrade their skills; some simply appeared tired and worn down by existing responsibilities or concerns; others appeared, in the words of one researcher, to have "stayed too long in this village; they are not teachers anymore but villagers." There was, in other words, no culture of learning or of teaching at the school. In these cases, it is not surprising that implementation of MTTA activities has been slower and more difficult than in the higher-ranking schools visited. Nevertheless, in these schools there were signs that MTTA activities had positively affected teaching practices and school culture, and that at least some aspects of the project had been well-received by teachers. In schools such as these, project resources would not be well-spent introducing more resources or incentives, but might instead focus on creating whole-school change and on supporting improved leadership. Although it is outside the scope of this project, multi-sectoral strategies that address food and health security and deep poverty may also be useful. Forms of livelihood support could be encouraged in collaboration with school management committees and inputs from other sectors.

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### *The 'Why' Question*

When we asked teachers and leaders in high-ranked areas to tell us why some schools were not taking up the project activities as successfully as they were, most answered that for some teachers and in some situations, it just takes time for change to occur. The project has been active for only a few years, and in schools where the existing school culture is not immediately receptive to the project and its ideals, it is not surprising that this transformation would take longer and require further support. In these slower-response schools, some of the specific needs of these schools might need to be addressed directly in future projects. This issue is discussed below.

The lowest-ranked schools visited during this research can be generally categorized as having poor leadership, uninspired teachers, relatively disengaged pupils, and often tense or disengaged community-school relations. In these schools, it was evident that project components were needed that targeted improving community-school relations. MTTA was not designed to provide such support, but there are successful examples of such activities from the MESA project and also from some of the high-performing schools in MTTA. But the issues faced in these schools are great. Most of them require that their personnel be at least partially replaced, no easy task with the current teacher shortage and not an issue for which MTTA had a mandate for action. Such a task would be difficult, if not impossible, for MTTA or future projects to play a role unless (1) there is sufficient district staff to visit all schools and monitor leadership performance, and (2) the project has the support of the DEM to play a role in district personnel decision-making processes. These schools would benefit from extensive programmatic support in revitalizing the teaching force and from more regular and direct efforts to find solutions to the difficult problems faced on a daily basis by teachers, pupils, and parents. For teachers, the major issues are teacher shortages and large classrooms. Pupils face intense pressure from parents or peers to participate in activities other than school. Parents face the challenges of providing for their families. One potential means to address the issues of students and parents would be family-based livelihood interventions such as the school feeding program observed in one school.

Designed as a school intervention, MTTA did a remarkably good job at achieving its goals. However, in many of the low-performing schools, this may not be enough to create lasting positive changes in students' learning opportunities and outcomes. In these schools, a project mandate that addresses in-school and out-of-school practices and policies might be needed. For example, such a project might have the mandate to address in-school content and pedagogical issues, including gender equity (as MTTA did); to address school-community relations (as MESA did); to address school-based staffing and leadership issues; and to advocate for district- and national-level policies that can improve systemic issues (such as the teacher shortage) and against policies that currently restrict good decision-making around school staffing (for example, how teachers are upgraded), as the Girls' Attainment in Basic Literacy and Education (GABLE) project did.

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### *The Importance of Context*

In short, and not surprisingly, MTTA gained more traction and had greater effects when the schools in which it was introduced were generally functional and where teachers had some time and energy to spend on additional professional development (either for their own upgrading and/or because of a desire to learn more). MTTA had a visible, positive effect on many of the middle- and low-ranked schools, and this effect was all the more remarkable given the constraints—in resources, culture, leadership—that existed at these schools to improved pupil performance. Across all but the lowest-ranked of the schools visited for this research, district personnel, teachers, and parents described in detail the benefits of MTTA for their school and requested that it be extended—in time, in subject matter, and in geography.

Such a response speaks to the transformation that MTTA wrought in many schools. Although focused on improving students' learning (which is inevitably measured by community and school members as improved performance by standard 8 pupils on the PSLE and improved selection to national secondary schools), this transformation had much broader effects: on school culture, on teachers' sense of professionalism and their ability to be co-learners, on school-community relations, on pupils' experiences outside of the three classes targeted by MTTA, on schools' access to information about innovations and best practices in other schools throughout the project's target districts, and on some district officials' access to valued information about the performance of head teachers and teachers in their schools.

MTTA had remarkable effects on classroom practices, and the quantitative data indicate that students' performance in MTTA schools on standardized math, English, and science exams in standards 3 and 6 have improved significantly and have outpaced the goals of the project. MTTA similarly affected teachers' content knowledge as measured by standardized tests in mathematics, English, and science. More importantly from the perspective of this research, the project transformed teacher-pupil relations in many of the observed schools, creating safer, more interesting, more academically challenging, and in some cases, more gender-equal sites for many students. Teacher relations were entirely transformed in high- and some medium-ranked schools, resulting in a culture of open discussion about teaching needs and areas of improvement among teachers and between teachers and their supervisors. This transformation in turn affected teachers' sense of professionalism and of their own role as learners and, at least in some cases, may be correlated with improved school-community relations and greater respect for teachers as professionals on the part of parents and local leaders.

This transformation may also have affected teacher-pupil relations in positive ways. Although not answerable based on the research conducted for this report, we hypothesize that in areas where this transformation occurred, there was a decline in teacher misbehavior (such as being drunk at school or having sex with pupils), and an increase in teacher, head teacher, and parent empowerment to hold teachers who did behave in such a manner accountable for their behavior. Given Malawian schools' continued shortage of teachers, this shift might not immediately lead to parents and schools requesting the dismissal of misbehaving teachers, but it may further empower communities and school members to pressure such teachers to change their behaviors. In fact, at three of the high- and middle-ranked schools, head teachers and community

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members discussed transformations in misbehaving teachers' behavior (such as regular absenteeism) after the introduction of MTTA.

The remarkable and quite visible effects of the project should be neither underestimated nor taken for granted. People and schools that participated in the program have a great deal to learn from one another. More importantly, they have a great deal to share with other schools around the country about how to make schools safer, friendlier, and much more academically rigorous places. It was the hope of almost every individual whom the researchers visited that the project would be expanded both in their schools and around the country. Such grassroots support speaks to the visible effects that the project had on people's daily lives, to the ability of the project to further existing local educational goals and drive powerful school change, and to the potential the project has for widespread, positive effects on the educational experiences of many Malawian children. An education project such as this, which is supported by the Ministry of Education and/or other partners that spreads the project's key activities to other schools and districts and that extends the school mobilization and transformation underway at MTTA schools would be well-positioned to capitalize on the existing energy and demand for further programming and support.

Key project areas to consider including in future projects include the INSET system; content knowledge support; pedagogical support for active learning, small groups, and gender equitable practices; and opportunities to share experiences and best practices within and between districts.

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# LESSONS LEARNED AND BEST PRACTICES FROM MTTA

As the project draws to a close, there are a number of important lessons to learn from the project's laudable successes. Some of these arose in direct response to project activities and programming; others arose during the course of the project's life and point to potential areas of further education programming development.

1. The project was most successful at transforming pupil learning opportunities and achievement when it helped drive or became part of a holistic shift in school culture towards a focus on teachers as professionals, co-experts, and colleagues; on pupils' opportunities to learn in the classroom; and on cooperation among many actors (teachers, pupils, parents, MTTA staff) to achieve these goals. A number of project components were central to such transformations. These included the INSET activities, school leadership activities, and the strong focus on teacher content and pedagogical skills. Many projects have ignored one in favor of the other; the transformations in the highest-ranked schools were successful in large part because teachers were equipped with both the content knowledge and the pedagogical skills to transform students' learning practices.

2. Many of the schools visited for the research reported that MTTA was one of the few education development projects they felt addressed teacher's and pupils' daily needs. Central to school ownership of the project and teacher participation in project activities was teachers' sense that the project aligned with their own goals. The MTTA project achieved this sense of ownership by aligning its goals and activities with the daily realities and practical needs of schools and teachers in Malawi. For example, teachers were willing to put their own time and resources into improving their content knowledge because they in turn stood to gain from these improvements—both in terms of the ease with which they could present material to their classes, and in terms of their own ability to update their credentials (which could lead to a higher salary and additional job opportunities). Teachers supported the project because it focused on improving teaching and learning on testable subjects, which in turn improved the educational outcomes about which parents, pupils, and teachers were most concerned—passing the PSLE and selection to secondary school. Likewise, teachers were more likely to take up the pedagogical practices espoused by the project because they were given multiple sources of information on the new practices, were provided opportunities to learn from and become local experts about the actual implementation of such activities, and were able to observe from skilled colleagues how using these methods could make classroom management and teaching easier.

3. The project was most successful where there was strong school leadership with a vision for improved pupil learning, and the leadership was supported by the community and by local project staff. Although the project was not directly designed to address school leadership, the project de facto addressed this issue in a number of ways, of which three are worth noting. First, by providing district education officials with information about leaders' and teachers' performance, district staff supported district

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education officials' leadership and decision-making processes. This information led directly to the replacement of old head teachers with the new head teachers that had so transformed Maleka and Chisekese. Second, the project created new leaders by providing training and leadership opportunities for people who served as cluster mentor teachers, teacher heads, and ZINFAs. In every district visited, at least one local MTTA member had been promoted to a leadership position within the district education administration from an MTTA position. Third, the project created local experts through the INSET process, and in a number of schools, those judged to be experts in one or another content or pedagogical area became leaders for other teachers who were trying to improve their own practices. The project likewise created student leaders through teachers' adoption of student group leader models in small group learning.

One of the strengths of the project was the variety of ways it supported improved leadership, from informing district personnel when people were not able to do their job well, to creating new leaders and supporting existing leaders who could more effectively improve their schools. Future projects might expand on this component and include more leadership training and support.

4. The observed classrooms were, by and large, moving towards gender equity. The project, and indeed the fifteen years of Ministry of Education and USAID program support for gender equity in classrooms should be highly commended for this achievement. Continued attention to this issue should be given in future projects to cement and expand this praiseworthy success. Gender equity approaches and programming might also be expanded to address teachers' experiences and opportunities, and to examine the gender dynamics introduced by small group learning approaches.

5. The project's INSET approach and administrative structures appeared to be very effective, providing teachers with the support they needed to improve their content knowledge and their teaching practices. According to interviewees, the model that the project adopted—beginning with a top-down training approach and shifting towards a bottom-up approach over the course of the project—was a very successful way to assure both the quality of trainings and the creation of local experts.

A number of other projects have adopted aspects of MTTA's approach and administrative structures, which speaks to their success and utility. Part of the system's success stemmed from creating what might at first appear to be redundancies. For example the ZINFA, the cluster mentor teacher, and the head teacher might all observe the teachers at various points, instead of having only the PEA observe teachers. The research demonstrated that these overlapping functions did not act as redundancies, but instead resulted in a richer learning environment for teachers than could be achieved with fewer overlapping roles. For example, teachers reported that different observers gave them different kinds of feedback, and that when one observer could not come for a long time, they could still be observed by others. Despite these overlaps, this approach was less successful in areas with severe teacher shortages throughout a zone, because individuals were too overwhelmed with their own teaching responsibilities to take on the full project responsibilities without harming their own students. In future projects utilizing a similar administrative structure, it might make sense to create a parallel system in such areas that addresses the time shortages faced; for example, there might be two people assigned to each position instead of one, so that the burden of project activities can be shared.

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6. In all of the best practice schools, teachers expounded on the importance of exchanging ideas to fuel innovation and of receiving encouragement through external acknowledgments of their accomplishments (included being selected as experts to travel to other schools or districts to share their successes). The project provided a number of opportunities for teachers and schools to learn from one another, including radio broadcasts, newsletters, teacher exchanges, and the Malawi Teacher Training Troupe. Interviews with people who had participated in these activities or who had taken part in an exchange visit confirmed that these events were often central to later innovations adopted at schools and by individuals. Future projects might capitalize on this experience to include or expand such activities, which not only allow for the cross-fertilization of ideas and best practices, but also fundamentally expand the notion of bottom-up expertise from the local catchment area to the whole country. There is something very powerful about a school in Phalombe learning about a science activity in Kasungu and deciding to try to create similar activities to benefit their students. However, in order for these exchanges to be most effective, projects might consider what types of information exchanges would allow schools to adopt and adapt these innovations effectively (e.g., including how-to information or lessons learned). This is more likely to occur in face-to-face interventions, where people are able to ask questions of each other, but could be facilitated in other media as well.

7. Three project activities stood out as particularly effective in supporting improved student learning and offer lessons to be learned from their implementation: small group learning activities, the IBB libraries, and TALULAR creation. Our observations indicate that small group learning activities are the central component to improved opportunity to learn in classrooms. These group learning opportunities allowed teachers to chart individual students' progress, provided students with multiple activities throughout the class period, and provided new student leadership opportunities. Group learning activities varied from classroom to classroom, but in the best-performing classrooms, the activities given to groups were crafted in such a manner that, as the group finished one activity, they could immediately move on to another—that is, they had built-in enrichment opportunities. They allowed members of the group to work at different paces but encouraged faster pupils to help their group members; and they provided each child in the group with the opportunity to manipulate any TALULAR used for the activities.

Most teachers used student group leaders to help organize and move group learning activities forward, and the group leaders were generally quite good at doing this. However, the group leaders often monopolized teaching and learning materials, and they were more likely to be male than female. In future projects, it would be useful to discuss the small group best practices identified by MTTA with all teachers and to work with teachers to identify group leader roles that might be more evenly distributed to pupils without negatively affecting the functioning of small groups.

A second activity that research participants also identified as extremely important and effective was the introduction of libraries with IBB books at the TDCs. Teachers in high- and middle-ranked schools reported regularly using these materials to help in their own certification upgrade studies and, to a lesser extent, as support materials for their classrooms. Some head teachers reported using these materials to develop school INSETs, and in some schools, students and ex-students were using the books to study on their own.

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Numerous research participants commented that there were not enough IBB books for teachers and that this program should be expanded. This comment was initially puzzling, as it was clear from our visits to TDCs that there were many IBB books that were never checked out and were always available. When asked to clarify his claim that there were not enough IBB books, one head teacher explained “The problem may be that people don’t know how to use books. They don’t know how to look beyond just the topic title. They don’t know about indices or table of contents. Our teachers don’t have a reading culture, which makes it difficult to encourage the pupils. We need to build this in our pupils and also in our teachers, even things like looking beyond the first page of a newspaper, or why it is not correct to buy the newspaper but not show it to the child.” His comment points to the potential programmatic benefits of instruction for school and community participants that would improve their use of resources, such as IBB books. Such training sessions could be targeted toward methods of identifying potentially useful books.

In some schools, TDC materials had been decentralized so as to increase access to them. Schools like Gwedeza were able to capitalize on the materials by creating an after-school library for their students. Although such an arrangement raises questions about the maintenance of the materials, it also provides additional opportunities for a range of users to interact with the materials. For example, in Gwedeza many more pupils used the TDC materials than was the case at other schools. Future programs that include resource distribution to TDCs might consider providing zones with structured options for decentralization of materials, particularly during certain seasons. For example, the materials could be kept at schools during the dry season, and then available through the TDC during the rainy season.

The project supported teachers and communities in creating TALULAR materials. These materials served multiple purposes. They brightened walls and made them educationally rich spaces; they provided teachers with materials that allowed them to teach old content in new ways (particularly in mathematics); they allowed for more hands-on and experiential learning activities to be incorporated into everyday educational practices; and they facilitated small group learning by providing teachers with teaching and learning materials that could be used by multiple small groups. In many schools, the creation of the TALULAR materials brought teachers together and brought community members into the school. Teachers and parents worked cooperatively to create TALULAR materials. In the best-performing classes, the teachers integrated TALULAR materials into their classrooms seamlessly and used different types of TALULAR to support different learning goals. They allowed pupils to interact with these materials and encouraged their use.

In some of the classrooms visited, TALULAR were really the only teaching and learning materials available to the majority of pupils. Teaching teachers how to make TALULAR, encouraging them to include community members in their making, and sharing new ideas about TALULAR with schools over time were all extremely effective aspects of the project’s activity programming. Given the general dearth of teaching and learning materials in Malawian classrooms, and given the kind of flexibility in teaching approaches possible with TALULAR, we strongly encourage future educational projects to emphasize these activities in schools and to provide a steady stream of new ideas about types and topics for TALULAR materials.

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8. Although schools that had similar levels of infrastructure and other resources still performed differentially better or worse at improving students' learning, the research showed that schools with more resources were in general doing well. Addressing these resource levels (such as school infrastructure, teachers, and textbooks) fell outside of the project's mandate, except to the extent that the project supported the creation of TALULAR materials. Future projects might build on the MTTA experience to differentiate some activities in better- and worse-resourced schools. In better-resourced schools, projects might focus more attention on creating opportunities to document and spread schools' successes (school stakeholders could be involved in doing this—adults and pupils alike), and perhaps funding special innovations that the community, teachers, and pupils request. For example, a project might fund training to put together an after-school research group for pupils, as was requested by pupils themselves at Mpoloni.

In schools with fewer resources, projects could support improved project outcomes and pupil learning by focusing activities, training, and materials on the issues those specific schools face. These issues include how to create and teach in multi-grade classrooms, how to stagger teaching schedules effectively when classes need to be held in shifts, how to manage large classrooms, how to use most effectively the time of the best teachers, how to train head teachers who have a full-time teaching load, how to improve teaching and learning methods in situations with scarce formal resources but in which teaching is still addressed towards the formal curriculum, and how to handle teacher absences or teacher shortages more effectively when there are few teachers at a school. For example, teachers with scarce formal resources need strategies that cut down on the amount of time spent writing out word problems from textbooks onto the chalkboard; in the case of teacher absences or shortages, head teachers need training to develop systems that assure full and effective coverage of classrooms by teachers.

Finally, in the lower-performing schools, community-school relations were generally negative, and parents, when involved, were generally only involved in school infrastructure development. While good community-school relations are not a sufficient condition for high school performance, our research showed that good community-school relations are one necessary aspect for such performance. Future projects might therefore consider addressing with school leaders some of the diverse ways that parents can be involved in schools—from teaching some subjects, to building infrastructure, to monitoring pupil and teacher attendance. The MESA project offers some lessons concerning such activities.

9. Across all schools, but particularly in low-ranking schools, teachers and head teachers were rarely using data collected on their own students to inform their teaching practices, their areas of interaction with the PTA, or the types of policies they enacted concerning dropouts or pupils who attended school irregularly. MTTA had no mandate to address this issue, but future projects might consider including activities designed to help schools create their own data collection and analysis practices. These practices would not be geared toward data collection for other actors (district officials, project officials), but toward the school itself as an additional tool to improve pupil learning. The area with greatest need for such training relates to dropout data. Without exception, head teachers claimed that their schools had very low dropout rates, even though they all, in a very similar pattern, lost a significant percentage of their pupils as they moved

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through the school. Without exception, head teachers therefore claimed that dropouts were not a significant problem at their school. However, in high- and low-ranked schools alike most children were not making it through school to standard 8. Providing an opportunity for schools to chart and analyze these trends, and then work with the community and pupils towards addressing this issue, could significantly improve children's opportunities to learn.

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# ANNEX I. MALEKA SCHOOL: FIELD NOTES FROM CLASS OBSERVATIONS

The following field notes describe one section of the standard I math class observation from Maleka school:

The standard I classroom is full of colors and shapes. Every wall is covered with printed and handmade teaching/learning materials, including charts with colors, shapes, words for basic objects, numbers, and so forth. In the back of the classroom, there is a low table, easy for the children to access, covered with TALULAR learning materials of various sorts, from feathers, to piles of peanuts and stones, to bowls filled with bottle tops. The floor of the classroom is cement, but is pocked with huge craters; some pupils sit teetering on the edge of the holes. The walls are dingy and the classroom is very dark, with few windows. Despite this, the teaching/learning materials and the teacher's and pupils' energy make it one of the most inviting classrooms we visit.

The teacher, a woman in her 30s wearing an elegant zitenje outfit and headwrap, begins with a lively song that appears to be regularly used to get pupils into two neat lines. There are 48 pupils present, 31 boys and 18 girls. Once the children are seated in two lines, the teacher spreads out about 30 pieces of cardboard, each with a number from 1 to 9, on the floor at the front of the room and asks in Tumbuka, "Who can come up and get the number 1 (pronounced 'waanee')?" The children are squirming in their seats and pushing their hands up as hard as they can to get her attention. She calls on a girl, who runs up, looks over the pieces of cardboard, sticks her finger in her mouth, and then picks up the numeral 1. The teacher rubs her head affectionately and asks the children to clap hands for her. They do so happily. The same scene is repeated for numerals 2 through 5, with the teacher calling on a boy, then another boy, then a girl, then a boy.

The teacher then begins a second song, which is used to get the pupils to organize into six small groups of about eight mixed-sex pupils apiece. The pupils know exactly where to go and rush around to get in their positions as quickly as possible. By the end of the song, they are all settled in their groups. The teacher has the team leaders (two girls, four boys) come over to the TALULAR materials table, where they each count out six peanuts. Once they all have their peanuts, the teacher lines the six team leaders up at the front of the class and counts down the line: "1, 2, 3, 4, 5, and 6!" She has the pupils repeat the numbers while she walks down the line placing her hand on the head of one team leader after the other. She then holds up a cardboard square with the numeral 6 written on it and goes from group to group showing them the number and having them repeat the word "sikisi." Each group shrieks "SIKISI!"

gleefully when she points at them. The children are wriggling in excitement by the end of this fast-paced exercise.

The teacher then tells each team leader to use the peanuts they collected to have each member of their group count to six. The team leaders begin to do this, although they have more success with some pupils than others. In some cases, the team leaders are keeping control over the peanuts, counting them out while another student repeats the numbers aloud. The teacher



*Using TALULAR for standard 1 mathematics lesson, Maleka*

moves around the room, constantly drawing kids back on to task. After a few minutes of this activity, she tells the pupils to take out the bottle tops she told them to bring with them today; she has extras for pupils who have forgotten or who do not have enough. Now each child has his or her own pile of counting materials. The teacher tells them to each count out six bottle tops. She distributes a cardboard square with 6 written on it to each group and then tells the pupils to use chalk (which she distributes) to write the numeral 6 above the bottle tops.

At one point, as she rushes from group to group, the teacher kicks over a container with peanuts, bottle tops, and other counting materials that she was distributing. One of the pupils sees her do this (she does not notice when it happens), and he rushes over to clean them up for her, promptly returning to his work when he is done.

The teacher dashes around the room, correcting pupils who have written the 6 backwards and asking the team leaders to work with pupils who are having trouble counting out the bottle tops. There is a very positive energy in the room, and the children are leaning over to help one another, to share notes, and to find other materials (stones, peanuts, pieces of chalk) to count out into groups of six. The teacher then draws the groups back together by singing a round of “head, shoulders, knees, and toes,” which ends with the pupils excitedly shrieking: “1, 2, 3, 4, 5, 6!!” They happily return to counting out sets of six and writing “6” on the floor. She then has the team leaders collect the TALULAR materials and bring them to the TALULAR table at the back of the room as she begins another exercise.

There are a number of striking features in this classroom. Perhaps the most visible is the pupils’ obvious excitement at being at school and learning to count. The teacher was extremely effective at harnessing this energy towards learning and at keeping students’ excitement alive. She did this through a fast pace, a mix of activities and physical learning aids, regular reorganizations of the classroom and the activities, and an obviously shared

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affection for her pupils. She used group work and TALULAR materials in a natural and effortless way, something that was not true in most other classrooms and schools that we visited, where teachers often shoehorned these activities into their lessons in an effort to use the approaches. She also used these approaches in such a manner as to help pupils continue their learning outside of class; it was easy to imagine pupils sitting at home with a pile of stones, leaves, and other materials that they had collected to count out into groups of six. As we left this classroom we found the pupils from the other standard 1 classes outside with their teachers practicing writing letters in the dirt—another activity that pupils can take home with them and that they were obviously enjoying.

The following notes show how similar approaches and attitudes towards teaching and learning were visible during observations of one of the standard 6 math classes:

Pupils were arranged in 12 groups of about six mixed-sex pupils apiece. There are supposed to be 99 pupils in the class (38 boys and 61 girls), but on this day there are 70 pupils present, 26 boys and 44 girls (68% and 72% of enrolled pupils, respectively). There is no furniture in the room, but the pupils are arranged in circles on foam mattresses, which the head teacher later tells us the parents made after he requested them. The classroom has charts related to the five main (examinable) subjects posted on the walls at good eye level for the pupils. Various other TALULAR materials are neatly displayed in the corner of the room. The teacher uses bottle tops and stones to start the math lesson.

There were very few textbooks in the class, about one for every eight students. The teacher, therefore, wrote out all of the math problems that she was asking the students to complete on the chalkboard. All pupils did have exercise books and pens for individual work. The teacher began the class by having the pupils read in unison the problem she had written on the chalkboard, which involved subtraction of money. After the pupils had read the question aloud, the teacher guided them through the process of subtraction by counting out and grouping counters (bottle tops and stones) into ones and tens in accordance with the problem on the board. Next, she counted out and removed the counters from the ones and tens according to the subtracting number, asking the pupils to count with her. Then, they counted the remainder, which was the answer.

The teacher then had each group begin work on the problem. She moved quickly from group to group, helping groups and individuals who were struggling with the question. Each group had a set of counters sufficient to do the problem; these were controlled by the team leaders. Once the groups had solved the first problem again, the teacher wrote a second problem on the board, which each group was supposed to solve. Pupils worked individually in their notebooks, looking to one another and to the whole group for help if they got stuck. Two of the groups finished much sooner than the others; the teacher then gave them additional problems, including one that required recarrying. This appeared particularly challenging for slower learners. The teacher moved from group to group as they worked through these problems, actively encouraging those pupils who had successfully completed the problems to help their fellow pupils. One pupil in one group became quarrelsome; after he failed to respond to the group's efforts to calm him down, he was reported to the teacher. The

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teacher came over, gave him a very hard look, and told him to stop his behavior. He did, and the group returned to its task. Most pupils were on task most of the time in the classroom and the teacher was constantly circulating to provide help to those who needed it and provide new math problems to those who had finished rapidly.

When most pupils had finished the problems written on the board, the teacher called their attention back to the front of the classroom, where she reviewed the most difficult problem (recarrying) with the entire class. She did a very good job of clarifying why recarrying was necessary. The pupils who had gotten the problem wrong seemed to understand by the end of her explanation why and how to recarry.

Throughout the group work, the teacher circulated and encouraged pupils to work together and use one another as resources in learning. She effectively encouraged faster learners to help out their struggling peers and provided verbal reinforcement and praise for both those who helped others and those who completed the problems correctly. She also had the entire class clap hands for a few pupils who did well throughout the class period. The teacher gave individual feedback to pupils on their notebook work, correcting numbers written incorrectly and mistakes made in working through the problems. By the end of the class, it appeared that all pupils felt confident in their ability to solve these types of subtraction problems. It also appeared that pupils felt comfortable using one another as learning resources.

We learned from our teacher interviews that this teacher had been posted from a school in Karonga [a district in which the MTTA project is not working] just one term previously. When she arrived, she had no background in using TALULAR materials or in using group work approaches in her classes. She was trained by other teachers in the school through a series of INSETs, observations conducted by other teachers, and conversations with her colleagues. As one observer noted, she has “adopted the culture of the school to promote interaction with small groups” very well, and appears quite comfortable with this approach to teaching and learning. Other teachers commented with pride on their ability to teach her these methods and her success at using them. She appeared confident, knowledgeable, and at ease in her classroom. The pupils appeared to be on task and learning throughout most of the class period, despite the number of pupils in the class. Like the standard I class, the pupils were also given tools to help them practice these skills on their own.

This classroom was notable for the teacher’s and pupils’ focus on and apparent interest in the learning topic and materials throughout the class period. The teacher was active, constantly monitoring pupils’ progress, and the pupils were working together and providing support for one another. The teacher arranged the class so that groups or individuals who moved faster than others were kept engaged both by providing them with more problems and by encouraging them to help their fellow pupils work through the problems.





