



**REPUBLIC OF ZAMBIA**  
MINISTRY OF GENERAL EDUCATION

# THE INFLUENCE OF HEAD TEACHERS ON IMPROVING READING IN ZAMBIAN PRIMARY SCHOOLS

## FINAL REPORT

October 2014

RTS Monitoring, Evaluation & Research (MER) Series # 3



**USAID**  
FROM THE AMERICAN PEOPLE



  
**CREATIVE**

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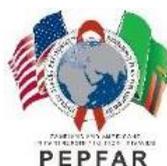
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## **ABBREVIATIONS AND ACRONYMS**

DEBS	–	District Education Board Secretary
HERNet	–	Higher Education Research Network
IISE	–	Institute for International Studies in Education
IRB	–	Institutional Review Board
M&E	–	Monitory and evaluation
MESVTEE	–	Ministry of Education, Science, Vocational Training, and Early Education
MOE	–	Ministry of Education
MOGE	–	Ministry of General Education
MOHE	–	Ministry of Higher Education
NGO	–	Nongovernmental organization
RTS	–	USAID Read to Succeed Project
UNDP	–	United Nations Development Programme
UNESCO	–	United Nations Educational, Scientific and Cultural Organization

## EXECUTIVE SUMMARY

Improving teacher quality is the most effective way for a school to improve its learning, and head teachers are critical to improving teacher quality. The USAID Read to Succeed Project (RTS) in Zambia—in collaboration with the Ministry of Education, Science, Vocational Training, and Early Education (MESVTEE)—examines the effectiveness of head teachers in areas of student learning and performance of reading throughout Zambia. Head teacher training and background information, along with their understanding of their roles in facilitating reading acquisition at the early-grade levels were obtained from study participants. In particular, this study focused on learning how effective head teachers are at improving reading in Zambian primary schools in various districts and provinces. The lessons learned section provide policy makers, university and college of education administrators, teacher trainers, and head teachers with much needed information about the training needs of head teachers in Zambia, and ultimately, how to improve the quality of reading in Zambian primary schools. To date there is little information available on this topic. This study was based upon the following four key research questions:

1. How effective are head teachers in helping to improve reading in Zambian primary schools?
2. What roles do head teachers play in improving reading at the early grade levels?
3. How can effective head teachers help improve teacher performance?
4. How can effective head teachers help improve learner performance?

In our leadership interviews, head teachers in high performing schools described themselves differently from those in lower performing schools. The manner in which head teachers approach new ideas, plan for the future, oversee and interact with other teachers, and make decisions may be related to reading performance in primary schools. Head teachers in high performing schools tend to display openness to new ideas while maintaining an authoritative approach to leadership.

Head teachers play a number of important roles in improving reading at the early grade levels. They particularly play important roles in management, planning, and monitoring. Head teachers may play key roles guiding school staff as they develop goals for learner and teacher performance, create strategic plans to meet those goals, and monitor progress towards them.

As school administrators, head teachers are in a unique position to both monitor teaching and organize improvement efforts. They are able to support teachers and their development through careful and frequent monitoring of what happens in the classroom. This may take the form of thorough lesson plan reviews, teacher observations, and post-observation discussions with teachers.

Head teachers may not interact directly with all of the learners in their school, but they are still able to help improve learner performance in reading. A primary method of doing this is through careful planning, goal setting, and monitoring. In addition, head teachers are more likely to talk to learners as a means of motivation and to hold reading competitions to support literacy.

Great improvements have been made in recent years to increase primary school enrollment in Zambia. More than 97 percent of all primary aged children were in school in 2012, representing a gain of more than 20 percentage points since 2002 (UNESCO Institute for Statistics 2014). However, increased educational resources have not adequately matched increases in student

populations, and student learning is often stifled. Results from this study's reading assessment showed that just over 42 percent of Grade 2 student participants performed at grade level. As cognitive complexity of reading tasks increases, so too do necessary material resources. The resulting effect is a combined detrimental influence on student learning as students work to progress from basic reading skills like phonics and vocabulary, to more complex ones like writing and comprehension.

Recommendations include the need to provide more quality training to head teachers. Many of those interviewed in this study were recently appointed head teachers, deputy head teachers, or acting head teachers, with little or no prior leadership experience. This need to train head teachers is an essential area that virtually all respondents recognized as essential for preparation and meeting the needs to help provide an optimal learning environment within Zambian primary schools. Regular and consistent in-service and professional development training for both experienced and new head teachers was identified as among the greatest needs to help enable head teachers to best train and monitor learning of early grade reading in primary schools.

In addition, there was a common suggestion from nearly all head teacher respondents that more needs to be done to provide adequate teaching facilities and supplies. For early grade learners, this includes helping to ensure that they have sufficient pencils, notepads, reading books, and textbooks. For teachers, many lacked even basic supplies, including chalk, adequate blackboards, and sufficient textbooks. Head teacher respondents consistently mentioned that the general lack of learning materials is one of the greatest impediments to student learning and learning how to read in Zambia.

## INTRODUCTION

RTS is a USAID-funded initiative that aims to improve school effectiveness in a way that schools provide the environment and services for students to acquire essential academic skills with particular focus in early grade reading. Accordingly, the main outcome of the project is improved student performance in reading. RTS initiates activities in selected districts in six provinces: Eastern, Luapula, Muchinga, Northern, North-Western, and Western Provinces. RTS assists MESVTEE by strengthening the implementation, accountability, and institutionalization of these initiatives to create systemic changes and ensure the delivery of quality instruction leading to better reading skills and thereby better learner performance.

The role of head teachers is vital for the transfer of knowledge to students. This report will help policy makers and researchers better understand how head teachers influence classroom activities, curriculum innovation, and measure student academic performance.

MESVTEE is charged with the oversight of providing primary and secondary education and teacher training (Lafunda 2012). In 2007, Grade R was added to offer schooling for five-to-six year olds (Moloi and Chetty 2010). Head teachers are educators considered to be public servants who over recent years have been tasked with improving the quality of education.

Head teachers have been tasked with the job of transforming “old and redundant” leadership styles to one that is more collaborative (Grobler, Bisschoff, and Beeka 2012). In Zambia there is very little training available to head teachers on how to influence reading. Political and social issues also impact and limit the progress that many head teachers want to make within their institutions or schools. These challenges also impact the gap between what should be done in schools and what is actually being accomplished.

This study on the influence of head teachers on improving reading in Zambian Primary Schools was designed by research team members since early 2013, and shortly following institutional board review (IRB) approval in June 2014, data was collected. An objective in this report is to address what types of actions by head teachers promote effective reading in Zambian schools. Working closely with head teachers, RTS is currently engaged in helping schools to develop a national learner performance improvement plan with performance standards, reading targets, and timeframe.

## METHODOLOGY

### Sample Primary Schools

A total of 59 primary schools in Zambia participated in this study.<sup>1</sup> Primary schools were randomly selected from a list of all Zambia primary schools compiled by the RTS – Research Support Team. Primary school selection was stratified by (a) geographic region, (b) school type—*government* and *private*, and (c) urbanicity (*remote*, *rural*, and *urban*) (see Table 1).

**Table 1.** Number of Sample Primary Schools by Province and District

Geographic Region (Province)	District	Number of Schools
Eastern	Chipata	3 Government; 3 Private
	Katete	3 Government; 3 Private
	Lundazi	3 Government; 3 Private
Lusaka	Lusaka	3 Government; 3 Private
Northern	Kasama	3 Government; 3 Private
	Mporokoso	3 Government; 3 Private
	Mungwi	3 Government; 2 Private
North Western	Kasempa	3 Government; 3 Private
	Mufumbwe	3 Government; 3 Private
	Solwezi	3 Government; 3 Private

### Participants

Once primary schools were selected, contact was made initially with the District Education Board Secretary (DEBS). We then obtained consent from each head teacher before the interview was conducted. In addition, we conducted an assessment of literacy ability in each school with up to 20 Grade 2 students.

### Instruments

The semi-structured questionnaires were designed to examine the role head teachers play in helping to improve reading in the early-grade levels of primary schools. The section of the Head Teacher instrument on leadership styles was adapted from a study conducted by W. James Jacob and colleagues (2008) at the University of Pittsburgh. The instruments were designed after comparing what data had been collected during the baseline study of the RTS Project and in an effort to collect/gather both quantitative and qualitative data from the participants in this study.

Because non-RTS districts do not participate in the measurement of Grade 2 level reading abilities, we also administered the Grade 2 Literacy Assessment Tool to all participating schools. This enabled our team to validate RTS school performance as well as compare reading abilities between RTS and non-RTS districts. These instruments are available in the following languages: Chinyanja, Icibemba, Kiikaonde, and Silozi.

## **BACKGROUND AND LITERATURE REVIEW**

High quality teachers make a difference in student learning. A wide body of research demonstrates that no other aspect of a school is more consequential to student learning than teacher quality (Menlo and Poppleton 1990; Sanders et al. 1997; Allington 2002; Stronge et al. 2007; Hanushek 2011; Harris and Sass 2011). Additionally, effective school leadership is shown to positively influence teacher quality (Eacott and Nyanchama Asuga 2014). Thus, head teachers are vital to the transfer of knowledge from teacher to student. This study examines best practices in head teachers in promoting literacy in Zambian primary schools, and will help policy makers and researchers better understand how head teachers influence classroom activities, curriculum innovation, and measure student academic performance.

To improve reading proficiency, no other strategy is more supported by research than investing in good teaching (Allington 2002). Indeed, investments in good teaching practices pay substantial dividends. Eric Hanushek (2011, p. 468) evaluated the economic impact of higher achieving students in relationship to teacher effectiveness in the United States and found that “a teacher standard deviation above the mean effectively annually generates marginal gains of over \$400,000 (USD) in present value of student future earnings with a class size of 20 and proportionally higher with larger class sizes.” An opposite effect is noted with ineffective teachers: teacher quality matters.

Though commonly the focus of popular and media attention, large class sizes are not shown to have a substantial negative impact on student achievement (Sanders, Wright, and Horn 1997). Accordingly, more can be done to improve education by improving teacher effectiveness rather than by reducing class size. In fact, William Sanders and colleagues (1997) cite improving teacher effectiveness as the single most effective way to improve education. Yet substantial questions remain regarding the precise components of effective teaching.

One strategy for improving teaching quality is through focused professional development. Allen Menlo and Pam Poppleton (1990) assert that teachers should be developed professionally because the quality of teachers positively influences the quality of learners’ experiences. Donald Boyd and colleagues (2009) show teacher preparation to be especially beneficial to teachers’ effectiveness in their first year of teaching, and encourage teacher training programs that focus on classroom interactions.

Yet the efficacy of particular professional development strategies are debated. Douglas Harris and Tim Sass (2011) conclude that in-service professional development has “little to no effect on the ability of teachers to improve student achievement” (p. 811), but do find that teacher quality appears to improve with experience. Hanushek (2011, p. 469) adds, “changes in teacher preparation or more extensive induction and mentoring programs, while plausibly effective policies, have yet to be shown to significantly alter the early career learning of teachers.” There is consensus that effective teachers make a difference, but uncertainty in how to promote effective teaching.

It should be noted, however, that the previously-cited studies calling into question the efficacy of teacher professional development on improving learning were based in the United States. Research indicates that teacher qualifications and teacher training may be more influential to student learning in sub-Saharan Africa. One such study investigates the perceptions of teachers in South African public schools on the importance of continuing professional development, and concludes: “It is principals who formulate the action plans that seem most effective in

achieving their aims and objectives and it is important that these principals reflect upon the outcomes of their plans” (Mestry, Bisschoff, and Hendricks 2009, p. 477). But despite the importance of strong leadership, many school leaders in sub-Saharan Africa do not receive adequate training or support.

In Zambia, MESVTEE is charged with the oversight of providing primary and secondary education and teacher training. One of the challenges facing teachers in Zambia is increased class sizes as the combined result population increases and increases in school enrollment. From 2000 to 2010, primary school enrollment in Zambia increased from 1,806,754 to 3,509,000. Yet increased enrollment does not indicate increased learning; average test scores in both reading and mathematics remain low with approximately 30 percent pass rates (Lufunda 2012).

A 2011 report from the Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ) on the conditions of schooling and the quality of education in Zambia stresses the importance of teacher qualification and school leadership to student learning. In particular, head teachers are seen instrumental to the task of improving the quality of public education, but are commonly untrained in school management (Lufunda 2012). The 2011 SACMEQ report finds that the proportion of school head teachers with school management training declined significantly since 2007 (Bupe and Kaba 2011). The following head teacher study helps to inform the school management training rates of head teachers.

An objective of the study is to address what types of actions by head teachers promote effective reading in Zambian schools. Similar research was led by Bernardus Grobler (2012) in the South African public school system. Grobler’s research was based on a non-probabilistic pre- and post-analysis on head teacher competency in South Africa. The questionnaire used was meant to examine the perception of teachers on the importance and competence of principals as leaders before and after an intervention program on holistic leadership. Principals who were exposed to the intervention program were perceived to be more competent than their counterparts who were not exposed to the program (Grobler, Bisschoff, and Beeka 2012). Leadership and school management interventions can have positive influences on the perceived competency of their participants. This study will add depth to the baseline survey conducted by the Read to Succeed (RTS) Project in Zambia.

A 2006 Review of the Ministry of Education Sector Plan explored whether the Zambian education system was organized to engage in change, and found key challenges in the areas of school management and professional development (Chileshe et al. 2007). The report found that while Zambia’s education policy was appropriate for serving the needs of Zambian society in the twenty-first century, the implementation of the policy was not. John Chileshe and colleagues (2007) identified several areas of concern inhibiting student learning including unacceptably high pupil-teacher ratios; insufficient pupil learning time; the lack of classrooms and essential furniture; the shortage of teaching and learning materials; and limited in-service support. Adequate supplies help to ensure that teachers are able follow standardized curriculums, and when teachers do not have sufficient instructional materials, they are more likely to favor their own learning program. In addition, inadequate classroom resources like textbooks, classroom space, or furniture, can contribute to decreased job satisfaction, which in turn, can lead to decreased student learning (Michaelowa and Whittmann 2008).

In terms of recommendations, Chileshe and colleagues suggested improving teacher qualifications by upgrading, restructuring, and developing more teacher education programs. Additionally, the authors recommended more effective school management, school based curriculum reforms and assessment, and in-service support to teachers (2007). Katharina Michaelowa and Eveline Whittmann (2008) suggest increasing the availability of text books as a more successful and cost-effective solution to improve learning over less successful and less cost-effective solutions like decreasing class sizes or increasing teacher salaries.

Similar studies regarding the effectiveness of head teachers have been conducted in other sub-Saharan African countries. One such study, conducted by Joyce Nyarko (2009) in the Kwaebirem District of Ghana, investigated training and staff development programs for head teachers, head teachers' perceive their own competency, teachers' perceptions of the competence of their head teachers, and the support head teachers receive from their circuit supervisors. The study found weaknesses in support and training at each level of the investigation: circuit supervisors were weak in their support of head teachers, head teachers were weak in their instructional support of teachers, and in-service training activities were poorly organized. Nyako concludes that administrative handicaps detract from head teacher effectiveness, and a combination of pre-service and in-service training programs at all levels—supervisor, head teacher, and classroom teacher—will help teachers to be more effective in promoting student learning. A separate study on language and literacy in South Africa found teachers' instructional practices limited students' learning of literacy (Mkhize 2013).

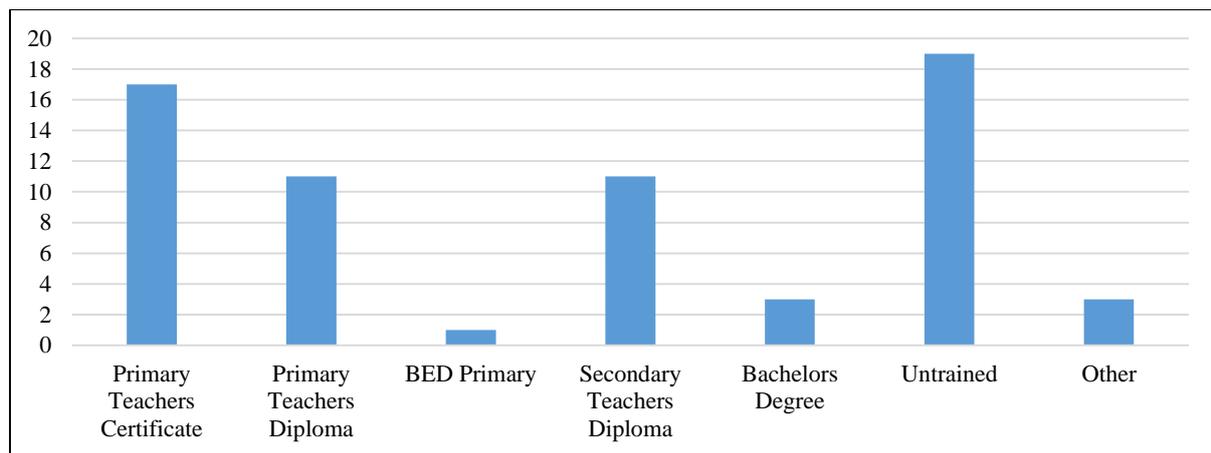
The challenges facing Zambian schools are substantial. Increasing student enrollment, inadequate resources and facilities, public health concerns, insufficient leadership training, and underqualified teachers all stand as significant barriers to educational improvements. However, research clearly demonstrates that good teachers do make a real difference in student learning, and strong school leadership can help to nurture better classroom teachers.

## FINDINGS ABOUT HEAD TEACHER EFFECTIVENESS

A total of 57 head teachers completed the head teacher interview. Thirty-one (54 percent) of the participants were officially titled as head teachers; 13 (23 percent) were deputy head teachers; 4 (7.0 percent) senior teachers; and 9 (16 percent) held another position such as acting head teacher (1), school manager (2), and teacher in charge (3). Despite varying positions, all teacher participants will be referred to as head teacher for the purpose of this study.

Head teachers ranged in age from 22 to 70 years, with an average age of 42 years. The highest level of education completed was available for 54 of the 57 participants, with 63 percent having completed teachers college, 19 percent completed secondary school, 10 percent completed a University or Bachelor’s degree program, and 2 percent had finished primary school. Head teachers held a variety of teaching qualifications, some having more than one (see Figure 1).

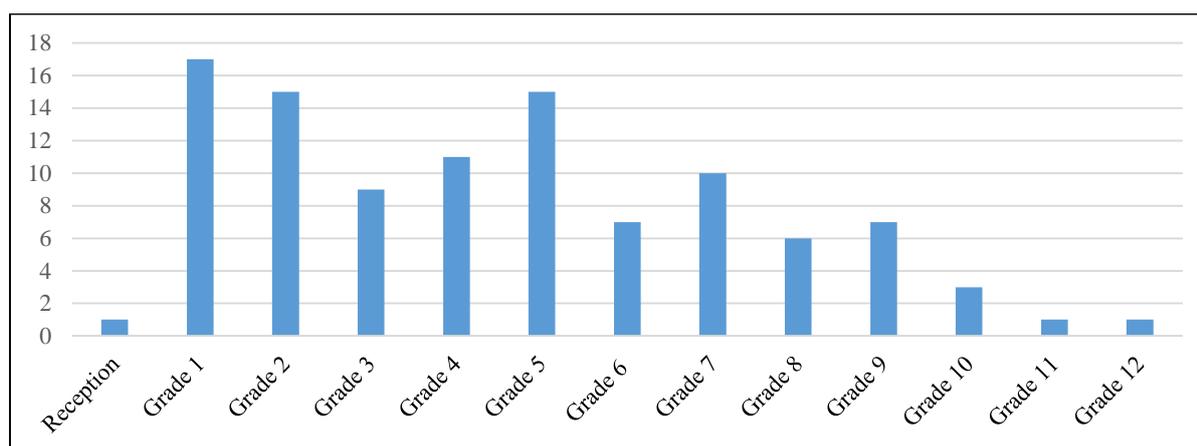
**Figure 1.** Qualifications of Head Teacher Respondents in Terms of Certification and Training



Nineteen of the head teacher respondents indicated they were untrained and thus underqualified. Please note that our sample of private schools also included 17 community schools, which do not necessarily require their teachers (and head teachers) to be certified in order to teach or serve in administrative positions. Eleven of the 19 untrained respondents were serving as head teachers of community schools.

The head teacher sample comprised 46 (81 percent) males and 11 (19 percent) females. In terms of employment status, 36 (63 percent) of the head teachers were permanent and pensionable, 14 (25 percent) were volunteers, 6 (11 percent) were contract, and 2 (4 percent) were temporary. There was a wide range in how long teachers had been in their position at that school, from being in their first year to 14 years. With those in their first year in that position, one teacher had been in his position for as little as 2 weeks. Head teachers reported that they currently teach a variety of grade levels, often filling in when other teachers were sick or on leave (see Figure 2). Thirty-two (56 percent) had taught Grades 1 or 2.

**Figure 2.** Number of Head Teachers Reporting Grades They Have Taught



### *Comparisons by Performance Level*

To assist in identifying patterns of behavior and leadership style of effective head teachers, schools were divided into three levels of reading performance groups (see Table 2). To do this, an average Grade 2 literacy assessment score was calculated for each school. The schools were then sorted in order from lowest average score to highest. The schools with student data were then divided into three approximately equally sized groups based on their averages scores: low, medium, and high performing groups.<sup>2</sup>

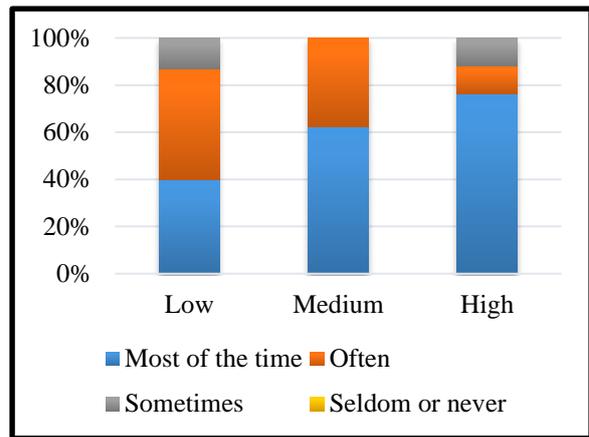
**Table 2.** Descriptive Statistics for Student Performance by Performance Group

	<i>n</i> school/ <i>n</i> students	Min. Score	Max. Score	Mean ( <i>SD</i> )	Learners Scoring at Minimum or Above
<b>Low</b>	17 / 260	0	14	4.57 (2.26)	10.0%
<b>Medium</b>	17 / 292	0	18	6.77 (3.20)	37.7%
<b>High</b>	18 / 321	0	20	10.55 (4.53)	72.9%

### **How Effective are Head Teachers in Helping to Improve Reading in Zambian Primary Schools?**

In our leadership interviews, head teachers in high performing schools described themselves differently than those in lower performing schools. The manner in which head teachers approach new ideas, plan for the future, oversee and interact with other teachers, and make decisions may be related to reading performance in primary schools. Head teachers in high performing schools tend to display openness towards new ideas while maintaining an authoritative approach to leadership. These findings support research that an authoritative leadership style as most likely to lead to student achievement (Dinham 2007).

Many effective head teachers are innovative leaders. For example, head teachers in high performing schools are more likely to report that they listen to new ideas, offer new ideas, encourage thinking along new lines, and initiate new projects most of the time. However, they are less likely than low performing schools to report experimenting with new procedures. Although they welcome new ideas and perspectives, they are hesitant to simply try out many different methods. They are more likely to carefully consider options prior to implementing them within the school and classroom.



**Figure 3.** Head Teachers Responses to Whether They Listen to Ideas and Suggestions

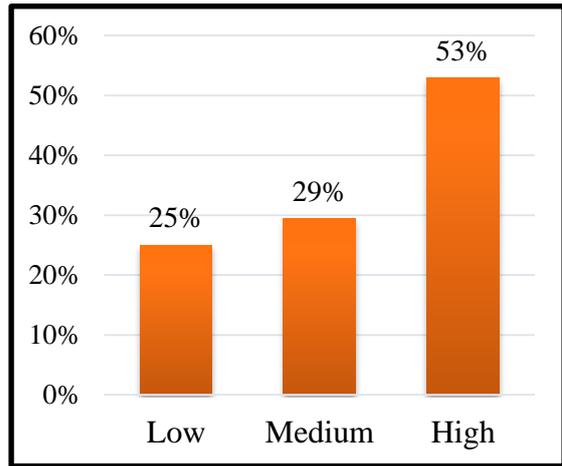
Effective head teachers also tend to describe themselves as taking an active role in decision making, while demonstrating power in oversight of activities within the school. This active participation and assertion of authority aligns with Aiman Ahmad Al-Omari's (2013) study demonstrating that a directive style of decision making, characterized by both a low tolerance for ambiguity and a low cognitive complexity, to be most common among school leaders. Head teachers at high performing schools tend to report that they are controlling in their supervision of work and that they retain the final decision making authority at the school most of the time. They are much more likely than those in medium- or low-performing schools to report making a point of consistently following rules and principles. They are also less likely to report being flexible or being willing to rethink their point of view, or being interested in creating an environment where teachers take ownership are involved in the decision-making process.

These descriptions may seem to paint a picture of head teachers who are controlling and overbearing; however, the self-descriptions may suggest that effective head teachers maintain strong supervision over the work that goes on within the school, ensuring that decisions are thought through carefully, that responsibilities are being fulfilled, and that quality is maintained. In fact, head teachers in high performing schools were also more likely to report that they often allow teachers within the school to make their own decisions, indicating that subordinate teachers are given a level of freedom to develop and share their own ideas—a hallmark of teacher success (Dinham 2007). Head teachers in high performing schools are also more likely than those in medium or low performing schools to describe themselves as being friendly most of the time.

### **What roles do head teachers play in improving reading at the early grade levels?**

Head teachers play a number of important roles in improving reading at the early grade levels. They particularly play important roles in management, planning, and monitoring. Head teachers may play key roles guiding school staff as they develop goals for learner and teacher performance, create strategic plans to meet those goals, and monitor progress towards them.

The importance of management and leadership skills is evidenced from head teachers' training backgrounds. Only 24 percent of head teachers in low performing schools and 29 percent of head teachers in medium performing schools had ever attended some form of training in management, whereas 53 percent of head teachers from high performing schools had attended such training (see Figure 4). On one hand, this may simply indicate that head teachers with pre-existing management skills may seek out or be more likely to attend trainings in accordance with their skills. On the other hand, it may also suggest that trainings may be effective in improving management skills and such skills may influence reading performance.



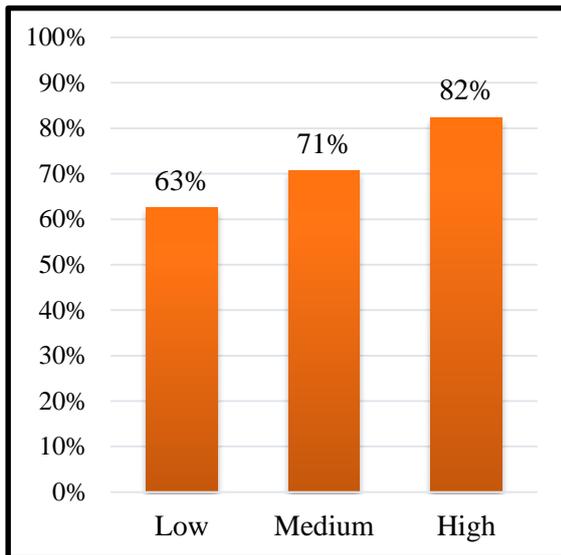
**Figure 4.** Head Teacher has Attended Some Form of Management Training

Head teachers may also play important roles by diagnosing and anticipating needs, and making tangible plans for improvements. Evidence from the study suggests that high performing schools are slightly more likely than medium performing schools, which in turn are slightly more likely than low performing schools, to have developed and be able to show evidence of a written learner performance improvement plan. In the same manner, head teachers in high performing schools were more likely than those in medium and low performing schools to claim to have specific goals and targets for learner performance, which corresponds with research demonstrating the consistent association between high quality school planning and overall student performance (Fernandez 2011). However, not all could provide evidence of such goals and targets.

The presence of School In-Service Coordinators (SIC) and records books appears to be related to school reading performance level. SICs are responsible for the organization and oversight of professional development resources within the school. Only 47 percent of low performing schools claimed to have a SIC, whereas 71 percent of medium and 77 percent of high performing schools had a SIC. Although the head teachers may not be SICs at the school, the presence of a SIC does support the idea that planning and management is valuable. In addition, medium and high performing schools were more likely to have a School In-Service Records (SIR) book than low performing schools; again demonstrating that organizational management is important to high performing schools.

### **How Can Effective Head Teachers Help Improve Teacher Performance?**

Professional development can help teachers to be more effective in the classroom, but in order for professional development to be most useful, an administrator must practice careful and frequent monitoring of her teachers' classrooms (Fishman et al. 2003). School administrators are in a unique position to both observe teaching and organize improvement efforts. This may take the form of thorough lesson plan reviews, teacher observations, and post-observation discussions with teachers.



**Figure 5.** Head Teacher Conducted Classroom Observations in 2014

In order to improve teacher performance, head teachers must first be aware of the quality of the teaching within the school. Identifying problems in teaching is a first step to being able to solve them. Head teachers determine which classroom teachers need additional support with their teaching through a number of methods. In comparison to low and medium performing schools, head teachers at high performing schools are more likely to use classroom observations and teacher requests for help to identify which teachers are in need of support (see Figure 5). They may be more aware of teaching quality issues than those in lower performing schools, as teachers at high performing schools are over ten percentage points more likely to report having conducted classroom observations this year than teachers at

medium and low performing schools. In addition, after completing these observations, head teachers in high performing schools were much more likely to provide feedback to their teachers via one-on-one discussions than were teachers at medium and low performing schools.

After identifying instances of low quality teaching, head teachers must then act to address the problems they find. If the head teacher does determine that a teacher has a problem with teaching, the most common responses among all head teachers are to discuss the problem in teacher meetings (72 percent), observe the teacher's class (47 percent), pair with a good teacher (44 percent), and coach the teacher (39 percent). Head teachers in high performing schools are most likely to discuss problems in teacher meetings, and are slightly more likely to observe the teacher's class. Head teachers from low performing schools are much more likely to pair the teacher with a good teacher and ask the zone or district for training or assistance. This may show head teachers in low performing schools are aware of challenges within their schools and are more likely to seek outside assistance.

This year alone, teachers had done many things to help improve teaching quality. Working together to set goals and approaches was slightly more common in high performing schools, and organizing teacher meetings was a more common method of improving teaching quality in both medium and high performing schools. Eighty-eight percent of both medium and high performing school head teachers had organized teachers meetings to specifically address teaching quality this academic year. Only 53 percent of head teachers at low performing schools had organized such a meeting this academic year. Other practices are more common in medium and high performing schools. For example, 94 percent of head teachers at high performing schools review teachers' lesson plans at least fortnightly, compared with 77 percent of teachers at medium performing schools and 71 percent at low performing schools.

Low performing schools were more than twice as likely to report never reviewing teacher lesson plans. It interesting to note that head teachers were more likely to motivate their staff through recognition or praise and giving rewards at low performing schools. This supports a contested body of research demonstrating the negative effects of external motivation (Deci 1971; Deci et al. 1999, 2001; Kohn 1993, 2010).

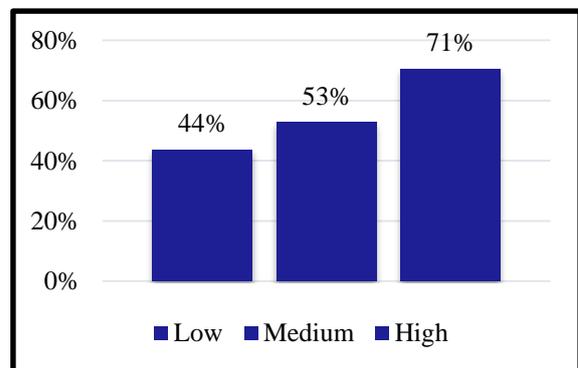
## How Can Effective Head Teachers Help Improve Learner Performance?

Head teachers may not interact directly with all of the learners in their school, but they are still able to help improve learner performance in reading. A primary method of doing this is through careful planning, goal setting, and monitoring (Dinham 2007). In addition, head teachers of high performing schools are more likely than their counterparts to talk to learners as a means of motivation and to hold reading competitions to support literacy.

As with improving teaching performance, improving reading performance starts with diagnosing weaknesses. Head teachers in high and medium performing schools seem to have a fairly accurate view of how students in Grades 1-3 are performing in reading at their school. Only 6 percent of head teachers from medium performing schools and none of the head teachers from high performing schools believed that their Grades 1-3 students were performing poorly in reading. Although head teachers from all performance groups tended to believe their students were performing average, one teacher (6 percent) thought that the students were performing very well. This indicated that most teachers, and particularly the teachers in better performing schools, had a good understanding of how the students within their schools were performing in early grade reading.

Head teachers based their opinion of Grades 1-3 reading performance on a number of factors.

Teachers in low performing schools tended to rely more on the use of sample tests, parent feedback, and district and/or zonal feedback to form their opinion, and less on observations of reading lessons and reading test scores. Teachers in high performing schools were much more likely to use reading test scores to inform their opinion, though teachers from both medium and high equally used reading lesson observations. Setting goals for student performance is particularly valuable for increasing reading performance. Head teachers at high performing schools are more likely to report having specific goals or targets for learner performance; however, head teachers across all schools were not always able provide direct evidence of such goals and targets (see Figure 6). High performing schools are much more likely to report having a learner improvement plan and having its own plan based on its own needs. Developing goals is not an activity best done by head teachers or single teachers alone. In high performing schools, head teachers and teachers set learner performance targets together at approximately double the rate than they do at low performing schools. Low performing schools are more likely to leave learner improvement plans to the individual teachers.



**Figure 6.** Head Teacher Has Goals and Targets for Learner Performance

Head teachers may also influence reading performance more directly by providing motivation and literacy support activities. High performing schools' head teachers were more likely than their counterparts to report talking to the students to motivate them. Although providing resources or rewards was a popular motivation technique across all schools, low performing schools' head teachers were more likely to report providing rewards as a means of motivating learners. Talking to parents and giving positive feedback or praise was also relatively common across schools. In relation to outside of classroom activities to support reading, high performing schools were much more likely to hold reading competitions than were mid and low performing schools.

## FINDINGS ABOUT LEARNER PERFORMANCE

### Student Demographics

The World Bank reports that enrollment in Zambian primary schools has increased by more than 20 percentage points since 2000 (EdStats 2012), with 94 percent of primary school aged children enrolled in school. Yet higher enrollment has led to a new set of challenges, including crowded classrooms—up an average of 20 students in the past two decades to 57—and a shortage of both learning materials and qualified teachers, such that average pass rates in reading remain just below 35 percent (Lufunda 2012).

A total of 873 Grade 2 students completed the reading assessment. The students represent 52 of the 59 primary schools in Zambia selected to participate in this study (see Table 1). When possible, 10 male and 10 female students were randomly selected for participation. If attendance was too low in either gender, or too low overall, to reach the target assessment figure, student selection was modified to approximate participation goals as closely as possible.

### Assessment Description

The reading assessment was made up of 20 questions divided into four sections: phonics (six questions), vocabulary (six questions), comprehension (four questions), and writing (four questions). Completion times varied depending on the abilities of the learners, but averaged about one hour.

### Performance Level Descriptors

Proficiency standards, developed as a part of the MESVTEE-developed school-based assessment guidelines, were designed to help better understand how many children are achieving minimum acceptable levels of performance needed to pass to the next grade level. Scores of less than 40 percent indicate that a student is not performing at grade level, and therefore may not be prepared to advance to the next grade level. We will use this figure of 40 percent as a benchmark by which to evaluate the Grade 2 reading scores recorded for this study.

**Table 3.** Proficiency Standards

<b>Performance category</b>	<b>Percentage</b>
Outstanding	80-100%
Desirable	60-79%
Minimum	40-59%
Below minimum	0-39%

Overall, students earned low marks in the reading assessment. For each student scoring in the “outstanding” range, more than 10 students scored in the “below minimum” range. Of the remaining students, nearly twice as many students scored in the “minimum” range than did those scoring in the “desirable” range.

Alarming, only 42.4 percent of Grade 2 students in this assessment scored highly enough to be considered proficient for grade level advancement. Additionally, only 20 schools of the 52 schools (38.5 percent) in which learners were assessed reached average scores of 40 percent or greater.

**Table 4.** Summary Statistics for All Learners (N=873)

<b>Score (of 20)</b>	<b>Category</b>	<b>Frequency</b>	<b>Percent</b>
0-7	Below Minimum	503	57.6
8-11	Minimum	206	23.6
12-15	Desirable	116	13.3
16-20	Outstanding	48	5.5

## Proficiency Standard Rates by Reading Discipline

**Table 5.** Summary Statistics of Reading Scores by Discipline (N=873)

Discipline	Minimum	Maximum	Mean (sd)
Phonics	0	6	2.82 (1.67)
Vocabulary	0	6	2.19 (1.52)
Writing	0	4	1.28 (1.33)
Comprehension	0	4	1.17 (1.01)

The average phonics score among all test takers was 2.82 of six, or 47 percent. This section was the only portion of the assessment in which the mean score of all

learners was at or above grade level. Next, on the upper end of the “below minimum” category at 36.5 percent was the vocabulary section, with a mean score among all learners of 2.19 of six. The average scores in the writing and comprehension sections were 1.28 of four and 1.17 of four (32 percent and 29.25 percent), respectively.

### Proficiency Level Rationale

The ranking of reading disciplines by proficiency (Phonics, Vocabulary, Writing, then Comprehension) is not surprising. Discipline-specific scores can be explained by both the increasing cognitive complexity and also in light of increasing enrollments and the resulting shortage of academic resources.

As reading tasks become more complex, they build on prior knowledge and skill mastery. It is fair to presume that a student must first be able to sound out letters (phonics) in order to be more proficient with learning new words (vocabulary). It is also fair to presume that a learner might struggle with reading comprehension if he also struggles with writing.

This progression of learning supports Charles Perfetti and colleagues (2005) research into the acquisition of reading comprehension skills. Perfetti and colleagues determine that word identification skill sets a limit on comprehension in the early stages of reading development. Additionally, the authors find that vocabulary is central to comprehension. Thus, it follows that if a student struggles to master phonics and vocabulary, the student cannot be expected to reach proficiency in higher order skills like writing and comprehension.

A second explanation for this order of achievement relates less to the learning capabilities of the students and more to the shortage of educational resources in Zambia’s primary schools. Several head teachers cited a lack of resources as an obstacle to their students’ learning. Some schools were not equipped with desks, and nearly all schools were without adequate paper, pencils, or textbooks. Shortages in educational resources are well documented in sub-Saharan Africa. Katharina Michaelowa and Eveline Whittmann (2008) suggest that increasing resources like textbooks, classrooms, and furniture can improve teachers’ working environments, and by extension can improve students’ learning environments.

Additionally, Michaelowa and Whittman suggest increasing availability of textbooks as one of the most cost-effective solutions to improve learning in Zambian schools.

In addition to material resources, Zambia is also plagued with a shortage of qualified teachers and head teachers. In recognition of this, the Zambian government recently pledged to provide more resources for the education sector, including for the training and recruitment of more teachers and extra retention incentives for teachers in rural areas (UNDP 2013).

Teaching phonics or vocabulary lessons requires little more than a classroom blackboard, something with which even the most resource-deprived schools are equipped. Yet the resources needed for a student to be proficient in writing—desks, paper, pencils—are not as common; and the academic resources for reading comprehension—books and textbooks—are even less so. It is sensible that as the availability of essential skill-specific academic resources lessens, so too would the assessment scores in these skill areas.

## CONCLUSION AND RECOMMENDATIONS

Zambia has made remarkable progress in increasing primary school enrollment, but high quality education remains a challenge. The foremost of these difficulties include insufficient teacher training, inadequacy of educational resources, and stagnant school completion rates. Improving head teachers, both in quantity and quality, stands as one of the most effective means of addressing these. Our findings indicate that certain practices and qualities among head teachers are positively associated with higher assessment scores. The most effective head teachers:

- Display openness to new ideas while maintaining an authoritarian leadership style (Research Question 1);
- Play key roles in management and in guiding staff in the development of learner goals and strategic plans to meet these goals (Research Question 2);
- Carefully and frequently monitor classroom happenings through lesson plan reviews, teacher observations, and teacher conferences (Research Question 3);
- Help improve learner performance through careful planning and goal setting, motivating learners by talking to them, and holding reading competitions to support literacy development (Research Question 4).

Student Grade 2 reading assessments demonstrate that student learning is kept in check by the resulting complications of increased enrollment, namely overcrowded classrooms, understaffed schools, and under-equipped classrooms. Even in the most ideal of learning environments, proficiency rates decrease as cognitive demands increase. With Grade 2 reading performance in Zambian schools, this effect is intensified by a shortage of sufficient learning materials. Most teachers are able to manage teaching phonics and vocabulary lessons but generally lack basic resources like chalk and adequate blackboards. But as cognitive complexity increases, so too does the need for material academic resources, and writing and reading comprehension lessons become a serious challenge when schools do not have basic supplies like pencils, paper, and books.

Zambia's educational improvements since 2000 are well documented. Getting learners into schools is a monumental accomplishment, but in order to continue with this path of improvement, children must not only be in school, but also receive a high quality education. Based on the findings of this report, we recommend addressing two primary areas to improve learner performance in Zambian primary schools: human resources and material resources.

### *Human Resources*

Simply put, Zambian schools are in need of more and better-trained educators. Head teachers hold the potential to serve as influential facilitators in helping to better train their teachers. However, a critical first-order step is to ensure that every head teacher receive uniform training in professional development. In the face of a teacher shortage, it is unrealistic to suggest that every head teacher be officially credentialed with a teacher's certificate; but it is reasonable to suggest that every acting head teacher receive leadership and professional development training to improve the quality of education offered by their teachers.

## ***Material Resources***

Improving human resources without addressing material resources is like teaching a person to drive a car, then sending her off on a bicycle. Even the most effective head teachers have stunted influence when placed in under-equipped schools. In our interviews, head teachers consistently pointed to a lack of learning materials as one of the greatest impediments to student learning—and with good reason. Ensuring that every school has access to basic academic resources—like adequate desks and sufficient paper, pencils, and quality textbooks—is essential to maximizing both the teaching potential of the instructors and the learning potential of the students.

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## **NOTES**

1. Originally 60 schools were selected, but one private school in Mungwi District was closed and no longer operating so it was dropped from the study.
2. Some of the schools did not have student data available, and the head teacher behaviors in these schools are excluded from analyses below unless otherwise noted. The designation of high performance is only in relation to other schools' average scores, not based on the number or percentage of students scoring at or above the minimum range. Descriptive statistics regarding these groups are found in Table 2.

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