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## ASSESSMENT

# 2014 Malawi National Reading Assessment

**April 2015**

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# ACRONYMS

CDCS	Country Development and Cooperation Strategy
CEED	Central Eastern Education Division
CLPM	Completed Letters Per Minute
CSPM	Correct Syllables Per Minute
CWED	Central Western Education Division
CWPM	Completed Words Per Minute
DEM	District Education Manager
DIAS	Department of Inspection and Advisory Services
EGRA	Early Standard Reading Activity
EMIS	Education Management Information Systems
FtF	Feed the Future
GHI	Global Health Initiative
GoM	Government of Malawi
ICC	Inter-Cluster Correlation
IE	Impact Evaluation
IP	Implementing Partner
IKI	Invest in Knowledge
INVC	Integrating Nutrition in Value Chains
JCE	Junior Certificate of Education
JHU-CCP	Johns Hopkins Bloomberg School of Public Health–Center of Communication Programs
MoEST	Ministry of Education, Science, and Technology
MSCE	Malawi School Certificate of Education
MSSSP	Malawi School Support Systems Program
MTPDS	Malawi Teacher Professional Development Support
NED	Northern Education Division
NRA	National Reading Assessment
ODK	Open Data Kit
OLS	Ordinary Least Squares
PCA	Principal Component Analysis
PEA	Primary Education Advisor
RA	Reading Assessment
RTI	Research Triangle Institute
SEED	Southern Eastern Education Division
SHED	Shire Highlands Education Division
SI	Social Impact, Inc.
SSDI	Support for Service Delivery Integration
SOW	Statement of Work
SWED	Southern Western Education Division
UNESCO	United Nations Educational, Scientific and Cultural Organization
US	United States
USAID	United States Agency for International Development

# EXECUTIVE SUMMARY

USAID has partnered with the Government of Malawi (GoM) to improve the quality of teaching in schools, to get communities more involved in schools, and to improve learner reading scores. To better understand how USAID interventions are working and how changes to GoM educational policies are affecting learner outcomes, such as reading scores, USAID and the GoM are also partnering on a series of ongoing National Reading Assessments (NRAs).

This report, the first of the NRAs, presents the methodology, limitations, and findings for the 2014 NRA and makes recommendations to USAID; the Ministry of Education, Science, and Technology (MoEST); and other stakeholders on possible ways to improve the quality of reading amongst primary school learners in Malawi in the future. The NRA was conducted by Social Impact, Inc. (SI), an Arlington, Virginia–based development consulting firm, in June and July 2014, following USAID/Malawi awarding SI a contract in April 2013. A second national assessment of similar design is scheduled for 2016.

The NRA is intended to allow USAID and the GoM (as well as other donors) to track progress toward improved quality of education and improved success in meeting early grade reading benchmarks by providing an overview of education across Malawi rather than just of education in the districts affected by the USAID interventions. This will help the MoEST to better understand the overall level of early grade reading for learners in Malawi as well as to identify which groups of learners are most in need of support and what type of support they need. Specifically, the NRA examines reading assessment results disaggregated by gender, urban vs. rural location, and education divisions. In addition to the reading assessments, the NRA also aims to link reading achievement data with information on teaching practices; school climate; head teacher, teacher, and learner characteristics. USAID and the MoEST will use these results to determine what conditions are associated with high learner performance in Malawi and to develop policies to help boost learner reading outcomes nationwide. This study will also use the data from this assessment to develop school- and district-level reports that USAID and MoEST can use to inform more localized educational policies. Furthermore, the NRA also aims to build the capacity of Ministry of Education in Malawi by training and employing ministry employees as supervisors and enumerators to gather the data for the assessment.

## NATIONAL READING ASSESSMENT QUESTIONS

This NRA examines how Malawian primary school learners in Standard 1 and 3 are progressing towards reaching reading benchmarks<sup>1</sup> for reading through the following questions:

- 1) What proportion of primary school learners is at the Standard 1 benchmark for reading skills?
  - a. What is the breakdown of learners grouped by subdivisions and progress toward attaining reading benchmarks in Standard 1?
  - b. What is the relationship of Standard 1 reading skill acquisition to additional factors that relate to or predict achievement, including classroom size, for Standard 1?
- 2) What proportion of primary school learners is at the Standard 3 benchmark for reading skills?

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<sup>1</sup> The benchmarks for scores on oral reading, reading comprehension, familiar word reading, syllable reading, and letter name knowledge were developed by MoEST in December 2014 and were pending approval from the MoEST leadership at the time of this report. For all other subtasks, the research team used the benchmarks recommended by the EGRA Coordinating Committee in 2013.

- a. What is the breakdown of learners grouped by subdivisions and progress toward attaining reading benchmarks in Standard 3?
- b. What is the relationship of Standard 3 reading skill acquisition to additional factors that relate to or predict achievement, including classroom size, for Standard 3?

## **ASSESSMENT METHODOLOGY**

This study used a time series design, comparing reading assessment (RA) results of a randomly selected stage-three cluster sample of Standard 1 and Standard 3 for the NRA. SI partnered with the MoEST and Invest in Knowledge Initiative (IKI), a Malawian data collection firm, to gather data for this first NRA.

Prior to data collection, SI conducted power calculations to determine the sample size to provide a nationally representative snapshot of early standard reading skills for Standard 1 and 3 learners. The calculations showed a total of 7,200 learners equally split between girls and boys from Standard 1 and 3 and drawn from 720 classrooms in 360 schools located within 12 districts across the six Malawian education divisions was adequate to examine variations in reading scores by sex, education division, and rural and urban location.

Enumerators assessed learners using the Chichewa RA refined by the Early Grade Reading Activity (EGRA) Coordinating Committee in 2012. Chichewa was the primary language of instruction for Standard 1 through 4 learners in Malawi in 2014. The RA tested learners on their ability to read and understand basic Chichewa text. Specifically, it assessed learners' pre-reading abilities, initial reading skills, and comprehension and fluency capabilities through nine reading subtasks, including: Letter Name Knowledge, Syllable Segmentation, Initial Sound Identification, Syllable Reading, Familiar-Word Reading, Unfamiliar-Word (Non-Word) Reading, Oral Reading Fluency, Reading Comprehension, and Listening Comprehension.

In addition to assessing learner reading abilities, enumerators also collected data on general school conditions through a head teacher interview and a school climate protocol, classroom conditions and teaching practices through a classroom observation protocol and teacher interview instrument, and learner and household characteristics through a learner questionnaire. To reduce errors in data collection and entry, this study primarily used electronic data collection methods. After adequate cleaning, the assessment team analyzed the data using Stata 13 software. The first step in this process was appropriately weighting the data in order to make the sample representative of the nation. Results are presented below.

## **FINDINGS**

At the time of this study—2014—Malawian public school Standard 1 and 3 learners were generally performing at the pre-reading stage, and less than half were meeting standard-level benchmarks for pre-reading. By the end of Standard 3, the majority of public school learners were not fluent readers, or even initial readers, and many were just beginning to reach the pre-reading stage.

**Table I - Summary Findings**

Reading Subtask	Standard 1			Standard 3		
	Mean Score	Percent of Learners Reaching Proposed Benchmarks (%)	Percent of Learners Scoring Zero (%)	Mean Score	Percent of Learners Reaching Proposed Benchmarks (%)	Percent of Learners Scoring Zero (%)
Listening Comprehension	47%	47	10	74%	62	1
Syllable Segmentation	25%	21	55	59%	47	16
Initial Sound Identification	4%	0.7	87	12%	1.6	64
Letter Name Knowledge	3.5 clpm	2.6	62	19 clpm	7.28	18
Syllable Reading	3.5 cspm	0.5	82	19 cspm	1.9	30
Familiar Word Reading	0.5 cwpm	0.5	91	10.8 cwpm	1.6	39
Non-Word Reading	0.4 cwpm	0.5	93	7.2 cwpm	0.3	46
Reading Fluency	0.7 cwpm	0.9	92	11.8 cwpm	2.3	47
Reading Comprehension	0.50%	0.01	98	12.30%	1.6	62.1
Indicators					Percent	
Proportion of learners in Standard 1 receiving extra 1-hour time-on-task reading					45.50%	
Proportion of learners in Standard 3 receiving extra 1-hour time-on-task reading					42.90%	
Proportion of learners in targeted grades that take home and use a book or other					33.00%	
Proportion of schools receiving at least one coaching/support visit per term					87.20%	
Proportion of teachers demonstrating “essential” skills in teaching reading					30%	
Head Teacher Reported Basic School Statistics					Average	
Enrollment in Primary Schools (1-4 standards)					527 Learners	
Girl-to-Boy Ratio in Standards 1 and 3					1.1	
Number of Learners per Teacher in Standards 1 and 3					83	
Number of teachers per Standard (Standards 1-4)					6.7	
Length of School day for Standard 1					3.48 hours	
Length of School day for Standard 3					5.18 hours	
Drop-out rate in Standard 1					10.50%	
Drop-out rate in Standard 3					7.20%	
Repeat rate in Standard 1					24%	
Repeat rate in Standard 3					17.40%	
Number of Years of Experience as Head Teacher					8	

***What proportion of primary school learners is at the Standard 1 and Standard 3 benchmark for reading skills?***

Less than one percent of Standard 1 and less than three percent of Standard 3 learners were able to read and comprehend standard-level text, as measured against Malawi's benchmarks in 2014. For pre-reading skills, 47 and 62 percent of Standard 1 and 3 learners, respectively, met the benchmarks for listening comprehension. On the syllable segmentation subtask, 21 and 74 percent of Standard 1 and 3 learners met the benchmarks. For initial sound identification, less than 2 percent of Standard 1 and 3 learners met benchmarks. For initial reading skills, only 0.2 percent of learners in Standards 1 and 3 met the benchmarks across all four initial reading subtasks. The designers of the Reading Assessment consider learners "readers" if they score above zero on the reading fluency subtask and are able to answer 80 percent (four out of five) of the comprehension questions correctly. By this criteria, no Standard 1 learners from this assessment can be considered readers while only 52 Standard 3 learners (1.4 percent) can be considered readers.

***What is the breakdown of learners grouped by subdivisions and progress toward attaining benchmarks in Standard 1 and Standard 3?***

For Standard 1, girls' predicted scores were highest in the Southern Eastern Education Division (SEED) followed by the Shire Highlands Education Division (SHED). Predicted reading scores were not significantly affected by educational division for Standard 1 boys. Standard 3 boys from SHED performed the best followed by Standard 3 boys from the Southern Western Education Division (SWED). Finally, Standard 3 girls from the Central Western Education Division (CWED) performed better than their peers from the other divisions; Standard 3 girls from SHED performed the second best. Overall, these results suggest that learners from SHED were likely to perform better than learners from the other divisions, and learners from Central Eastern Education Division (CEED) and Northern Education Division (NED) were likely to score lower on their oral reading fluency subtask. This is surprising given the findings in the literature review that literacy rates in the southern part of the country tend to be lower compared to the North. The study team intends to further investigate the reasons that drive these divisional differences in future rounds of data collection.

***What is the relationship of Standard 1 and Standard 3 reading skill acquisition to additional factors that relate to or predict achievement, including classroom size, for Standard 1 and Standard 3?***

The study correlated reading outcomes with a number of the variables from the head teacher, teacher, and learner questionnaires as well as the school climate and classroom observation protocols. The assessment team used Tobit regression models to predict factors that affect reading scores, revealing the isolated effects of various factors on predicted values of reading scores while controlling for other factors. Among the many conceptually plausible variables the study tested through regressions for predicting learners' reading scores, the results show that household members reading to learners, household assets, learners' age, the estimated number of learner sick days, length of the school day, presence of the EGRA intervention, learners taking books home to read, teachers checking homework on a weekly basis, teacher use of best teaching practices, teacher age, teacher experience, and access to a school feeding program were the best predictors of learning oral reading fluency scores.

Results are summarized below:

- In Standard 1, for learners who reported being read to at home, boys scored 0.39 cwpm higher than boys who did not (though this result was not statistically significant), and girls scored 0.25 cwpm higher than girls who did not. Results were similar for Standard 3 learners in that those who were read to at home scored significantly higher than those who were not. For Standard 3 learners, it was further revealed that frequency of being read to matters, especially for girls. The predicted value of oral reading fluency scores for Standard 3 girls who were read to at home occasionally was an average of 1.90 cwpm higher than those who were never read to at home, and the predicted value of oral reading scores for both boys and girls in Standard 3 were significantly higher when they were read to at least two-to-three times per week. Standard 3 boys who were read to this often had predicted oral reading fluency scores 5.81 points higher than Standard 3 boys who reported never being read to. For Standard 3 girls this number was 7.10 cwpm.

- Oral reading fluency scores for learners who reported taking books home from school with them were generally higher than they were for those who did not. While the factor was not significant for Standard 1 boys, it was significant for Standard 1 girls, Standard 3 boys, and Standard 3 girls. Standard 3 boys who reported taking books home with them had predicted scores 18 percent higher, reading an average of 1.89 cwpm more than those who did not. For Standard 1 and 3 girls, those numbers were 2.00 cwpm and 1.71 cwpm, respectively.
- Learners in Standard 1 who attended EGRA-beneficiary schools generally performed better on the oral reading fluency subtask than did learners who did not. Standard 1 boys from EGRA schools had predicted scores that were an average of 0.77 cwpm higher than that of their counterparts from non-EGRA schools. For Standard 1 girls, that number was 1.22 cwpm.
- Whether or not teachers checked homework at least weekly was highly correlated with predicted Standard 1 boy learner oral reading fluency scores, with the boys' reading scores an average of 0.75 cwpm higher than that of their counterparts. The results were not significant for Standard 3 learners or Standard 1 girl learners.
- Among Standard 1 learners, boys above nine years of age, compared to those below age nine, scored 0.92 cwpm higher.
- Teaching experience and teacher age are highly correlated with predicted learner reading scores in Standard 1. Standard 1 boys from classes where teachers reported having been teaching for less than a year had predicted oral reading fluency scores about 2.39 cwpm lower than Standard 1 boys with more experienced teachers. The results were similar for Standard 1 girls from new-teacher classrooms at 1.99 cwpm lower. Predicted learner reading scores for Standard 1 were also significantly lower for learners from classrooms where the teacher is above the average age of sampled teachers (34 years old). Specifically, Standard 1 boys and girls from classrooms where the teacher was above the average teacher age had predicted scores 0.93 and 1.01 cwpm, respectively, lower than their counterparts.
- The assessment team found that school feeding was highly correlated with predicted oral reading fluency scores for Standard 1 learners. Standard 1 boys from schools where the head teacher reported that the school had school feeding had predicted reading scores an average of 0.54 cwpm higher than boys who did not have access to school feeding. Standard 1 girls from schools with school feeding also experienced higher predicted reading scores. School feeding was not highly correlated with increased reading scores for Standard 3.
- Length of the school day was predicted to be significantly correlated with the reading scores of learners, especially for those in Standard 3. A one-hour increase in the length of the school day for Standard 3 learners resulted in a 0.85 cwpm increase in predicted reading scores for Standard 3 boys and a 1.76 cwpm increase for Standard 3 girls. Results were not significant for Standard 1 boys and girls.
- Standard 3 girls who reported higher levels of household assets had higher predicted reading fluency scores than those who reported lower levels of household assets.
- Reading scores were lower for both boys and girls in Standard 3 who reported staying home due to sickness "occasionally" or "frequently" relative to those who "almost never" took sick days off.
- Standard 3 learners from classrooms in which enumerators observed higher levels of teacher use of "best practices" in teaching reading had higher predicted oral reading fluency scores than did learners from classrooms where teachers did not use as many of the "best practices."
- Class size was not found to be a significant predictor of oral reading scores in the multivariable Tobit regressions. However, Tobit regressions on oral reading scores with only various class sizes as predictors showed that in classes with more than 150 learners, learner reading scores for Standard 3 learners decreased by 1.7 cwpm (15 percent). Also, Standard 3 learners with class sizes of 50 or less had lower predicted reading scores than did learners in classes of between 51 and 100 learners.
- Learners from SEED are likely to perform better than are learners from the other divisions on their oral reading fluency tests, and learners from CEED and NED were likely to score lower on their oral reading fluency subtask. Standard 1 girls' predicted scores were highest in SHED and then SEED. Predicted results were not statistically affected by educational division for Standard 1 boys. Standard 3 boys and girls from SEED and then SWED performed the best.

## RECOMMENDATIONS

Based on the above findings, the study recommends USAID and MoEST do the following:

- Build up community programs that work to get parents and household members involved in learner reading and ensure these programs encourage households to read to learners and explain the benefits of doing so.
- Consider other ways of ensuring learners are read to more often, possibly by creating after-school peer mentoring programs. This method has been tried in many other education interventions and proved beneficiary both for the mentors and mentees.
- Explore the costs of employing more qualified teachers in schools, and determine whether smaller class sizes are worth the investment. USAID and MoEST may also need to explore whether there is sufficient supply of educated teachers to fill new positions and address any gaps if not.
- Work with schools to ensure they have enough textbooks or a system of protecting textbooks to allow learners to take books home from school with them, and encourage learners to do so—possibly through reading incentive programs such as those often used in the U.S. that provide small rewards for learners who read multiple books over school break periods (or even throughout the academic year).
- Continue to work with teachers through targeted capacity-building and coaching interventions to improve teacher use of “essential” reading practices.
- Identify schools with low food security levels that do not have school feeding programs, and explore options for increasing resources available for school feeding in these areas through partnerships with other donor organizations, or consider scaling up USAID Feed-the-Future Programming to target communities with learners who have low food security levels.

# I. INTRODUCTION

Access to education in Malawi has improved greatly in recent years but, the quality of education in the country still lags. After the abolition of school fees in 1994, primary school enrollment in the country jumped from 1.9 million to nearly 2.9 million in 2009.<sup>2</sup> And, by 2009, net primary school enrollment reached 97 percent in Malawi, according to the World Bank.<sup>3</sup> Unfortunately, however, the number of qualified teachers in the country has not kept pace with this growth. Class sizes remain very high. A 2005 study showed the learner to teacher ratio at 83 to 1<sup>4</sup>. Further, despite, Government of Malawi (GoM) efforts to improve the quality of education in the country's schools, Malawi still places well below average on worldwide education indices—having declined slightly in 2014 from its rank in 2013. According to the United Nations' 2014 Human Development Report Index, Malawi ranks 174<sup>th</sup> out of 187 countries for quality of education (down from 170<sup>th</sup> in 2013), behind Zimbabwe, South Sudan, and Pakistan.<sup>5 6</sup> Furthermore, the 2010 Early Grade Reading Assessment (RA) baseline study conducted by the United States Agency for International Development (USAID) through the Malawi Teacher Professional Development Support (MTPDS) Project showed that learners consistently and dramatically underperformed in measures of basic literacy. Specifically, test results showed that 73 percent of Standard 2 youth could not read a single word of a prompted story, and 97 percent could not answer a single reading comprehension question correctly.<sup>7</sup> A 2013 study based on USAID's follow-on project to MTPDS—the Early Grade Reading Activity (EGRA)—found similar trends and showed that 76 percent of Standard 2 youth could not read a single word of a prompted story, and 86 percent could not answer a single reading comprehension question.<sup>8</sup>

In an effort to address this educational quality gap, USAID has partnered with the GoM on interventions focused on improving the quality of teaching in schools, getting communities more involved in schools, and improving learner reading scores. Two of these activities have included the MTPDS and the EGRA. To better understand how these activities are working as well as how changes to GoM educational policies are affecting learner outcomes, such as reading scores, USAID and the GoM are also partnering on a series of ongoing National Reading Assessments (NRAs). This is the first of those NRAs, and it was conducted by Social Impact, Inc. (SI), an Arlington, Virginia-based development consulting firm, in June and July 2014, following USAID/Malawi awarding SI a contract in April 2013. The NRA is intended to provide valuable data on learner reading performance across Malawi to facilitate greater accountability and evidence-based decision-making within Malawi's education system. This report discusses the methodology, limitations, and findings for the 2014 NRA and makes recommendations to USAID, the Ministry of Education, Science, and Technology (MoEST), and other stakeholders on possible ways to improve the quality of reading amongst primary school learners in Malawi in the future.

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<sup>2</sup> Ampiah, Joseph; Byomugisha, Albert; Chimombo, Joseph; Kunje, Demis; Mikiko, Nishimura; Ogawa, Keiichi; Sawamura, Nobuhide; Sifuna, Daniel; and Yamada, Shoko, "A Comparative Analysis of Universal Primary Education Policy in Ghana, Kenya, Malawi, and Uganda," CICE Hiroshima University, *Journal of International Cooperation in Education*, Vol.12 No.1, 2009. <CICE Hiroshima University, *Journal of International Cooperation in Education*, Vol.12 No.1>

<sup>3</sup> World Bank. *World Development Indicators*, 2009. < <http://databank.worldbank.org/data/views/reports/tableview.aspx>>

<sup>4</sup> Ampiah, Joseph; Byomugisha, Albert; Chimombo, Joseph; Kunje, Demis; Mikiko, Nishimura; Ogawa, Keiichi; Sawamura, Nobuhide; Sifuna, Daniel; and Yamada, Shoko, "A Comparative Analysis of Universal Primary Education Policy in Ghana, Kenya, Malawi, and Uganda," CICE Hiroshima University, *Journal of International Cooperation in Education*, Vol.12 No.1, 2009. <CICE Hiroshima University, *Journal of International Cooperation in Education*, Vol.12 No.1>

<sup>5</sup> Malik, Khalid. "2013 Human Development Report: The Rise of the South, Human Progress in a Diverse World," United Nations Development Program, 2013. <[http://issuu.com/undp/docs/hdr\\_2013\\_en?mode=window](http://issuu.com/undp/docs/hdr_2013_en?mode=window)>

<sup>6</sup> Malik, Khalid. "2013 Human Development Report: Sustaining Human Progress: Reducing Vulnerabilities and Building Resilience," United Nations Development Program, 2014. <<http://hdr.undp.org/en/content/human-development-report-2014>>

<sup>7</sup> USAID/Malawi. "Early Grade Reading Assessment: National Baseline Report," 2010. <[www.eddataglobal.org/reading/index.cfm/Malawi%20National%20Baseline%20EGRA%202010.pdf?fuseaction=throwpub&ID=354](http://www.eddataglobal.org/reading/index.cfm/Malawi%20National%20Baseline%20EGRA%202010.pdf?fuseaction=throwpub&ID=354)>. The numbers from Standard 4 are 42 percent and 69 percent, respectively

<sup>8</sup> Capper, Joanne, et. al., "Early Grade Reading Impact Evaluation Baseline Report," November, 2013

# II. ASSESSMENT PURPOSE, QUESTIONS, AND INDICATORS

## ASSESSMENT PURPOSE

As USAID and the GoM seek to improve education in Malawi, the NRA will allow both parties (as well as other donors) to track progress toward improved quality of education and improved success in meeting early grade reading benchmarks. Moreover, as opposed to the impact evaluation (IE) that SI is performing to track the progress of the EGRA and complimentary projects (a Global Health Initiative Project and a Feed the Future Project), the NRA provides an overview of education across Malawi rather than just of education in the ten districts affected by the EGRA intervention. This will help the MoEST to better understand the overall level of early grade reading for learners in Malawi as well as to identify which groups of learners are most in need of support and what type of support they need. Specifically, the NRA examines reading assessment results disaggregated by gender, urban vs. rural location, and education divisions. This first NRA compares reading results across these subgroups, and beginning in 2016, SI will also be able to compare results across time, as a second national assessment of similar design is scheduled for 2016. In addition, the NRA also aims to build the capacity of Ministry of Education in Malawi by training and employing ministry employees as supervisors and enumerators to gather the data for the assessment.

In addition to the reading assessment results, the NRA links reading achievement data with information on teaching practices; school climate; and other school data obtained from head teachers, teachers, and learners. USAID and the MoEST will use these results to determine what conditions are associated with learner performance in Malawi and to develop policies to help boost learner reading outcomes nationwide. SI will also use the data from this assessment to produce school- and district-level reports that USAID and MoEST can use to inform more localized educational policies.

## ASSESSMENT QUESTIONS AND INDICATORS

This NRA examines how Malawian primary school learners in Standard 1 and 3 are progressing towards reaching reading benchmarks<sup>9</sup> for reading through the following questions:

- 1) What proportion of primary school learners is at the Standard 1 benchmark for reading skills?
  - a. What is the breakdown of learners grouped by subdivisions and progress toward attaining reading benchmarks in Standard 1?
  - b. What is the relationship of Standard 1 reading skill acquisition to additional factors that relate to or predict achievement, including classroom size, for Standard 1?
  
- 2) What proportion of primary school learners is at the Standard 3 benchmark for reading skills?
  - a. What is the breakdown of learners grouped by subdivisions and progress toward attaining reading benchmarks in Standard 3?
  - b. What is the relationship of Standard 3 reading skill acquisition to additional factors that relate to or predict achievement, including classroom size, for Standard 3?

The NRA provides data - by subdivision, gender, and rural and urban location - on indicators that capture the proportion of primary school learners in Standard 1 and 3 that attained MoEST-established benchmarks (new as of

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<sup>9</sup> The Benchmarks were developed by MoEST in December 2014 and were not yet formally approved by the MoEST leadership at the time of this report.

December 2014) or EGRA Coordinating Committee-recommended benchmarks (depending on the subtask) for reading skills.

USAID and MoEST will also use the NRA to provide values for the following indicators:

- 1) Proportion of learners receiving extra one hour time-on-task reading instruction per day
- 2) Proportion of learners that take home and use a book or other reading materials at home.
- 3) Proportion of teachers receiving at least one coaching/support visit per term from anyone (a head teacher, Primary Education Advisor, District Education Manager, etc.)
- 4) Proportion of teachers demonstrating “essential” skills in teaching reading

# III. METHODOLOGY AND LIMITATIONS

## OVERVIEW

The study uses a time series design for the NRA, comparing RA results of a randomly selected stage-three cluster sample of Standard 1 and Standard 3 learners over time. SI partnered with the MoEST and Invest in Knowledge Initiative (IKI), a Malawian data collection firm, to gather data from a nationally representative sample of 7,215 Standard 1 and 3 learners at 360 schools for this first NRA, which took place in June and July of 2014.

Enumerators assessed learners using the Chichewa RA developed by the EGRA Coordinating Committee in 2012. That committee adapted the RA from other RAs used in many countries throughout the developing world. The assessment was conducted in Chichewa since that was the primary language of instruction for Standard 1 through 4 learners in Malawi in 2014.<sup>10</sup> The RA tests learners on their ability to read and understand basic Chichewa text. Specifically, it assesses learners' pre-reading abilities, initial reading skills, and comprehension and fluency capabilities through nine reading subtasks, including: Letter Name Knowledge, Syllable Segmentation, Initial Sound Identification, Syllable Reading, Familiar-Word Reading, Unfamiliar (Non-Word) Reading, Oral Reading Fluency, Reading Comprehension, and Listening Comprehension.

In addition to assessing learner reading, enumerators also collected data on school conditions through a head teacher interview and a school climate protocol, classroom conditions and teaching practices through a classroom observation protocol and teacher interview instrument, and learner and household characteristics through a learner questionnaire.

## SAMPLING METHODOLOGY

The Ministry of Education, Science and Technology of Malawi identifies six education divisions in the country: Central Eastern (CEED), Central Western (CWED), Northern (NED), Shire Highlands (SHED), Southern Eastern (SEED), and Southern Western (SWED). There are 28 total districts, with approximately five districts per educational division—though some divisions have more (NED has seven). Countrywide, the MoEST's Education Management Information System (EMIS) database shows nearly 4,800 schools, including about 800 per education division and 170 per district.

As detailed in Table 2, SI's contract with USAID/MoEST specified that the NRA would provide a nationally representative snapshot of early standard reading skills for Standard 1 and 3 learners by randomly selecting a minimum of two districts within each of the six educational divisions, a minimum of 30 schools within each district, and a minimum of ten learners each in Standards 1 and 3. USAID expected the sample would allow adequate disaggregation by sex, urban versus rural location, and educational division.

**Table 2: USAID Sampling Requirements for the NRA**

Factor	Sample
Education Divisions	6
Districts per Division	2
Schools per District	30
Classes per school (one Standard 1 class and one Standard 3 class)	2
Learners per standard	10
Boys/Girls per standard	5

<sup>10</sup> SI recently learned that Malawi will soon introduce English as primary language of instruction from Standard 1.

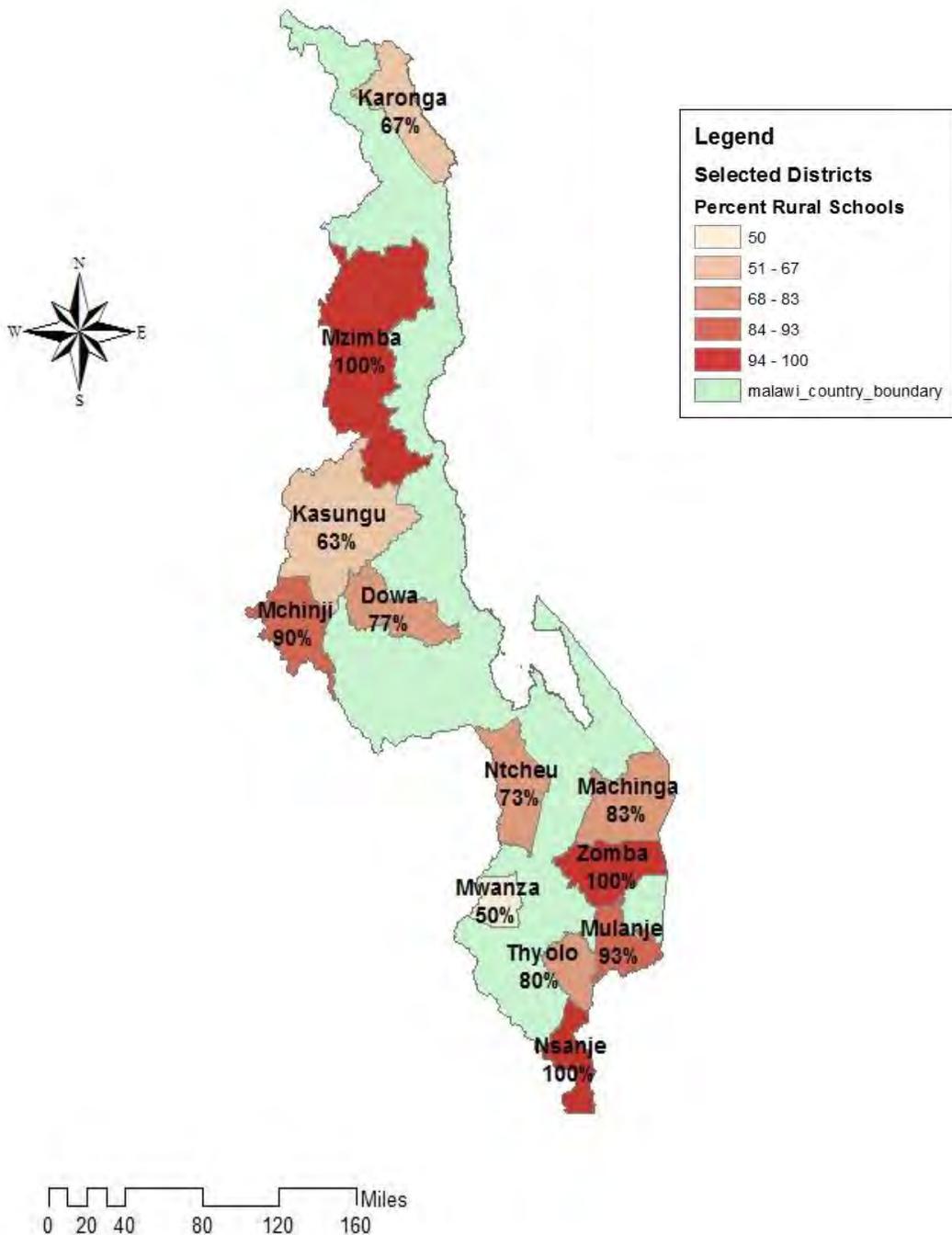
The study used the EMIS data as the sample frame from which to select the sample of schools based on the numbers in Table 2. From the data, the assessment team randomly selected two educational districts in each of the six divisions shown in Table 3, using a randomization function in Excel. In each of these districts, the study team then randomly selected 30 schools, replacing any randomly selected single-sex, private, or junior primary schools (the latter were replaced only if they did not include Standard 3). The EMIS data that the MoEST provided to the study team did not include rural versus urban designation of the schools. As such, to obtain this data, the local study team directly called the MoEST District Education Managers (DEMs). The data provided by the DEMs is included in Table 3 and also presented in Figure 1 below.

**Table 3: Sample Districts and Urban - Rural Designation**

Education Division	Districts	No. of Rural Schools Sampled*	No. Urban Schools Sampled*
Central Eastern	Dowa	23	7
	Kasungu	19	11
Central Western	Ntcheu	22	8
	Mchinji	27	3
Northern	Karonga	20	10
	Mzimba	30	0
Shire Highlands	Thyolo	24	6
	Mulanje	28	2
Southern Eastern	Machinga	25	5
	Zomba	30	0
Southern Western	Mwanza	15	15
	Nsanje	30	0
Total		293	67

\*Anticipated urban-rural disaggregation. Changes to the ratio are discussed in the limitations section of this report.

**Figure I: Proportion of Rural to Urban Schools, by Education District**



Once enumerators arrived at schools, they randomly selected one Standard 1 classroom and one Standard 3 classroom from which to test learners. This was done by having the head teacher draw a class number out of a hat. After the classroom was selected, the enumerators asked the head teacher whether the teacher who teaches reading in that class was present that day and whether he/she had been teaching learners in that school for at least the entire year. If both of those conditions were met, the enumerators then asked if that teacher would be teaching learners a reading lesson that day. If any one of those conditions were not met, the enumerators had the head teacher selected another classroom out of the hat and then repeated those steps. Once the enumerators found a teacher that met all

three conditions, they selected him/her for the sample teacher that would be interviewed for that standard and observed teaching up to three lessons (reading, English, and a third lesson). If no teacher met the conditions for one of the standards, enumerators sought to find the teacher from each standard that met as many of those conditions as possible. The study only selected one class per standard to ensure that learner results could be directly linked to their teachers' teaching practices as well as teacher and classroom-specific characteristics.

Once in the classroom, enumerators selected learners randomly using one of two methods:

- 1) Using classroom attendance lists, they added up the number of boys (and later girls) present that day, divided by five (the sample size needed), and then used the result as a sampling interval. Before starting counting, they had a learner randomly select a number between one and five and then began counting down the list by that interval.
- 2) If no attendance list was available, the enumerators asked all of the boys (and later girls) to stand in a line and then used the same interval and start-point selection methodology described in step one.

After selecting five boys and five girls from each standard, the enumerators used the same methodology to select a list of alternate learners for the assessment in case any of the original sample opted out of the study or otherwise could not complete their assessment. If fewer than five boys or five girls per standard were present at the school, the study selected all learners present. This only happened for 4 of the 720 classrooms (two classrooms—one Standard 1 and one Standard 3—per each of the 360 sampled schools).

Enumerators administered the head teacher questionnaire to the head teacher, or, if he/she was not present, to the deputy head teacher. If the deputy head teacher was also not present, enumerators administered the head teacher questionnaire to whichever teacher had been delegated authority for the school for that day. As shown in Table 4, overall, enumerators interviewed 303 head teachers, 43 deputy head teachers, and 14 alternates for the head teacher.

**Table 4: Head Teacher Questionnaire Sample**

Division	Head Teacher	Deputy Head Teacher	Acting Head Teacher	Total
CEED	54	5	1	60
CWED	51	8	1	60
NED	46	7	7	60
SEED	52	7	1	60
SHED	52	7	1	60
SWED	48	9	3	60
Total	303	43	14	360

## SAMPLE SIZE

The USAID sample size specifications (see Table 2) required a minimum of 7,200 learners drawn from 720 classrooms in 360 schools located within the six Malawian education divisions. Prior to data collection, SI conducted power calculations to verify the adequacy of the sample size to provide a nationally representative snapshot of early standard reading skills for Standard 1 and 3 learners. The assessment team derived intra-cluster correlations (ICCs) for sex and education division from data on oral reading fluency subtask scores for Standards 2 and 4 from the EGRA Impact Evaluation (IE) Baseline Assessment conducted by SI. The team took the ICCs for rural and urban comparisons from MTPDS data, as the EGRA IE Baseline data did not contain information on rural and urban demographics. The assessment team used IE industry standard specifications for selecting the appropriate power and significance levels for the calculations—80 percent and 95 percent, respectively. Using the above, SI found that the sample of 7,200 learners across 360 schools was adequate to measure the minimum detectable effect sizes (MDESs) presented in Annex VIII.

## SAMPLE REVISIONS

Generally, the sample size is consistent with what was planned. However, this was not true of the urban versus rural breakdown. Prior to the survey, information provided by the DEMs on sampled schools showed that 67 schools could be classified as urban since they were located in or close to urban areas, and 293 schools were classified as rural. Once enumerators actually arrived at the schools and started data collection, they found that many of the schools thought to be urban during initial sampling, were actually rural. Also, due to data collection challenges, the sample breakdown slightly deviated from what was originally anticipated for classroom observations. The final sample composition is presented in Tables 5 and 6, below.

**Table 5: Final NRA Sample – Number of Schools and Classes**

Divisions	Districts	Rural Schools	Urban Schools	Head Teachers	Std 1 Teachers	Std 3 Teachers	Std 1 Class Obs.	Std 3 Class Obs.
CEED	2	60	0	60	55	59	133	139
CWED	2	59	1	60	60	60	145	143
NED	2	59	1	60	59	58	160	154
SEED	2	59	1	60	59	56	124	122
SHED	2	59	1	60	60	60	136	135
SWED	2	50	10	60	57	53	139	130
Total	12	346	14	360	350	346	837	823

**Table 6: Final Sample - Learners**

Divisions	Districts	Std 1 Girls	Std 1 Boys	Std 3 Girls	Std 3 Boys	Total Std 1 Learners	Total Std 3 Learners	Total Students
CEED	2	301	300	297	297	601	594	1,195
CWED	2	300	300	299	300	600	599	1,199
NED	2	295	302	299	301	597	600	1,197
SEED	2	209	304	301	300	602	601	1,203
SHED	2	303	297	304	297	600	601	1,201
SWED	2	296	305	294	305	601	599	1,200
Total	12	1,793	1,808	1,794	1,800	3,601	3,594	7,195

Based on the actual sample size (reported above) and the data gathered from the sample during the NRA in 2014, the study team recalculated the power to verify the adequacy of the actual sample size to provide a nationally representative snapshot of early grade reading skills for Standard 1 and 3 learners. The results are presented in Tables 7, 8, and 9 below.

For the above sample size used in the assessment, the Minimal Detectable Effect Size (MDES) indicates the estimated amount of change that the study will be able to measure for each subtask over time as well as between groups (such as sex, locations, and divisions) at any given point of time. If a change of less than this amount occurs, the study would not be able to recognize this change as being different from no change at all. For that reason, the MDES presented in Tables 7, 8 and 9 is very important and should be carefully considered in line with expected changes over time.

**Table 7: Minimum Detectable Effect Sizes by Sex, and by Standards**

Subtask	Sex							
	Standard 1				Standard 3			
	ICC	MDES	Avg. % achieving benchmark	Standard Deviation	ICC	MDES	Avg. % achieving benchmark	Standard Deviation
Listening Comprehension	0.1606	0.042653	0.4643	0.4988	0.1448	0.04174	0.6274	0.4836
Letter Name Knowledge	0.0727	0.013329	0.0225	0.1483	0.1303	0.02367	0.0804	0.2719
Syllable Segmentation	0.0943	0.036054	0.208	0.4059	0.1077	0.04392	0.4552	0.4981
Initial Sound Identification	0.0444	0.007728	0.0072	0.0847	0.1015	0.01095	0.0156	0.1238
Syllable Reading	0.0859	0.008504	0.0092	0.0953	0.0603	0.01645	0.0342	0.1818
Familiar Word Reading	0.0407	0.006079	0.0044	0.0665	0.0061	0.01057	0.0131	0.1136
Unfamiliar Word Reading	0.0311	0.005512	0.0036	0.06	0	0.00492	0.0028	0.0527
Oral Reading	0.0437	0.008826	0.0094	0.0967	0.0161	0.01279	0.0195	0.1382
Oral Reading Comprehension	0.0443	0.005675	0.0039	0.0622	0.0144	0.01107	0.0145	0.1195

**Table 8: Minimum Detectable Effect Sizes by Urban versus Rural Location of Schools, and by Standards**

Subtask	Rural vs. Urban									
	Standard 1					Standard 3				
	ICC-Rural	ICC-Urban	MDES	Avg. % achieving benchmark	Std. Deviation	ICC-Rural	ICC-Urban	MDES	Avg. % achieving benchmark	Std. Deviation
Listening Comprehension	0.16	0.092	0.197	0.4643	0.499	0.14	0.106	0.195	0.6274	0.4836
Letter Name Knowledge	0.07	0.114	0.059	0.0225	0.148	0.13	0.148	0.117	0.0804	0.2719
Syllable Segmentation	0.09	0.078	0.152	0.208	0.406	0.11	0.003	0.153	0.4552	0.4981
Initial Sound Identification	0.05	0	0.025	0.0072	0.085	0.10	0	0.037	0.0156	0.1238
Syllable Reading	0.09	0	0.029	0.0092	0.095	0.06	0	0.054	0.0342	0.1818
Familiar Word Reading	0.04	0	0.019	0.0044	0.067	0.01	0	0.033	0.0131	0.1136
Unfamiliar Word Reading	0.03	0	0.017	0.0036	0.06	0	0	0.015	0.0028	0.0527
Oral Reading	0.04	0.065	0.034	0.0094	0.097	0.02	0	0.039	0.0195	0.1382
Oral Reading Comprehension	0.04	0	0.018	0.0039	0.062	0.01	0	0.034	0.0145	0.1195

**Table 9: Minimum Detectable Effect Sizes by Education Division, and by Standards**

Subtask	Divisions							
	Standard 1				Standard 3			
	ICC	MDES	Avg. % achieving benchmark	Standard Deviation	ICC	MDES	Avg. % achieving benchmark	Standard Deviation
Listening Comprehension	0.161	0.126095	0.4643	0.4988	0.1448	0.118645022	0.6274	0.4836
Letter Name Knowledge	0.073	0.030835	0.0225	0.1483	0.1303	0.064789778	0.0804	0.2719
Syllable Segmentation	0.094	0.089217	0.208	0.4059	0.1077	0.112997773	0.4552	0.4981
Initial Sound Identification	0.044	0.016199	0.0072	0.0847	0.1015	0.027684219	0.0156	0.1238
Syllable Reading	0.086	0.020514	0.0092	0.0953	0.0603	0.036503291	0.0342	0.1818
Familiar Word Reading	0.041	0.012566	0.0044	0.0665	0.0061	0.018861724	0.0131	0.1136
Unfamiliar Word Reading	0.031	0.010973	0.0036	0.06	0	0.008519381	0.0028	0.0527
Oral Reading	0.044	0.018452	0.0094	0.0967	0.0161	0.023905026	0.0195	0.1382
Oral Reading Comprehension	0.044	0.011892	0.0039	0.0622	0.0144	0.02053183	0.0145	0.1195

## DATA COLLECTION INSTRUMENTS

The study team developed, adapted, and/or adopted the following six data collection instruments used in this assessment for the 2013 EGRA IE Baseline Assessment conducted by SI: the Chichewa RA instrument, the head teacher interview instrument, the teacher interview protocol, the classroom observation protocol, the school climate protocol, and the learner questionnaire. SI's Internal Review Board approved the instruments, and USAID and MoEST provided their feedback and approval prior to the 2013 Baseline Assessment. In preparation for the 2014 NRA, the study team made a few minor changes to the instruments to help build in questions covered by the household assessment in 2013 (there was no household assessment conducted for the 2014 assessment) and to ensure a few more additional data were collected at the request of USAID. As in 2013, in 2014, SI also sent the tools to USAID and the MoEST for final approval prior to the start of enumerator training and instrument piloting in May 2014. Next, to reduce errors in data collection and entry, the study team used electronic data collection to collect data for each of the instruments—with the exception of the classroom observation protocol. For the latter, enumerators found it easier to capture information on paper versions of the protocol, so they could easily and quickly scroll back and forth through the list of practices and check those that are relevant, prior to entering information into the tablets.

The study team pilot tested all six data collection instruments both once in 2013 prior to the baseline assessment and twice in 2014—once with Survey and Logistics Managers and then again with the entire set of study enumerators. The instruments were then modified to ensure instructions and questions were clear and questions included all-inclusive yet mutually exclusive response choices. Each of the data collection instruments is described in more detail below.

### Chichewa RA Instrument

The primary source of outcome data (reading performance) for the NRA was the standardized reading RA instrument. The Research Triangle Institute (RTI)-International and the EGRA Coordinating Committee adapted the instrument into Chichewa, the national language of instruction for learners in Standard 4 and below in Malawi, from other languages to measure the achievements of the MTPDS Project. It was developed based on guidelines<sup>11</sup> provided by the originators of the EGRA model, RTI, and has been widely used in Malawi. The instrument also has been validated and used in a variety of contexts and languages throughout the world to measure the reading ability of young learners.

### Other In-School Data Collection Instruments

In addition to the RA, the study team slightly adapted and used the five instruments described below, which were first created for the EGRA IE Baseline, to capture additional relevant information during in-school data collection.

- A **classroom observation protocol** was used to observe up to three lessons—one reading lesson, one English lesson, and one third lesson—for one Standard 1 and one Standard 3 teacher at each sampled school. This instrument requires enumerators to look for generally recognized best teaching practices in lessons as well as behavior representing the equal treatment of all learners, the number of classroom resources, and the extent to which the classroom is a supportive learning environment. SI designated career MoEST personnel who regularly conduct classroom observations in schools in Malawi to conduct the observations to ensure their solid understanding of the best practices sought by the protocol. Enumerators sit in the back of classrooms and quietly observe and complete this protocol during observed lessons and later enter that information into the electronic data collection tablets.
- A **head teacher interview protocol** was administered to head teachers by an enumerator and contained a range of relevant questions, including questions geared at gathering information on the

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<sup>11</sup> RTI International and International Rescue Committee (2011). Guidance Notes for Planning and Implementing EGRA, Research Triangle, NC

qualifications and experiences of the head teachers; types and numbers of teacher trainings offered to teachers in their schools; general school environment, including hours of operation and availability of resources; school operations; and the level of involvement of the community in the school. Enumerators collected information using this instrument through hour-long, face-to-face interviews with head teachers, deputy head teachers, or acting head teachers at each school.

- A **teacher interview protocol** was administered to the teachers from whose classes learners were selected for the reading assessment. It included topics such as years of teaching experience, qualifications, learner attendance, learner repetition, and learners' perceived barriers to learning. Enumerators collected information using this instrument through hour-long, face-to-face interviews with teachers.
- A **learner interview protocol** was administered to each learner participating in the NRA assessment by enumerators, following the learner's completion of the assessment. with questions that addressed factors such as learners' attitudes toward school, reasons for not attending school regularly, how often and what they eat, their at-home activities, housing conditions, family assets, and whether they are read to at home.
- A **school climate checklist** was used by enumerators in structured observations of the school grounds to rate factors such as cleanliness of the school and classrooms; whether there are latrines and how clean they are; whether the school has electricity, access to clean water, and a library; and other items related to the physical and environmental condition of the school, such as instances of bullying.

The USAID approved instruments are included as Annexes II through VI of this report.

## DATA COLLECTION PROCEDURES

### Survey Manager and Enumerator Training

Each of the data collection teams was made up of one Survey and Logistics Manager from IKI (who oversaw sampling in the schools, ensured proper completion and uploading of data, produced weekly field reports, and managed the team's time and resources), one MoEST Technical Manager (who managed all of the technical aspects and supervision for the survey and acted as the key liaison between the team and the head teacher at each school), and two MoEST enumerators. SI, IKI management, and MoEST officials trained the IKI Survey and Logistics Managers in Zomba from May 27 – June 1. Training focused on the data collection schedule, the purpose of the study, the role of the Survey and Logistics Managers, selection of survey and assessment participants, assignment of unique identifiers for all surveys/assessments, general best practices in data collection and working with youth subjects, a detailed technical review of all of the data collection instruments, a review of data collection using tablets, and guidance on preparing and submitting weekly progress reports for the NRA.

Following the Survey Manager training, USAID, MoEST, IKI, and SI hosted an enumerator and Technical Manager training at the Riverside Hotel in Lilongwe from June 2 – June 7, 2014. This training covered all of the same topics as the Survey Manager training, and included an inter-rater reliability test to ensure enumerators were marking assessments consistently, as well as a one-day field test to pilot the instruments and protocols and allow enumerators and managers the opportunity to practice live data collection with real respondents. The pilot was used to inform final instrument revisions, including reprogramming of the tablets to ensure ease of use. It also informed the last two days of enumerator training, allowing trainers to hone in on consistent challenges or weak points of data collection.

## **Data Collection using Electronic Devices**

Whereas the IE baseline utilized tablets only for the EGRA instrument and learner questionnaire (as well as a household survey—not a part of the NRA), the 2014 NRA equipped enumerators with tablets pre-loaded with all of the survey instruments. The study team programmed the tools into the tablets using Tangerine software<sup>11</sup> for the EGRA tool and open data kit (ODK) software<sup>12</sup> for the others and tested each of the instruments repeatedly in the months leading up to data collection.

The tablets performed well in the field, and enumerators handled them well following their training. The ability to constrain surveys to allow only logically possible answers made the responses more reliable (e.g. there cannot be 1,000,000 girls in a class), as did the inclusion of drop-down menus to ensure accuracy of certain key fields. The tablets also helped avoid the need for extensive data entry—another possible source of delay and error—since the data were uploaded to servers directly from each tablet.

## **Data Cleaning and Analysis**

The local data collection team delivered the raw data to the study team in July, 2014, and both groups worked together to ensure the datasets included the right number of observations, including the correct number of observations for each school and each learner, and that any missing observations had an adequate explanation. The team then worked to identify outliers and any important missing values, and the local data collection team then called back MoEST officials and study respondents, where necessary, to verify or correct these data.

After all data-collection activities concluded in July 2014 and all data were cleaned, SI analyzed the data to answer the assessment questions related to learner reading abilities for Standard 1 and 3 learners. SI began analysis of the data on July 30, selecting the appropriate analytic methods to accommodate the research questions outlined in the EGRA contract and detailed above. The assessment team weighted the data appropriately to make the sample nationally representative and ensure results are comparable to previous nationally representative studies. Specifically, the team used EMIS data to construct weights at division, district and at school levels to account for sample size and design effects. The assessment team used frequencies, averages, cross tabulations, and other descriptive statistic tests to discuss basic survey sample demographics and to produce summary and detailed statistics on learner performance on the RA.

SI began data analysis in August 2014 and submitted a draft report in September 2014. However, SI submitted an updated draft report in February 2015 due to incorporation of new reading benchmarks for Standard 1 and Standard 3 issued by MoEST in late December 2014 for four subtasks: (i) Reading comprehension (the number or percent correct out of five questions), (ii) Familiar word reading (number of familiar words correctly read per minute), (iii) Syllable reading (number of common syllables correctly read per minute) and (iv) Oral reading fluency (the number of words of text correctly read per minute). Benchmarks for the other four tasks have not been set by MoEST, and as such, the evaluation team uses the EGRA Coordinating Committee-recommended benchmarks to provide context for these subtasks. Using these benchmarks, the study team compared overall reading scores and scores by subtask against benchmarks, using t-tests to determine whether actual scores were statistically different from benchmarks.

In addition to the demographics and overall reading scores reported in the findings section of this report, the assessment team also presents findings on factors that were found to be correlated with higher or lower learner reading scores. This section of the findings came from analysis using Tobit regressions to identify factors correlated with oral reading fluency scores. Factors considered for inclusion in the regressions included learner sex, access

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<sup>12</sup> ODK is a free and open-source set of tools that can be used to author, field, and manage mobile data collection.

to female lavatories at school, class instruction time, teacher use of best practices in the classroom, length of the school day, school resources, teacher and head teacher qualifications, education division, urban/rural status, and several household factors including familial literacy and whether or not family members provide learners help with their homework, among many others. The finalized list of factors that the team found to have some correlation with learner reading scores can be found in the results section along with their respective effects on oral reading fluency. It is important to note, however, that if a factor was found not to be correlated with outcomes, it is not included in the findings section despite the team having looked into the possible effects of that particular factor. For factors such as teaching practices and school resources, the study combined several related survey items into one index score via principle component analysis (PCA). These index scores were then included in the regressions alongside single question items (i.e. age, sex, learner: teacher ratio, etc.). Each PCA index and its components is described in detail below.

## Principal Component Analysis

The NRA produced a large dataset, including hundreds of variables. Having a large number of variables is necessary in order to capture complex concepts such as school resources or quality of teaching practices. However, it is not practical to use all these variables in an unrestricted way during data analysis, for two main reasons. When a regression model incorporates several correlated variables, the problem of multicollinearity may emerge. Multicollinearity occurs when several variables within the model are related to each other (correlated) and tend to be observed in similar ways across the same learners. Multicollinearity can cause large standard errors for the coefficients on the correlated variables, sometimes even resulting in a situation where two variables that are correlated and that should have the same signs actually end up with opposite signs. It can also cause two different but related independent variables that have been shown to have an effect on a dependent variable appear to have no significant effect whatsoever. This is because each one diminishes the effects of the other. These kinds of unanticipated results also contribute to a second problem, which is that regression models with large numbers of variables are difficult to interpret. The sheer number of variables leads to complex and unwieldy findings statements, and if the standard errors are large, the regression results often become more confusing to explain.

It is usually much more informative to aggregate these variables into indices, which then convey the main information contained in a group of variables. One way to construct these indices is to use a method called “principal component analysis” (PCA). This method decomposes a set of correlated variables into another set of linearly unrelated components. The single component that is found through statistical analysis to have the most explanatory power, the one that explains the highest amount of variance of the index as a whole, is chosen as the principle component. In a sense, it is then taken to represent all of the other components of the index, but using it in place of the others avoids the problems outlined above related to large numbers of correlated variables.<sup>13</sup> One advantage of using this method over other ways of constructing an index (such as adding or averaging all variables in a group) is that it allows the data itself to guide the construction of the index rather than some external determinant.

In selecting the principal component, PCA also produces a number by which learners, or schools, can be ranked, allowing for classification of units according to an independent variable of interest. This study used PCA analysis to group some variables together but also included some of the more significant and important variables in regression models on their own. The grouping of variables conducted using PCA included the following:

- **Household Wealth.** A number of studies have been conducted on the topic of measuring wealth in developing countries, in large part because wealth is difficult to measure in poor populations, due to the population’s tendency to rely on unconventional and inconsistent methods of generating income, acquiring and trading goods, and supporting the needs of their families. The majority of experts agree that assets are

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<sup>13</sup> There are several textbook treatments of these methods. One example is Stanley Mulaik, *Foundations of Factor Analysis, Second Edition*, Chapman and Hall/CRC, London: 2009.

usually the best indicator of household wealth among impoverished families in developing countries. Income is difficult to measure because families tend to make their living farming—often only at the subsistence level, doing day labor, selling small goods, or selling crops grown in excess of subsistence, all of which usually produce inconsistent and unpredictable income. Cash is often scarce among the poor, so households often rely on trade to obtain goods they do not produce themselves. Because of this, household expenditures also are not a particularly reliable indicator of wealth for this population. Consumption is also an unreliable indicator because families tend to vary their consumption patterns throughout the calendar year because of natural variations in their annual wealth arising from harvest versus “lean seasons” and tourist seasons (for those who sell small goods or rely on tourists for day labor). Thus, assets tend to be the most reliable indicator of long-term wealth, with the caveat that assets do not indicate recent changes in wealth: It takes time for families to acquire assets after they have gained more wealth (either in the form of money or goods to sell/trade).

For most studies, SI tries to collect multiple indicators of wealth—such as income, consumption, and assets—to triangulate results. However, given the lack of resources for a household survey to be paired with the NRA, the only source of information about household wealth for the NRA was learner knowledge. The study team decided that the only indicators that learners are likely to be able to reliably report on are household assets. As such, this specific study used assets as a proxy indicator for household wealth. The study compiled the asset (wealth) index using the household variables listed in Table 10, which were reported by learners.

The PCA for wealth during the EGRA IE Baseline included information on each of the factors listed in Table 10 below, including the number of rooms in a household, what type of latrine households had, whether they had access to clean water and electricity, and whether the families had televisions, bicycles, refrigerators, beds, etc. Originally, the study team had also included whether households had gold or silver jewelry, but, the team found that the presence of this factor did not correlate with the presence of other more expensive items.<sup>14</sup> Also, the NRA assessment team determined that learners may not be aware of whether their parents own real gold or silver. Therefore, these factors were dropped from the PCA for the NRA. Ownership of each of the other assets listed in Table 10 correlated with a higher PCA score, indicating that all of these assets were individually indicators of higher wealth and that the PCA score effectively captures relative wealth within the sampled population.

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<sup>14</sup> Most of the families studied lived a subsistence life and therefore did not possess gold, silver or other expensive jewelry.

**Table 10: Household Assets of Learners Included in Wealth PCA**

Asset	Observations	Percent who report their Household Own One	Standard Deviation
Toilet facility	7128	98.0%	0.14
Radio	7179	69.8%	0.459
Bicycle	7181	67.9%	0.467
Cell phone	7169	59.5%	0.491
Lamp	7167	57.4%	0.494
Table	7179	54.6%	0.498
Bed with a mattress	7174	40.7%	0.491
Sofa	7173	23.5%	0.424
Television	7172	14.4%	0.352
Piped water	7185	11.4%	0.317
Ox plow	7170	9.7%	0.296
Refrigerator	7179	5.9%	0.235
Motorcycle or motorized scooter	7002	5.1%	0.221
Electricity	7185	4.9%	0.216
Car or truck	7162	3.0%	0.17
Tractor	7177	2.6%	0.159
Average Number of rooms	7185	2.701	1.074

*Note: The number of observations vary by asset because some learners reported that they didn't know whether or not they had the indicated asset. The numbers reported in the table are only those for which learners were able to report results.  
National Reading Assessment Learner Survey 2014*

- **School resources.** The assessment team created a PCA score for school resources using data from the school climate protocol and head teacher questionnaire. All of the factors listed in Table 11 were included in that PCA score.

Initially, school locks and having no broken windows were also included as factors in the PCAs, but the assessment team took these out after observing that some of the more wealthy schools did not have these items. The team determined that the presence of these factors may have been indicative of factors other than school resources, and they also might be indicative of a low-level of resources rather than a high-level of resources. For instance, a school with a low-level of resources might not have any glass windows (either because it has open-air classrooms or because the windows are simply concrete cinder blocks); thus, that school would not have any broken windows. Therefore, wealthier schools that are more likely to have glass windows are also probably more likely to have broken windows. Similarly, wealthier schools that are based in more secure areas may be less likely to invest in a lock, while schools in less stable areas (potentially with fewer overall resources) with high rates of crime may be more likely to buy a lock. Outside of this PCA score, the study also considered the learner-to-teacher ratio for the standard level being assessed under school resources. This factor was not included in the PCA score due to its perceived importance and explanatory capability.

**Table 11: School Resources included in PCA**

School Resource Item	Observations	Percent reporting Presence of the Item	Standard Deviation
Girl's Latrine	359	91.4%	0.281
Teacher Latrine	360	36.9%	0.483
Teacher Lounge	360	91.4%	0.281
Sufficient Class Space	360	78.3%	0.413
Well-Groomed Grounds	358	59.8%	0.491
Electricity	360	7.5%	0.264
Clean Water	360	73.6%	0.441
A range of learning materials	357	43.4%	0.496
Appearance of adequate Resources	358	26.8%	0.444
A well-stocked Library	360	26.7%	0.443

*National Reading Assessment Head Teacher Survey and School Climate Observation 2014*

- Teacher Use of Best practices in Teaching Reading.** The final PCAs used by the assessment team were teacher use of best practices in teaching reading and teacher use of essential practices in teaching reading. The use of best practices PCA was developed through analysis of all of the variables included in the table for the classroom observation protocol, which can be found in Annex VI.<sup>15</sup>

## Quality Control

As mentioned above, the study team took several precautions to ensure quality data. First, it vetted, tested, and re-tested the data collection instruments. Next, it trained, tested, and gap trained enumerators. Additionally, as described above, the study team programmed the tablets with internal quality checks to ensure that many questions could only be answered with possible or reasonable responses. Beyond its utility in cleaning, these constraints resulted in fewer dropped observations and a more complete and useful data set. Next, throughout the data collection process, MoEST and IKI monitoring teams visited enumerators in the field to oversee progress. These monitoring teams attended the trainings and used a checklist created by the study team to ensure the data collection protocol was being followed closely. Finally, the local data collection team conducted back checks for 10 percent of the schools and survey respondents (head teachers and teachers) during which survey responses were verified by revisiting respondents and asking a subset of the questions previously asked. In addition to this 10 percent, the local data collection team contacted several respondents (head teachers and teachers) by phone to clarify unclear responses.

## THREATS AND LIMITATIONS

### Comparability of Contexts: Internal Validity

A threat typical in assessments of all types is the lack of internal validity, meaning that the study does not adequately measure what it was intended to measure. This can happen for a number of reasons, including if data collection instruments are not well designed, enumerators introduce bias (as discussed below), or the sample is not representative of the population it is meant to measure results for. The latter is the greatest concern in this study because the assessment team took several precautions to avoid the former and because of the simple nature of the education system in Malawi.

Because studies that use probability samples rely on measures of outcomes from only a sample of the population, there is always the potential that the sample might somehow be biased. The team attempted to avoid this possibility

<sup>15</sup> This should be distinguished from the essential teaching practices, which includes only twelve of the practices observed. The PCA includes all best practices instead of only the essential practices because including further practices paints a more complete picture in the context of a PCA.

by randomly selecting the sample. However, it did so using clusters, which could be cost effective but also effectively reduces the sample size. A reduction in sample size could reduce the study's ability to be confident in identifying very small changes in key outcomes.

Other factors affecting the internal validity of the study include absenteeism and dropouts. The simple nature of the NRA study—that it is conducted at schools—means that some learners will not be present at school that day. This is okay if the absent population is random and does not represent learners who do statistically better or worse on reading tests. However, the assessment team does not believe that the absentee population for this study was the same as the present population. On the contrary, it appears that the absentee population may be over-representative of the lower-performing population of learners. The reason for this is that the GoM reports absenteeism rates averaging more than 25 percent of the learner population in the lower standard levels.<sup>16</sup> And, the study found through qualitative data collection that some of the population tends to miss school more often than others. These learners tend to perform worse on tests and in school because of this, and they often drop out. This means that the results of the NRA study are likely skewed slightly toward the positive when considering all enrolled learners throughout Malawi and likely even more positive when considering all school-aged children in Malawi.

### **Comparability of Contexts: External Validity**

The conclusions in this report are designed to be valid for Malawi as a whole. As such, readers should not assume that conclusions described herein hold true for contexts outside Malawi. Similarly, there may be smaller regions or sub-populations within Malawi that could differ significantly from the general norms and trends of Malawi as a whole. NRA conclusions should only be taken to hold true in contexts that resemble the characteristics of the nationally representative sample.

This limitation is not unique to this assessment. It is a potential weakness that generally exists for all evaluations and assessments. Having extensive data about the learners, their schools, their households, and their communities will help users of this study to assess how similar the context of the learners sampled is to other contexts into which these results may be extrapolated. This will allow USAID and other stakeholders to make an informed determination about how appropriate it would be to apply the findings of this assessment to other contexts.

### **Sample Size**

The sample size satisfied the specific requirements laid out in SI's contract with USAID/Malawi vis-à-vis total size and key sub groups. While it is possible to detect differences in reading performance along each of these subgroups, some subgroups will require relatively large real-world differences between groups or over time in order for the assessment team to be able to identify statistically significant differences over time. For instance, comparisons of initial sound identification scores by division would require a 26 percent difference in scores between divisions or for one division over time for the assessment team to be able to identify a statistically significant result. This is to be expected, however, as any division-to-division comparison necessarily excludes two thirds of the sample and loses statistical power accordingly.

If there is a particular comparison of interest (i.e. Division I vs Division III), the 2016 NRA sample may be adapted to accommodate this by surveying additional schools and learners in those particular divisions. Since there are very few urban schools in Malawi compared with rural schools (Only 16 percent of the population lives in urban areas),<sup>17</sup> the fact that the study used random sampling meant that the overall sample was skewed towards rural schools, limiting rigorous comparisons between rural and urban schools.

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<sup>16</sup> USAID Malawi. "2010 Early Grade Mathematics Assessment (EGMA): National Baseline Report," 2010.

[http://mtpds.org/images/stories/pdfs/baseline\\_reports/malawi\\_national\\_egma\\_2010\\_baseline\\_report.pdf](http://mtpds.org/images/stories/pdfs/baseline_reports/malawi_national_egma_2010_baseline_report.pdf), accessed August 26, 2013.

<sup>17</sup> World Bank 2013 Data <http://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS/countries/MW?display=graph>.

## **Use of Government Employees as Supervisors and Enumerators**

Another potential threat to the accuracy and reliability of the data is the use of MoEST staff and other GoM employees as enumerators. The study recognizes the value of involving the MoEST in this process: It capitalizes on existing experience and expertise, especially of those individuals who were involved in the EGRA baseline study; it increases ownership of the MoEST for study results; and it builds the capacity of the MoEST. However, there is always a risk when the same actors who are responsible for overseeing or implementing a project are asked to evaluate the project. It may be in the interest of some individuals or groups within the MoEST to show improved reading outcomes over time or to show no change or a negative trend. In any case, when individuals who may have conflicting interests are involved directly in assessment activities, there is always a risk that they may somehow inappropriately influence the results of the assessment. On the other hand, GoM personnel, and in particular, MoEST staff, have been involved in data collection activities for other projects in the past and have conducted themselves in a professional and objective manner. Also, these data serve an important purpose for the GoM and especially the MoEST. As such, to help inform their decisions related to reading teaching and learning, these bodies have a vested interest in obtaining accurate information from these assessments. Finally, to help avoid issues of potential enumerator bias, SI made sure that no enumerators were assigned to gather data in the region in which they work. Therefore, there is reason to believe that the risk of MoEST enumerator bias is relatively low.<sup>18</sup>

### **Generalizability at School Level**

During school visits enumerators sampled learners from one class per standard only (implementing the RA tool and learner questionnaire with those learners) along with one teacher for that class (who was observed up to three times using the class observation protocol and was interviewed using the teacher survey). Since this approach was limited to one class per standard, two classes per school, the responses and results have a reduced ability to generalize or reach conclusions for the school as a whole. However, to mitigate any potential bias from this approach, each class was chosen by enumerators at random so no particular profile of class or teacher was sought (other than targeting classes where the teacher was present that day and had been at the school for at least a year).

The advantage to this approach is that it gave the study team the ability to establish links between teaching practices and learner reading outcomes. Measuring these links would not be feasible between a given teacher and a wider, representative sample of learners in his/her standard as a whole. Limiting the survey group to one class per standard ensures that a teacher's choices and behaviors are direct inputs into learner outcomes. As one important goal of this study is to identify and report on effective teaching practices, the study team and USAID decided that this advantage outweighed the limitations related to overall school generalizability.

### **Response Bias**

Response bias is a common issue with in-person surveys. This bias includes several types of false or adjusted responses where respondents react to stimuli other than that of the question itself (e.g. environment, presence of others nearby, etc.). Among these is a bias that occurs when interviewees favor responses they judge to be more pleasing or acceptable to the interviewer. In the context of the NRA this may skew the reported school data to suggest better teaching practices, more diligent study habits, or higher attendance rates than are actually the case. For the NRA the risk of response bias was especially high for the learner survey as learners in Standards 1 and 3 were asked to report on several household characteristics, and their knowledge of those household characteristics may not be quite as accurate as an adults' knowledge. Nonetheless, the responses from these surveys were generally consistent with the data from the household survey conducted in the EGRA IE Baseline; so the study considered the data reliable for

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<sup>18</sup> GoM staff have been involved in data collection activities for the Southern and Eastern Africa Consortium for Monitoring Education Quality, Paralegal Advisory Service, and Monitoring Learning in Africa, as well as the EGRA Evaluation Baseline Study (2013) and the Malawi Teacher Professional Development Support (MTPDS) Project.

use in this analysis. Further, it is difficult to measure the extent of this bias at work in this situation without more costly follow-up procedures. Fortunately, there is no reason to suspect that any response biases would not be uniform across respondents, so comparisons between subgroups should remain valid even if a bias were detected. Further, the study took several precautions to reduce such biases by carefully training enumerators on appropriate reactions to learner correct/incorrect answers and general attitude when interviewing respondents. The assessment team also made sure not to notify schools too far in advance (just calling the head teacher the night before the visit) of the team's visit to avoid them only sending the best teachers to school that day or changing lesson plans/practices.

# IV. LITERATURE REVIEW

## OVERVIEW OF EDUCATION IN MALAWI

The study team conducted a literature review to gain a better understanding of state of the Malawian primary school education system. The assessment team found that Malawi spent 54.9 percent of its GNI on public education in 2012—more than any other country in the region, according to the World Bank Development Index.<sup>19</sup> On the contrary, Zimbabwe and Zambia, only spent 2.5 and 1.3 percent of their respective GNIs on education; while Mozambique, ranked 178 on the United Nations Development Program (UNDP)'s Human Development Index in 2014 (below Malawi), allocated 4 percent that year.<sup>20</sup> Tanzania, which allocates a slightly smaller share of its public funds to education (4.8 percent) scores significantly higher than Malawi on the Human Development Index, occupying 159th place.<sup>21</sup>

The high learner-to-teacher ratio in Malawi, mentioned in the introduction to this study, and the lack of resources to hire, train, and retain primary school teachers are typical not just for Malawi but for most growing nations of Sub-Saharan Africa. Compared to its direct neighbors, Malawi typically outperforms Mozambique when it comes to the quality of its education but underperforms relative to Tanzania, Zambia, and Zimbabwe.

The study team found that Malawi follows an eight-four-four formal education system, with the first eight years of school consisting of primary education, the second four year designated as secondary education, and the final four designated as tertiary education. The official entry age for primary education in Malawi is six; hence, thirteen is the expected exit age. The official entry age in Malawi secondary schools is 14, with 17 as the expected exit age.<sup>22</sup>

As of 2012 gross school enrollment in primary education was at 140 percent of children of the official primary education age, indicating inclusion of over-aged and under-aged learners (and likely standard repetition).<sup>23</sup> Enrollment rates track with household income, with only 77.5 percent of children in the poorest quintile enrolled compared to 93 percent in the wealthiest quintile. Given that higher levels of wealth also tend to track to high levels of learner education outcomes, this statistic suggests that the level of education measured in this and other studies of learners in Malawi likely overestimates the level of education and reading ability nationwide. The education-wealth discrepancy can be seen in the older generation as well. In the poorest quintile of households, 91.1 percent of adults over the age of 15 never attended school, compared to only 50.4 percent in the wealthiest quintile. Although there is no fee for attending public or primary school, 80 percent of parents of children attending primary school reported paying various related expenses.<sup>24</sup> Additionally, parents face an opportunity cost of sending children to school, because of the need for their labor at home. While inadequate school conditions in poorer areas lead to worse educational outcomes, a lot of parents perceive benefits of education as low and keep children working at home.<sup>25</sup>

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<sup>19</sup> The World Bank. "World Development Indicators". Accessed September 2, 2014, <http://data.worldbank.org/indicator/NY.ADJ.AEDU.GN.ZS?display=graph>

<sup>20</sup> Ibid.

<sup>21</sup> Ibid.

<sup>22</sup> Third Integrated Household Survey 2010-2011", National Statistics Office, Malawi, , September 2012, p.27

<sup>23</sup> The World Bank. "World Development Indicators". Accessed September 2, 2014, <http://data.worldbank.org/indicator/SE.PRM.ENRR/countries/MW-ZF-XM?display=graph>

<sup>24</sup> "Malawi Public Expenditure Review," The World Bank, September 2007, xvii

<sup>25</sup> Ibid.

The World Bank 2012 studies estimate the adult literacy rate in Malawi to be between 61<sup>26</sup> and 65<sup>27</sup> percent. Based on self-reporting, Malawi's northern region registered higher literacy rates (77 percent), followed by the central region (65 percent), and then the southern region (62 percent). As described below, this does not track closely with findings from this assessment.

While the NRA only assesses learner reading capabilities of public school learners, studies show that the vast majority of learners (87.8 percent) attend public schools, and only 2.8 percent of learners attend private educational institutions. Learners in Blantyre City and Mzuzu City are more prone to attend private than public schools (9.9 percent, 11.2 percent, and 11.7 percent, respectively). Enrollment in religious schools fluctuates at around 10 percent for the majority of the regions, with the national average at about 9.4 percent. Mzimba North is an exception to this rule, with 51 percent of learners enrolled in religious schools.<sup>28</sup>

## CHALLENGES TO LEARNING

Although primary education in Malawi is free (as of 1994), learners are often required to purchase their own school clothing (uniforms are no longer required), pens, and notebooks, which many families find difficult.<sup>29</sup> In a household survey conducted by Malawi's National Statistics Office in 2012, 44 percent of households across all income groups identified financial constraints as the main reason that children do not attend school.<sup>30</sup> According to the same survey, 44 percent of adults over the age of 15 who have never attended school said the reason for that was that they had "no money."<sup>31</sup> The second most commonly cited reason respondents reported for not attending school was that they were "not allowed" (23.6 percent of respondents reported this). The other most commonly cited reasons for not attending were lack of interest, at 18.1 percent, and the need to "help at home" at 6.1 percent.<sup>32</sup>

The answer "no money" was more frequently chosen among adults in urban areas: 50.9 percent compared to 43.6 percent in rural areas. At the same time, more people in rural areas selected the answer "not allowed" (23.9 percent vs. 18.5 percent in urban areas), and "of interested" (18.2 percent vs. 16.6 percent in urban areas).<sup>33</sup> "Help at home" and "not interested" were more frequently cited as reasons among males than females (7.2 percent vs. 5.6 percent and 20.4 percent vs. 17 percent correspondingly), while "not allowed" was a more common answer among females than males (25.2 percent vs. 20.2 percent).

It is common for children in Malawi to go in and out of school depending on their family situation and factors including employment responsibilities, sickness, pregnancy, and/or marriage at a young age. By the time learners leave primary school, many of them are far older than would be expected, having repeated one year or more, and many lose interest and drop out altogether.<sup>34</sup> Studies show that one out of five learners in Malawi repeats one or more school years. In 2012, there were 725,689 repeaters in primary school in Malawi, comprising 19.68 percent of the total learner body.<sup>35</sup>

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<sup>26</sup> World Development Indicators: Literacy Rate 201. Literacy rate is defined as ability to both read and write with understanding a short simple statement on one's everyday life Integrated Household Survey 2010-2011. Household Socio-Economic Characteristics Report, September 2012, p.27

<sup>27</sup> Integrated Household Survey 2010-2011, Household Socio-Economic Characteristics Report, September 2012, p.23. Literacy is described as the ability to read and write with understanding in any language (p.21)

<sup>28</sup> "Third Integrated Household Survey 2010-2011", National Statistics Office, Malawi, 34

<sup>29</sup> Cost, Financing and School Effectiveness of Education in Malawi," The World Bank Development Research Group, August 2004. Accessed September 2, 2014,

[http://siteresources.worldbank.org/AFRICAEXT/Resources/No\\_78.pdf](http://siteresources.worldbank.org/AFRICAEXT/Resources/No_78.pdf).[http://siteresources.worldbank.org/AFRICAEXT/Resources/No\\_78.pdf](http://siteresources.worldbank.org/AFRICAEXT/Resources/No_78.pdf)

<sup>30</sup> Integrated Household Survey 2010-2011, Household Socio-Economic Characteristics Report, September 2012, p.26

<sup>31</sup> Integrated Household Survey 2010-2011, Household Socio-Economic Characteristics Report, September 2012, p.23

<sup>32</sup> Integrated Household Survey 2010-2011, Household Socio-Economic Characteristics Report, September 2012, p.26

<sup>33</sup> Integrated Household Survey 2010-2011, Household Socio-Economic Characteristics Report, September 2012, p.23

<sup>34</sup> Sabates, Ricardo et al. 2010, "School Dropout: Patterns, Causes, Changes and Policies," UNESCO, 2010.

<sup>35</sup> UNESCO Institute of Statistics, "UNESCO Data Center: Education", Accessed September 2, 2014, <http://data.uis.unesco.org/Index.aspx?queryid=121#>.

Although primary enrollment rates have increased, there is a shortage of primary school teachers in Malawi. From 1999 to 2012 the learner to teacher ratio increased from 63 to 74 learners per teacher.<sup>36</sup> A 2011 study showed that the teaching workforce in the country was growing at just one percent per year, far from sufficient to reduce the learner/teacher ratio from 74/1 to the Universal education standard of 40/1.<sup>37</sup> The United Nations Educational, Scientific and Cultural Organization (UNESCO) estimates that, given rapid population growth (population tripled from 4 million in 1996 to 13.1 million in 2008), almost six percent of Malawi’s upper secondary school graduates would need to become primary school teachers if the country is to reach universal primary education by 2020.<sup>38</sup>

Text books are also scarce. A 2009 United Nations study showed that the average number of learners per mathematics book in primary school was 4.6 while there were 1.5 learners per reading book.<sup>39</sup> The NRA assessment team found that there were approximately 2.9 learners per textbook in classroom observations conducted for this study and interviews with teachers.

## URBAN VERSUS RURAL DIFFERENCES IN SCHOOLING

As described in the purpose and methodology sections of this study, this assessment also sought to identify any differences between learner outcomes in urban versus rural areas. As such, the assessment team also reviewed the literature on these differences to inform that assessment. The team found that only 2.6 million Malawians (16 percent of the total population) lived in urban areas as of 2013.<sup>40</sup> And, the majority of the urban population (1 million) lived in the capital city, Lilongwe,<sup>41</sup> and in the second largest city, Blantyre (850,000) in the south of the country at that time. Further, net attendance rates vary greatly in urban and rural schools. While the rate of attendance was 93 percent in the cities in 2010 it was 84 percent in rural areas.<sup>42</sup>

Differences exist in enrollment rates as well. As shown in Tables 12 and 13, according to the National Statistics Office, in 2012, urban school enrollment and participation rates outpaced rates in rural areas across all age groups. The difference was particularly dramatic in the secondary age range, where gross rural enrollment (25.3 percent) was approximately half the urban rate (56.8 percent).<sup>43</sup>

**Table 12: Primary School Participation Rates by Age, Sex, and Rural versus Urban Designation**

Age	6-9	10-13	14-15	16-17	18-24	Total
Male	79.7%	90.6%	84.7%	76.0%	30.4%	70.6%
Female	83.8%	91.9%	83.6%	65.5%	15.1%	65.1%
Rural	80.3%	90.5%	83.9%	69.0%	21.1%	67.3%
Urban	91.3%	96.3%	85.6%	81.0%	26.3%	70.6%

<sup>36</sup> The World Bank, “The World Development Indicators”, 2013, Accessed September 2, 2014, <http://data.worldbank.org/indicator/SE.PRM.ENRL.TC.ZS>

<sup>37</sup> “Teaching and Learning: Achieving Quality for all Malawi,” UNESCO. 2013/2014, Accessed September 2, 2014, [http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/ED/GMR/pdf/Malawi\\_Factsheet.pdf](http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/ED/GMR/pdf/Malawi_Factsheet.pdf), 1

<sup>38</sup> “Teaching and Learning: Achieving Quality for all Malawi,” UNESCO. 2013/2014, Accessed September 2, 2014, [http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/ED/GMR/pdf/Malawi\\_Factsheet.pdf](http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/ED/GMR/pdf/Malawi_Factsheet.pdf), 4

<sup>39</sup> The United Nations, “UN Statistics on Education,” Accessed September 2, 2014, <http://data.uis.unesco.org/Index.aspx?queryid=121#>.

<sup>40</sup> The World Bank. “World Development Indicators”. Accessed September 2, 2014, <http://data.worldbank.org/indicator/SP.URB.TOTL>.

<sup>41</sup> The World Bank. “World Development Indicators”. Accessed September 2, 2014, <http://data.worldbank.org/indicator/EN.URB.LCTY.UR.ZS>.

<sup>42</sup> UNICEF, “Education and Literacy Data”, 2013. Accessed September 2, 2014, <http://data.unicef.org/education/overview>.

<sup>43</sup> “Third Integrated Household Survey 2010-2011”, National Statistics Office, Malawi, September 2012,36

**Table 13: Enrollment Rates: Primary School (percent of children of primary school age)<sup>44</sup>**

Location Type	Net Enrollment			Gross Enrollment		
	Boys	Girls	Total	Boys	Girls	Total
Rural	83.2%	86.1%	84.6%	118.3%	111.2%	119.2%
Urban	92.3%	93.1%	92.7%	108.8%	110.1%	125.1%

Outside of differences in schooling amongst the urban and rural populations, the assessment team also found that a larger share of urban population (89 percent) is literate in comparison with the rural population (60.7 percent).<sup>45</sup> This difference is apparent in the portfolio of industry sectors at work in the rural and urban areas. In the rural areas, 88 percent of all employed persons work in agriculture, hunting, forestry or fishing, and more than a half of the population lives below the poverty line (56 percent)<sup>46</sup>. By contrast, urban areas see literacy as a necessity for the industries within which they work. In urban areas, 16 percent of the population is engaged in wholesale and trading, 28 percent in social services, and 18 percent in other activities. The percentage of urban people living below the poverty line is three times lower at 17.3 percent, and as described above, reduced poverty often tracks with higher reading scores (though we did not find that to be the case in this study).<sup>47</sup>

## GENDER DIFFERENCES IN SCHOOLING

The NRA also seeks to identify differences in reading outcomes by sex. The assessment team’s literature review of differences in education and schooling by sex found large differences in literacy between the sexes. For instance, a 2012 study conducted by UNESCO, showed that only 12.7 percent of women over the age of 65 were literate, compared with 66.1 percent of men. However, that trend is changing. In contrast to these numbers, amongst the 15-24 age group, the gap in literacy levels was shown to be much smaller—at just 4 percentage points. A total of 70 percent of young females and 74 percent of young males interviewed for the same study reported being literate. This is even more equitable than the gap in the adult population of 11 percentage points (61.3 percent of women reported being literate compared to 72.1 of men).<sup>48</sup> The data reveals ongoing and notable progress in gender equity, access to education, and literacy.

Part of the reason for these positive improvements could be because Malawi is one of the 25 pilot countries selected for implementation of the United Nations Strategy to Accelerate Girls’ Education, a program started in the country in 2004 that sought to use a wide range of stakeholders to remove barriers to education such as school fees and costs and other barriers.<sup>49</sup> The launch of this program paved the way for other organizations to start programs for girls in Malawi. The result is that today, primary school completion rates for boys and girls are almost equal, at 74 and 75 percent, respectively, which is a huge improvement over the completion rates for boys and girls in 1994 of 47 and 37 percent, respectively.

<sup>44</sup> “Third Integrated Household Survey 2010-2011”, National Statistics Office, Malawi, September 2012, 30

<sup>45</sup> “Third Integrated Household Survey 2010-2011”, National Statistics Office, Malawi, September 2012, 23

<sup>46</sup> The World Bank. “World Development Indicators”. Accessed September 2, 2014, <http://data.worldbank.org/indicator/SI.POV.RUHC/countries>. Rural poverty rate is the percentage of the rural population living below the national rural poverty line.

<sup>47</sup> The World Bank. “World Development Indicators”. Accessed September 2, 2014, <http://data.worldbank.org/indicator/SI.POV.RUHC/countries>

<sup>48</sup> UNESCO, “Country Profile: Malawi,” 2012, Accessed September 2, 2014, <http://www.uis.unesco.org/DataCentre/Pages/country-profile.aspx?code=MWI&regioncode=40540>

<sup>49</sup> United Nations Girl’s Education Initiative, “Malawi: Background,” Accessed September 2, 2014, [http://www.ungei.org/infobycountry/malawi\\_150.html](http://www.ungei.org/infobycountry/malawi_150.html)

Further, the net enrollment rate for primary school in 2006 was 87 percent for girls and 85 percent for boys of corresponding ages, indicating a slight gender gap in the other direction today. Despite the abolition of school fees in 1994, more than 13 percent of girls and 15 percent of boys between the ages of 6 and 11 have had never attended primary school.<sup>50</sup> The combined survival rate to the last standard of primary education for those learners who did enroll in school was 49.12 percent in 2006, according to UNESCO. When these numbers are disaggregated, the assessment team finds that despite higher enrollment rates by girls, survival rates of girls tend to be lower than rates for boys. The same UNESCO study cited above found that 47.72 percent of girls attended school until the final standard in 2006 as opposed to 50.58 percent of boys.<sup>51</sup> Similarly, dropout rates in primary schools were 52.3 percent for girls and 49.4 percent for boys, again marking a small and persistent gender gap.<sup>52</sup> On the whole, a 2010-2011 national study in Malawi showed that only 14.6 percent of all girls and 11.4 percent of boys could be expected to ever enroll into a secondary school to continue their education.<sup>53</sup>

Unfortunately, this gender gap persists beyond school walls as well. A 2014 study by the Malawian National Statistical Office showed that males had higher employment rates than did females that year—at 86 and 74 percent, respectively.<sup>54</sup>

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<sup>50</sup> UNICEF, “Malawi: Monitoring the Situation of Women and Children,” 2006, Accessed September 2, 2014, <http://www.unicef.org/malawi/children.html>

<sup>51</sup> UNESCO Institute of Statistics, “UNESCO Data Center: Education”, Accessed September 2, 2014, <http://data.uis.unesco.org/Index.aspx?queryid=121#>.

<sup>52</sup> UNESCO Institute of Statistics, “UNESCO Data Center: Education”, Accessed September 2, 2014, <http://data.uis.unesco.org/Index.aspx?queryid=121#>, 2011 data

<sup>53</sup> “Third Integrated Household Survey 2010-2011”, National Statistics Office, Malawi, ,September 2012, 30

<sup>54</sup> “Malawi Labor Force Survey,” National Statistical Office, Zomba Malawi, April 2014

# V. ASSESSMENT FINDINGS

In this section, the study discusses the findings from the NRA conducted during June-July 2014. The study team gathered data from surveying head teachers, teachers, and Standard 1 and 3 learners across six education divisions. Below, the team presents the weighted analysis of these data.<sup>55</sup>

The team discusses the demographic characteristics of the survey respondents first and follows that discussion with a detailed examination of the proportion of learners that attained the recently approved (December 2014) MoEST benchmarks or EGRA Coordinating Committee recommended benchmarks (depending on the subtask under analysis) for reading skills. Finally, the team concludes the findings section with a discussion on factors that predict achievement of learning scores.

## BACKGROUND CHARACTERISTICS

The team presents the general characteristics estimated from sampled schools, head teachers, teachers, classrooms, and learners using appropriate weights below.

### School Characteristics

Enumerators gathered school-specific data at each of the 360 sampled schools using the head-teacher survey instrument and the school-climate protocol. The assessment team also triangulated many of the school-level findings with data from teacher interviews to verify finding. The team presents selected results from these surveys below both at national level and also disaggregated by education division, sex, and rural-urban location.

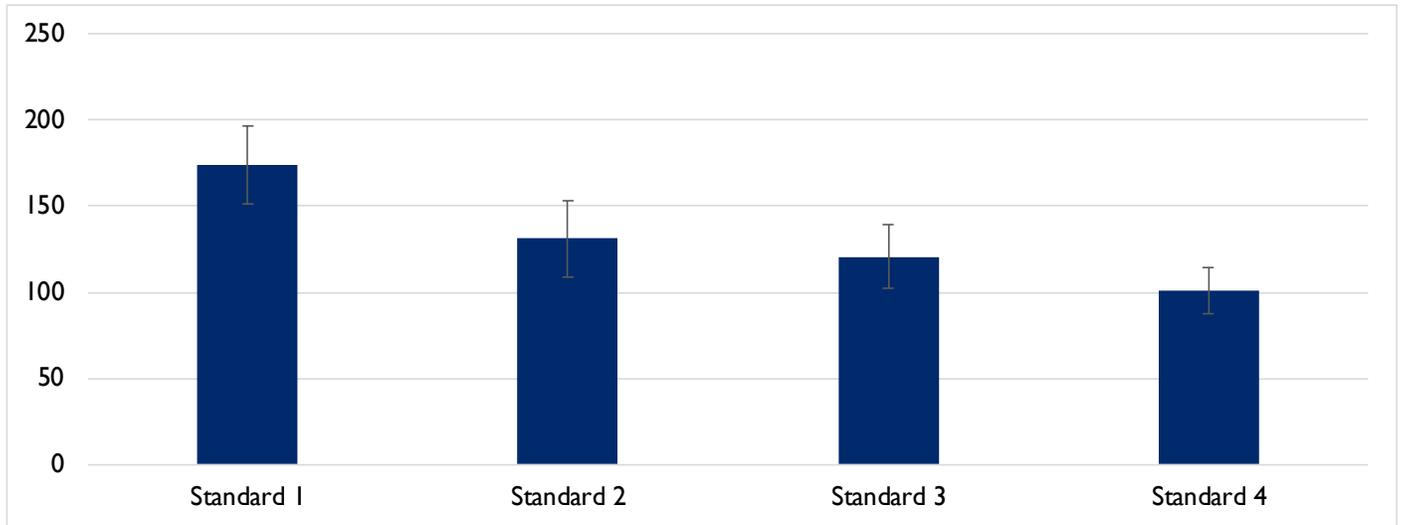
### Enrollment

According to head teachers, the weighted average enrollment in Malawi in the first four standards (Standards 1 to 4) combined was 527 learners per school. As far as the study can tell, this tracks well with national statistics reported in the EMIS dataset, which show an average of 789 learners per school (it is important to note that the EMIS data is for all standards; so, if the school has eight standards, the data are for all eight standards). According to data reported by head teachers, in the NRA weighted sample, the average enrollment is about 132 learners per standard. However, as shown in Figure 2, learner enrollment per standard appears to slowly dwindle as the standard-level increases. The study found a school average of 174 learners in Standard 1 and only 101 in Standard 4. As shown in Figure 3, enrollment also significantly varied by education division; schools in SHED and SEED had the highest enrollment numbers for all four standards while NED had the lowest enrollment numbers.

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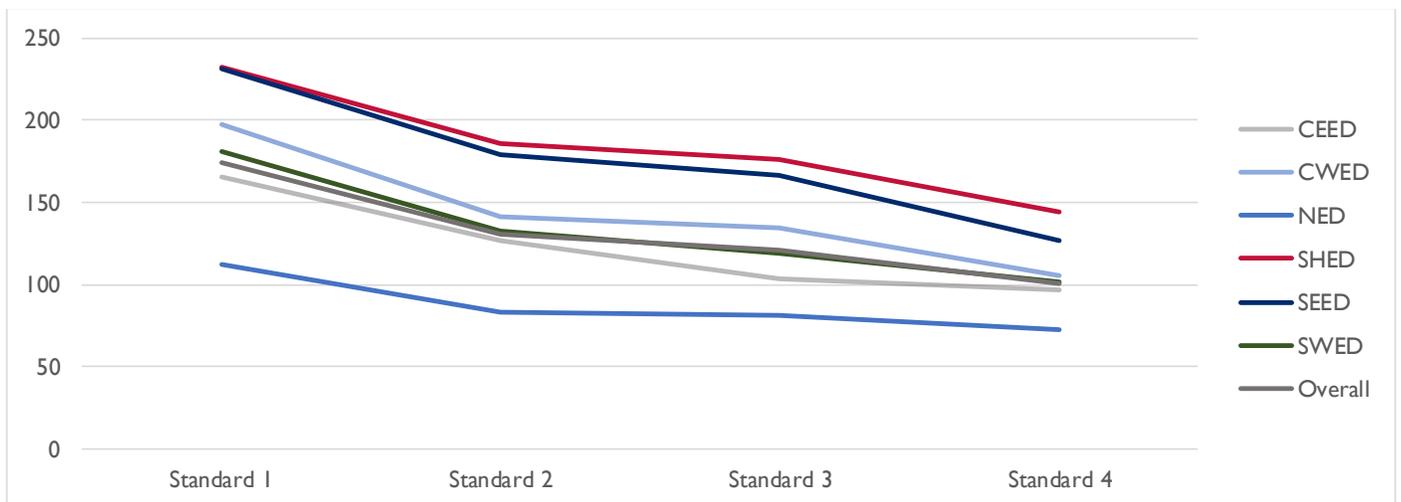
<sup>55</sup> The sample data were weighted wherever relevant and appropriate to account for sample and design effects and make them nationally representative.

**Figure 2: Average Number of Learners Enrolled by Division**



Ranges display 95% confidence interval around each estimate.  
National Reading Assessment Head Teacher Questionnaire 2014

**Figure 3: Average Number of Learners Enrolled by Division and Standard**



$p = .13(S1) .14(S2) .22(S3) .37(S4)$   
National Reading Assessment Head Teacher Questionnaire 2014

**Number of Teachers**

Data gathered from interviews with sampled head teachers for Standards 1 – 4, when weighted, showed an average of 6.7 teachers for these lower standards. However, the number of teachers in Standards 1 – 4 tended to be fewer in rural schools relative to urban schools: urban schools had an average of 9.7 teachers compared to 6.7 teachers at rural schools. Head teachers reported the lowest average number of teachers for the NED and CEED divisions (5.4 and 5.5 teachers, respectively) and the highest in the SHED division (9.1 teachers). The national average calculated from 2013 EMIS data (including all teachers up to standard 8) is 10.5 teachers per school. Therefore, the weighted NRA finding of an average of 6.7 teachers in Standards 1 – 4 appears consistent with the national EMIS average. The number of teachers per standard per school also appear to be highly correlated with the number of streams per standard per school. However, as discussed below, some educational divisions have lower learner-to-teacher ratios than others.

### **Learner-to-Teacher Ratio**

As shown in Table 14, by comparing head teacher-reported learner enrollment with the number of teachers they reported for Standards 1 – 4, the study found a weighted average of 83.0 learners per teacher in the overall study sample. However, the two divisions with the lowest reported average number of teachers in Standards 1 - 4 (CEED and NED) had very different learner-to-teacher ratios.<sup>56</sup> In CEED, for example, the study found 96.3 learners per teacher in Standards 1 – 4, and in NED, it was 67.7 learners per teacher. According to EMIS data, the national average is 75.1 learners per teacher in Standards 1 – 8, suggesting that the learner-to-teacher ratio drops in higher standards.

**Table 14: Average School Enrollment and Teachers, by Division**

<b>District</b>	<b>Average Enrollment</b>	<b>SE</b>	<b>Average Number of Teachers</b>	<b>SE</b>	<b>Average Learner-to-Teacher Ratio</b>	<b>SE</b>
CEED	498	-86.3	5.5	-1.1	96.3	-3.1
CWED	578.4	-0.9	7.2	-0.3	85.8	-1.4
NED	349	-27.4	5.4	-0.8	67.7	-1
SHED	737.5	-84.6	9.1	-0.3	82.5	-6.6
SEED	683	-68.5	8.6	-0.6	86.1	-9.9
SWED	534.6	-6.4	6.9	-0.2	92.2	-8.3
Overall	525.1	-29.2	6.7	-0.4	83	-2.3

*p-value = .11 (Enroll), .08 (LT); SE = Standard Errors  
National Reading Assessment Head Teacher Questionnaire 2014*

As shown in Table 15 below, looking more closely at the Standard 1 and Standard 3 classrooms sampled for the 2014 NRA study, the study found that the overall classroom size (as reported by teachers for those classrooms) was 123 learners. This number is significantly higher than the numbers described in Table 14 above because often times, there is more than one teacher per class; while one teacher teaches a few subjects, the other teaches the rest. However, the class usually sits all together to learn from one teacher at a time. Thus, at any given teaching moment, the study found that one teacher is teaching to a classroom of about 123 learners. As with the learner-to-teacher ratio, class size differed significantly between the standards. The team found there were, on average, 148 learners in Standard 1 classes and 98 in Standard 3 classes. As shown in Table 16, class size also differed significantly between the six education divisions and was lowest in NED at 85 learners in a classroom and highest in SEED at nearly 168 learners per classroom.

### **Girl-to-Boy Ratio**

The team calculated the girl-to-boy ratio by dividing teacher-reported number of girls enrolled by teacher-reported number of boys enrolled. On average, teachers reported that there were more girls than boys enrolled in classes in both standards. As shown in Table 15, the weighted average girl-to-boy ratio was 1.1 to 1 in both Standards 1 and 3, meaning there were 11 girls enrolled per 10 boys. There was a significant difference by division in the girl-to-boy ratio,

<sup>56</sup> It is important to note that here, the study team is referring only to the actual learner-to-teacher ratio and not average class size, as average class size tends to be much larger than this since often times more than one teacher is overseeing the same class and the same time.

although girls outnumbered boys in all divisions except NED and SWED where teachers reported parity between the sexes.

**Table 15: Classroom Composition by Standard**

	Standard 1			Standard 3			Total		
	N1	Weighted Mean	SE	N2	Weighted Mean	SE	N	Weighted Mean	SE
Learner-to-Teacher Ratio	348	147.9 to 1.0	-7.2	339	98 to 1.0	-4.6	687	123.2 to 1.0	-5.3
Girl-to-Boy Ratio	345	1.1 to 1.0	0.0	336	1.1 to 1.0	0.0	681	1.1 to 1.0	0.0

*p-values= .0001(LT) .91(GB)*

*National Reading Assessment Teacher Questionnaire 2014*

**Table 16: Classroom Composition in Standards 1 and 3 by Division**

	CEED	CWED	NED	SEED	SWED	SHED
Learner-to-Teacher Ratio	126.9 to 1.0	125.8 to 1.0	84.5 to 1.0	167.5 to 1.0	134.9 to 1.0	142.8 to 1.0
Girl-to-Boy Ratio	1.1 to 1.0	1.1 to 1.0	1.0 to 1.0	1.1 to 1.0	1.0 to 1.0	1.1 to 1.0

*p-values=.15(LT) .56(GB)*

*National Reading Assessment Teacher Questionnaire 2014*

### **Length of the School Day**

In general, a regular school day for Standard 1 learners in Malawi is just more than 3 hours, according to head teachers, usually lasting from about 7:30 a.m. to 10:40 a.m. For Standard 3 learners it is approximately 4.5 hours from about 7:30 a.m. to 11:55 a.m. As shown in Table 17, the average school day reported by head teachers in the sample was 3 hours and 48 minutes for Standard 1 and 5 hours and 18 minutes for Standard 3.

**Table 17: Length of School Day by Standard**

Standard	CEED	CWED	NED	SEED	SHED	SWED	Overall
<b>Average Length of School Day</b>							
Standard 1**	3.8	4.1	3.9	4.0	4.2	3.6	3.8
Standard 2***	4.1	4.7	4.3	4.5	4.6	4.1	4.3
Standard 3**	5.1	5.7	5.3	5.6	5.5	5.3	5.3
Standard 4	5.3	5.4	5.3	5.8	5.6	5.5	5.4
<b>Percent of Schools with 3 or Less Hours</b>							
Standard 1***	66.7%	48.3%	48.3%	60.3%	40.0%	68.3%	55.3%
Standard 2***	36.7%	23.3%	26.7%	20.7%	13.3%	41.7%	27.1%
Standard 3	1.7%	0.0%	1.7%	1.7%	0.0%	0.0%	0.8%
Standard 4	1.7%	6.8%	5.0%	3.5%	0.0%	0.0%	2.8%
<b>Percent of Schools with 7 or More Hours</b>							
Standard 1*	0.0%	5.0%	0.0%	5.2%	1.7%	0.0%	1.9%
Standard 2*	0.0%	5.0%	0.0%	5.2%	1.7%	0.0%	1.9%
Standard 3	0.0%	8.3%	3.3%	6.9%	6.7%	1.7%	4.5%
Standard 4	3.3%	6.8%	5.0%	6.9%	6.7%	1.7%	5.0%

Asterisks indicate statistical significance: \*=p-value<0.1, \*\*= p-value<0.05, \*\*\*=p-value<0.01  
 National Reading Assessment Head Teacher Questionnaire 2014

Head teachers were asked to report the number of days per week the school day lasts an extra hour and for which standards this occurred. Overall, the greatest proportion of head teachers reported the school day had been extended for Standard 1 classes than for classes from any other standard. As shown in Table 18, approximately 45.0 percent of head teachers reported they had added an hour to Standard 1 classes for each day of the school week. Similarly, as shown in Table 19, schools also reported adding an extra hour to at least one school day each week more often for Standard 1 classes than for any other standard, at 47.5 percent.<sup>57</sup>

According to head teachers, the proportion of schools that were beneficiaries of the extra one-hour of instruction at least weekly differed significantly between divisions in all four standards. As shown in Table 20, a similar significant trend was also observed in terms of the proportion of schools that received an extra one hour on time-on-task reading instruction every day in all four standards. SWED was the division with both the least amount of schools that had extended their school day by an hour and the percent that added an hour of time-on-task reading instruction, and SEED schools were the most likely to have extended their school day by an hour.

**Table 18: Proportion of Schools Receiving an Extra Hour of Reading Instruction at Least Once per Week**

Standard	CEED	CWED	NED	SHED	SEED	SWED	Total
Std 1	13.3%	48.3%	51.7%	53.3%	63.3%	8.3%	39.7%
Std 2	13.3%	48.3%	50.0%	48.3%	36.7%	3.3%	33.3%
Std 3	15.0%	48.3%	41.7%	56.7%	39.0%	5.0%	32.7%
Std 4	13.3%	36.7%	30.0%	48.3%	18.3%	5.0%	25.3%

*p-values <0.001 for all Standards*

*National Reading Assessment Head Teacher Questionnaire 2014*

<sup>57</sup> This is likely because adding an hour to the school day was a key part of the EGRA intervention in the 2013-2014 academic year, but this part of the intervention was targeted specifically at Standard 1 only (RTI will expand the extra-hour intervention to other standards beginning in 2014).

**Table 19: Number of Days with Extra Hour by Division**

Number of Days	CEED	CWED	NED	SHED	SEED	SWED	Total
Zero	84.2%	43.9%	41.4%	40.7%	29.8%	89.7%	54.9%
One	0.0%	5.3%	1.7%	0.0%	3.5%	3.4%	2.3%
Two	5.3%	3.5%	13.8%	11.9%	5.3%	0.0%	6.6%
Three	3.5%	3.5%	13.8%	13.6%	14.0%	1.7%	8.4%
Four	1.8%	0.0%	1.7%	3.4%	3.5%	1.7%	2.0%
Five	5.3%	40.4%	27.6%	27.1%	43.9%	3.4%	24.6%
Varies by Standard	0.0%	3.5%	0.0%	3.4%	0.0%	0.0%	1.2%
Total with extra hour	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Design-based F test  $p$ -value=.38

National Reading Assessment Head Teacher Questionnaire 2014

**Table 20: Proportion of Learners Receiving an Extra Hour of Reading Instruction Daily**

Standard	CEED	CWED	NED	SHED	SEED	SWED	Total
Std 1	16.6%	51.1%	55.9%	50.7%	61.1%	25.0%	45.0%
Std 2	15.8%	48.3%	54.7%	46.3%	37.3%	1.6%	37.9%
Std 3	18.9%	54.7%	50.7%	64.8%	36.1%	1.3%	42.9%
Std 4	17.0%	40.8%	38.6%	53.1%	24.5%	1.3%	32.7%

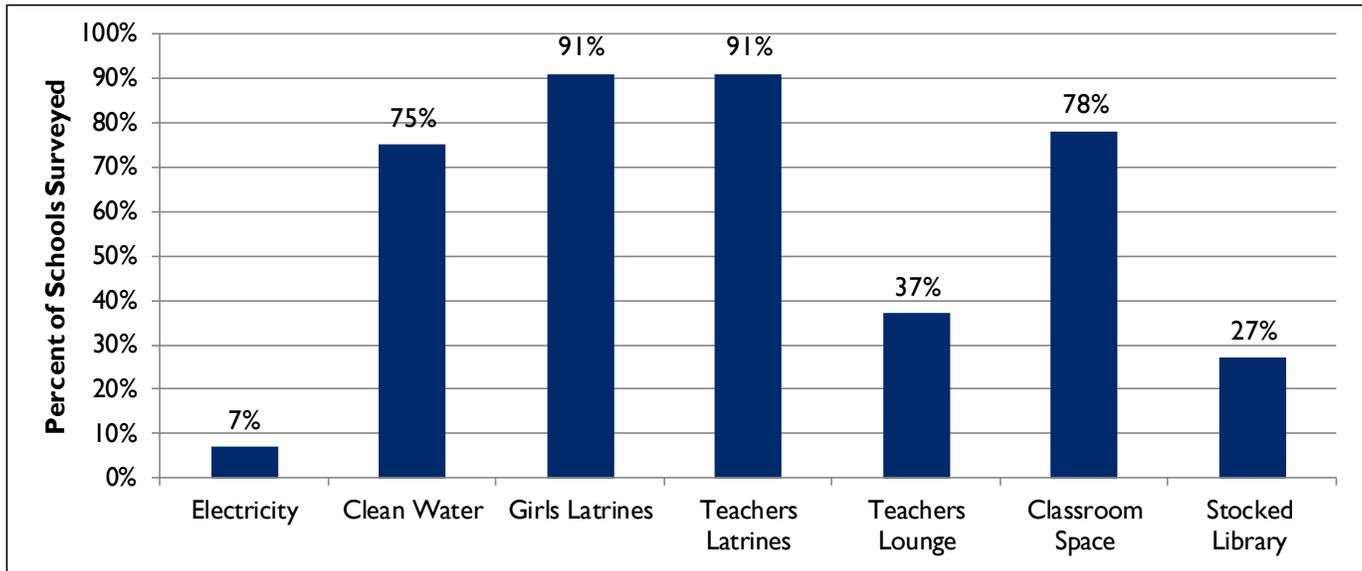
$p$ -values = .13(S1) .14(S2) .22(S3) .37(S4)

National Reading Assessment Head Teacher Questionnaire 2014

### Physical Infrastructure

Data gathered from school climate survey showed that nine in ten sampled schools had dedicated latrines for teachers and girls, and three quarters of schools had access to clean water. However, only seven percent of sampled schools reported having electricity. Schools generally had sufficient classroom space to move around in, as judged by the enumerators, but lacked a well-stocked library and a teachers' lounge (Figure 4).

**Figure 4: Percent of Schools Surveyed with Various Types of Resources**



*National Reading Assessment School Climate Protocol 2014*

### Community Support

All schools reported some level of community involvement. As shown in Table 21, most head teachers reported that their school had a school committee (only three reported that they did not have a school committee), and of those schools that had school committees, head teachers reported that almost half of the committees met monthly in the 2014 academic year. According to head teachers, the majority of school committees are responsible for school management, physical school improvement, infrastructure maintenance, financial issues, and procurement or distribution of textbooks. Many head teachers also reported that the school management committees generally address learning challenges, though more qualitative research needs to be done into what specific challenges schools faces.

Similarly, all head teachers except one reported that their school had a PTA, and, as shown in Figure 5, about 40 percent of those PTA groups met at least monthly in the 2014 academic year, according to head teachers. According to head teachers, PTAs had fewer responsibilities than school committees but still maintained many of the same responsibilities. Head teachers reported that the majority of PTAs are responsible for school management, for financial issues or fund raising, and for procurement and distribution of textbooks. Almost forty percent of PTAs are also responsible for finding solutions for pupil learning challenges.

Overall, when responsibilities of school committees and PTAs are looked at together, most of these community organizations have decision making ability or responsibility for many physical, logistic, and learning related aspects of schools, as is shown in

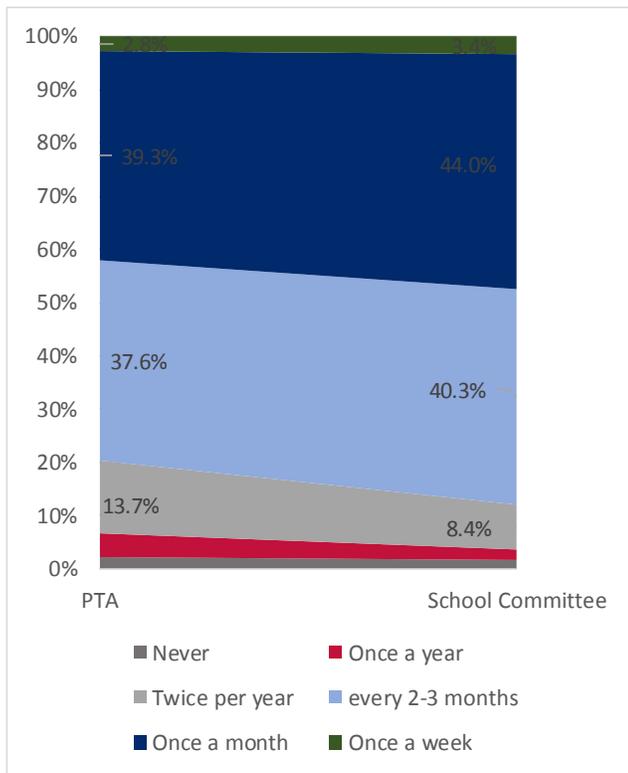
Table 22. In particular, they have input on school management in 93.9 percent of schools, addressing pupil learning challenges in almost 84 percent of schools, and play a role in textbook procurement and distribution in nearly four out of five schools (80 percent). Despite this high level of involvement in many parts of school decision making, community organizations only hold responsibility for curriculum in 36.3 percent of schools.

**Table 21: Head Teacher-Reported Community Involvement in Schools**

Community Involvement	Observations	Percent of Schools	SD
PTA	360	99.7%	0.1
School Committee	360	99.2%	0.1
Parents Invited to Class	359	69.1%	0.5
Other Community Involvement	357	75.4%	0.4

National Reading Assessment Head Teacher Questionnaire 2014

**Figure 5: Frequency of PTA Meetings and School Committee Meetings**



National Reading Assessment Head Teacher Questionnaire 2014

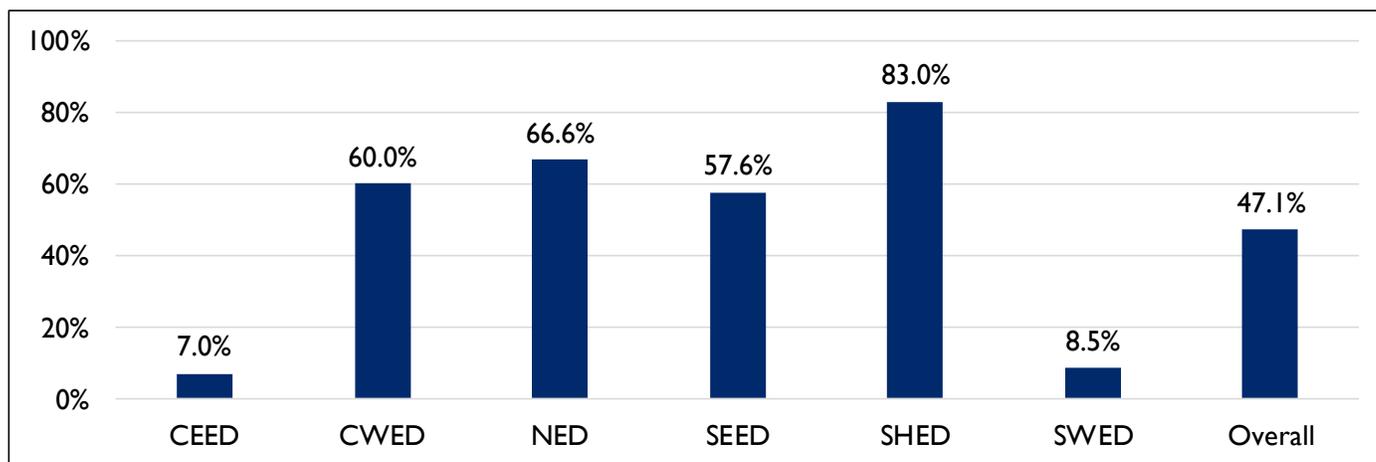
**Table 22: Percent of PTAs/School Committee with Various Responsibilities**

PTA/ School Committee Responsibilities	Observations	Percent of Schools
School management	360	93.9%
Maintenance of infrastructure/equipment	360	91.9%
Financial issues/fund raising	360	90.0%
Physical school improvement efforts	360	86.7%
Identifying learner learning challenges and solutions	360	83.7%
Procurement and/or distribution of textbooks	360	79.8%
Curriculum development or oversight	360	36.3%

National Reading Assessment Head Teacher Questionnaire 2014

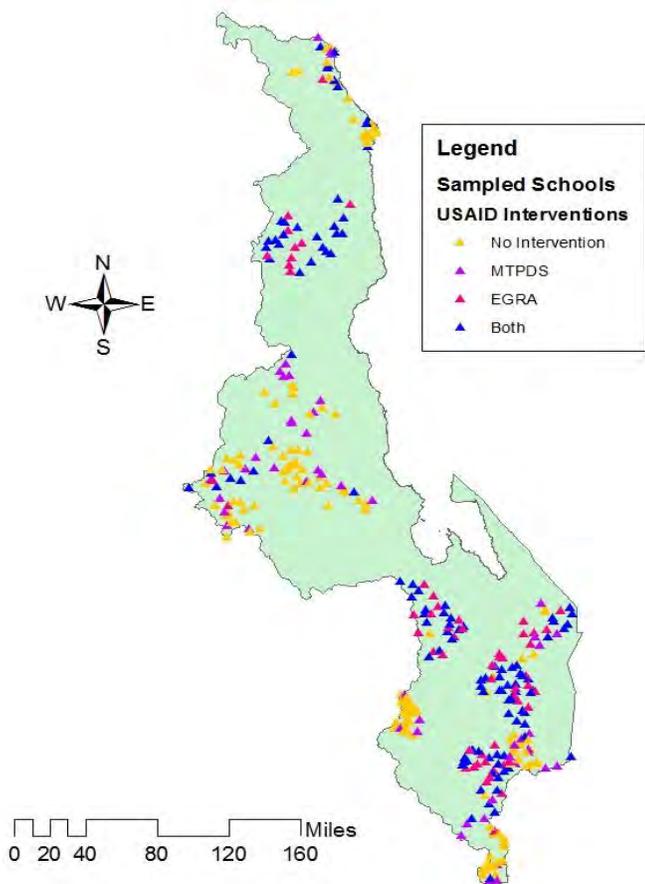
### Donor Support

According to head teachers, approximately two-thirds of all sampled schools received either the EGRA or the MTPDS intervention, and one-third received both (See Figures 6 and 7). EGRA is implemented across few selected districts in each of the six educational divisions. It is currently implemented in 10 of the 28 Malawian districts —Balaka, Blantyre Rural, Lilongwe Rural (sometimes split into two districts—Lilongwe Rural West and Lilongwe Rural East), Machinga, Mzimba North, Ntcheu, Ntchisi, Salima, Thyolo, and Zomba Rural. The NRA sample included four of those districts —Machinga, Mzimba North, Ntcheu, and Thyolo—which are spread across SEED, NED, CWED, and SHED, respectively. However, as shown in Figure 6, seven and nine percent of head teachers in CEED and SWED also reported presence of EGRA in their schools indicating some confusion amongst head teachers who may have incorrectly associated another intervention with the EGRA. According to USAID, this confusion may stem from the fact that the MTPDS intervention took place in all divisions and was also often referred to as EGRA. In addition, 58 percent of schools reported receiving support from another intervention besides EGRA and MTPDS.

**Figure 6: EGRA Beneficiary Schools, (Percent of Head Teachers Reporting), by Division**

National Reading Assessment Head Teacher Survey 2014

**Figure 7: Schools Reporting EGRA and MTPDS Interventions**



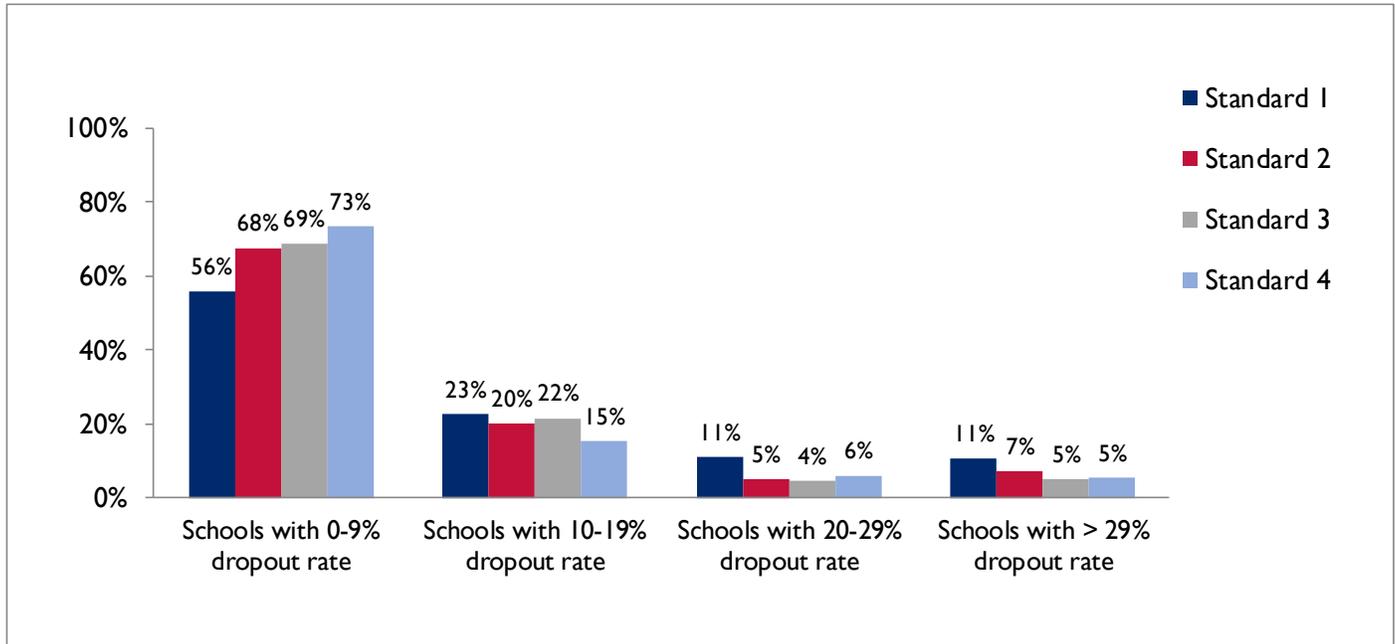
*National Reading Assessment Head Teacher Questionnaire 2014*

### **Dropout Rates**

According to the EMIS data released in 2013 dropout rates were high across Malawi for Standards 1-4 in 2012 - at approximately 10.1 among Standard 1 learners and 4.8 among Standard 3 learners per school.<sup>58</sup> As shown in Figure 8, using weighted data from all the 2014 sampled NRA schools, head teachers reported an average dropout rate of 10.5 percent for Standard 1 learners and 7.2 percent for Standard 3 learners. In Standard 1, one in every five schools experienced a dropout rate at or above 20 percent, while in Standard 3 this phenomenon only held true for one in every 14 schools.

<sup>58</sup> There is a one year lag in EMIS data. Therefore, 2013 EMIS was using data collected in 2012.

**Figure 8: Average Dropout Rates by Standard**

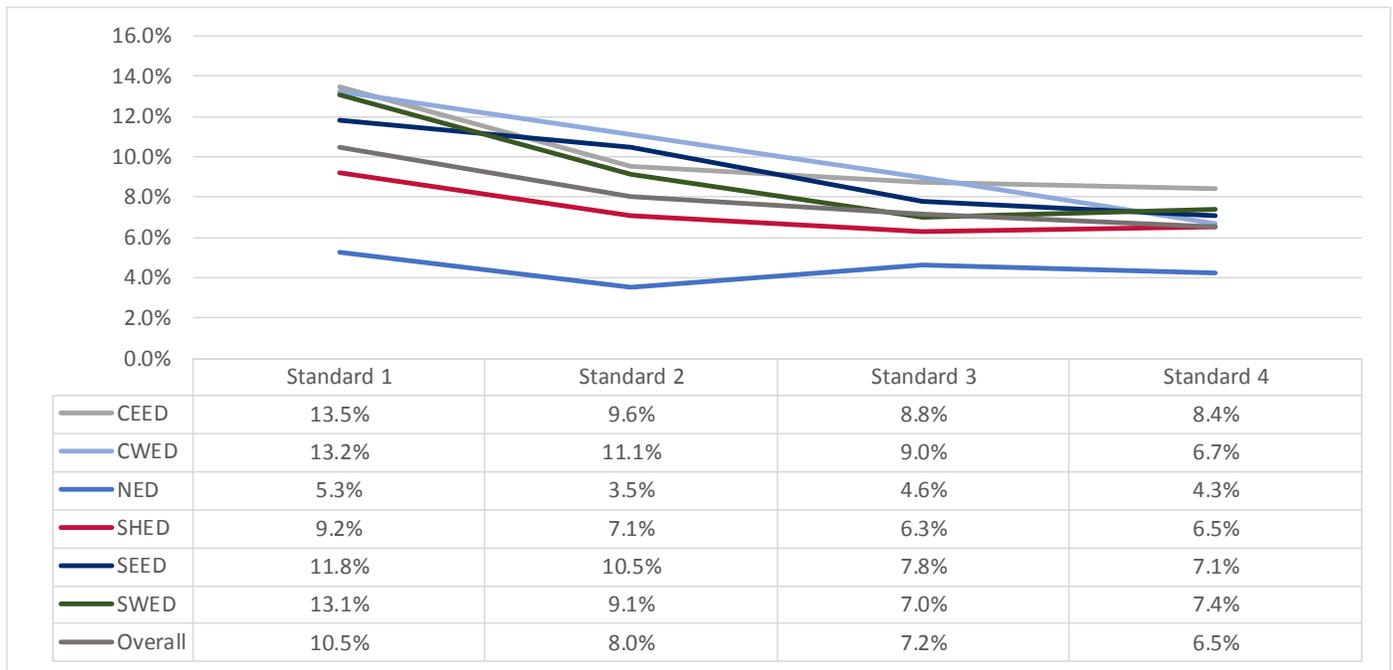


*National Reading Assessment Head Teacher Questionnaire 2014*

As shown in Figure 9, the assessment team found statistically significant differences in dropout rates by division. For instance, head teachers from SHED and, especially, NED reported significantly fewer dropouts than did head teachers elsewhere. Also, dropouts in NED were higher in Standard 3 than Standard 2, which was not true in any of the other divisions. The largest decrease in dropouts reported by head teachers among standards was between Standards 1 and 2 in SWED, where there was a 4.0 percentage point drop. The assessment team also found that head teachers reported lower dropout rates in urban areas than they did in rural areas for all standards, but the difference was not statistically significant.

As shown in Table 23, the most common reasons that head teachers identified for Standard 1 learners dropping out of school were lack of motivation on the part of learners, a need for them to help their family with work, and having to walk long distances to school. Hunger was also cited as a reason that children did not come to school in about one-quarter of schools, but often this was cited as a barrier during the lean or hungry season only—not for dropouts, meaning attendance likely drops during those times. As shown in Table 24, for Standard 3 learners, employment was the most commonly cited reason for dropouts, followed by a lack of motivation and taking care of siblings or other relatives.

**Figure 9: Average Dropout Rates by Standard and Division**



Anova test; p-values = .17(S1) .04(S2) .22(S3) .01(S4)  
 National Reading Assessment Head Teacher Questionnaire 2014

As shown in Figure 10, about 60 percent of head teachers stated that dropout rates were higher among girls than boys, while 35 percent said it is the same for both sexes. Few head teachers (2.7 percent) thought that it varied by standard and no head teachers thought boys dropped out more often than girls. EMIS data show that more girls drop out than boys in Standards 1 and 4 while it is the opposite in Standards 2 and 3.<sup>59</sup>Of those who said girls dropped out more than boys, many cited household chores, early marriage, and lack of parental encouragement as the reasons. One head teacher explained the lack of motivation as a function of both home and school factors: “For girls, they are taken to assist household chores, and they are not motivated because their parents pay school fees for boys only, and there are no role models since at this school, there is only one female teacher.” However, other teachers cited lack of interest on the part of the girl. Four head teachers said that girls were lazy, which led them to drop out of school.

<sup>59</sup> EMIS data released in 2013 showed that, nationally, dropout rates were for girls in Standards 1, 2, 3 and 4, respectively.

**Table 23: Main Reasons Cited by Head Teachers for Standard I Dropouts**

Reasons	Ranking			
	1	2	3	Top 3
Not motivated/Don't see importance of education	23.9%	24.5%	25.9%	24.7%
Employment/helping with family work	19.6%	17.7%	11.7%	16.7%
Long travel distances	18.3%	17.7%	16.2%	17.5%
Taking care of siblings or other relatives	9.9%	15.1%	13.0%	12.5%
Limited availability of teachers	6.8%	6.0%	4.5%	5.9%
Poor school facilities	4.7%	9.1%	11.7%	8.2%
Sickness or Injury	4.0%	5.7%	6.5%	5.3%
Fees	2.8%	0.0%	0.0%	1.1%
Marriage	2.8%	0.0%	1.6%	1.6%
Pregnancy	1.9%	1.1%	0.8%	1.3%
Violence	1.9%	0.4%	1.6%	1.3%

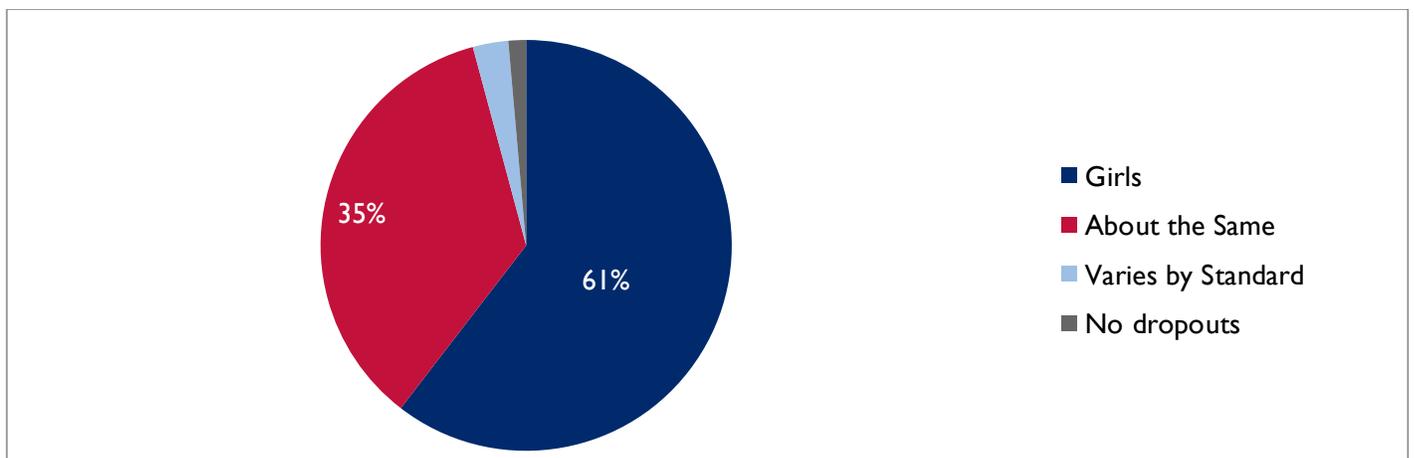
National Reading Assessment Head Teacher Questionnaire 2014

**Table 24: Main Reasons Cited by Head Teachers for Standard 3 Dropouts**

Reasons	Ranking			
	1	2	3	Top 3
Employment/helping with family work	27.0%	24.1%	14.5%	22.2%
Not motivated/Don't see importance of education	22.9%	22.6%	23.3%	22.9%
Taking care of siblings or other relatives	13.0%	16.3%	14.9%	14.6%
Long travel distances	8.3%	13.3%	13.7%	11.6%
Limited availability of teachers	7.6%	6.7%	5.0%	6.5%
Poor school facilities	5.4%	8.1%	12.2%	8.4%
Marriage	3.8%	1.1%	2.3%	2.5%
Difficulty understanding the curriculum / Poor performance	3.5%	4.1%	5.7%	4.4%
Sickness or Injury	2.5%	1.9%	7.6%	3.9%
Fees	2.2%	0.0%	0.0%	0.8%
Pregnancy	1.9%	0.7%	0.4%	1.1%
Violence	1.9%	1.1%	0.4%	1.2%

National Reading Assessment Head Teacher Questionnaire 2014

**Figure 10: Head Teacher Perceptions of whether Boys or Girls Drop Out More**



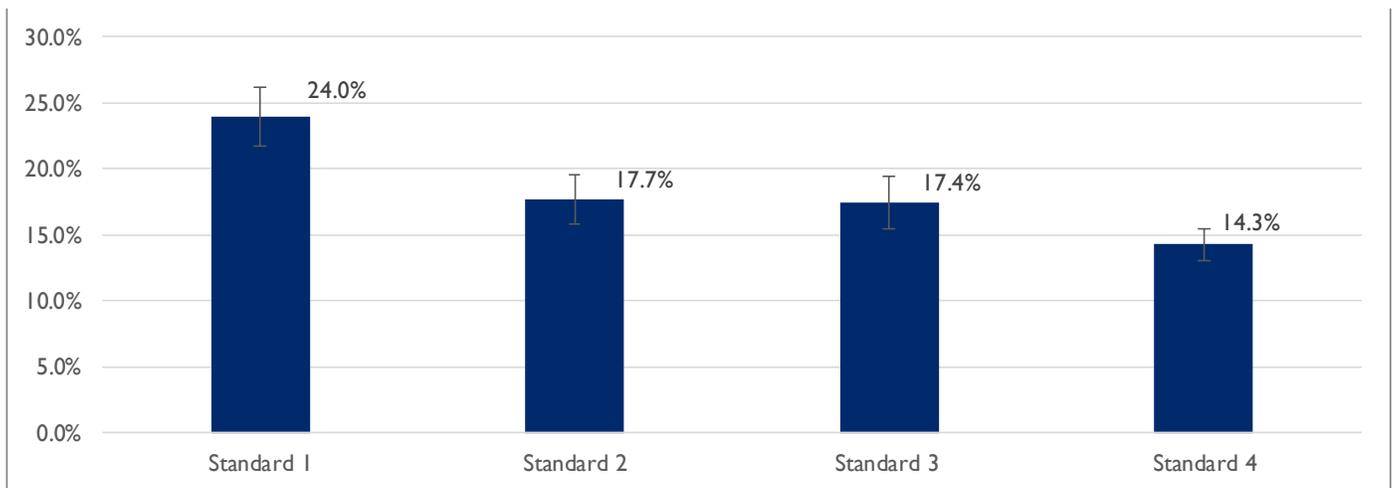
National Reading Assessment Head Teacher Questionnaire 2014

## Repetition

As shown in Figure 11, the weighted average from 2014 NRA data gathered from head teachers at sampled schools reported that 24.0 percent of all Standard 1 learners, 17.7 percent of all Standard 2 learners, 17.4 percent of all Standard 3 learners, and 14.3 percent of all Standard 4 learners had repeated their respective standards. Teachers reported similar data during interviews with them, confirming the data provided by the head teacher. Specifically, the teachers reported that for their classes (as opposed to the standard as a whole), approximately 22.0 percent of learners in Standard 1 and 19.0 percent of learners in Standard 3 were repeating the standard in the 2014 academic year.

In terms of differences by standard, head teachers at 68 percent of the sampled schools reported higher repetition rates in Standard 1 than in Standard 3 (numbers that were triangulated by teacher and learner interview data).

**Figure 11: Head Teacher Reported Average Percent of Learners Repeating per Standard**



*National Reading Assessment Head Teacher Questionnaire 2014*

As shown in Table 25, the three main reasons head teachers cited that learners fail to meet requirements to move to the next standard and must, thus, be held back is that they do not pay attention, lack of textbooks, and are enrolled in too large of classes to allow them appropriate support and attention. As was also true of dropouts, almost half of the head teachers interviewed said that, in general, girls were more likely than boys to repeat a standard (See Figure 12 for more details).<sup>60</sup> Approximately 40 percent of head teachers who reported believing that girls were more likely to repeat a standard than boys spontaneously cited household chores as a reason for this, which they said affected attendance, time for homework, and a learners ability to pay attention. One-in-ten head teachers cited lack of motivation or laziness as the reason for frequent repetition, and five percent cited marriage or just waiting to get married, sometimes in conjunction with laziness or lack of motivation. At least five percent of teachers stated that they believed girls repeated more because they often were shy or assumed themselves inferior, which affected their performance. In comparison, work or chores were only spontaneously cited as reasons for higher male repetition rates by 18 percent of the head teachers who thought that boys repeated more often. And, 14 percent cited laziness or lack of attention and motivation as a reason for boys' repetition.

The reason for head teachers' perception that girls repeat more often than boys is not clear, as this finding does not correspond with repetition rates reported by sampled learners or national statistics on repetition. In fact, sampled boy and girl learners reported almost the same repetition rates for Standard 1, and boys reported higher repetition rates for Standard 3.

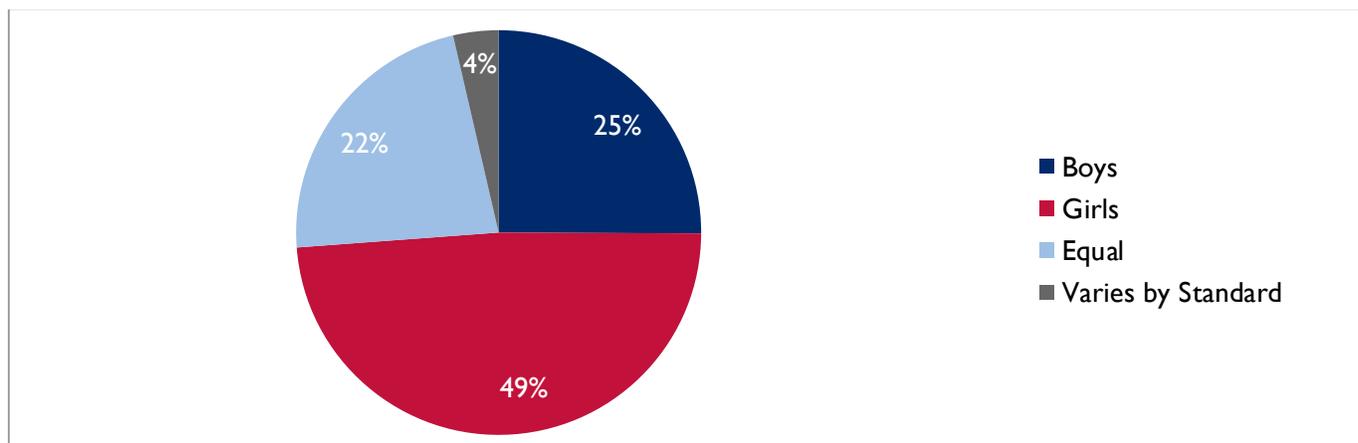
<sup>60</sup> This was a general statement and not couched in a discussion of any one particular standard but instead just overall across standards.

**Table 25: Main Reasons Cited by Head Teachers for Learners Failing to Meet Requirements to Advance to the Next Standard and, therefore, having to Repeat a Standard**

Main Reason	Percent of Head Teachers
They don't pay attention	29.7%
They don't have textbooks	23.7%
There are too many learners in the class	19.6%
They don't study	11.5%
They can't study at home because they don't have any materials to take home	7.4%
Some of the learners are too young	2.7%
There isn't enough time in the school day	2.0%
They can't study at home because there is no electricity	2.0%
I can't effectively teach this many learners	1.4%

National Reading Assessment Head Teacher Questionnaire 2014

**Figure 12: Head Teacher Perceptions of whether Boys or Girls are more likely to Repeat**



National Reading Assessment Head Teacher Questionnaire 2014

## Head Teacher Demographics

As described in the Sampling Section above, enumerators were able to interview head teachers at 303 (84 percent) of the 360 schools, due to head teacher absences. At the other 57 schools, enumerators interviewed the deputy head teachers or acting head teacher instead. This section presents data on those respondents who filled out the head teacher survey instrument, rather than (necessarily) the actual head teacher, unless otherwise noted.

### ***Gender of Head Teachers***

This was one question asked specifically about head teachers—whether present or not. Overall, respondents reported that 9 percent of head teachers were women.<sup>61</sup> In each education division, about 60 head teachers were interviewed, and between two and eight of them were female. Of the 14 urban schools, 28.6 percent of head teachers were female, while only 7.8 percent of the 346 head teachers were female in rural areas ( $p$ -value $<0.01$ ).

### ***Training***

All head teachers or acting head teachers reported having received teachers' training, and three-quarters reported having received a Malawi School Certificate of Education (MSCE), while one in five reported having received a Junior Certificate of Education (JCE), although qualifications varied somewhat by education division. The MSCE is awarded after four years of secondary school study and passages of a national examination. The JCE is awarded upon passing national examinations after only two years of secondary school. Until recently, teachers could teach lower standard-levels with only a JCE. But, now, they must have an MSCE to qualify as a teacher. Approximately, 91.7 percent of head teachers in SWED and 83.3 percent of head teachers or acting head teachers in CEED reported having an MSCE, while only between 71 and 74 percent of head teachers or acting head teachers in all other divisions reported the same. Only 7 of the 360 head teachers or acting head teachers (1.9 percent) reported that they had a diploma, including one or two head teachers in each division, and all of these head teachers taught in rural areas. The assessment team also found that qualifications did not differ at all by gender.

### ***Experience***

As shown in Table 26, head teachers or acting head teacher-reported years of experience ranged from 0 to 30 years, and years of experience at their current school ranged from 0 to 18 years. On average, head teachers reported having been in their position for eight years, including four years at their current school. It appears that many head teachers moved around. For instance, of the 22 percent of head teachers who had been at their current school for three years or less, the average years of experience was 12. While nearly half of head teachers reported teaching for more than seven years, less than 20 percent of head teachers had been at the same school for more than seven years.

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<sup>61</sup> This percentage was the same for actual head teachers and respondents.

**Table 26: Head-Teacher Reported Years of Teaching Experience**

Range of Years	Percent of Head Teachers reporting respective years in position	Percent of Head Teachers reporting respective years in position at their Current School
0-3 years	32.6%	54.3%
4-7 years	21.4%	26.2%
8-12 years	21.7%	14.2%
More than 12 years	24.2%	5.3%

National Reading Assessment Teacher Questionnaire 2014

Note: The ranges in this table do not correlate with oral reading or reading comprehension scores.

## Teacher Demographics

Enumerators interviewed a total of 697 teachers using the teacher interview protocol. Due to teacher absences, 23 (6.4 percent) of the teachers from the randomly selected classes could not be interviewed. The average teacher age was 34 years.

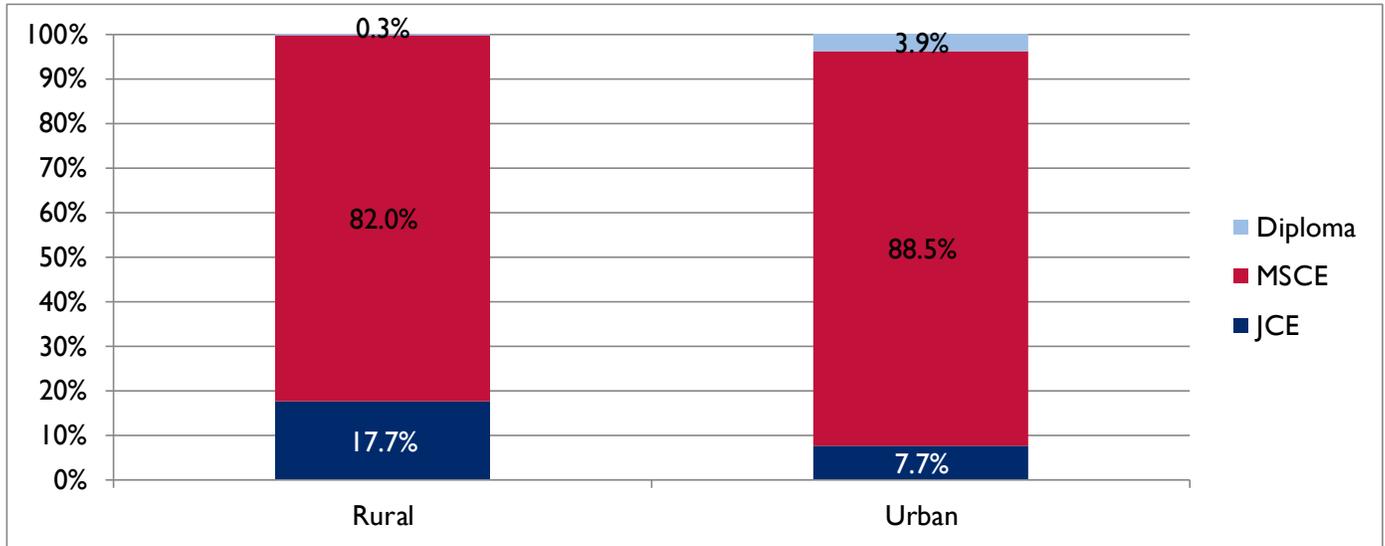
### Education and Training

As shown in Figure 13, the majority (82.0 percent) of teachers reported that they had earned an MSCE, and most of the rest (17.7 percent) reported that they had earned their JCE. The educational background of teachers differed significantly between rural and urban regions ( $\chi^2=0.012$ ), as urban teachers were 6.5 percentage points more likely to have an MSCE and 3.6 percentage points more likely to have a diploma.

As shown in Figure 14, among those surveyed, 83 percent of teachers reported that they were trained teachers<sup>62</sup>, although this varied substantially and significantly by standard ( $p\text{-value}<0.001$ ). In the sample, 97.7 percent of Standard 1 teachers were trained, while only 68.1 percent of Standard 3 teachers were trained. As shown in Table 27, the percent who reported being trained also varied significantly by division ( $\chi^2=0.001$ ). While 90 percent of teachers reported that they had been trained in SHED and CWED, only 73 percent reported the same in CEED.

<sup>62</sup> The wording of the question used for this qualification is “Are you a trained teacher?” According to MoEST officials “trained teachers” are those who hold their MSCE.

**Figure 13: Percent of Teachers Reporting Various Qualifications**



Chi-squared  $p$ -value=0.012

National Reading Assessment Teacher Questionnaire 2014

**Figure 14: Percent of Trained and Untrained Teachers in Standards 1 and 3**



National Reading Assessment Teacher Questionnaire 2014

**Table 27: Percent of Teachers Reporting they are Trained, by Division**

	CEED	CWED	NED	SEED	SHED	SWED	Overall
% Trained	73.2	90.0	81.2	75.7	90.0	87.3	83.0
% Not Trained	26.8	10.0	18.8	24.4	10.0	12.7	17.0

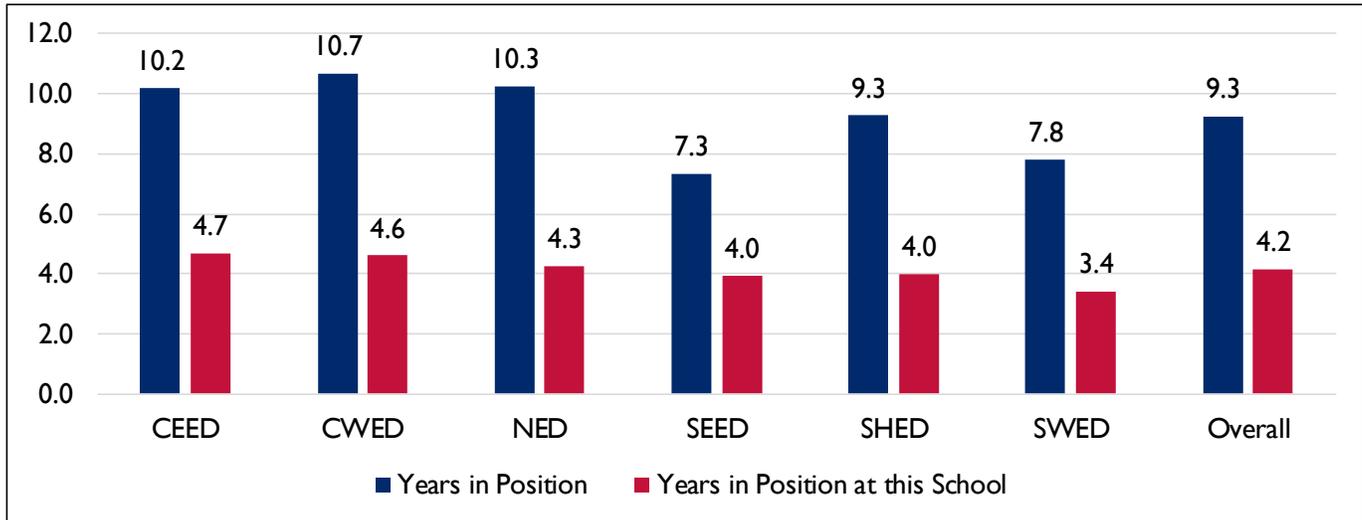
Chi-squared  $p$ -value=0.001

National Reading Assessment Teacher Questionnaire 2014

### Experience

Teachers reported an average of 9.3 years of total teaching experience and approximately 4.2 years of teaching experience in their current schools. As shown in Figure 15, when disaggregated by division, significant differences were found for years of total teaching experience. Those in SEED had the fewest number of years of experience. Years of overall teaching experience and years in their current position also differed significantly between Standard 1 and 3. The average years of overall teaching experience among Standard 1 teachers was 12.7 compared to 5.8 for Standard 3 teachers.

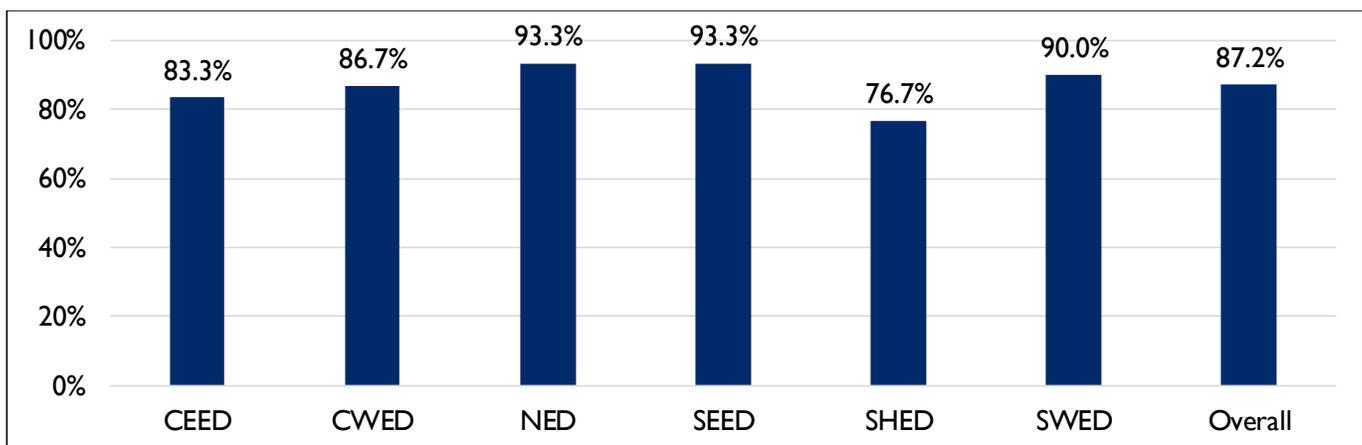
**Figure 15: Average Years of Overall Teaching Experience and Time at Current School, by Division**



*p-value < 0.05 for both years in position and years in position at this school.  
National Reading Assessment Teacher Questionnaire 2014*

As shown in Figure 16, overall, 87.2 percent of teachers reported receiving at least one coaching visit in the most recent term. The proportion of teachers receiving some sort of coaching differed significantly between the six divisions. Teachers in SHED were the least likely to receive a coaching visit, at 76.7 percent, and teachers in NED and SEED were the least likely to receive a coaching visit, at 93.3 percent.

**Figure 16: Proportion of Teachers Receiving a Coaching Visit in the Past Term, by Division**



*Chi-squared p-value < 0.05  
National Reading Assessment Teacher Questionnaire 2014*

### ***Proportion of teachers demonstrating “essential” skills in teaching reading***

The study identified 13 teaching practices from the classroom observations tool that, based on a review of literature and the USAID-approved RTI-International EGRA curriculum and classroom observation protocol, embody what should be considered “essential” teaching practices. The assessment team then conducted frequency analysis to determine what percentage of sampled teachers used these practices in any of the up to three classes they were observed teaching. The study only included English and Chichewa classes in its analysis, as many of the best practices relate only to reading.

Based on the observations, the study found that only three percent of teachers used all of the essential practices in the observed classes. However, given that lesson content can vary significantly by day, EGRA has set a standard of 67 percent adherence to best practices on any one day as a cut off for determining adherence to best practices. The study used the same cut-off point for this analysis and found that, as shown in Table 28 below, about 30 percent of teachers achieved this target, demonstrating adherence to best practices in teaching reading.

The team observed significant differences in the frequency of use of four of the essential practices. The most significant differences included instruction to recognize letters and say letter names or sounds, which enumerators observed in more than half of classes in SEED and only one quarter of classes in CEED, and teachers asking pre-reading questions, which enumerators observed in almost 40 percent of classes in SWED but less than 15 percent of classes in CEED. The study also identified significant differences in the percent of teachers demonstrating at least 67 percent of essential practices, as only 22 percent of CEED teachers met this target while 40 percent of CWED teachers did.

**Table 28: Teachers Observed Using Essential Practices by Division**

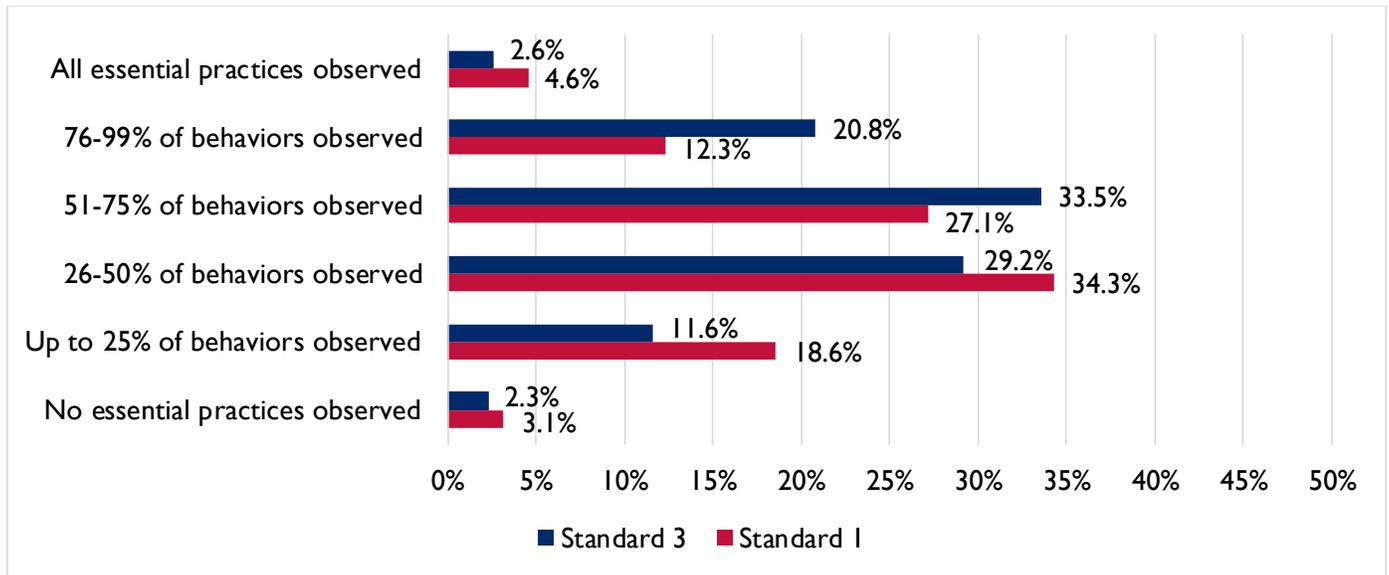
Essential Practice	CEED	CWED	NED	SEED	SHED	SWED	Overall
Assesses learner learning	73.20%	79.20%	77.60%	87.00%	75.40%	76.80%	78.20%
Introduces lesson by connecting to what learners have learned previously	77.70%	68.30%	66.40%	72.20%	78.00%	76.80%	73.10%
Uses a lesson plan*	64.30%	69.20%	65.50%	70.40%	78.80%	62.50%	68.70%
Has individual learners read aloud	69.60%	68.30%	59.50%	67.80%	69.50%	69.60%	67.20%
Engages learners in reading activities or games appropriate to reading level	60.70%	60.80%	68.10%	58.30%	55.90%	64.30%	61.20%
Asks learners questions to assess their understanding of something the learner(s) or teacher have/has read	50.00%	55.40%	39.70%	56.50%	47.00%	51.30%	50.00%
Provides learners with structured opportunities to apply understanding and skills to everyday life and problems	42.90%	55.00%	56.90%	49.60%	43.20%	47.30%	49.10%
Encourages learners to “sound it out” when they don’t know a word**	50.00%	51.70%	61.20%	40.00%	45.80%	45.50%	48.90%
Asks learners questions to assess their understanding of stories they hear	37.50%	45.00%	32.80%	47.00%	33.10%	40.20%	39.20%
Asks learners to recognize letters and say letter names and/or sound***	25.00%	39.20%	22.40%	51.30%	29.70%	26.80%	32.50%
Provides instructions on how to decode syllables and words	29.50%	28.30%	34.50%	29.60%	35.60%	32.10%	31.50%
Applies multiple methods to support comprehension, including games, group work, etc.	23.20%	31.70%	21.60%	26.10%	22.90%	24.10%	24.90%
Asks learners pre-reading questions***	14.30%	39.20%	17.20%	27.80%	17.80%	26.80%	24.00%
Met at least 67% of practices	22.30%	40.00%	27.60%	32.20%	29.50%	26.30%	29.60%
Met all essential practices***	0.00%	5.80%	0.00%	3.50%	2.50%	7.10%	3.20%

Asterisks indicate statistical significance: \*=p-value<0.1, \*\*= p-value<0.05, \*\*\*=p-value<0.01

National Reading Assessment Classroom Observation 2014

On average enumerators observed that teachers used 6.5 of the essential practices in teaching in their classes. Teachers in Standard 3 used an average of 0.7 more essential teaching practices than Standard 1 teachers (p-value<0.001). Enumerators observed nearly three in five Standard 3 teachers using at least half of essential teaching practices, while they only observed 46 percent of Standard 1 teachers using best teaching practices.

**Figure 17: Percent of Practices Teachers Were Observed Using by Standard**



*T-test p-value < 0.001*

*National Reading Assessment Classroom Observation 2014*

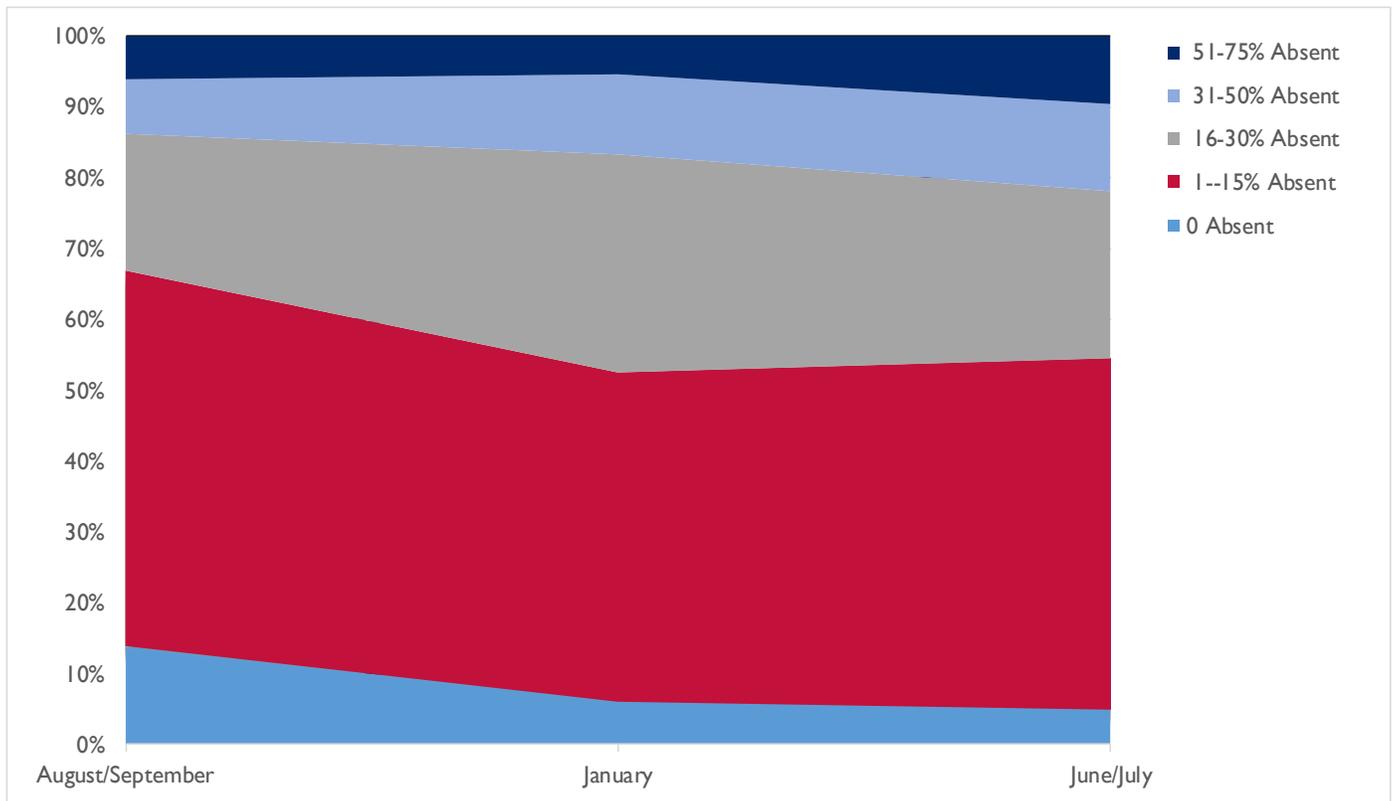
### **Classroom Characteristics**

#### **Attendance Rates by Class**

The teacher questionnaire asked teachers to report attendance at three different times: (i) Wednesday of the third week of the school year, (ii) Wednesday of the third week of January, and (iii) Wednesday of the most recent full week. This was done in an effort to identify any differences in attendance that may occur due to seasonal changes—such as decreased accessibility of food in the lean season, which according to the World Food Program (WFP) typically begins as early as December and can last up to March or April. Food prices usually rise during this time period before the March/April harvest; thus, maize is scarce and often unaffordable on the market, and people have often consumed their own reserves prior to this point. It is likely that absentee rates could be higher in January than in August or September (during the third week of school) and June or July (during the most recent week).

Overall, as shown in Figure 18, the weighted averages of student absenteeism dropped from September to January and either leveled or declined slightly from January to June/July, showing no distinct effect due to lean season. In general, absenteeism among Standard 1 learners was higher than among learners in Standard 3.

**Figure 18: Teacher Reported Absentee Rates for Standard 1 and Standard 3 Learners**



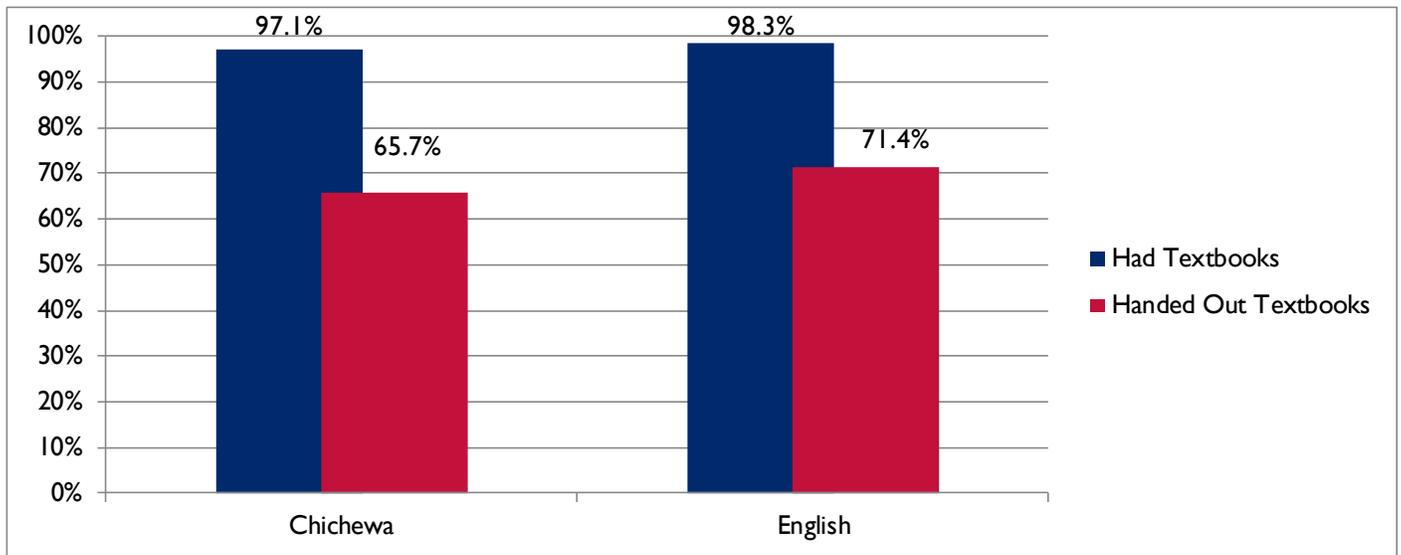
National Reading Assessment Teacher Questionnaire 2014

**Access to Textbooks**

As shown in Figure 19, of the 697 teachers interviewed, 677 (97.1 percent) said they had at least one Chichewa textbook, and 98.3 percent said they had at least one English textbook in their class. However, only 65.7 percent of teachers reported that they hand out all of the Chichewa textbooks they have, and only 71.4 percent of teachers reported handing out all of the English textbooks they have during class.

Standard 3 teachers reported using Chichewa textbooks 16 percentage points more often than Standard 1 teachers (p-value<0.01), and teachers in general reported using English textbooks more often than Chichewa textbooks (by 6 percentage points) (p-value=0.05). The assessment team cross-verified this information with data on teachers handing out textbooks during classroom observations conducted for the assessment. In approximately 76 percent of the lessons, the enumerators observed teachers handing out textbooks to learners (68 percent in Standard 1 Chichewa classes and 86 percent in Standard 3 Chichewa classes). However, enumerators noted that teachers only handed out textbooks to about 25 percent of Standard 1 learners during Chichewa lessons and only about 18 percent of Standard 3 learners. These results indicate that while fewer teachers in Standard 1 handed out textbooks, they handed them out to a higher percentage of Standard 1 learners than Standard 3 learners. This is reversed for English textbooks, where a higher percentage of Standard 3 learners per class were given books than Standard 1 learners.

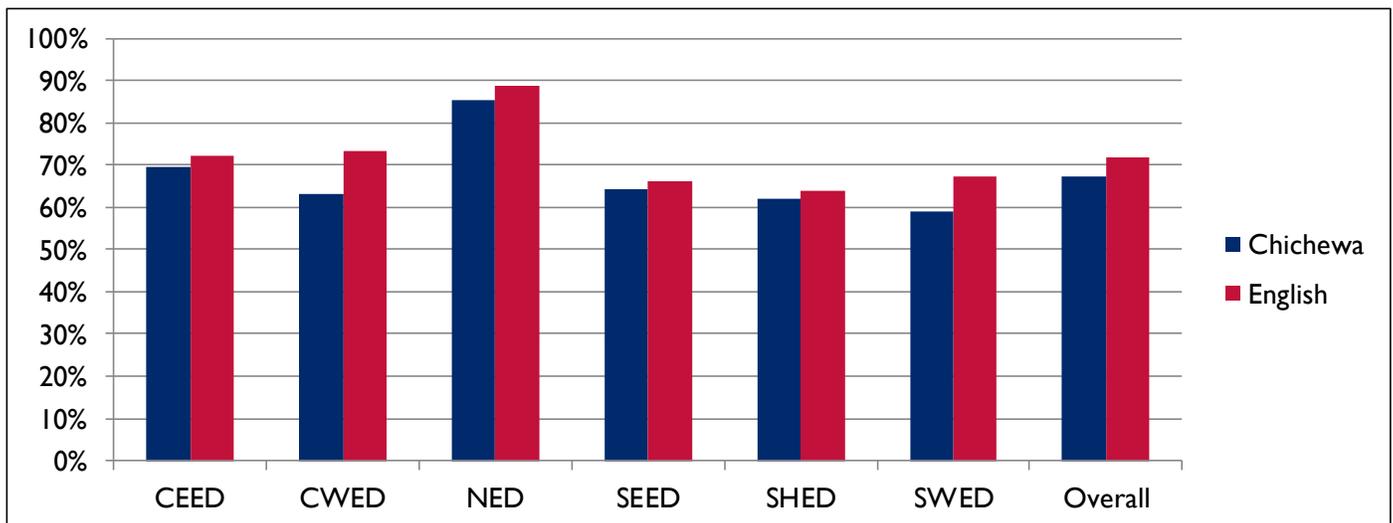
**Figure 19: Textbook Accessibility and Use by Class**



For both Chichewa and English  $p$ -value $<0.01$   
 National Reading Assessment Teacher Questionnaire 2014

While the assessment team did not identify any differences between divisions in access to Chichewa or English textbooks, they did note a significant difference between divisions in whether Chichewa books and English books are used in the classroom. As shown in Figure 20, in NED, 85 percent of teachers handed out Chichewa textbooks and 88 percent handed out English textbooks, while only 60 – 70 percent of teachers in other divisions handed out Chichewa and English textbooks. Enumerators also collected data showing a significant difference between the percentage of learners per class receiving textbooks during class by division for both English and Chichewa textbooks (ANOVA  $p$ -value $<0.001$ ), and once again NED had a much higher percentage than the other divisions.

**Figure 20: Use of Chichewa and English Textbooks by Division**

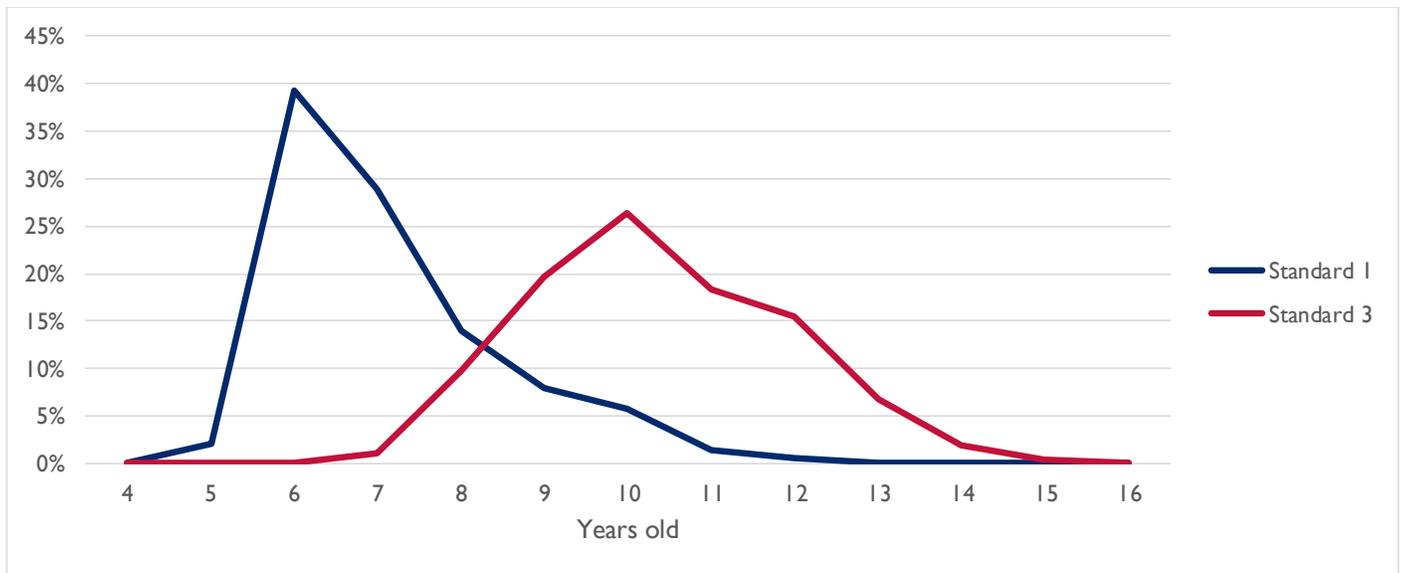


Chi-Squared  $p$ -value $<0.01$   
 National Reading Assessment Teacher Questionnaire 2014

## Learner Characteristics

Learners in Malawi are eligible to begin school in Standard 1 at age six to seven. This tracks closely with the average age of Standard 1 learners from this study, which was seven (as shown in Figure 21). If learners were to progress through one standard per year, as is intended, Standard 3 learners would be age eight to nine. However, the weighted average age of Standard 3 learners in Malawi, as per this assessment, was estimated at 10.4. The average age of Standard 1 boys was 7.2 and for girls it was 7.0, but the gap expanded in Standard 3, where boys were 10.6 on average, while girls were 10.1. This also varied significantly by division.

**Figure 21: Age of Learners by Standard**

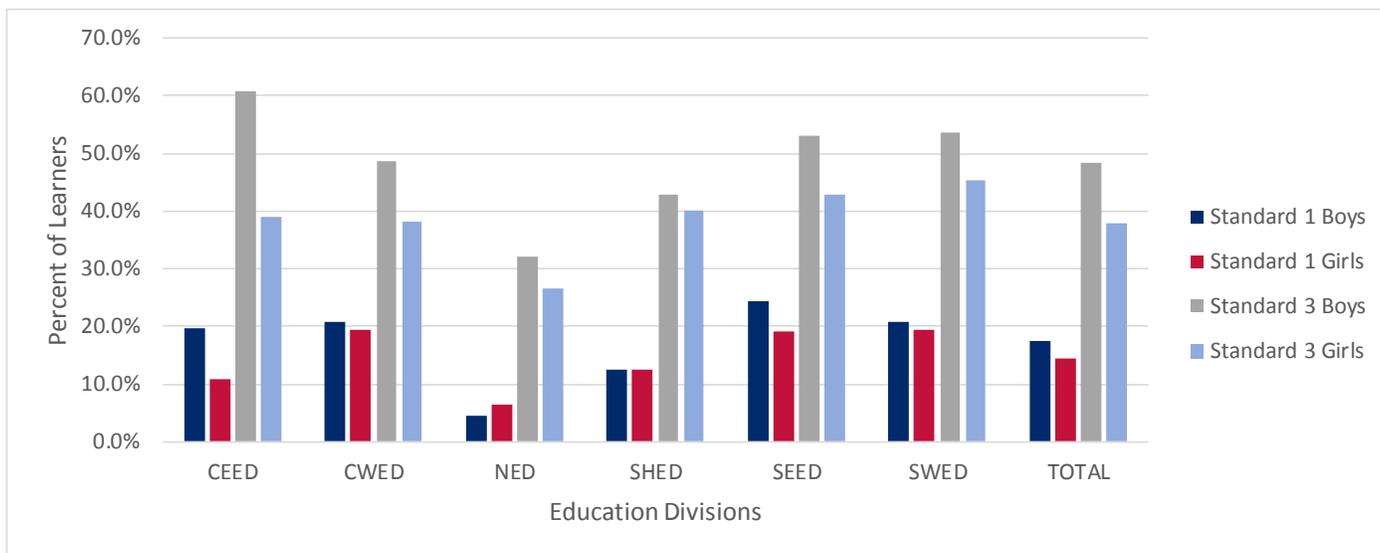


*p-value < 0.01*

*National Reading Assessment Learner Questionnaire 2014*

The assessment team also looked at the percentage of learners that were above the expected age for their standard level (Figure 22). The team considered learners to be over age if they were two years older than the expected age for their standard. Based on national norms, the team expected Standard 1 learners to be between 6 and 7 and Standard 3 learners to be between 8 and 9; so, over age Standard 1 learners were 9 or older and over-age Standard 3 learners were 11 or older. By weighted average, 16 percent of Standard 1 learners were over age, while more than 43 percent of Standard 3 learners were, suggesting high rates of learners repeating standards (as discussed above) or leaving school for a period of time and then returning. There were significant differences in the percentage of learners who reported being above the normal age for a given standard by division for both Standards 1 and 3, and NED had particularly low rates of over age learners for both standards in comparison to the other divisions.

**Figure 22: Percent of Learners Over Expected Age by Standard, Education Division, and Sex**



*Chi-squared p-value < 0.01 for divisions, standards, and sexes  
National Reading Assessment Learner Questionnaire 2014*

The team found the percent of learners over expected age by standard to be significantly different between divisions. As is true in many of the other areas, NED stood out. Data showed that NED had the lowest percent of learners over the expected age for both Standards 1 and 3. SHED had the second least. Also, interestingly, the percentage of boys and girls that were over age didn't vary that much in Standard 1, but in Standard 3, far more boys than girls reported being over age. The team found no significant differences in age or percent of over-age learners in rural versus urban areas.

## READING ASSESSMENT SCORE FINDINGS

### Stages of Reading and how these are Measured by RA Subtasks

Teaching learners the essential reading skills to become successful and independent readers in early primary school is required for achieving lifelong literacy. This subsection of the findings presents data on the extent to which learners in Malawi have proven to be independent readers. In 2000 the United States (US) National Reading Panel, a group of leading literacy and reading experts, identified five key skills in early phases of reading skills development: phonemic awareness, phonics, fluency, vocabulary, and comprehension (Coyne, Simons, Edwards, 2005). Phonemic awareness is the ability to hear and manipulate sounds in spoken words (Yopp, 1992). It is the understanding that spoken words and syllables are made up of sequences of speech sounds, and that the placement of the sounds varies (e.g., the /sssss/ in sit has the same sound as the /sssss/ in miss). One of the most compelling findings in beginning reading research is that phonemic awareness is a strong predictor of early reading success (University of Oregon Center on Teaching and Learning, 2009; Edwards, Simon, Coyne, 2005). Phonics is the ability to actually use phonetics to sound out words. Although learners learn these skills and the more advanced skills of fluency, vocabulary, and comprehension at different paces, they can generally be categorized into three stages: (i) pre-reading, (ii) initial reading, and (iii) fluency and comprehension. The Chichewa RA is aligned with the five foundational key skills and measures children's abilities according to the three stages of reading, as shown in Table 29 below.

### **Stage 1: Pre-Reading Skills**

This stage typically lasts from birth to kindergarten, when children should learn oral language and listening comprehension skills. Testing of listening comprehension is important because it is a pre-requisite competency to reading. These pre-reading skills are measured by the listening comprehension, syllable segmentation, and initial sound identification subtasks in the RA. The listening comprehension subtask seeks to measure auditory phonemic awareness, and the RA uses the syllable segmentation and initial sound identification subtasks to measure complete (not just auditory) phonemic awareness skills.

### **Stage 2: Initial Reading/Decoding Skills**

This stage consists of phonics, or alphabetic understanding, and decoding skills. Alphabetic understanding is the understanding that words are composed of individual letters and that there is a clear link between a letter and a sound (Edwards, Simmons, Coyne, 2005). This is the second phase of initial reading because it builds on the concept of identifying sound patterns in speech by connecting the sound patterns to the printed letters. To read words, a beginning reader must come to know each letter as a discrete, self-contained visual pattern that can be printed or pointed to. They must also be able to apply alphabetic understanding and phonics skills to “sound out” or “decode” unknown words. Decoding is the ability to blend and segment sounds into recognizable words. These skills are measured by four initial reading subtasks in the RA instrument: letter name knowledge, syllable reading, familiar word reading, and non-word reading.

### **Stage 3: Fluency and Comprehension**

Once beginning readers have recognized speech sounds (phonemic awareness) and identified alphabetic letters and sounds (phonics), the third stage is achieving automaticity and fluency with the phonological or alphabetic code. Reading fluency is defined as the ability to decode and comprehend text at the same time (NICHD, 2000; Samuels, 2006). The oral reading fluency and reading comprehension subtasks assess the ability of learners to translate letters into sounds, unify sounds into words, process connections, relate text to meaning, and make inferences to fill in missing information.<sup>63</sup> Because oral reading fluency and reading comprehension capture this complex process, these two subtasks can be used to characterize overall reading competency. Fluency and comprehension skills are measured through a simple oral reading passage of 56 words and five comprehension questions in the oral reading fluency and reading comprehension subtasks.

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<sup>63</sup> Hasbrouck, J., & Tindal, G. A. (2006). “Oral reading fluency norms: A valuable assessment tool for reading teachers.” *The Reading Teacher*, 59(7), 636–644.

**Table 29: Reading Stages and RA Subtasks that Measure those Stages**

Reading Stage	RA Subtask	Skills Measured
Pre-Reading	Listening Comprehension	Phonemic awareness
	Syllable Segmentation	
	Initial Sound Identification	
Initial Reading	Letter Name Knowledge	Alphabetic understanding/
	Syllable Reading	Decoding skills
	Familiar Word Reading	
	Non-Word Reading	
Fluency and Comprehension	Oral Reading Fluency	Fluency, Automaticity and Comprehension
	Reading Comprehension	

The definitions for each subtask and what they measure can be found in Table 30 below.

**Table 30: Description of Malawi EGRA Subtasks**

Description of EGRA Subtasks <sup>64</sup>		
Subtask	Early reading skill	Skill demonstrated by learners' ability to:
<b>Letter name knowledge</b>	Letter recognition	Provide name of upper- and lowercase letters in random order
<b>Syllable segmentation</b>	Phonemic awareness	Segment words into phonemes (oral test)
<b>Initial sound identification</b>	Phonemic awareness	Identify initial sounds of words (oral test)
<b>Syllable reading</b>	Alphabetic principle	Identify legal syllables in random order
<b>Familiar-word reading</b>	Automatic word reading	Read simple and common words
<b>Unfamiliar (non-word) reading</b>	Alphabetic principle	Use knowledge of letter sound correspondence to read non-words (decode the sounds of the letters to create words)
<b>Oral reading fluency (paragraph reading with comprehension)</b>	Oral reading fluency and comprehension	Read a story with accuracy, little effort, and at a sufficient rate and respond to literal and inferential questions about the text they have read
<b>Listening comprehension</b>	Oral comprehension	Respond correctly to literal and inferential questions about a text read to a learner

### Summary of National Reading Assessment Results

NRA data were weighted appropriately and analyzed and the results show the following:

<sup>64</sup> RTI & IRC. (2011). "Guidance Notes for Planning and Implementing the EGRA."

- (i) Malawian public school Standard 1 and 3 learners are generally performing at the pre-reading stage, and less than half are meeting standard-level benchmarks for pre-reading.
- (ii) As shown in Table 31, by the end of Standard 3, the majority of public school learners are not fluent readers, or even initial readers, and many are just beginning to reach the pre-reading stage.

Specifically, by comparing weighted average scores against the benchmarks for Standards 1 and 3 for each sub-task, the assessment team found that:

- As shown in Table 31, less than one percent of Standard 1 and less than three percent of Standard 3 learners are able to read and comprehend standard-level text, as measured against Malawi’s benchmarks.
- As shown in Figures 23 and 24, for pre-reading skills, scores were the highest for the listening comprehension subtask for both standards. In fact, 47 and 62 percent of Standard 1 and 3 learners, respectively, met the benchmarks for listening comprehension. Learners also performed relatively well on the syllable segmentation task; 21 and 74 percent of Standard 1 and 3 learners met the benchmarks for these subtasks. However, scores for initial sound identification were quite low, with less than 2 percent of Standard 1 and 3 learners meeting benchmarks in this area, suggesting a lack of phonemic awareness and decoding skills.
- As discussed in more detail below and presented in Figure 25, for initial reading skills, the majority of learners in both standards could not read letters, syllables, or words fluently. Learners are not learning basic reading skills, such as alphabetic understanding and decoding skills required for oral reading fluency.
- Only 0.2 percent of learners in Standards 1 and 3 met the benchmarks across all four initial reading subtasks.

**Table 31: Percent of Learners who can read per Benchmarks<sup>65</sup>**

% of Learners that are:	Standard 1	Standard 3
Able to read letters	2.6%	7.2%
Able to read words	0.5%	1.7%
Able to read a passage and comprehend it	0.0%	1.7%

*Early Grade Reading Assessment 2014*

<sup>65</sup> This table has been added in order to explain the meaning of the subtasks in a more direct way so it could be more accessible to those not as familiar with EGRA. This table includes the percent of learners meeting benchmarks for letter name knowledge, familiar word reading, and oral reading comprehension, respectively.

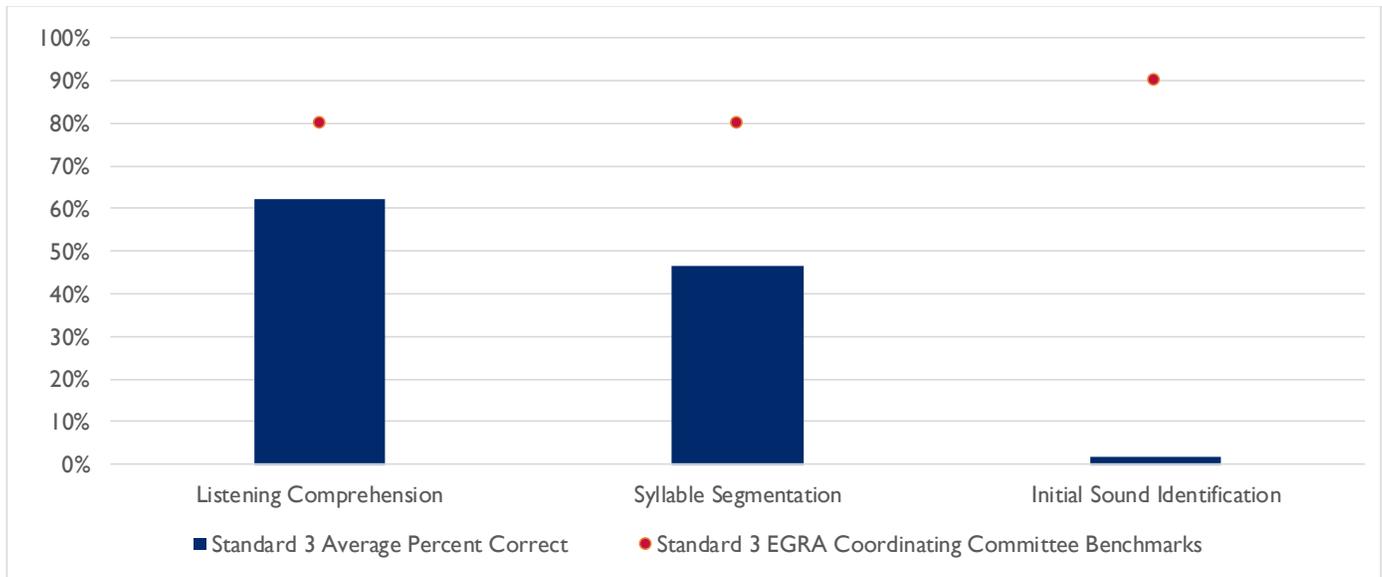
## National Reading Assessment Findings by Subtask

This section reports results of the NRA by subtask and is organized based on the three stages of reading development described above. Each section includes a brief description of the subtask(s), the average score for the sample in each standard, and the percentage of learners achieving the benchmarks for Standards 1 and 3.

### Stage 1: Pre-Reading Skills

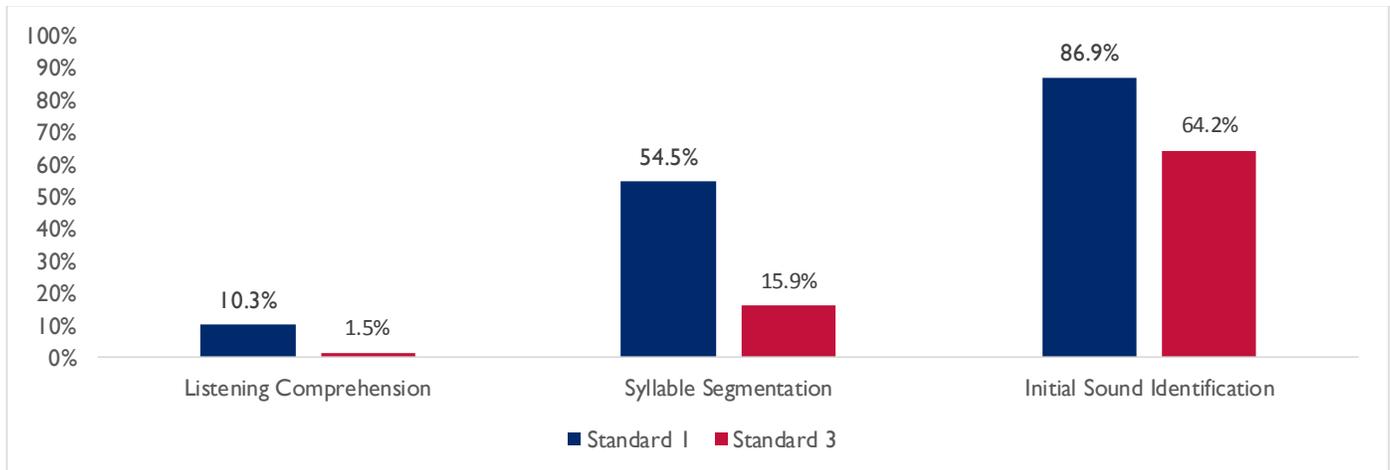
Summary results for pre-reading skills are presented in Figures 23 and 24 below.

**Figure 23: Average Percent Correct Against Benchmarks for Standard 3 Pre-Reading Subtasks**



Benchmarks here are all EGRA Coordinating Committee-recommended benchmarks  
Early Grade Reading Assessment 2014

**Figure 24: Percent of Learners Scoring Zero on Pre-Reading Subtasks by Standard**



Early Grade Reading Assessment 2014

**Listening Comprehension:** This subtask assesses whether the learner can listen to a passage read aloud and answer several inferential and factual questions correctly with a word or simple statement. During the listening comprehension subtask, the enumerators read an unfamiliar fable approximately 30 words long aloud to learner and then asked five comprehension questions. The assessment team calculated scores for this subtask according to the percentage of questions that the learner answered correctly. According to EGRA Coordinating Committee-recommended benchmarks, Standard 1 should be able to answer three out of the five questions correctly (60 percent) and Standard 3 should be able to answer 4 (80 percent).

However, as shown in Table 32, less than half of learners (47 percent) in Standard 1 and about two-thirds of learners in Standard 3 (62 percent) met the recommended benchmarks for listening comprehension. Based on the average percent correct for each standard (47 percent and 74 percent for Standards 1 and 3 respectively), Standard 1 learners answered an average of 3.4 questions correctly out of the total 5 questions asked, and Standard 3 learners were able to answer 3.7 out of 5.

Zero scores were comparatively low for this pre-reading subtask. Only ten percent of learners in Standard 1 and one percent in Standard 3 were not able to answer any comprehension questions correctly.

**Table 32: Percent of Learners Meeting EGRA Coordinating Committee-Recommended Listening Comprehension Benchmarks**

Standard	No. of Items	Mean Score (%)	EGRA Coordinating Committee-Recommended Benchmarks	% Reaching Benchmarks	% Scoring Zero
1	5	47%	60%	47%	10%
3	5	74%	80%	62%	1%

*Early Grade Reading Assessment 2014*

Findings indicate that for the most basic pre-reading skill of listening comprehension, while most learners could answer at least one listening comprehension questions correctly, about half of Standard 1 and one-third of Standard 3 learners have not mastered oral listening comprehension skills in the Chichewa language.

**Syllable Segmentation:** The syllable segmentation subtask measures the learner’s ability to hear phonemes (syllables) and segment words into syllables. Enumerators administer the subtask orally, and it is untimed. The assessor reads aloud ten words, one at a time, and then asks learners to segment the words into syllables. In order to meet the EGRA Coordinating Committee-recommended benchmarks, learners must correctly segment seven of the ten words in Standard 1 (or 70 percent) and eight of the ten words in Standard 3 (or 80 percent).

As shown in Table 33, more than half of learners (55 percent) in Standard 1 were not able to correctly answer any syllable segmentation questions, demonstrating a lack of phonemic awareness skills among these learners. Of those who were able to correctly segment words into syllables, 21 percent met the benchmark, segmenting seven out of ten words read orally, leaving nearly 80 percent of learners below the benchmark.

Standard 3 learners, having had more exposure and instruction, performed comparatively better than Standard 1 learners, with almost half (47 percent) of Standard 3 learners correctly segmenting eight of the ten words provided, meeting the 80 percent benchmark. The mean score falls just below 60 percent. The percentage of zero scores shows that in Standard 3, 16 percent of learners could not segment one word.

**Table 33: Percent of Learners Meeting EGRA Coordinating Committee-Recommended Syllable Segmentation Benchmarks**

Standard	No. of Items	Mean Score (%)	EGRA Coordinating Committee-Recommended Benchmarks (%)	% Reaching Benchmarks	% Scoring Zero
1	10	25%	70%	21%	55%
3	10	59%	80%	47%	16%

Early Grade Reading Assessment 2014

**Initial Sound Identification:** This subtask measures learners' ability to hear and isolate the first sound in a word. The test is administered orally in a similar manner to the syllable segmentation subtask. Enumerators read a word aloud to a learner, who is then asked to identify the first sound, or phoneme, in the word. This test is also untimed and includes ten words. The EGRA Coordinating Committee-recommended benchmarks for this subtask are 80 percent and 90 percent for Standards 1 and 3, respectively.

Learners in both standards performed poorly on this subtask. As shown in Table 34, less than one percent of Standard 1 learners and less than two percent of Standard 3 learners met the recommended benchmarks. Mean scores hovered at 4 percent and 12 percent for Standards 1 and 3, respectively, very far from the 80 and 90 percent benchmarks. About nine in ten Standard 1 learners and two-thirds of Standard 3 learners were unable to answer any questions correctly in this subtask. The high percentage of zero scores proves this was a very difficult task for learners. Similar to the syllable segmentation task, which also measures phonemic awareness, learners in both standards demonstrated a general lack of phonemic awareness and decoding skills.

**Table 34: Percent of Learners Meeting EGRA Coordinating Committee-Recommended Initial Sound Identification Benchmarks**

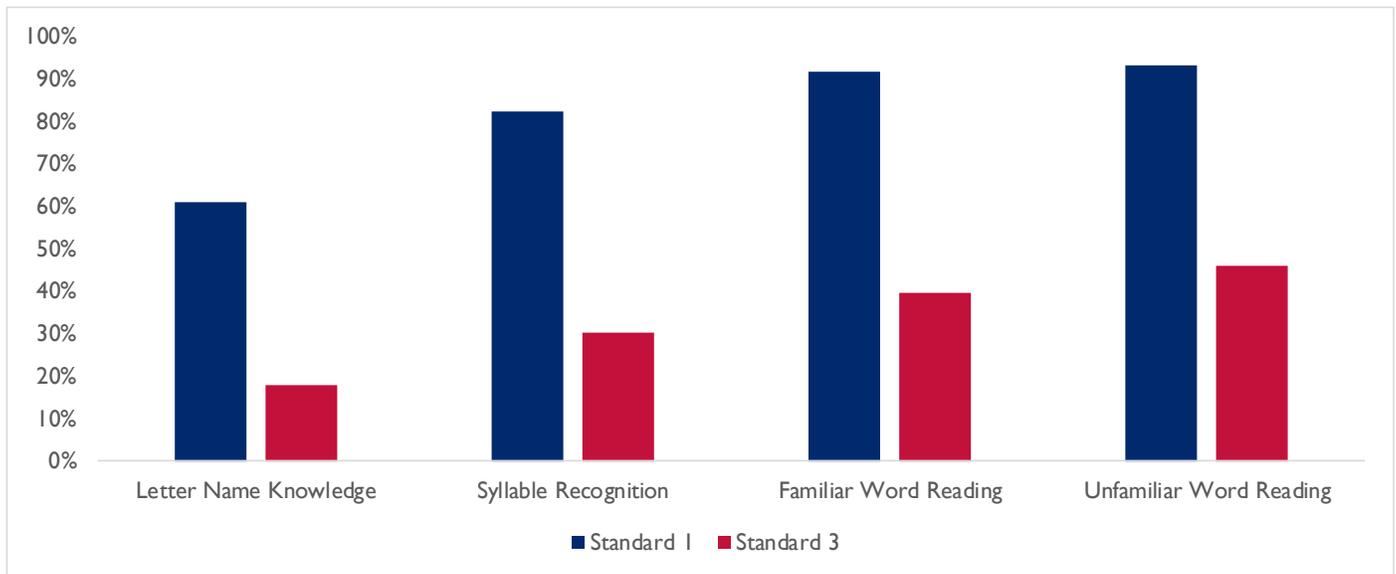
Standard	No. of Items	Mean Score (%)	EGRA Coordinating Committee-Recommended Benchmarks (%)	% Reaching Benchmarks	% Scoring Zero
1	10	4%	80%	0.7%	87%
3	10	12%	90%	1.6%	64%

Early Grade Reading Assessment 2014

**Stage 2: Initial Reading and Decoding Skills**

The assessment team did not provide graphs of reading scores against benchmarks for this section because scores were so low that they were difficult to see on the graphs. That said, zero scores for this phase of reading are presented in Figure 25 below.

**Figure 25: Percent of Learners Scoring Zero on Initial Reading Subtasks by Standard**



Early Grade Reading Assessment 2014

**Letter Name Knowledge:** The first initial-reading subtask measures the most basic reading skill of letter recognition. It assesses learners’ ability to read the names of the letters of the alphabet accurately. Automaticity and fluency of letter name knowledge is a predictive skill for later reading success. For this subtask, enumerators provided learners with a page of 100 randomly distributed upper- and lowercase letters and asked them to read the names of as many letters as possible within one minute. The subtask is scored by the number of letters that a learner correctly named in one minute (correct letters per minute—clpm) out of a total of 100 possible letters. The MoEST benchmarks are 24 clpm for Standard 1 and 50 clpm for Standard 3.

As shown in Table 35, less than three percent of Standard 1 and eight percent of Standard 3 learners met the MoEST benchmarks for the 2014 NRA. The mean scores were far below the proposed benchmarks, with learners averaging 3.5 clpm and 19 clpm for Standards 1 and 3, respectively. Overall, the study found that about three out of every five learners in Standard 1 and one of every five learners in Standard 3 were unable to read any letters correctly. Mean scores and the limited number of learners meeting the benchmark on the letter name knowledge subtask imply that learners do not have alphabetic understanding – that words are composed of individual letters. This happens if learners are taught through the whole-word approach rather than phonics, which is the old way that learners were taught in Malawi prior to the MTPDS and EGRA interventions. And, since some schools haven’t yet received those interventions, and other schools have only adopted some of the methods fully, the percent of teachers teaching through the use of phonics is a bit low. When learners are taught using the whole-word approach rather than using phonics, they may not be aware of the individual letter sounds or the names of letters. Classroom observations confirmed these challenges. Enumerators found that teachers only encouraged learners to “sound out” words in 39 percent of the reading classes they observed and only provided learners instructions on how to decode words in 54 percent of the reading classes observed.

**Table 35: Percent of Learners Meeting MoEST Letter Name Knowledge Benchmarks**

Standard	No. of Letters	Mean Score	MoEST Proposed Benchmarks	% Reaching Proposed Benchmarks	% Scoring Zero
1	100	3.5 clpm	24+ clpm	2.6%	62%
3	100	19.0 clpm	50 clpm	7.2%	18%

Early Grade Reading Assessment 2014

**Syllable Reading:** This subtask measures learners’ ability to read syllables (e.g., “mi”, “po,” or “mle”). For this subtask, enumerators give learners a table of 100 randomly ordered common syllables and ask them to read as many syllables as possible within one minute. The test is scored according to the number of correct syllables read per minute (cspm). In order to achieve the proposed benchmark, learners had to read 50 cspm in Standard 1 and 65 cspm in Standard 3. Because the Chichewa language is syllabic in nature, consisting of complex multi-syllable words, syllable reading is taught in language classes.<sup>66</sup> It is believed that this method will facilitate language acquisition.

Table 36 shows results for this subtask were low. Less than four percent of learners met the MoEST benchmarks in both standards. Learners in Standard 1 correctly read about 3.5 syllables per minute on average, and only 0.5 percent met the benchmark. In Standard 3, the mean score was 19 cspm, which is far below even the Standard 1 benchmarks, and only about 1.9 percent met the Standard 3 benchmark.

The percentage of learners unable to read one syllable was 82 percent in Standard 1 and 30 percent in Standard 3. Given that nearly half of learners in both standards were able to segment words into syllables on the oral task but were not able to read syllables when presented in printed form, it appears that there is a lack of understanding of letter sounds and decoding skills amongst learners.

**Table 36: Percent of Learners Meeting MoEST Syllable Reading Benchmarks**

Standard	No. of Syllables	Mean Score	MoEST Proposed Benchmarks	% Reaching Benchmarks	% Scoring Zero
1	100	3.5 cspm	50 cspm	0.5%	82%
3	100	19.0 cspm	65 cspm	1.9%	30%

Early Grade Reading Assessment 2014

**Familiar Word Reading:** This test measures learners’ ability to read familiar words that can be read through decoding and/or sight recognition. In this subtask, learners were given a list of 50 common, simple words and asked to read as many words as possible in one minute (e.g. *atate*, *chiwala*, *zovala*). This assesses whether children can process familiar sight words with accuracy and minimal effort. This is an early reading skill that facilitates learning of decoding, which can then be applied to unfamiliar words. Reading familiar words with fluency and accuracy is necessary to achieve oral reading fluency - the ability to decode and comprehend text simultaneously. The subtask is a timed test that is measured

<sup>66</sup> The syllable-reading subtask was added to the original EGRA instrument because the Malawian language experts advised that Chichewa is considered to be syllabic in nature and syllable reading is believed to be essential for language acquisition, although this theory has not been substantiated by research. The language experts reported that Chichewa-language instruction usually involves teaching learners to read groups of syllables (ma-me-mi-mo-mu) instead of letter sounds and then joining them together to form words.<sup>66</sup> This is called the “syllabic method” of language teaching.

by the number of correct words read per minute (cwpm). The MoEST benchmarks are 30 cwpm in Standard 1 and 45 cwpm in Standard 3.

As shown in Table 37, results strongly indicate the majority of learners in both standards could not read familiar words fluently. Less than one percent of Standard 1 learners and less than two percent of Standard 3 learners met the MoEST benchmarks. On average, learners read 0.5 cwpm in Standard 1 and 10.8 cwpm in Standard 3, well below both the 30 cwpm and 45 cwpm benchmarks for Standards 1 and 3, respectively.

Further, the assessment team found that a high percentage of learners received zero scores in both standards. More than 90 percent of learners in Standard 1 and 39 percent in Standard 3 could not read any familiar words correctly.

**Table 37: Percent of Learners Meeting MoEST Familiar-Word Reading Benchmarks**

Standard	No. of Non-Words	Mean Score	MoEST Proposed Benchmarks	% Reaching Proposed Benchmarks	% Scoring Zero
1	50	0.5 cwpm	30 cwpm	0.5%	91%
3	50	10.8 cwpm	45 cwpm	1.6%	39%

*Early Grade Reading Assessment 2014*

**Non-Word Reading:** This subtask measures learners’ ability to decipher “words” that do not actually exist in Chichewa. Non-word reading (also called “invented-word” reading or “nonsense word” reading) provides a pure measure of learners’ decoding skills because it moves beyond reading familiar words based on sight recognition or memorization and measures learners’ ability to decode each letter and syllable and produce a linguistically correct word that follows the grammatical structure of Chichewa. During administration of this subtask, enumerators showed learners a table of 50 made-up words and asked them to read as many words as possible in one minute. The non-word-reading test is a timed test measured by the number of correct non-words read per minute (cwpm). The MoEST benchmarks are 15 cwpm in Standard 1 and 40 cwpm in Standard 3.

Similar to other initial reading tasks, learner results for this subtask were very poor and demonstrate poor decoding skills. As shown in Table 38, in both standards, half of one percent of learners met the proposed benchmarks. Standard 1 learners performed similarly on this subtask as they did on the familiar-word-reading subtask both in terms of zero scores and mean scores, with 93 percent (as compared to 91 percent on the familiar word task) unable to read one non-word and an average score of 0.4 cwpm (same as with the familiar-word task).

Standard 3 scores, however, were lower than they were for the familiar-word-reading subtask. A total of 46 percent of learners were unable to read one non-word (as opposed to 39% on the familiar word task), and the mean score on the non-word-reading subtask was 7.2 cwpm as compared to 10.8 cwpm on the familiar word task, suggesting that some learners may still be using the old method of memorizing words rather than learning how to sound them out.

**Table 38: Percent of Learners Meeting EGRA Coordinating Committee-Recommended Non-Word Reading Benchmarks**

Standard	No. of Items	Mean Score	EGRA Coordinating Committee-Recommended Benchmarks	% Reaching Benchmarks	% Scoring Zero
1	50	0.4 cwpm	15 cwpm	0.5%	93%
3	50	7.2 cwpm	40 cwpm	0.3%	46%

Early Grade Reading Assessment 2014

**Stage 3: Confirmation and Fluency**

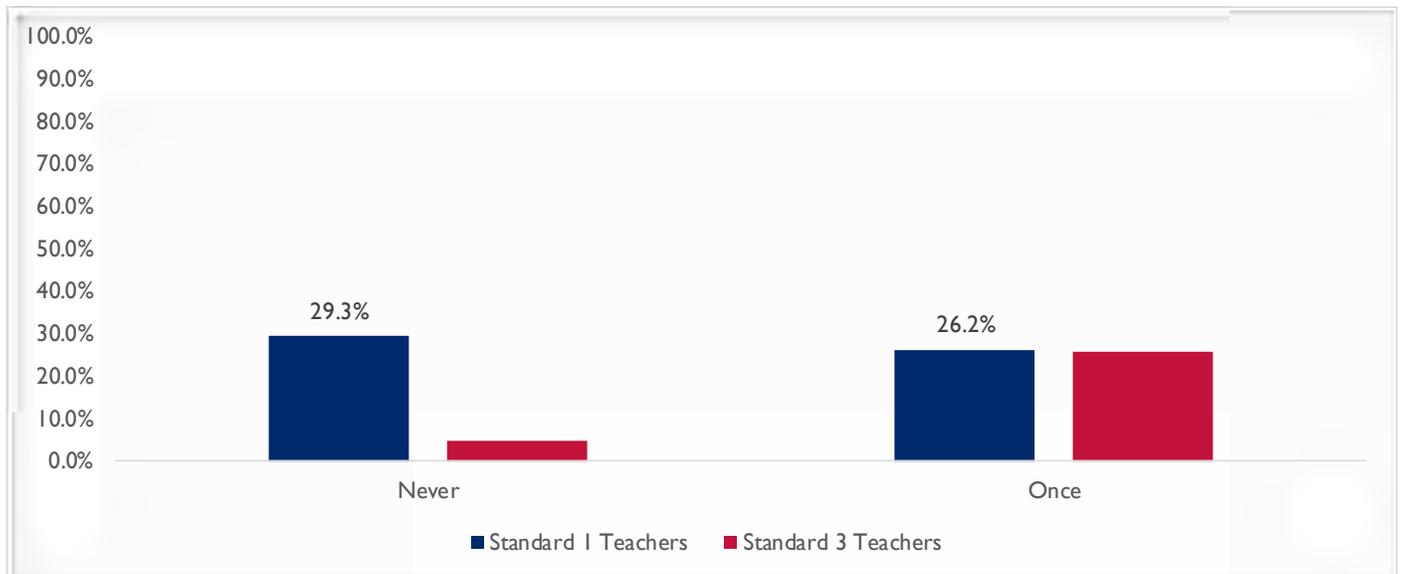
As was true with Stage 2, the assessment team did not provide graphs of reading scores against benchmarks for this section because scores were so low that they were difficult to see on the graphs. That said, overall results by assessment question are presented in Table 39, and zero scores for this phase of reading are presented in Figure 26 below.

**Table 39: Oral Reading Fluency and Comprehension Results**

Proportion of primary school learners who are able to read with comprehension, according to Malawi's curricular goals, by the end of Standard 1	
Proportion of learners who are able to read standard-level text by the end of the first school year	
MoEST Benchmark: 30 cwpm	Percentage meeting benchmark: 0.9%
Proportion of learners who are able to answer comprehension questions after reading standard-level text by the end of the first school year	
MoEST Benchmark: 60% correct	Percentage meeting benchmark: 0.01%
Proportion of primary school learners who are able to read with comprehension, according to Malawi's curricular goals, by the end of Standard 3	
Proportion of learners who are able to read standard-level text by the end of the third school year	
MoEST Benchmark: 50 cwpm	Percentage meeting benchmark: 2.3%
Proportion of learners who are able to answer comprehension questions after reading standard-level text by the end of the third school year	
MoEST Benchmark: 80% correct	Percentage meeting benchmark: 1.6%

Early Grade Reading Assessment 2014

**Figure 26: Percent of Zero Scores by Standard and Reading Fluency and Comprehension Subtask**



Early Grade Reading Assessment 2014

**Oral Reading Fluency:** This subtask measures learners’ ability to read with fluency, accuracy, and comprehension. In this subtask, enumerators ask learners to read an oral reading passage of 56 words. After one minute, the enumerator records the number of words read correctly (cwpm) and then asks learners to answer comprehension questions about the story. The number of questions that enumerators asked learners to assess their comprehension varies according to how much of the story the learner is able to read in the minute. There is a question for every two lines or so of text completed by the learner with a total of five possible questions. The MoEST reading fluency benchmarks are 30 cwpm for Standard 1, and 50 cwpm for Standard 3.

As shown in Table 40, data show that the majority of learners in both standards cannot read with fluency according to MoEST benchmarks. The mean score for Standard 1 on the oral reading fluency subtask was 0.7 cwpm, and for Standard 3, it was 11.8 cwpm. Only 1 out of every 100 learners in Standard 1 met their oral reading fluency benchmark, which isn’t surprising, as 92 percent of Standard 1 learners could not read any words. In Standard 3, two out of every one-hundred learners met benchmarks, and the percentage of learners scoring zero decreased to 47 percent.

**Table 40: Percent of Learners Meeting MoEST Oral Reading Fluency Benchmarks**

Standard	No. of Words in Story	Mean Score	MoEST Proposed Benchmarks	% Reaching Benchmarks	% Scoring Zero
1	62	0.7 cwpm	30 cwpm	0.9%	92%
3	62	11.8 cwpm	50 cwpm	2.3%	47%

Early Grade Reading Assessment 2014

Table 41 shows the distribution of reading fluency scores for Standards 1 and 3. The majority of Standard 1 scores (96.5 percent) were at least 75 percent below the benchmark. More than 90 percent of Standard 1 scores fell into the zero percent correct range. One percent of learners achieved 50 to 75 percent of the benchmark, reading an average of 10 to 19 words per minute. And, less than 1 percent of learners read 20 or more words per minute, thereby meeting

the benchmark. Turning to Standard 3 scores, the assessment team found that nearly half of all Standard 3 scores were in the zero percent range. Five percent of learners met 75 percent of the benchmark, reading an average of 38 to 59 words. Only two percent of learners read 50 or more words per minute, thus meeting the benchmark. A few learners (0.7 percent) were able to read all 62 words in one minute or less. The majority of scores (92.7 percent) were at 50 percent of the benchmark or below.

**Table 41: Oral Reading Scores By Standard and Percent of MoEST Benchmark Met**

Standard	0% Correct	Less than 25% of Benchmark	Met 25% of Benchmark	Met 50% of Benchmark	Met 75% of Benchmark	Met 100% of Benchmark
1	0 words	1-4 words	5-9 words	10-14 words	15-19 words	20 or more words
	92.3%	4.2%	1.6%	0.6%	0.5%	0.9%
3	0 words	1-12 words	13-25 words	26-37 words	38-59 words	50 or more words
	47.4%	15.7%	16.37%	13.1%	5.2%	2.3%

Early Grade Reading Assessment 2014

**Reading Comprehension:** The Reading Comprehension score reflects the percentage of questions answered correctly out of the total possible (five). The comprehension questions consisted of four direct, fact-based questions and one inferential question. The number of questions asked depended on the point at which the learner stopped reading within one minute. If the learner only read half of the passage, he or she was only asked two or three questions; if the learner did not read one word at all, he or she was not asked any questions; and, if the learner completed the passage within one minute, he or she was asked all five questions. The proposed reading comprehension benchmark for Standard 1 is 60 percent correct responses, and for Standard 3, it is 80 percent correct responses.

As shown in Table 42, Standard 1 learners answered an average of zero of the five questions correctly. More specifically, nearly 100 percent of learners (98 percent) could not answer one comprehension question correctly, either because they did not read far enough to be asked questions or because they did not comprehend what they read. Standard 3 learners, likewise, performed poorly. On average, Standard 3 learners answered 0.5 comprehension questions correctly. More than half could not respond to one comprehension question.

**Table 42: Percent of Learners Meeting MoEST Reading Comprehension Benchmarks**

Standard	No. of Comprehension Questions	Mean Score (%)	MoEST Proposed Benchmarks	% Reaching Benchmarks	% Scoring Zero
1	5	0.5%	60%	0.01%	97.7%
3	5	12.3%	80%	1.6%	62.1%

Early Grade Reading Assessment 2014

**Reading Fluency and Comprehension Summary:** Results for the oral reading fluency and reading comprehension subtasks are closely related. Overall scores on the reading comprehension test indicate ability to read fluently with comprehension. Considering only 0.01 percent and 1.6 percent of learners met the MoEST reading comprehension benchmarks by standard, respectively, the assessment team found that 99.9 percent of Standard 1 and 98.4 percent of

Standard 3 learners could not read fluently with comprehension according to the MoEST’s benchmarks.

Further, the designers of the Early Grade Reading Assessment consider learners “readers” if they score about zero on the reading fluency subtask and are able to answer 80 percent (four out of five) of the comprehension questions correctly. No Standard 1 learners from this assessment can be considered “readers” by this criteria, and only 52 Standard 3 learners (1.4 percent) of Standard 3 learners can.

Poor performance on reading fluency and comprehension suggests that learners may have trouble with decoding and with reading fluently enough to comprehend. It is likely that the lack of decoding skills and alphabetic understanding indicated by low scores on initial reading subtasks are contributing to poor results on the subtasks in this section.

## **Findings by Geographic Location**

This section reports findings for a sample of subtasks disaggregated by the six education divisions. To compare results between divisions, the assessment team analyzed one subtask per reading stage, selecting the subtasks that had the most variation in that reading stage to better enable the team to highlight differences in reading performance across the six education divisions. The three subtasks presented below are: listening comprehension (pre-reading skill), letter name knowledge (initial reading skill), and reading comprehension.

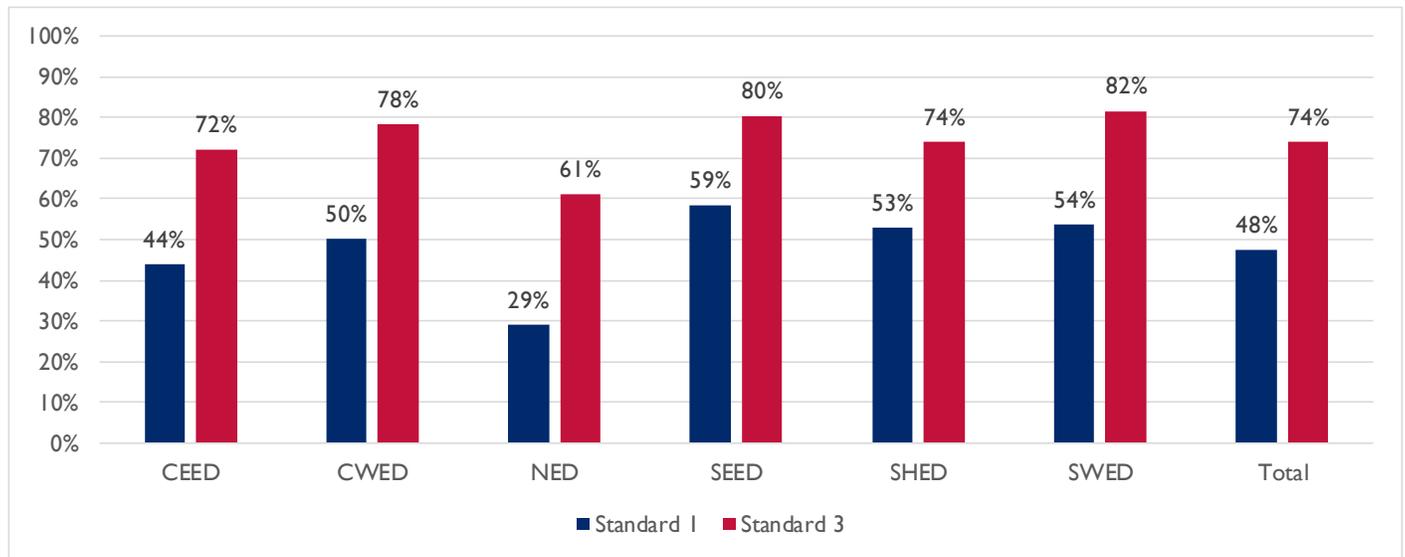
### ***Listening Comprehension by Education Division***

As illustrated in Figure 27 and Table 43, the national average percent of learners meeting the benchmark was 48 percent for Standard 1 and 74 percent for Standard 3. The divisions with the highest proportion of learners meeting the benchmark were SEED in Standard 1, which scored 11 percentage points above the mean, and SWED in Standard 3, which scored 12 percentage points above the mean. The education divisions with more than 50 percent of learners meeting the benchmarks were SEED, SWED, and SHED in Standard 1 and all districts except NED in Standard 3. The Central Divisions (CEED and CWED) had percentages close to the national average, and NED ranked the lowest, falling 19 and 13 percentage points below the national mean in Standards 1 and 3, respectively. USAID officials hypothesize that NED likely ranked lowest because Chichewa is not the first language of most people in this region. While the assessment team could not confirm whether that was the reason for the lower scores, the team did find a 2010 MoEST study on primary school achievement levels that confirmed the low levels of Chichewa in the northern region. The study included a sample of 10,067 learners, including 2,523 (25 percent) from NED. It found that only 3 percent of learners in NED could speak Chichewa whereas 91 percent of those in CEED, 97 percent of those in CWED, 70 percent of those in SEED, 84 percent of those in SWED, and 98 percent of those in SHED could.<sup>67</sup>

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<sup>67</sup> MoEST (2010), *Primary Achievement Sample Survey Report*. Likuni Press: Lilongwe.

**Figure 27: Average Listening Comprehension Scores by Standard and Division**



p-value<0.1 for Standard 1 ; p-value, 0.05 for Standard 3  
 Early Grade Reading Assessment 2014

**Table 43: Percent Meeting MoEST Benchmarks and Deviation from Means, Listening Comprehension**

Division	Standard 1	Deviation from mean (+/- mean)	Standard 3	Deviation from mean (+/- mean)
CEED	41%	-6%	56%	-7%
CWED	49%	3%	72%	9%
NED	22%	-25%	41%	-22%
SEED	63%	16%	74%	12%
SHED	53%	7%	62%	0%
SWED	56%	9%	77%	15%
National Average	47%	-	62%	-

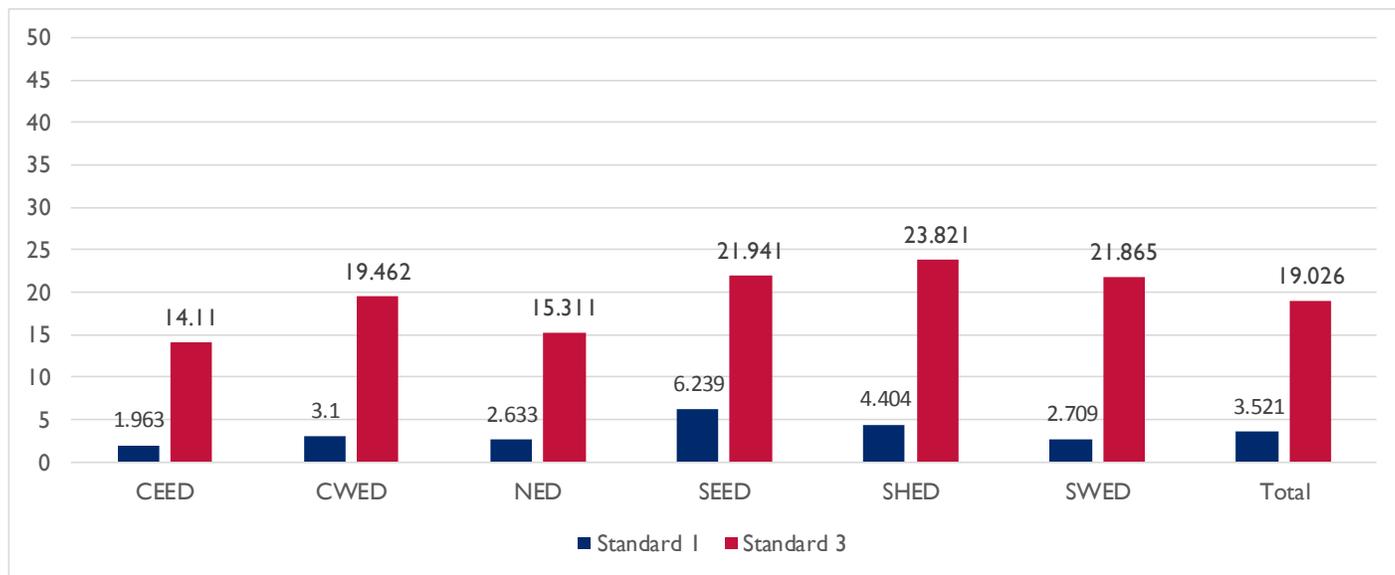
Early Grade Reading Assessment 2014

**Letter Name Knowledge by Education Division**

As shown in Table 44, the national average percent of learners meeting the proposed benchmark for the letter name knowledge subtask was about three percent in Standard 1 and seven percent in Standard 3. Generally, SEED learners outperformed learners for other divisions in Standard 1, by an average of four percentage points, and Standard 1 learners from NED and SWED performed the worst, by about two percentage points less than other divisions. Despite this trend in Standard 1, Standard 3 learners from SWED learners were the third most likely to meet benchmarks for letter name knowledge for their standard, following SHED and SEED learners. Further, CEED learners met benchmarks

the least often in Standard 3 when compared with the other educational divisions, suggesting a lack of a consistent pattern in differences amongst education divisions overall.

**Figure 28: Average Letter Name Knowledge Scores by Standard and Division**



*p-value > 0.1 and is not significant for Standard 1; p-value < 0.1 for Standard 3*  
 Early Grade Reading Assessment 2014

**Table 44: Percent Meeting Benchmarks and Deviation from the Means, Letter Name Knowledge**

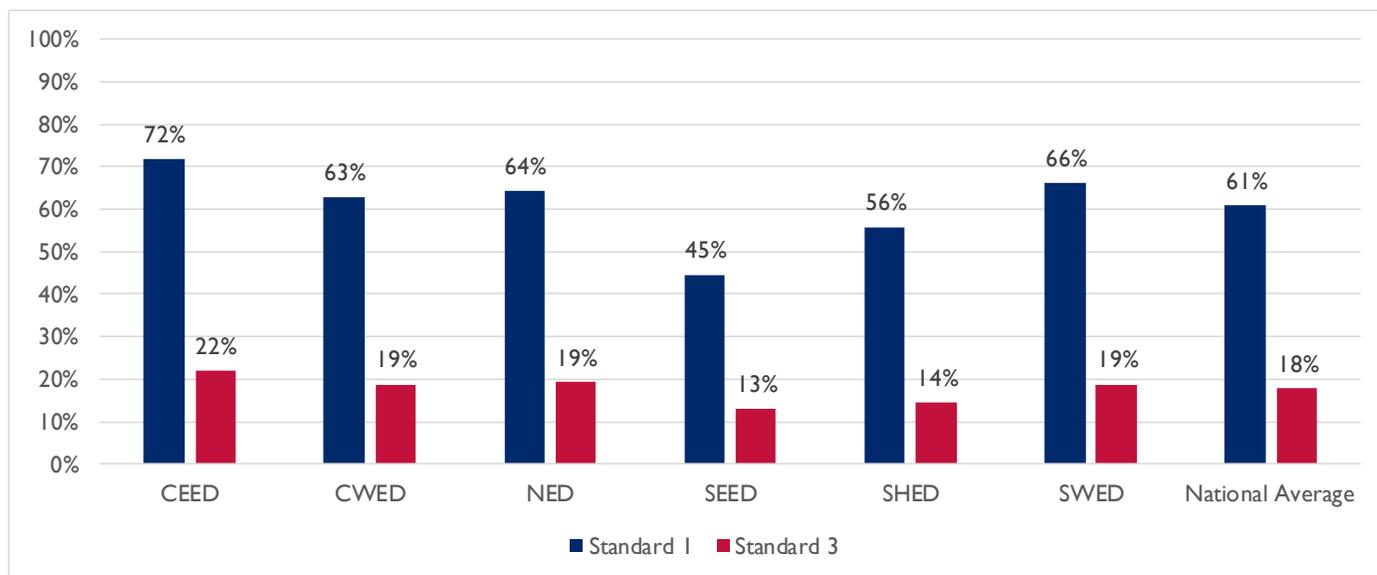
Division	Standard 1	Deviation from mean (+/- mean)	Standard 3	Deviation from mean (+/- mean)
CEED	1.3%	-1.3%	3.6%	-3.6%
CWED	1.7%	-0.9%	6.7%	-0.5%
NED	0.9%	-1.7%	3.2%	-4.0%
SEED	6.6%	4.0%	8.2%	1.0%
SHED	3.7%	1.1%	13.7%	6.5%
SWED	1.0%	-1.6%	10.7%	3.5%
National Average	2.6%	-	7.2%	-

*p-value not significant*  
 Early Grade Reading Assessment 2014

The assessment team presents the percentage of zero scores on the letter name knowledge subtask by division in Figure 29. CEED demonstrated the highest percentage of zero scores in Standard 1, with a total of 72 percent zero scores. SWED followed closely behind at 66 percent. SEED had the fewest zero scores, with 45 percent of zero scores

in Standard 1. For Standard 3, the majority of learners scored above zero, demonstrating some knowledge of letter recognition. Zero scores were highest in CEED, at 22 percent. CWED, NED, and SWED divisions follow, all of which had 19 percent zero scores. SEED and SHED had the lowest percent of zero scores at 14 and 13 percent, respectively.

**Figure 29: Percent of Learners Receiving Zero Scores on Letter Name Knowledge by Division**



*p-value > 0.1 and not significant for Standards 1 or 3  
Early Grade Reading Assessment 2014*

### Reading Comprehension by Education Division

As shown in Table 45, learner scores on the reading comprehension subtask were low across all education divisions. In Standard 1, scores ranged between 0 to 0.5 percent, and Standard 3 scores varied slightly between 0 and 3.5 percent, without much deviation from the national mean.

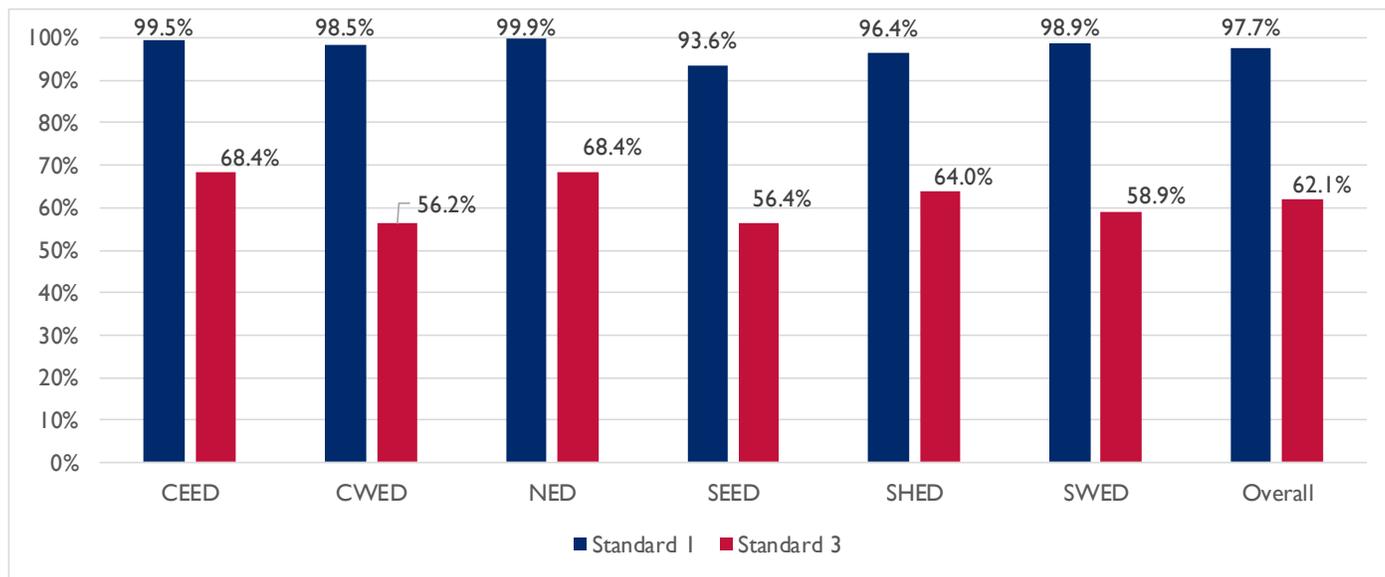
**Table 45: Percent Meeting Benchmarks and Deviation from the Means, Reading Comprehension**

Division	Standard 1	Deviation from mean (+/- mean)	Standard 3	Deviation from mean (+/- mean)
CEED	0.0%	-0.1%	1.6%	-0.1%
CWED	0.0%	-0.1%	3.5%	1.8%
NED	0.0%	-0.1%	0.2%	-1.5%
SEED	0.4%	0.3%	1.8%	0.1%
SHED	0.0%	-0.1%	1.0%	-0.7%
SWED	0.2%	0.1%	1.6%	-0.1%
National Average	0.0%	-	1.7%	-

*p-value was not significant  
Early Grade Reading Assessment 2014*

As demonstrated in Figure 30, the assessment team found a high proportion of learners in both standards who could not read and comprehend a standard-appropriate short story fluently. More than 97 percent of learners in Standard 1 scored zero on this subtask. The percent of zero scores ranged between 94 percent in SEED and 96 percent in SHED to between 99 and 100 percent in CWED, SWED, CEED, and NED. In Standard 3, zero scores ranged from a low of 56 percent in SEED and CWED to a high of 68 percent in CEED and NED. All other divisions scored between 60 and 68 percent. These differences were not significant.

**Figure 30: Percent Receiving Zero Scores on Reading Comprehension by Education Division**



### Findings by Sex

Table 46 illustrates scores for boys and girls across all subtasks. Results showed there were no statistically significant differences between boys and girls on most subtasks for Standard 1. The one exception was listening comprehension, for which, on average, boys scored three percentage points higher than girls ( $p$ -value < 0.01).

For Standard 3 learners, boys again scored higher than girls on the listening comprehension subtask ( $p < 0.01$ ). Standard 3 girls, however, performed slightly better than Standard 3 boys on most subtasks, and significantly better on syllable reading, familiar word reading, and unfamiliar word reading. While these differences are statistically significant for the three subtasks, the average difference was not more than three syllables or words per minute for any of the subtasks.

**Table 46: Learner Scores by Sex, Standards and Subtasks**

Subtask	Girls			Boys			T-Test		
	N	Mean	Std. Error	N	Mean	Std. Error	T-Statistic	p-value	Standard Error
<b>Standard 1</b>									
Listening Comprehension*	1,803	46%	0.12	1,808	49%	0.01	2.14	0.07	0.01
Letter Name Knowledge	1,803	3.6	0.59	1,808	3.4	0.45	-1.01	0.35	.22
Syllable Segmentation	1,803	25%	0.02	1,808	25%	0.01	-0.11	0.912	0
Initial Sound Identification	1,803	3%	0.01	1,808	4%	0.01	1.74	0.132	0.01
Syllable Reading	1,803	1.5	0.032	1,808	1.18	0.16	-1.84	0.115	0.115
Familiar Word Reading	1,803	0.5	0.12	1,808	0.4	0.03	-0.93	0.39	0.09
Unfamiliar Word Reading	1,803	0.4	0.09	1,808	0.3	0.04	-0.7	0.51	0.09
Oral Reading	1,803	0.8	0.22	1,808	0.6	0.09	-1.2	0.27	0.16
Reading Comprehension	1,803	1%	0	1,808	0%	0	0.87	0.42	0
<b>Standard 3</b>									
Listening Comprehension**	1,806	73%	0.18	1,800	75%	0.01	2.69	0.03	0.01
Letter Name Knowledge	1,806	18.9	2.1	1,800	19.1	1.4	0.09	0.93	0.01
Syllable Segmentation	1,806	58%	0.02	1,800	59%	0.01	0.31	0.77	0.02
Initial Sound Identification	1,806	11%	0.02	1,800	13%	0.22	1.87	0.11	0.01
Syllable Reading*	1,806	16.5	1.6	1,800	14.1	0.92	-2.36	0.06	1.05
Familiar Word Reading**	1,806	11.6	1.09	1,800	9.9	0.63	-2.83	0.03	0.6
Unfamiliar Word Reading*	1,806	7.5	0.67	1,800	6.6	0.37	-2.23	0.07	0.41
Oral Reading	1,806	12.7	<b>1.18</b>	1,800	10.8	0.67	1.87	0.11	0.01
Reading Comprehension	1,806	13.2%	0.01	1,800	11.4%	0	-2.4	0.05	0.01

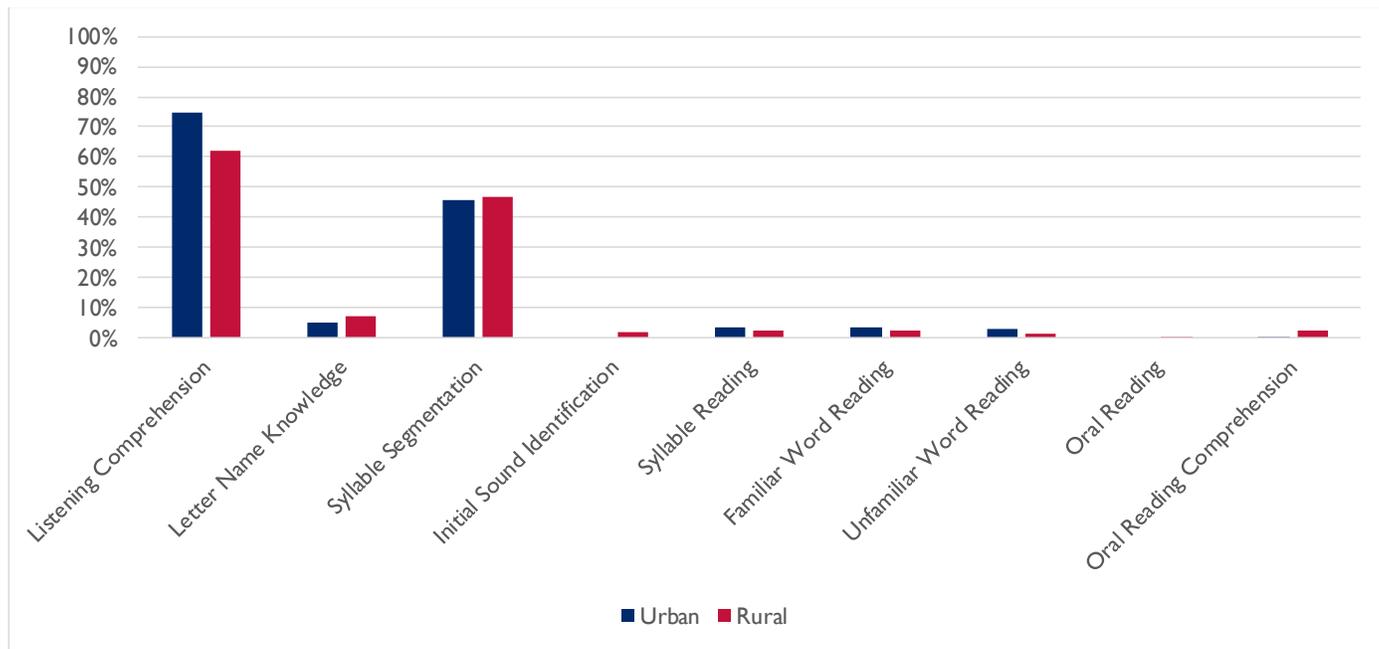
Asterisks indicate statistical significance: \*=p-value<0.1, \*\*= p-value<0.05, \*\*\*=p-value<0.01  
 Early Grade Reading Assessment 2014

**Findings by Type of Location (Urban versus Rural)**

The sample consists of 280 urban and 6,920 rural learners (for a ratio of 1:25). Given the small number of urban learners to compare with rural learners, the statistical analysis below should be interpreted with caution.

Table 47 presents reading performance by learners in urban and rural schools, and Figure 31 compares this performance with benchmarks. Overall, there were very few statistically significant differences between urban and rural learners in the sample. Urban learners performed significantly better in listening comprehension in Standard 1 (ten percentage points higher,  $p < 0.1$ ) and Standard 3 (eight percentage points higher,  $p < 0.1$ ). Finally, while the differences were small and statistically insignificant, the mean scores were higher among rural learners than urban learners on several of the initial reading and reading fluency items.

**Figure 31: Percent of Standard 3 Learners Meeting Benchmarks: Urban vs. Rural**



Early Grade Reading Assessment 2014

**Table 47: Comparison of Rural and Urban Learner Scores Across All Subtasks by Standard**

Subtask	Urban	Average % correct	Std. Dev.	Rural	Average % correct	Std. Dev.	T-test	p-value	Std. Error
	N			N					
<b>Standard 1</b>									
Listening Comprehension*	140	57%	-0.048	3,471	47%	-0.014	1.99	0.09	0.05
Letter Name Knowledge	140	5.8	-2.86	3,471	3.5	-0.49	0.91	0.40	2.52
Syllable Segmentation	140	30%	-0.067	3,471	25%	-0.017	0.87	0.42	0.06
Initial Sound Identification	140	4%	-0.02	3,471	4%	-0.01	0.33	0.75	0.01
Syllable Reading	140	2.0	-1.15	3,471	1.3	-0.24	0.57	0.59	1.12
Familiar Word Reading	140	1.1	-0.78	3,471	0.48	-0.06	0.84	0.43	0.74
Unfamiliar Word Reading	140	0.8	-0.55	3,471	0.3	0.22	0.91	0.40	0.4
Oral Reading	140	2.67	-1.46	3,471	0.63	-0.14	1.47	0.19	1.4
Reading Comprehension	140	1%	-0.0	3,471	0%	0	1.22	0.27	0.01
<b>Standard 3</b>									
Listening Comprehension*	140	82%	0.19	3,466	74%	0.24	2.08	0.08	0.04
Letter Name Knowledge	140	20.7	-1.00	3,466	19.0	-1.73	0.99	0.36	1.68
Syllable Segmentation	140	15.2	-1.70	3,466	15.3	-1.23	1.79	0.12	0.03
Initial Sound Identification	140	13%	-0.06	3,466	12%	-0.02	0.37	0.72	0.04
Syllable Reading	140	14%	0.17	3,466	0.1	0.19	-0.11	0.92	2.12
Familiar Word Reading	140	10.5	-1.02	3,466	10.7	-0.86	-0.16	0.87	1.21
Unfamiliar Word Reading	140	6.3	-0.51	3,466	7.1	-0.52	-0.93	0.39	0.89
Oral Reading	140	11.8	-0.92	3,466	9.9	-0.70	-1.58	0.16	1.22
Reading Comprehension	140	12%	-0.01	3,466	12%	-0.01	-0.85	0.4	0.02

Asterisks indicate statistical significance: \*=p-value<0.1, \*\*=p-value<0.05, \*\*\*=p-value<0.01  
Early Grade Reading Assessment 2014

## FINDINGS ON FACTORS PREDICTING READING ACHIEVEMENT

Assessment questions 1b and 2b ask what the relationship is between Standard 1 and 3 reading skill acquisition and additional factors that relate to or predict achievement, including classroom size.

To answer these questions, the study used measures of statistical correlation to examine the relationship between oral reading fluency and potential prediction variables from the head teacher, teacher, and learner questionnaires as well as the school climate and classroom observation protocols. Specifically, the assessment team specified multiple Tobit

regression models, which allow results to be examined even when there is clustering around the lower and/or upper score bounds (ceiling and floor effects). The team found strong floor effects when using Ordinary Least Squares (OLS) regression models because there were so many zero scores. However, it is not necessarily true that all zero scores are the same, meaning that learners who scored zero may have differing levels of capability that the assessment tool (the EGRA) simply cannot pick up. Tobit works to correct for this challenge by predicting the change in oral reading scores for learners whose scores fall above zero, weighting for the probability of scoring higher than zero. It then reveals the isolated effects of various factors on predicted values of reading scores while controlling for other factors.

It is important to note that the answers to these assessment questions are based on snapshot data analysis and are less conclusive at this stage of the study since this is the first of the NRAs that has been supplemented by these same data collection instruments, and lacks the benefit of having a baseline to compare results to. For future NRAs, however, SI, USAID, and MoEST will be able to look at changes that have occurred within factors (or variables) over time to see if and how those changes affect reading outcomes. For instance, in 2016, rather than just looking at a snapshot, the assessment team will be able to look at whether (and if so, how) a 50 percent increase in the number of learners who have access to books at home has affected learner reading scores. If scores have not changed, it might suggest that this factor is not as significant as evaluators estimated in this report.

Based on research summarized in the Literature Review Section of this study as well as the literature review and findings presented in the 2013 EGRA IE baseline study, the evaluators postulated plausible factors that relate to reading outcomes. The factors include learner, household, school, teacher, and community factors. The team analyzed these in various combinations in several different regression models that looked at the association of learner scores on the oral reading fluency subtask of the RA. In its analysis, the study sought to capture effects of the following types of factors on learner reading scores:

- Household Resources
- Household Support/Involvement
- Household Education Levels
- Learner Health and Food Security
- Learner Attitude toward School
- School Resources
- Classroom Resources
- Teacher Experience, Training, and Use of Best Practices in Teaching
- Community Involvement in the School
- School Support from Outside Organizations

The assessment team examined multiple variables that are conceptually plausible from each of the types of factors listed above to select those that remained stable across various regression specifications. Below, the assessment team presents only those factors found to be most consistently and robustly correlated. The assessment team conducted regressions separately for Standards 1 boys and Standard 1 girls and likewise for Standard 3 boys and Standard 3 girls since earlier summary statistics on learner characteristics showed significant variations by standards and sex. This heterogeneity might be explained by the possibility that some factors differentially affect learners of different ages or different levels of reading fluency. For instance, whether someone in the household reads to the learner may matter less for girls than boys since household members are more likely to read to girls than boys (finding from previous reading assessment study). Similarly, EGRA may affect Standard 1 learners more because it specifically targeted Standard 1 learners in its first year.<sup>68</sup> See Tables 48 and 49 below for regression results by standard and sex, followed by a discussion of these results.

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<sup>68</sup> Some parts of the EGRA intervention benefit the school as a whole. So, all learners could have benefitted from the intervention in 2014—the end of the first year of the intervention. However, in its first year, in addition to supporting entire schools, EGRA provided more intense support to Standard 1 classrooms via training Standard 1 teachers and providing materials specifically for Standard 1 learners.

**Table 48: Tobit Regression Results for Standard I Boys and Girls**

Independent Variable	Standard I Boys				Standard I Girls			
	Marginal Coefficient	Standard Error	z-Statistic	p-value	Marginal Coefficient	Standard Error	z-Statistic	p-value
Students were read to at home	0.39	0.30	1.32	0.19	0.25	0.37	0.67	0.504
Learners brought books home	0.54	0.44	1.24	0.22	2.00	0.73	2.75	0.006
EGRA Intervention	0.77	0.29	2.69	0.01	1.22	0.38	3.22	0.001
Teacher checks homework weekly	0.75	0.33	2.27	0.03	0.48	0.39	1.22	0.222
Learner is overage for their grade	0.92	0.45	2.03	0.04	0.49	0.48	1.01	0.312
Teacher is new	-2.39	0.55	-4.36	0.00	-1.99	0.77	-2.59	0.010
School has a feeding program	0.54	0.31	1.78	0.08	0.49	0.36	1.37	0.171
Teacher is above the average age (34)	-0.93	0.38	-2.44	0.015	-1.01	2.84	-2.26	0.024
Constant	8.00				10.20			

<b>Observations</b>	1,698
<b>Pseudo R-squared</b>	0.0334
<b>Log Pseudolikelihood</b>	-259316.39
<b>Probability &gt; F</b>	3.12

<b>Observations</b>	1,675
<b>Pseudo R-squared</b>	0.0341
<b>Log Pseudolikelihood</b>	-296554.81
<b>Probability &gt; F</b>	2.42

**Table 49: Tobit Regression Results for Standard 3 Boys and Girls**

Independent Variable	Standard 3 Boys				Standard 3 Girls			
	Marginal Coefficient	Standard Error	z-Statistic	p-value	Marginal Coefficient	Standard Error	z-Statistic	p-value
Learner took books home	1.89	0.62	3.06	0.002	1.71	0.68	2.50	0.012
Learners were read to at home occasionally	0.13	0.73	0.18	0.858	1.90	0.83	2.28	0.022
Learners were read to at home frequently	5.81	0.99	5.84	0.000	7.10	1.11	6.42	0.000
Hours per school day	0.85	0.43	2.00	0.046	1.76	0.52	3.40	0.001
PCA for assets	0.10	0.17	0.60	0.548	0.35	0.17	2.10	0.036
Learner's sick days	-1.33	0.55	-2.43	0.015	-1.76	0.62	-2.82	0.005
PCA for best teaching practices	0.27	0.12	2.37	0.018	0.49	0.12	3.98	0.000
Constant	19.36				21.62			

<b>Observations</b>	1,535
<b>Pseudo R-squared</b>	0.0136
<b>Log Pseudolikelihood</b>	-928996.39
<b>Probability &gt; F</b>	13.42

<b>Observations</b>	1,524
<b>Pseudo R-squared</b>	0.0188
<b>Log Pseudolikelihood</b>	-965450.56
<b>Probability &gt; F</b>	17.65

**Table 50: Average Reading Fluency Scores by Sex and Standard**

Standard	No. of Words in Story	Average Score for Boys	Average Score for Girls	MoEST Benchmarks
1	62	0.6 cwpm	0.7 cwpm	30 cwpm
3	62	10.6 cwpm	12.1 cwpm	50 cwpm

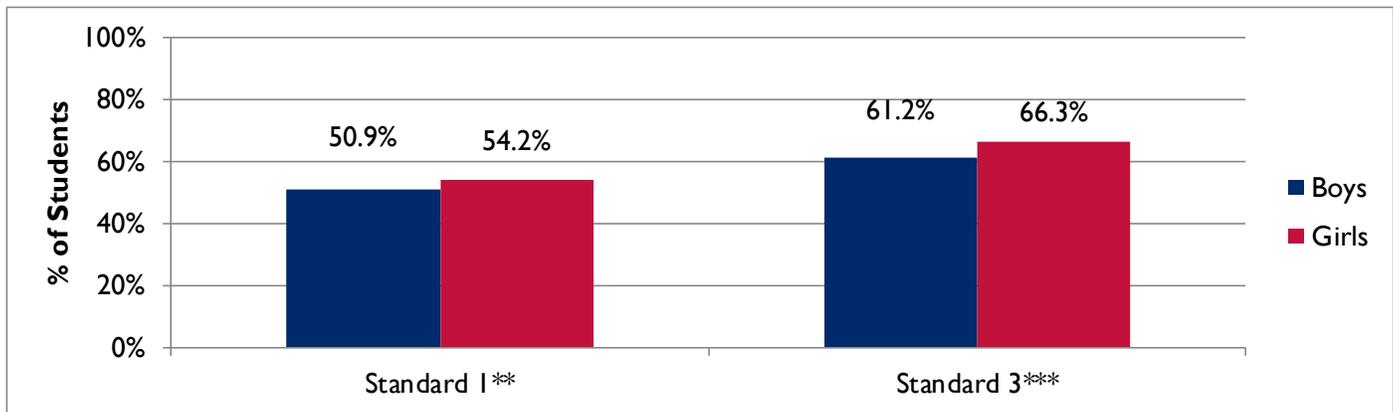
### Household Members Read to Learners

As shown in Tables 48 and 49, whether learners report being read to at home was one of the factors that was most consistently correlated with the predicted value of learner reading outcomes for all learners except Standard 1 boys (where the correlation was not statistically significant), and its predictive capability on learner reading scores was quite high. For instance, all else constant, the predicted value of Standard 1 girls’ oral reading fluency scores was 0.25 cwpm higher for girls that reported being read to at home than it was for girls who did not. Given that the average oral reading fluency test score for Standard 1 girls was 0.7 cwpm, as shown in Table 50, it appears that being read to at home is a strong predictor of improved reading scores. Holding all else constant, Standard 1 girls who reported being read to at home scored about 36 percent higher than Standard 1 girls who did not.

The assessment team found similar results for Standard 3 boys and girls. In fact, for Standard 3 learners, the study was able to differentiate between being read to a least a little or “occasionally” (what students declared as “hardly ever” or “only sometimes”) and being read to a minimum of two-to-three times per week, which researchers refer to as “frequently” in this study. The predicted value of oral reading fluency scores for Standard 3 girls who reported being read to at home occasionally were an average of 1.90 cwpm higher than they were for girls who reported never being read to at home. The results for Standard 3 boys were not significant for this prediction variable. However, the predicted value of oral reading scores for both boys and girls in Standard 3 were dramatically higher when the boys and girls reported being read to at least two-to-three times per week. Standard 3 boys who reported being read to “frequently” earned oral reading fluency scores that were approximately 5.81 points higher than did Standard 3 boys who reported never being read to. For Standard 3 girls this number was 7.10 cwpm. This means the predicted reading scores for Standard 3 boys and girls were 55 percent and 59 percent higher when the learners reported being read to frequently.

Approximately 58 percent of learners sampled were read to at home. As shown in Figure 32, girls were significantly more likely to report being read to than boys, and Standard 3 learners were significantly more likely to report being read to than Standard 1 learners. A qualitative study consisting of ten focus group discussions (FGDs), conducted by the assessment team in May 2014 suggests that parents may have been more likely to read to girls than boys because they suspected that girls needed more assistance than boys. There was a common belief that girls are more likely to drop out of school than boys because they may become pregnant or get married young. Further, fathers reported believing that girls are weaker than boys and, thus, require more coddling and support in school. Mothers, on the other hand, reported that they have recently realized that girls can grow up to be whatever they want to be and that they too need to be educated. Many of the mothers from the FGDs credited nationwide campaigns that focus on the importance and value of girls for their paradigm shift in this area. In subsequent assessments, the study team will further explore why Standard 3 learners are read to more often than Standard 1 learners in later assessments.

**Figure 32: Percent of Learners Reporting Being Read to at Home, by Standard and Sex**



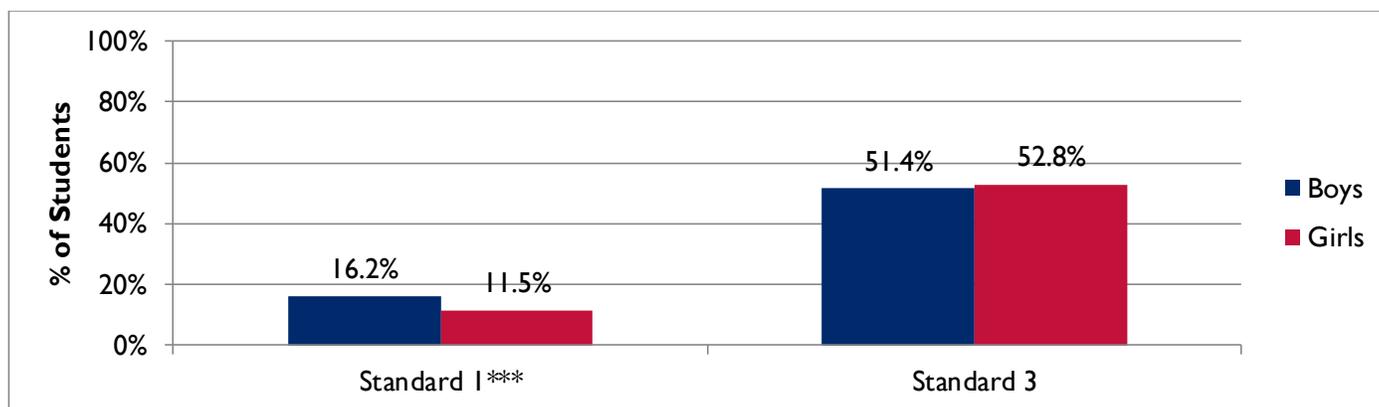
National Reading Assessment Learner Survey 2014

### Learners Take Books Home from School

As shown in Table 48 and 49, the predicted oral reading fluency scores for learners who reported taking books home from school with them were generally higher than for learners who reported not taking books home with them. Tobit regression results show that Standard 1 boys who reported taking books home from school with them did not have predicted reading fluency scores that were statistically significantly higher than Standard 1 boys who did not. But, Standard 3 boys and Standard 1 and 3 girls who reported taking books home from school with them are predicted to be able to read more words per minute than learners who did not report taking books home from school with them, holding other factors in the regressions constant. Standard 3 boys who reported taking books home with them had predicted scores 18 percent higher, reading an average of 1.89 cwpm more words than their counterparts. For Standard 1 and 3 girls, those numbers were 260 percent (2.00 cwpm) and 14 percent (1.71 cwpm), respectively.

Both access to books and the desire to take them home likely affect whether learners take books home with them. While this study did not ask teachers whether they allow learners to take books home from school with them, the study team will include this question in future assessments to aid in USAID and MoEST's understanding of why some learners may have more access than others. As shown in Figure 33, sampled Standard 3 learners were more likely to report taking books home from school with them than sampled Standard 1 learners, and boys in Standard 1 were more likely to report taking books home with them than girls in Standard 1. Overall, 14 percent of sampled Standard 1 learners reported taking books home from school with them and 52 percent of sampled Standard 3 learners reported the same. Standard 3 learners were probably more likely to take books home from school with them because they were better able to read them. Evidence from the study supports this, as whether or not learners reported reading the books they take home with them was almost perfectly correlated with learner scores on their reading tests.

**Figure 33: Percent of Learners who reported Taking Books Home from School by Sex**



*National Reading Assessment Learner Survey 2014*

### **Early Grade Reading Activity**

As shown in Table 48, Standard 1 learners who attend EGRA-beneficiary schools had predicted oral reading fluency scores that were generally higher than did learners who do not. The assessment team only included this variable in regression models for Standard 1 boys and girls, not Standard 3 learners, because results were not significant for Standard 3 learners. This is likely because the EGRA intervention was focused on Standard 1 learners in its first year (late 2013-2014). Standard 1 boys from EGRA schools had predicted scores that were an average of 0.77 cwpm (about 128 percent) higher than did their counterparts from non-EGRA schools. For Standard 1 and girls, that number was 1.22 (174 percent) higher.

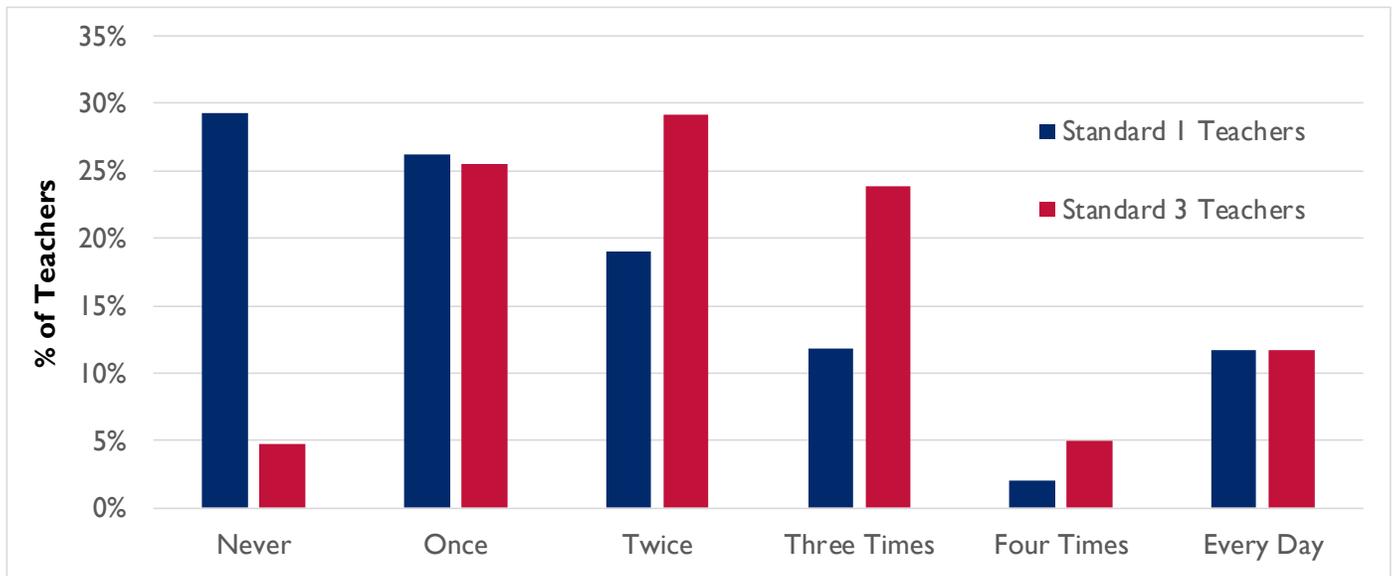
As described in the Demographics' Section of this report, while EGRA is working across all six educational divisions, it is only working in 10 of the 28 Malawian districts—Balaka, Blantyre Rural, Lilongwe Rural (sometimes split into two districts—Lilongwe Rural West and Lilongwe Rural East), Machinga, Mzimba North, Ntcheu, Ntchisi, Salima, Thyolo, and Zomba Rural. And, the NRA sample only included four of those district—Machinga, Mzimba North, Ntcheu, and Thyolo—which are spread across SEED, NED, CWED, and SHED, respectively.

### **Checking Homework Weekly**

Literature suggests mixed reviews on whether or not homework actually leads to improvements in learning. Whether or not a teacher checks a learners' homework is an even more complex issue. As such, the assessment team included this variable in its regressions—whether teachers reported checking homework on a weekly basis. While the results were not significant for Standard 3 learners or Standard 1 girl learners, as shown in Table 48, whether or not teachers checked homework at least weekly was highly correlated with predicted Standard 1 boys' oral reading fluency scores. Standard 1 boys' predicted reading scores were 0.75 cwpm (125 percent) higher than that of their counterparts.

Standard 1 teachers were less likely to report reviewing learners' homework than were Standard 3 teachers. While more than 95 percent of Standard 3 teachers reported reviewing homework on at least a weekly basis, only 71 percent of Standard 1 teachers reported the same. See Table 48 for more details on how often teachers reported reviewing the homework of learners in their classroom.

**Figure 34: Percent of Teachers who reported Checking Learners' Homework by Standard**



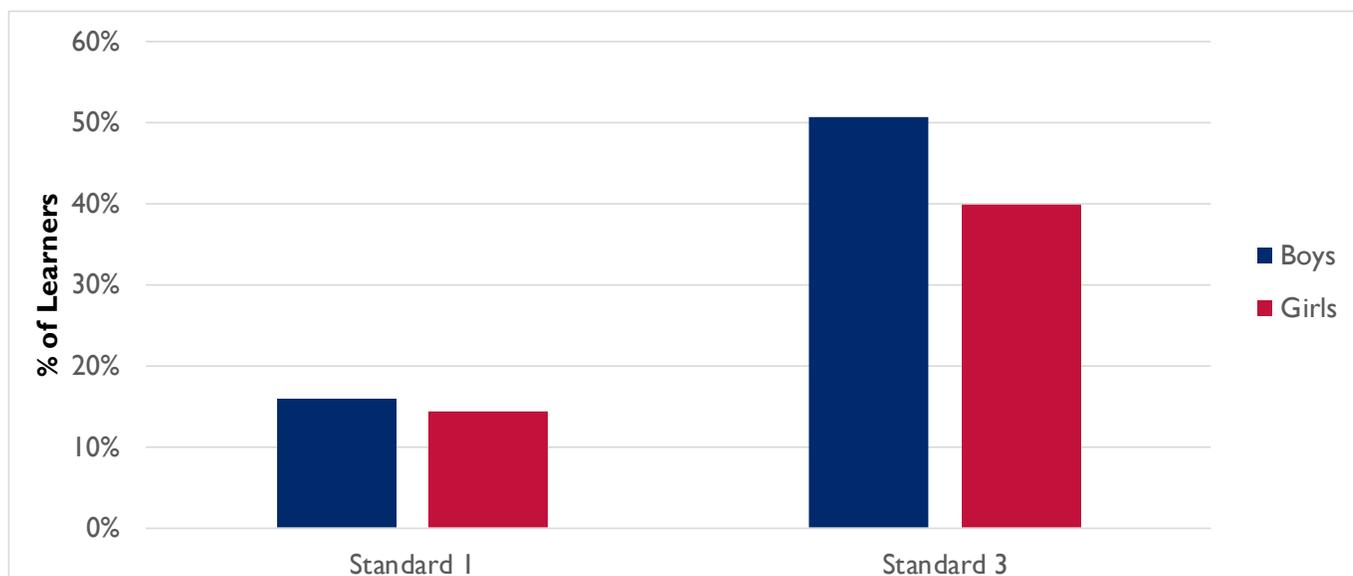
National Reading Assessment Teacher Survey 2014

### Learner Age

As shown in Table 48, another factor the assessment team found to be a statistically significant predictor of estimated oral reading fluency scores was learner age, specifically, whether or not a learner was older than the expected age of learners in their standard. Lots of literature has shown the benefits of being older than one's peers, especially at young ages, where even a few months difference can mean drastic cognitive advances for learners. The assessment team explored whether being "over age" for a particular standard was correlated with higher predicted reading scores. For Standard 1 learners, the study considered learners over age if they reported being at least nine years of age (most learners start Standard 1 at age seven or eight). And, boys considered over age in Standard 1 had average predicted reading fluency scores 0.92 cwpm (153 percent) higher than boys seven to eight years of age.

A total of 30.2 percent of learners sampled were above the typical age for their standard. The assessment team set the "over-age" minimums at 9 or older for Standard 1 and 11 or older for Standard 3. As shown in Figure 35, boys were significantly more likely to be over age than girls (27 percent of boys and 33.3 percent of girls sampled were over age), and Standard 3 learners were more likely to be over age than Standard 1 learners (45.2 percent and 15.1 percent, respectively). While literature supports the value of learners starting school at an older age, it does not suggest that repeating grades, dropping out, or missing years of school contributes to educational achievements, and the fact that many more Standard 3 learners are over age than Standard 1 learners suggests that some of these things may be happening, which may be why being over age in Standard 3 is less likely to be significantly correlated with predicted reading scores.

**Figure 35: Percent of “Over Age” Learners by Standard and Sex**



*p-value < 0.01*

*National Reading Assessment Learner Survey 2014*

### **Teacher Age and Experience**

As shown in Table 48, the assessment team found that teaching experience and teacher age are highly correlated with predicted learner reading scores in Standard 1. Standard 1 boys from classes where teachers reported having been teaching for less than a year had predicted oral reading fluency scores of about 2.39 cwpm (398 percent) lower than learners with more experienced teachers. The results were similar for Standard 1 girls from new-teacher classrooms at 1.99 cwpm (284 percent) lower. These predicted effects could be due to the relative inexperience of new teachers, but they could also be due to the turmoil learners experience with teacher turnover and change. This is difficult to determine, but the study will explore this issue further in future reports. Results were not significant for the predicted effects of new teachers on Standard 3 learners. That said, sampled Standard 3 teachers were much more likely to be new than sampled Standard 1 teachers—at 30.6 and 6.6 percent, respectively.

Despite the lower scores for learners from new-teacher classrooms, the assessment team also found that very experienced, older teachers were also strongly correlated with lower predicted learner reading scores. For instance, the team found that predicted learner reading scores for Standard 1 were significantly lower for learners from classrooms where the teacher is above the average age of sampled teachers (34 years old). Specifically, the assessment team found that Standard 1 boys and girls from classrooms where the teacher was above the average teacher age had predicted scores 0.93 and 1.01 cwpm (155 and 144 percent) lower than their counterparts. Standard 1 teachers tended to be older than Standard 3 teachers, with the average age of Standard 1 teachers at 38 and the average age of Standard 3 teachers at 30. Further, 66.2 percent of Standard 1 teachers fall above the average age and only 30.2 percent of Standard 3 teachers fall into the same category.

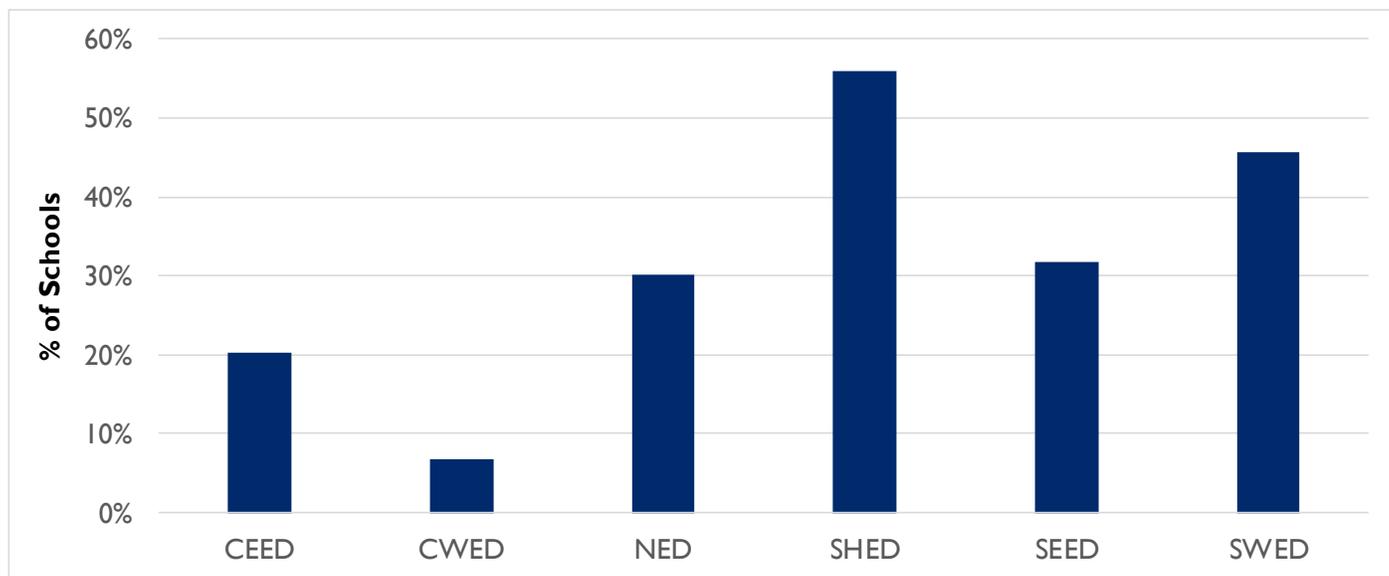
### **School Feeding**

The final variable that the assessment team found to be highly correlated with predicted oral reading fluency scores for Standard 1 learners was school feeding. As shown in Table 48, Standard 1 boys from schools where the head teacher reported that the school had school feeding had predicted reading scores an average of 0.54 cwpm (90 percent) higher than boys who did not have access to school feeding. Standard 1 girls from schools with school feeding also experienced higher predicted reading scores, but the assessment team could only be 83 percent confident in those

results. School feeding was not highly correlated with increased reading scores for Standard 3. The reason for this could be that Standard 3 learners have less need than Standard 1 learners for school feeding. The study found that Standard 3 learners appear to have higher food-security levels than Standard 1 learners, according to learner reports. Standard 3 learners were significantly more likely to report eating at least one meal every day, eating breakfast every day, eating lunch everyday (confidence level of only 90 percent), and never feeling hungry than were Standard 1 learners.

The percent of schools and learners from the NRA sample that had access to school feeding varied significantly by educational division. As shown in Figure 36, the study found that sampled schools from SHED were significantly more likely to have a school feeding program than were schools from CWED.

**Figure 36: Percent of Schools with School Feeding Programs by Division**



*National Reading Assessment Head Teacher Survey 2014*

### Length of School Day

Many studies have shown the benefit of longer school days for increasing learner educational levels. The study explored whether the length of the school day was correlated with predicted learner reading scores. As shown in Table 49, the study team found a statistically significant correlation between the length of the school day and predicted learner reading scores for Standard 3 learners. Specifically, the team found that a one hour increase in the length of the school day for Standard 3 learners resulted in a 0.85 cwpm (8 percent) increase in predicted reading scores for Standard 3 boys and a 1.76 cwpm (15 percent) increase for Standard 3 girls. Results were not significant for Standard 1 boys and girls. This could be either because: (i) there is a strong correlation between the EGRA (which was more focused on Standard 1 than Standard 3) and a longer school day, or (ii) because, on average, the length of the Standard 3 school day varies by a lot more than the length of the Standard 1 school day and when there is more variation in a predictor variable, it is easier to measure statistically significant differences than when there is little variation. See Table 51 for more details on the differences in the length of the school day by Standard.

**Table 51: Length of the School Day by Standard**

	Average Length of School Day	Median Length	Minimum Length	Maximum Length
Standard 1	3.8	3.8	2.3	5.8
Standard 3	5.3	5.1	3.7	8.6

**Household Assets**

As shown in Table 49, Standard 3 girls who reported higher levels of household assets (a proxy indicator for household wealth, developed using an index of household assets, as described above) had higher predicted reading fluency scores than those who reported lower levels of household assets. Since this factor was a PCA score composed of many variables, the coefficients need to be interpreted with caution. Nonetheless, the higher the level of household assets, as described above in the Methodology Section on PCA Scores, the higher Standard 3 girls' predicted reading scores. Results for this factor were not statistically significant for boys or Standard 1 girls.

Interestingly, sampled Standard 3 learners reported significantly higher levels of household wealth (as determined by the household assets index) than did sampled Standard 1 learners. This may be due to the higher likelihood of poorer learners to drop out of school in the higher grades to help support their families. Further, sampled learners reported higher household asset levels for NED (which had the highest levels by far) and SEED than for other divisions. The assessment team found the lowest wealth scores, based on reported learner results for CWED and SWED.

**Frequency of Being Sick**

Learners who are stay home because they are sick miss out on valuable lessons, and if they are sick enough, their achievement levels may be affected. For this reason, the study assessed the correlation between predicted learner reading scores and the reported frequency by which learners reported staying home because they were sick. As shown in Table 49, the assessment team found a decrease in predicted learner reading scores for both Standard 3 boys and girls who reported being sick “occasionally” or “frequently” rather than “almost never.” Coefficients for the Frequency Sick variable should be interpreted with caution because of the inherent learner subjectivity present in determining whether they have stayed home from being sick “occasionally” or “frequently.” Sampled girls were significantly more likely to report being sick more frequently than were boys.

**Teacher Use of Best Practices**

As shown in Table 49, Standard 3 learners from classrooms in which enumerators observed higher levels of teacher use of “best practices” in teaching reading (a PCA score, as described in the Methodology section of this report), had higher predicted oral reading fluency scores than did learners from classrooms where teachers did not use as many of the “best practices.” Again, since this factor was a PCA score composed of many variables, the coefficients should be interpreted with caution. Results for this factor were not statistically significant Standard 1 boys or girls. This could be because of the significantly higher use of best practices among Standard 3 teachers than among Standard 1 teachers.

Similarly to other results, the assessment team found differences in the adoption of best practices by educational division. Again, CWED and SWED outperformed other divisions.

## Differences in Predictive Factors by Division

Tables 55 – 58 in Annex VIII show differences in predicted learner reading scores by division. Specifically, the tables show that there were not statistically significant differences in scores between divisions for Standard 1 boys. Standard 1 girls' predicted scores were highest in SHED and then SEED. For Standard 3 boys and girls, it was SEED and then SWED. Overall, these results suggest that learners from SEED are likely to perform better on their tests than are learners from the other divisions, and learners from CEED and NED were likely to score lower on their oral reading fluency test. This is surprising given findings in the literature review that literacy rates in the southern part of the country tend to be lower than they do in the north. The study team intends to further investigate the reasons that drive these divisional differences.

## Class Size

While class size did not prove to be a significant predictor of oral reading scores when included in regressions in its continuous form, the assessment team examined this variable closer given the wealth of literature suggesting the importance of class size in determining learning outcomes as well as the high variability of class sizes across Malawi. As shown in Tables 52 and 53, class sizes of greater than 150 were negatively correlated with predicted learner oral reading fluency scores (though not significantly so for Standard 1). Regression results show that Standard 3 learner reading scores decreased by 1.7 cwpm (15 percent) when the learners were in classes of more than 150 learners. Interestingly, Standard 3 learners in class sizes of 50 or less also had statistically significant lower predicted reading scores than did Standard 3 learners in larger classes. The reason for this result is entirely unknown.

**Table 52: Effect of Class Size on Predicted Standard 1 Learner Reading Scores**

Independent Variable	Standard 1 Learners			
	Marginal Coefficient	Standard Error	z-Statistic	p-value
50 learners or fewer	0.39	0.88	0.45	0.655
100-150 learners	-0.35	0.34	-1.04	0.297
151 learners or more	-0.52	0.34	-1.52	0.128
Constant	10.05			

<b>Observations</b>	3,601
<b>Pseudo R-squared</b>	0.0010
<b>Log Pseudolikelihood</b>	-599365.85
<b>Probability &gt; F</b>	0.3838

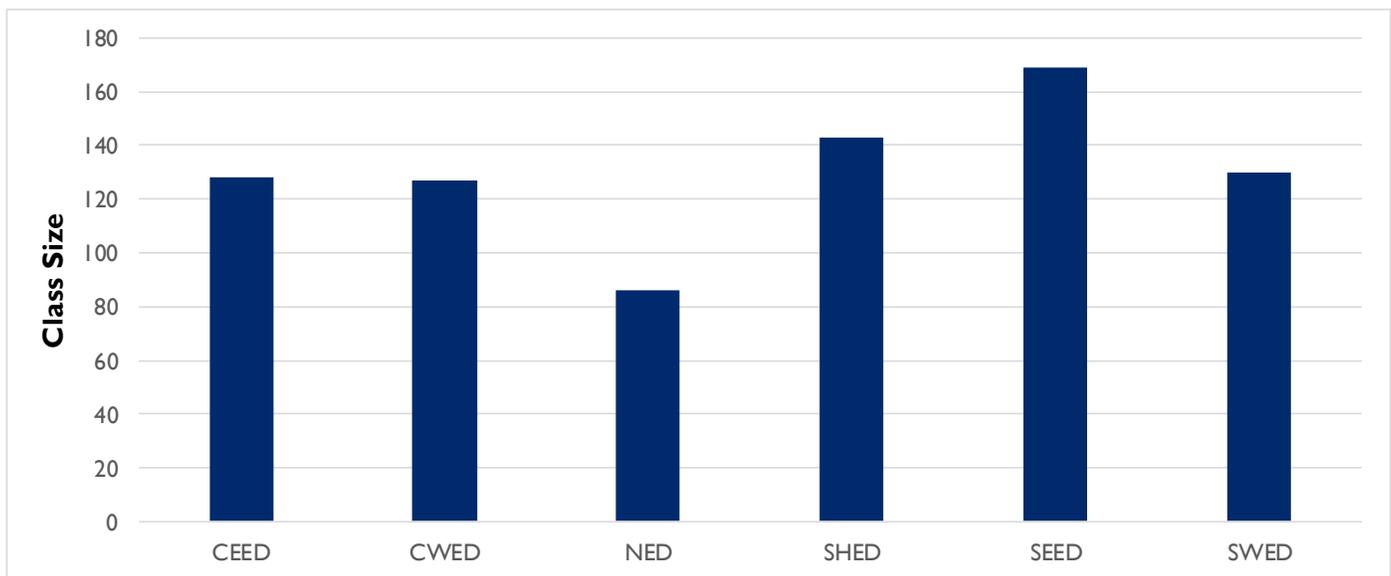
**Table 53: Effect of Class Size on Predicted Standard 3 Learner Reading Scores**

Independent Variable	Standard 3 Learners			
	Marginal Coefficient	Standard Error	z-Statistic	p-value
50 learners or fewer	-1.95	0.63	-3.11	0.002
100-150 learners	-0.39	0.54	-0.73	0.468
151 learners or more	-1.70	0.53	-3.19	0.001
Constant	21.28			

<b>Observations</b>	3,594
<b>Pseudo R-squared</b>	0.0010
<b>Log Pseudolikelihood</b>	-2251380.3
<b>Probability &gt; F</b>	0.0018

As shown in Table 15 in the Demographic Information Section of this report, the average learner-to-teacher ratio in the classrooms where learners were assessed for this study was 123 learners overall and 148 and 98 for Standards 1 and 3, respectively. Class sizes by division are shown in Figure 37 below.

**Figure 37: Average Class Size by Division**



National Reading Assessment Teacher Survey 2014

# VI. CONCLUSIONS

Conclusions are presented in this section by assessment question and assessment indicator.

## ASSESSMENT QUESTION I

### ***What proportion of primary school learners is at the Standard I benchmark for reading skills?***

As shown in Table 54, the assessment team found very low levels of reading scores across Standard I in 2014, especially when compared against Malawi's Benchmarks. These data suggest that Malawi Standard I learners have a long way to go before they are able to read independently and until the quality of education in Malawi matches its high enrollment rates. Classroom observations showed that one possible reason for this is the fact that many teachers are still teaching the whole-word method rather than phonics.

**Table 54: Summary of Percent of Learners Meeting Benchmarks<sup>69</sup>**

Subtask	Percent of Standard I Learners Reaching Proposed Benchmarks	Percent of Standard 3 Learners Reaching Proposed Benchmarks
Listening Comprehension	47	62
Syllable Segmentation	21	47
Initial Sound Identification	0.7	1.6
Letter Name Knowledge	2.6	7.2
Syllable Reading	0.5	1.9
Familiar Word Reading	0.5	1.6
Non-Word Reading	0.5	0.3
Reading Fluency	0.9	2.3
Reading Comprehension	0.01	1.6

## ASSESSMENT QUESTION IA

### ***What is the breakdown of learners grouped by subdivisions and progress toward attaining Reading benchmarks in Standard I?***

For Standard I girls, predicted scores were highest in SHED followed by SEED. Predicted reading scores were not significantly affected by educational division for Standard I boys. Learners from CEED and NED were likely to score lower on their oral reading fluency. This is surprising given the findings in the literature review that literacy rates in the southern part of the country tend to be lower compared to the north. The study team intends to further investigate the reasons that drive these divisional differences in future rounds.

## ASSESSMENT QUESTION IB

### ***What is the relationship of Standard I reading skill acquisition to additional factors that relate to or predict***

<sup>69</sup> Benchmarks here refer to both the MoEST proposed benchmarks for the five subtasks (oral reading, reading comprehension, familiar word reading, syllable reading, and letter name knowledge) and the EGRA Coordinating Committee-recommended benchmarks for the other four subtasks.

### ***achievement, including classroom size, for Standard 1?***

As shown in the regression tables, the following factors help to predict higher Standard 1 reading fluency subtask scores:

- Learners being read to at home
- Learners taking books home from school with them
- Learners attending an EGRA-beneficiary school
- Learners attending a school with a school feeding program
- Learners whose homework is checked weekly
- Learners in classes with new teachers and with teachers age 34 and above
- Learners' age

While correlation does not equal causation and the assessment team cannot be certain of in which direction the relationship goes (does the factor predict or cause the outcome or vice versa, or are they just highly correlated because of some confounding factor), these factors do gel well with literature reviewed during the EGRA IE Baseline Assessment. Moreover, some of these factors offer low-cost methods of attempting to increase learner reading scores—such as incentivizing households to read to learners (given that 90 percent of learners report that someone in their household knows how to read yet only about 50 percent of Standard 1 learners report being read to). Additionally, nearly 86 percent of Standard 1 learners don't take books home from school with them. USAID and MoEST might need to explore further why this is and if it has anything to do with level of resources and textbooks available at the school. The assessment team's analysis shows that it does not appear to be correlated with school resources.

## **ASSESSMENT QUESTION 2**

### ***What proportion of primary school learners is at the Standard 3 benchmark for reading skills?***

As illustrated in Table 54, results showed very low levels of reading scores across Standard 3 as well, though Standard 3 learners did come closer to meeting standard-level benchmarks for some of the pre-reading and, to a lesser extent, initial reading skills than did Standard 1 learners. Nonetheless, less than three percent of Standard 3 learners are able to read fluently and comprehend standard-level text, as measured against Malawi's Benchmarks.

## **ASSESSMENT QUESTION 2A**

### ***What is the breakdown of learners grouped by subdivisions and progress toward attaining Reading benchmarks in Standard 3?***

Results by division for Standard 3 boys and girls showed that those from SEED performed the best followed by those from SWED. Learners from CEED and NED were likely to score lower on their oral reading fluency subtask than other learners. This is surprising given the findings in the literature review that literacy rates in the southern part of the country tend to be lower compared to the north. The study team intends to further investigate the reasons that drive these divisional differences in future rounds.

## **ASSESSMENT QUESTION 2B**

### ***What is the relationship of Standard 3 reading skill acquisition to additional factors that relate to or predict achievement, including classroom size, for Standard 3?***

As shown in the regression tables, the following factors help to predict higher Standard 3 reading fluency subtask scores:

- Learners being read to at home
- Learners taking books home from school with them
- Learners not missing school very often due to sickness
- Learners who attend schools with longer school days

- Learners taught by teachers demonstrating the best teaching practices
- Learners' household wealth status (as determined by assets)

Most of these factors above corroborate with findings from earlier studies reviewed during the EGRA IE Baseline Assessment. Moreover, some of these factors offer low-cost methods of attempting to increase learner reading scores—such as incentivizing households to read to learners (given that 90 percent of learners report that someone in their household knows how to read yet only about 63 percent of Standard 3 learners report someone at home reads to them).

## INDICATOR 1

### ***What is the proportion of learners in targeted standards receiving an extra 1-hour in time-on-task reading instruction per day?***

Head teachers were asked to report the number of days per week the school day lasts an extra hour and for which standards this occurred. Overall, the highest proportion of head teachers reported the school day had been extended for Standard 1 classes than for classes from any other standard. For Standard 1, about 45 percent of head teachers reported they had added an hour for each day of the school week, and 47.5 percent reported adding an extra hour to at least one school day each week. The proportion of learners that were beneficiaries of the extra one-hour of instruction at least weekly differed significantly between divisions in all four standards. SWED was the division with both the least amount of schools that had extended their school day by an hour and the smallest percent that added an hour of time-on-task reading instruction, and SEED schools were the most likely to have extended their school day.

## INDICATOR 2

### ***What proportion of learners in targeted standards take home and use a book or other reading materials at home?***

Standard 3 learners were more likely to report taking books home from school with them than Standard 1 learners, and boys in Standard 1 were more likely to report taking books home with them than girls in Standard 1. Overall, 14 percent of Standard 1 learners reported taking books home from school with them and 52 percent of Standard 3 learners reported the same. Whether or not learners reported reading the books they take home with them was almost perfectly correlated with learner scores on their reading tests.

## INDICATOR 3

### ***What proportion of schools received at least one coaching/support visit per term?***

Overall, 87.2 percent of teachers reported receiving at least one coaching visit in the most recent term. The proportion of teachers receiving some sort of coaching differed significantly between the six divisions. Teachers in SHED were the least likely to receive a coaching visit, at 76.7 percent, and teachers in NED and SEED were the least likely to receive a coaching visit, at 93.3 percent.

## INDICATOR 4

### ***What proportion of teachers demonstrated “essential” skills in teaching reading?***

Only three percent of teachers used all of the essential practices in the observed classes. However, about 30 percent of teachers demonstrated 67 percent adherence to best practices on any one day. Nonetheless, this remains an area for improvement moving forward. Significant differences were noticed in the frequency of use of four of the essential practices. They included instruction to recognize letters and say letter names or sounds, which was observed in more than half of classes in SEED and only in one quarter of classes in CEED, and teachers asking pre-reading questions, which was observed in almost 40 percent of classes in SWED but in less than 15 percent of classes in CEED. The percent of teachers demonstrating at least 67 percent of essential practices was only 22 percent in CEED compared to 40 percent in CWED.

# VII. RECOMMENDATIONS

Based on the above findings and conclusions, the study recommends USAID and MoEST do the following:

- **Build up community programs that work to get parents and household members involved in learner reading** and ensure these programs encourage households to read to learners and explain the benefits of doing so.
- **Consider other ways of ensuring learners are read to more often**, possibly by creating after-school peer mentoring programs. This method has been tried in many other education interventions and proved beneficiary both for the mentors and mentees.
- **Explore the costs of employing more qualified teachers in schools** and determine whether smaller class sizes are worth the investment. USAID and MoEST may also need to explore whether there is sufficient supply of educated teachers to fill new positions and address any gaps if not.
- **Work with schools to ensure they have enough textbooks or a system of protecting textbooks to allow learners to take books home from school with them**, and encourage learners to do so—possibly through reading incentive programs such as those often used in the U.S. that provide small rewards for learners who read multiple books over school break periods (or even throughout the academic year).
- **Continue to work with teachers through targeted capacity-building** and coaching interventions to improve teacher use of “essential” reading practices.
- **Identify schools with low food-security levels that do not have school feeding programs and explore options for increasing resources** available for school feeding in these areas through partnerships with other donor organizations or consider scaling up USAID Feed-the-Future Programming to target communities with learners who have low food security level.

# **ANNEXES**

# ANNEX I STATEMENT OF WORK

The following is the full statement of work (SOW) section, section C.3, from Contract number AID-612-C-13-00001. This report addresses Section 3 of this SOW only.

## C.3 SCOPE OF WORK

The Contractor shall provide evaluation services that will include data collection, data analyses, and report writing. The contractor shall conduct evaluations, assessments and surveys in accordance to the Statement of Work (SOW) and Contract Performance Standards reflective of the Contractor's proposed approach. The evaluation services shall include baseline data collection, tracking of key indicators on an annual /bi-annual basis and report findings through the life of the five year EGRA and CDCS period as necessary. The data collected and analyzed will measure the impact of the USAID/Malawi Early Grade Reading Activity (EGRA), with a corresponding baseline (2013), mid-line (2015), and end-line (2017). Additional assessments and surveys conducted by the contractor of reading abilities will examine additional factors that are assumed to effect reading outcomes in Malawi. The Contractor shall provide the results of these evaluations, assessments and surveys to USAID/Malawi to inform EGRA implementation, contribute to USAID Malawi's collaborative learning approach under the CDCS, and improve the ability of USAID to adapt to changing program needs based on data.

### C.3.1 Objectives

The Early Grade Reading Activity (EGRA) Impact Evaluation has two main objectives:

1. To measure the impact of USAID/Malawi's EGRA efforts in target districts on learner reading outcomes, and
2. To assess the hypotheses of **integration** and **community strengthening** related to learner learning in the USAID/Malawi CDCS:
  - A. to measure how **integration** of USAID programming across sectors (education, health, agriculture) working in the same geographic areas impacts learner reading outcomes; and
  - B. to measure how **community strengthening** through capacity-building of local institutions, and promotion of citizen participation impacts sustainable of reading interventions.

### C.3.2 Tasks

The Contractor shall provide evaluation services of four major tasks:

	Baseline		Mid-point		Endline
Required Tasks	May 2013	May 2014	May 2015	May 2016	May 2017
1. Evaluation of the USAID/Malawi Early Grade Reading Activity (EGRA) on Standard 2 and 4 Learners Reading Outcomes	X		X		X
2. Household Survey of Sub-Sampled Standard 2 and 4 Learners.	X		X		X
3. National Reading Assessment for Standards 1 and 3 learners		X		X	
4. Final Impact Evaluation of EGRA and CDCS Hypotheses					X

## **Task 1: Evaluation of the USAID/Malawi Early Grade Reading Activity (EGRA) on Standard 2 and 4 Learners Reading Outcomes.**

### *1.1 Overview*

The Contractor shall collect data, prepare analyses, and reports of Standard 2 and 4 reading outcomes. The Contractor shall conduct all the necessary data collection, data analysis and report writing. The Contractor shall measure the impact of the USAID/Malawi Early Grade Reading Activity<sup>2</sup> in target districts compared to control districts. The Contractor shall have all data collected for Task 1 Evaluation by May 2013, May 2015, and May 2017, respectively.

### *1.2 General Approach*

The contractor will implement activities under this Task in accordance with USAID principles and requirements, including those outlined in the USAID's Evaluation Policy and ADS 203.

Prior to carrying out the evaluation, the contractor shall submit to the USAID Contracting Officer's Representative (COR) an annual Work Plan that details the work to be conducted. The Contractor will use an evaluation design that best meets USAID evaluation policy standards and principles. The design will ensure reliability and validity of the data collected and allow disaggregation by sex. The design will enable analysis of USAID/Malawi's CDCS hypotheses of integration and community strengthening focus on geographic regions as outlined in Section C2.1.

The design shall enable analysis to determine variation in outcomes based on level of integration of USAID/Malawi sectoral and geographic integration (Level I: those in Mission integrated intervention districts (Lilongwe, Balaka, and Machinga); Level II: districts/zones where education intervention overlaps with either Ff or GHI; Level III: education only intervention districts; and Level IV: control schools in non-intervention districts). The contractor will assess Standard 2 and 4 learners to determine their reading ability. The samples will include sufficient numbers of learners to disaggregate by Standard and by sex.

The Contractor will conduct classroom observations in at least one Standard 2, and 4 classroom and interview the head teacher of each school. The classroom based assessment shall be developed in close collaboration with the Malawi National Examination Board and the Department of Inspection and Advisory Services (DIAS) to ensure that it is grade and curriculum appropriate and will at a minimum measure early grade reading skills. Data on number of learners in the class (classroom size) and its relationship to reading outcomes must be included in the assessment.

The Contractor will disseminate the annual results generated from the data collection to key stakeholders, including USAID and its implementing partners, the MoEST, Development Partners, and the larger early grade reading community of practice. These reports will be due to USAID/Malawi by July 31 of each year. This information will provide the basis for learning and adaptive programming decisions to ensure that the program remains flexible to changing needs learned throughout the course of the evaluation.

The contractor shall further match schools in the intervention districts with schools in the non-intervention or control districts to allow for comparability. In matching the schools, the contractor shall use scientific matching methods such as propensity score matching or other scientifically rigorous methods. Baseline data collection may require oversampling to determine appropriate control districts. The following are illustrative examples that could be used:

Learner Level Data such as:

- a. Participation in early childhood development (ECD) program
- b. Participation in a school feeding program
- c. Time spent in the classroom on reading instruction

School Level Data such as:

- a. Learner to qualified teacher ratio,
- b. Dropout rate
- c. Repetition rate
- d. Average number of learners per class
- e. Timing of school feeding in the school timetable
- f. Absenteeism rates, and
- g. Average number of teacher supervision/coaching visits to the teacher
- h. Other interventions including: classroom block and teacher housing construction, disability education interventions, complementary basic education, child-friendly schools.
- i. Text availability: textbook to learner ratio
- j. Level of print rich environment found in the classroom.
- k. Language of instruction in the classroom

Community Level Data such as:

- a. Beneficiary of GHI programming (note: will need to be triangulated with USAID health team data as households may not be aware of GHI investments they are benefitting from)
- b. Beneficiary of FtF programming (note: will need to be triangulated with USAID FtF team data as households may not be aware of FtF investments they are benefitting from)
- c. If secondary data source is available:
- d. Prevalence of stunting, wasting, or underweight

### *1.3 Evaluation Questions*

At a minimum, the classroom based assessment will report on how the USAID/Malawi EGRA impacts, at a minimum, the following indicators:

- (i) Proportion of primary school learners who are able to read with comprehension, according to their countries' curricular goals, by the end of lower primary school (Standard 4).
  - a. The proportion of learners who by the end of the fourth school year (Standard 4) are able to read grade level text, as measured by the number of correct words per minute
  - b. The proportion of learners who by the end of the fourth school year (Standard 4) are able to answer comprehension questions after reading grade level text, as measured by the number of correct comprehension questions answered correctly.
- (ii) Proportion of learners, who, by the end of two grades of primary schooling, demonstrate that they can read and understand the meaning of grade level text (Standard 2).
  - a. The proportion of learners who by the end of the second school year (Standard 2) are able to read grade level text, as measured by the number of correct words per minute
  - b. The proportion of learners who by the end of the second school year (Standard 2) are able to answer comprehension questions after reading grade level text, as measured by the number of correct comprehension questions answered correctly.

## 1.4 Sampling Frame

The Evaluation sampling will be of sufficient size to disaggregate by district, by sex, and by Standard. The sampling framework will enable analysis to examine how levels of integration of Mission programming across sectors in various districts impacts learning outcomes differently. The sample will include a minimum of 30 schools randomly selected per district. The schools shall be selected between control and treatment schools that ensures comparability and disaggregation by the various levels of geographic integration: Level 1: those in Mission integrated intervention districts; Level 2: districts/zones where education intervention overlaps with either FtF or GHI; 3: education only intervention districts; and Level 4: control schools in non-intervention districts. This sample shall be scientifically representative. From the sampled schools (control and treatment), the contractor shall randomly draw a representative sample of children per Standard 2 and Standard 4. From each selected school, at a minimum, a random selection of 10 learners, equal numbers of boys and girls, will be selected from Standard 2 and 4 for inclusion in the assessment. The Contractor will at a minimum include a classroom observation of a Standard 2 and 4 classroom and conduct interviews with a Standard 2 and 4 teacher and the head teacher for each school visited. If a different sample size is needed to achieve the requirements of this SOW, the Contractor shall provide justification based on power and confidence of estimation to the COR for approval.

The Contractor will at a minimum draw from all four levels of USAID/Malawi geographic integration for analysis of the USAID/Malawi EGRA and to test the CDCS hypothesis. The levels include: Level 1: Mission integrated districts and zones in Lilongwe, Balaka, and Machinga. The sample will also draw from Level 2: zones within Salima and Ntcheu to examine where the Early Grade Reading intervention has overlap with either FtF or Health interventions. The sample will be required to draw on two districts from Level 3: education intervention only districts (these include Mzimba North, Ntchisi, Zomba Rural, Blantyre Rural, and Thyolo). To determine the control districts, the sample will draw at a minimum three additional Level 4: districts receiving no early grade reading interventions from the remaining 24 education districts using a matched pair approach that enables the comparison of effects across intervention and non-intervention districts.

Where possible for data on community and household-level variables, the Contractor shall utilize secondary data sources such as national or population-level demographic and economic surveys, data from Education Management Information System collected by the Ministry of Education, Science and Technology (MoEST) annually or other USAID or donor-supported household surveys. Specifically, the USAID SSDI activity is a potential source for health-related data in target areas, and the USAID FtF impact evaluation is a potential source of data on agriculture and socio-economic variables in target communities. To enhance comparability of study data with other USAID data analyses, all questionnaires shall include appropriate geo-referenced data.

The Contractor will disseminate the annual results generated from the data collection to key stakeholders, including USAID and its implementing partners, the MoEST, Development Partners, and the larger early grade reading community of practice. These reports will be due to USAID/Malawi by July 31 of each year. This information will provide the basis for learning and adaptive programming decisions to ensure that the program remains flexible to changing needs learned throughout the course of the evaluation. Additionally, the final impact evaluation report will be presented to key stakeholders and disseminated widely to encourage sharing of results, lessons learned and best practices and identify USAID achievements under the CDCS targets.

## **Task 2: Household Survey of Sub-Sampled Standard 2 and 4 Learners.**

### *2.1. Overview*

The Contractor shall collect data, prepare analyses, and reports of a randomly selected sub-sample of learners assessed in Task 1. The learner's sub-sample will equally represent male and female learners. The contractor will conduct a household survey of a sub-sample of children assessed in Task 1 to understand the dynamics and effects of other factors that contribute to children reading outcomes. The Contractor will use data collected from the household survey to isolate household and socio-economic related factors. The Contractor will collect data at the household level to reduce external bias and measure potential multiplier effects of complementary Mission interventions at the community and household level of USAID's programming under the Global Health Initiative (GHI) and Feed the Future (FtF). The Contractor shall incorporate data on relevant multiplier, socioeconomic and household factors and select appropriate control/comparison districts and communities to detect differential effects. The Contractor shall utilize secondary data sources from the GoM, USAID, or other sources to the greatest extent possible.

### *2.2. General Approach*

The contractor will implement activities under this Task taking into account USAID principles and requirements, including those with USAID's Evaluation Policy and ADS 203. The Contractor will measure the Early Grade Reading Activity's efforts to increase parental and community engagement in supporting learner reading. The Contractor will assess how social mobilization of parents, guardians, communities and other relevant stakeholders for supporting children reading has changed household behaviors and learner learning outcomes. The Contractor will account for activities within the community that bridge schools and communities around reading or provide alternatives sources of reading support to learners. The Contractor will examine the dynamics and effects of other factors that contribute to children learning outcomes within the household and community. The household survey of sampled Standard 2 and 4 children will isolate households and socio-economic related factors, enabling the analysis to linking children's reading performance to household factors and community factors. The Contractor will include appropriate geo-referenced data to enhance comparability of study data with other USAID data analyses.

"The Contractor will disseminate the annual results generated from the data collection to key stakeholders, including USAID and its implementing partners, the MoEST, Development Partners, and the larger early grade reading community of practice. These reports will be due to USAID/Malawi by August 31 of each year. This information will provide the basis for learning and adaptive programming decisions to ensure that the program remains flexible to changing needs learned throughout the course of the evaluation."

Prior to carrying out the household survey, the contractor shall submit to the USAID Contracting Officer's Representative (COR) a detailed annual Work Plan describing the work to be conducted. The Contractor will use an evaluation design that best meets USAID evaluation requirements and is robust enough to measure the complexity of integration.

### *2.3. Evaluation Questions*

- 1. What household and community factors relate to learner reading outcomes?*
- 2. What level of household and community resources/factors are dedicated to schooling and reading?*
- 3. How have Health and Agricultural interventions at the household and community level affected schooling and reading outcomes?*

4. *What factors at the household and community level have been identified that relate to repetition and drop out and are there sex differences at the household level?*

Illustrative indicators of interest include:

Participation in early childhood development (ECD) program

Participation in a school feeding program

- Timing of school feeding in the school timetable

Family/household level variables for sub-group

- Parental literacy
- Household size
- Food security
  - Number of times child ate breakfast before school or the number of missed meals in the past week
- Incidence of diarrhea in past 2 weeks
  - Number of days of school missed due to illness
- Number of days of school missed due to family/farm responsibilities
- Health factors
  - Practice of key nutrition, water, sanitation and hygiene (WASH) behaviors related to school access (particularly hand washing, latrine use, micronutrient supplementation, and malnutrition)
  - Water access and quality, including access to a protected water source, and time required to access water
  - Access to child health services targeted by USAID programs
  - Access to de-worming
  - Other relevant health factors which may be related to early grade reading
- Socio-economic variables

School infrastructure, including water, sanitation, and hygiene facilities, which are particularly factors relevant to access and retention of girls and people with disabilities

Average household time spent supporting child reading, and

School level related data such as:

- Learner to qualified teacher ratio,
- Dropout rate
- Repetition rate
- Classroom size,
- Absenteeism rates, and
- Average number of teacher supervision/coaching visits to the teacher
- Other interventions including: classroom block and teacher housing construction, disability education interventions, complementary basic education, child-friendly schools.

Community-level variables

- Beneficiary of GHI programming (note: will need to be triangulated with USAID health team data as households may not be aware of GHI investments they are benefitting from)
- Beneficiary of FtF programming (note: will need to be triangulated with USAID FtF team data as households may not be aware of FtF investments they are benefitting from)
- If secondary data source is available:
- Prevalence of stunting, wasting, or underweight

## 2.4. Sampling Frame

The Contractor will sample a sub-group of the learners assessed in Task 1 to understand the dynamics and effects of other factors that contribute to children's learning outcomes. The contractor will select Standard 2 and 4 learners and their households to participate in the household survey. The sample will link children and households within communities to isolate household and community socio-economic related factors. The sample will link children's reading performance to household and community factors. The Contractors sample size must adhere to criteria determined to have sufficient power and confidence of estimation. The sub-sample should come directly from the sampled schools and learners being assessed under Task 1 of this Contract.

In determining the sampling framework, the Contractor will take into account the Mission's CDCS development hypothesis on education interventions and outcomes – including integrating USAID FtF, GHI, and education programs in the same geographic regions. The Contractors sampling framework will enable USAID to examine its investments in community participation and institutional capacity development within education programs to test the validity of the CDCS hypothesis related to the education sector in Malawi.

Where possible for data on community and household-level variables, the Contractor shall utilize secondary data sources such as national or population-level demographic and economic surveys, data from Education Management Information System collected by the MoEST annually or other USAID or donor-supported household surveys. Specifically, the USAID SSDI activity is a potential source for health-related data in target areas, and the USAID FtF impact evaluation is a potential source of data on agriculture and socio-economic variables in target communities. To enhance comparability of study data with other USAID data analyses, all questionnaires shall include appropriate geo-referenced data.

## Task 3: National Reading Assessment for Standards 1 and 3 learners

### 3.1 Overview

The Contractor shall collect data, prepare analyses, and reports that provide a snapshot of Standard 1 and 3 learner reading skills. For Task 3, the contractor will conduct a nationally representative high quality reading assessment of Standard 1 and 3 learners at the end of the academic year in 2014 and 2016. This assessment will be conducted near the end of the school year on a nationally representative sample of Standard 1 and 3 learners. The assessment will allow for a comparison of results over time.<sup>70</sup>

### 3.2 General Approach

The contractor will implement activities under this Task taking into account USAID principles and requirements, including those with USAID's Evaluation Policy and ADS 203.

Prior to carrying out the assessment, the contractor shall receive approval of an Annual Work plan by the USAID Contracting Officer's Representative (COR) that provides a detailed description of the work to be conducted. The Contractor will use its expertise conduct the evaluation design that best meets USAID evaluation policy standards and principles.

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<sup>70</sup> USAID has conducted annual assessments in 2010, 2011, and 2012 on learners at the beginning of Standard 2 and 4 through the Malawi Teacher Professional Development Support Activity. The assessments tested the same nine reading skills in Chichewa and included letter naming, syllable segmentation, initial sound identification, syllable reading, familiar word reading, nonsense word reading, oral reading fluency, reading comprehension, and listening comprehension.

The Contractor's approach will allow comparison of results over time. The contractor will conduct a nationally representative reading assessment during the third term, in April or May of 2014 and 2016. The Contractor shall conduct the reading assessments in at least three national languages, Chichewa, Tumbuka, and Yao. The Contractor will assess learners in the dominant language of instruction at the school where the assessment will be administered. For assessments in additional languages the contractor will be required to ensure comparability of assessments between languages to enable national aggregation. The reading skills assessed, must at a minimum include letter naming, syllable reading, familiar word reading, nonsense word reading, oral reading fluency, and reading comprehension. The Contractor will work closely with the Host Country partners, including: the MoEST, Directorate of Basic Education, Directorate of Inspection and Advisory Services, Teacher Training Colleges, Malawian University faculties of education, Directorate of Planning, particularly the Education Management Information Systems Unit, Malawi National Examination Board, and Primary Education Advisors during development, assessment, and analysis of the national assessment. The Contractor will work with Host Country partners and use appropriate Host Country institutions to build the capacity of the MoEST to sustainably implement early grade reading assessments. The Contractor will administer the reading assessment of learners with an accompanying questionnaire that investigates various aspects of the learner's backgrounds that could potentially be associated with performance. The Contractor will conduct teacher and head teacher interviews based on a standardized classroom observation and interview protocol in each sampled school. The contractor will be responsible for training all evaluators and assuring the strictest adherence to ensure validity and reliability of the assessment, and the protection of human subjects. During administration of these assessments the Contractor shall ensure that all personnel are adequately trained in assessing children's reading abilities. The Contractor will include data on classroom size and its relationship to reading outcomes in the assessment.

Primary data collection processes and exact data collection will be managed by the Contractor with concurrence from USAID/Malawi and will correspond directly to the methodological approach, sample size, and evaluation team size required to adhere to reporting deadlines. To enhance comparability of study data with other USAID data analyses, all questionnaires shall include appropriate geo-referenced data. Secondary data which are available from other national or USAID-supported household surveys will be incorporated wherever possible in lieu of original data collection.

The Contractor will disseminate the annual results generated from the data collection to key stakeholders, including USAID and its implementing partners, the MoEST, Development Partners, and the larger early grade reading community of practice. These reports will be due to USAID/Malawi by July 31 of each year. This information will provide the basis for learning and adaptive programming decisions to ensure that the program remains flexible to changing needs learned throughout the course of the evaluation. Additionally, the final impact evaluation report will be presented to key stakeholders and disseminated widely to encourage sharing of results, lessons learned and best practices and identify USAID achievements under the CDCS targets.

### *3.3 Evaluation Questions*

Malawi has set benchmarks and targets for performance in Standards 1 through 3 for reading by the MoEST-convened National Early Grade Reading Coordination Committee. In 2011, more than 10% of learners reached the benchmarks for letter naming in Standard 4, syllable segmentation in Standards 2 and 4, and listening comprehension in Standards 2 and 4. For the other subtests, the percentages reaching the benchmark were considerably lower. Less than 10% of learners reached the level expected in subtests that required decoding, which included syllable reading, familiar word reading, nonsense word reading, and oral reading fluency (with comprehension). The National Reading Assessment will examine how Malawian Primary Learners in Standard 1 and 3 are progressing towards reaching MoEST benchmarks in reading through the following questions:

- (i) Proportion of primary school learners who are at the Standard 1 benchmarks for reading skills.
  - a. The breakdown of learners grouped by sub-divisions and progress towards attaining



The design shall enable analysis to determine variation in outcomes based on level of integration of USAID/Malawi sectoral and geographic integration (Level I: those in Mission integrated intervention districts (Lilongwe, Balaka, and Machinga); Level II: districts/zones where education intervention overlaps with either FtF or GHI; Level III: education only intervention districts; and Level IV: control schools in non-intervention districts). The contractor will assess Standard 2 and 4 learners to determine their reading ability. The samples will include sufficient numbers of learners to disaggregate by Standard and by sex.

The Contractor will conduct classroom observations in at least one Standard 2, and 4 classroom and interview the head teacher of each school. The classroom based assessment shall be developed in close collaboration with the Malawi National Examination Board and the Department of Inspection and Advisory Services (DIAS) to ensure that it is grade and curriculum appropriate and will at a minimum measure early grade reading skills. Data on number of learners in the class (classroom size) and its relationship to reading outcomes must be included in the assessment.

The Contractor will disseminate the annual results generated from the data collection to key stakeholders, including USAID and its implementing partners, the MoEST, Development Partners, and the larger early grade reading community of practice. These reports will be due to USAID/Malawi by August 31 of 2017. This information will provide the basis for learning and adaptive programming decisions to ensure that the program remains flexible to changing needs learned throughout the course of the evaluation.

The contractor shall further match schools in the intervention districts with schools in the non-intervention or control districts to allow for comparability. In matching the schools, the contractor shall use scientific matching methods such as propensity score matching or other scientifically rigorous methods. Baseline data collection may require oversampling to determine appropriate control districts. The following are illustrative examples that could be used:

Learner Level Data such as:

- a. Participation in early childhood development (ECD) program
- b. Participation in a school feeding program
- c. Time spent in the classroom on reading instruction

School Level Data such as:

- a. Learner to qualified teacher ratio,
- b. Dropout rate
- c. Repetition rate
- d. Average number of learners per class
- e. Timing of school feeding in the school timetable
- f. Absenteeism rates, and
- g. Average number of teacher supervision/coaching visits to the teacher
- h. Other interventions including: classroom block and teacher housing construction, disability education interventions, complementary basic education, child-friendly schools.
- i. Text availability: textbook to learner ratio
- j. Level of print rich environment found in the classroom.
- k. Language of instruction in the classroom

Community Level Data such as:

- a. Beneficiary of GHI programming (note: will need to be triangulated with USAID health team data as households may not be aware of GHI investments they are benefitting from)
- b. Beneficiary of FtF programming (note: will need to be triangulated with USAID FtF team data as households may not be aware of FtF investments they are benefitting from)
- c. If secondary data source is available:
- d. Prevalence of stunting, wasting, or underweight

*4.3 Evaluation Questions*

The Contractor must at a minimum, address the following questions over the life of the award:

- i. What is the USAID/Malawi Early Grade Reading Activity's impact on children's (disaggregated by sex) reading abilities in terms of the following:
  - a. Level of effort of reading instruction's impact on children reading abilities
  - b. Effect of the use of mother tongue or local language text on reading outcomes
  - c. Effect of extra-curricular reading activities
  - d. Effect of time on task in improving reading outcomes
- ii. Which components have the largest effects and what is the relative cost effectiveness of these various components?
- iii. How does teachers' classroom behavior and practices impact on the ability of children to read?
  - a. How did the level of coaching impact teacher behavior and learner reading outcomes?
- iv. How does the level of integration with other USAID/Malawi FtF and GHI programs, and other related DP interventions in the target districts, impact the reading outcomes of learners?
  - a. What interactions can be identified with other major USAID/Malawi Mission interventions in agriculture and health?
  - b. What other multiplier effects have been identified over the life of the Early Grade Reading Activity?
  - c. What are the key external factors that were found to have a multiplier effect, i.e. early childhood development (ECD) attendance, participation in school feeding, change in WASH behaviors, access to a secondary school, etc.?
  - d. How does the provision of non – cash incentives to performing teachers and schools translate into changes in children's reading abilities?
- v. What secondary effects can be attributed to the Early Grade Reading Activity?
  - a. Impact on repetition rate
  - b. Impact on dropout rate
  - c. Impact on school completion, particularly for girls and learners with disabilities
- vi. What is the effect of USAID/Malawi investments in institutional capacity-building and community engagement to improve community participation on the effectiveness and sustainability of USAID Education programs and learning outcomes?

The Contractor's approach will adequately answer these evaluation questions at baseline (2013), two years after baseline (2015), and four years after baseline (2017), with a detailed methodological approach that uses impact evaluation methodologies be it quantitative, qualitative, or mixed methods. The Contractor will use existing data to the greatest extent possible using impact evaluation methodology where appropriate. The Contractor will use primary and secondary data to answer evaluation questions. Where existing data is insufficient, the Contractor will purposefully sample districts and schools (and their surrounding communities) via based on sampling methods that draw conclusions to inform the evaluation questions The Contractor shall use a quasi-

experimental design to clearly demonstrate the impact of program interventions on reading outcomes, and to test the CDCS hypotheses and enable identification of differential impacts that result from geographic integration with GHI and FtF programming. The Contractor shall address evaluation questions related to integration, capacity-building and community participation, as well as identifying best practices and lessons learned. The Contractor's research design will be conducted over a five year period. The Contractor will provide a baseline, mid-line, and end-line data points. USAID/Malawi reserves the right to have the ultimate authority to approve the evaluation design prior to the roll out of the evaluation.

#### *4.4 Sampling Frame*

The Contractor will use a sampling framework that is of sufficient size to disaggregate by district, by sex, and by Standard. The Contractor's sampling framework will enable analysis to examine how levels of integration of Mission programming across sectors in various districts impacts learning outcomes differently. The sample will include a minimum of 30 schools randomly selected per district. The schools shall be selected between control and treatment schools that ensures comparability and disaggregation by the various levels of geographic integration:

- Level 1: those in Mission integrated intervention districts;
- Level 2: districts/zones where education intervention overlaps with either FtF or GHI;
- Level 3: education only intervention districts; and
- Level 4: control schools in non-intervention districts.

This sample shall be scientifically representative. From the sampled schools (control and treatment), the contractor shall randomly draw a representative sample of children per Standard 2 and Standard 4. From each selected school, at a minimum, a random selection of 10 learners, equal numbers of boys and girls, will be selected from Standard 2 and 4 for inclusion in the assessment. The Contractor will at a minimum include a classroom observation of a Standard 2 and 4 classroom and conduct interviews with a Standard 2 and 4 teacher and the head teacher for each school visited. The Contractor will sample a sub-group of the learners assessed to understand the dynamics and effects of other factors that contribute to children's learning outcomes. The contractor will select Standard 2 and 4 learners and their households to participate in the household survey. The sample will link children and households within communities to isolate household and community socio-economic related factors. The sample will link children's reading performance to household and community factors. The Contractor's sample size must adhere to criteria determined to have sufficient power and confidence of estimation. The sub-sample should come directly from the sampled schools and learners being assessed under Task 1 of this Contract. If a different sample size is needed to achieve the requirements of this SOW, the Contractor shall provide justification based on power and confidence of estimation to the COR for approval.

In determining the sampling framework, the Contractor will take into account the Mission's CDCS development hypothesis on education interventions and outcomes – including integrating USAID FtF, GHI, and education programs in the same geographic regions. The Contractor's sampling framework will enable USAID to examine its investments in community participation and institutional capacity development within education programs to test the validity of the CDCS hypothesis related to the education sector in Malawi. The Contractor will at a minimum draw from all four levels of USAID/Malawi geographic integration for analysis of the USAID/Malawi EGRA and to test the CDCS hypothesis. The levels include: Level 1: Mission integrated districts and zones in Lilongwe, Balaka, and Machinga. The sample will also draw from Level 2: zones within Salima and Ntcheu to examine where the Early Grade Reading intervention has overlap with either FtF or Health interventions. The sample will be required to draw on two districts from Level 3: education intervention only districts (these include Mzimba North, Ntchisi, Zomba Rural, Blantyre Rural, and Thyolo). To determine the control districts, the sample will draw at a minimum three additional Level 4: districts receiving no early grade reading interventions from the remaining 24 education districts using a matched pair approach that enables the comparison of effects across intervention and non-intervention districts.

Where possible for data on community and household-level variables, the Contractor shall utilize secondary data sources such as national or population-level demographic and economic surveys, data from Education Management Information System collected by the MoEST annually or other USAID or donor-supported household surveys. Specifically, the USAID SSDI activity is a potential source for health-related data in target areas, and the USAID FIF impact evaluation is a potential source of data on agriculture and socio-economic variables in target communities. To enhance comparability of study data with other USAID data analyses, all questionnaires shall include appropriate geo-referenced data.

The Contractor will disseminate the annual results generated from the data collection to key stakeholders, including USAID and its implementing partners, the MoEST, Development Partners, and the larger early grade reading community of practice. These reports will be due to USAID/Malawi by August 31 of 2017. This information will provide the basis for learning and adaptive programming decisions to ensure that the program remains flexible to changing needs learned throughout the course of the evaluation. Additionally, the final impact evaluation report will be presented to key stakeholders and disseminated widely to encourage sharing of results, lessons learned and best practices and identify USAID achievements under the CDCS targets.

# ANNEX II: CHICHEWA READING ASSESSMENT INSTRUMENT



## Malawi National Reading Assessment: Learner Response Form Administrator Instructions and Protocol, June 2014 Chichewa

### Malangizo:

*Muyenera kukhazikitsa ubwenzi wabwino ndi wophunzira amene mukumuyesa kudzera mu nkhani zifupizifupi komanso zosangalatsa kuti aone mafunsowa ngati sewero chabe osati ntchito yovuta. Nkoyenera kuwerenga zigawo zokhazo zomwe zili mumabokosi mokweza, momveka bwino ndi modekha.*

Uli bwanji? Dzina langa ndi \_\_\_\_\_ ndipo ndimakhala ku \_\_\_\_\_. (Chezani ndi wophunzira munjira yomwe ingathandize kuti amasuke).

### Kupempha chilolezo

- Ndikuuze chifukwa chimene ndabwerera kuno. Ndimagwira ntchito ku Unduna wa za Maphunziro, za Sayansi ndi Luso. Ndikufuna kudziwa m'mene inu ophunzira mumaphunzirira kuwerenga. Mwa mwayi iwe wasankhidwa kuti ndicheze nawe.
- Tichita sewero lowerenga. Ndikufunsa kuti undiwerengere malembo, mawu ndi nkhani mokweza.
- Ndigwiritsa ntchito wotchi iyi kuti ndiwone nthawi yomwe utenge powerenga.
- Awa simayeso, ndipo sizikhudzana ndi zotsatira za maphunziro ako.
- Ndikufunsanso mafunso ena okhudzana ndi banja la kwanu monga, chiyankhulo chomwe mumayankhula kunyumba kwanu ndi zinthu zina zomwe muli nazo kwanu.
- Palibe amene adziwe zimene tikambirane.
- Uli ndi ufulu woyankha mafunso kapena ayi. Ngakhale tili mkati mwa kucheza uli ndi ufulu kukana kuyankha mafunso.
- Ngati sukufuna kuti ndicheze nawe utha kubwerera m'kalasi.
- Uli ndi funso tisanayambe? Tikhoza kuyamba?

Chongani mukabokosika ngati ophunzira wavomereza kuyesedwa:  INDE

*(Ngati wophunzira sanavomereze kuyesedwa, muthokozeni ndi kuitana ophunzira wina pogwiritsa ntchito chipepala chomwechi.)*

A. Tsiku la Mayeso	Tsiku : _____		H. Kalasi	<input type="radio"/> 1 = Sitandade 1 <input type="radio"/> 2 = Sitandade 2 <input type="radio"/> 3 = Sitandade 3 <input type="radio"/> 4 = Sitandade 4
	Mwezi : _____			
B. Dzina la Woyesa				
C. Dzina la Sukulu			I. Dzina la Mphunzitsi	

D. Dera			J. Sitilimu	
E. Boma			K. Dzina la ophunzira  L. Nambala yachinsinsi ya ophunzira	
F. Chigawo			M. Zaka zakubadwa	
G. Mtundu wa Sukulu :	<input type="radio"/> 1 = Tsiku lonse <input type="radio"/> 2 = M'mawa <input type="radio"/> 3 = Masana		N. Mwamuna kapena Mkazi  O. Dzina la mudzi  P. Dzina la mkulu wa pakhomo	<input type="radio"/> 1 = Mwamuna <input type="radio"/> 2 = Mkazi
			N. Nthawi Yoyambira	___ : ___

## Gawo 1. Kudziwa Dzina la Lembo

Onetsani ophunzira pepala la malembo mu buku la ophunzira. Nenani:

Ili ndi tsamba la malembo a m'Chichewa. Ndiuze maina a malembo amene ungate.

**Mwachitsanzo, dzina la lembo ili [lozani lembo la 'S'] ndi 'S'.**

**Tiye tiyesere: Ndiuze dzina la lembo ili [lozani lembo la 'U']**

Ngati ophunzira ayankhe bwino nenani: **Wakhoza dzina la lembo ili ndi 'U':**

Ngati ophunzira alephere kuyankha molondola, nenani: **Dzina la lembo ili ndi 'U'**

**Tsopano yesera lembo lina: Ndiuze dzina la lembo ili [lozani lembo la 'P']:**

Ngati mwana wayankha molondola, nenani: **Wakhoza, dzina la lembo ili ndi 'P'**

Ngati mwana walephera kuyankha molondola, nenani: **dzina la lembo ili ndi 'P'**

**Kodi ukudziwa chomwe ukuyenera kuchita?**

**Ndikanena kuti "Yamba" Chonde tchula dzina la lembo lili lonse mofulumira ndi mosamala. Yamba pano ndipo ndi kupitiriza motere [Lozani lembo loyamba mu mndandanda woyamba pamathero a chitsanzo ndipo lozetsani chala pa mzere woyamba. Ngati wafika pa lembo lomwe sukulidziwa, ndikuuza dzina lake. Ndikakuwuza udzipitiriza. Wakonzeka? Yamba tsopano.**



Yambani kuwerengera nthawi pamene ophunzira wawerenga lembo loyamba. Yendetsani pensulo ndi kuchonga moyenera yankho lolakwa pogwiritsa ntchito pensulo polemba chizindikiro ichi (/). Werengerani lembo limene walikonza yekha ngati lolondola. Ngati mwachonga kale mayankho odzikonza yekha ngati olakwa, zunguzani mzere pa lembolo ndi kupitirira. Khalani chete pokhapokha akamapereka mayankho motere: ngati ophunzira adodoma kuyankha pa masekandi atatu, Perekani dzina la lembo, lozani lembo lotsatira ndi kunena, Pitiriza. Chongani lembo lomwe mwapereka kwa mwana. Ngati ophunzira apereke liwu la lembo osati dzina lalembo, mpatseni dzina lalembo ndi kunena: Tandiuze dzina lalembo ili. Izi ziyenera kuchitika kamodzi kokha.

**PAKATHA MASEKONDI MAKUMI ASANU NDI LIMODZI (60) nenani "Ilekeza pomwepo." Lozerani lembo lomalizira kuwerenga ndi chizindikiro ichi ({}).**

**Lamulo loyamba:** Ngati ophunzira alephere kupereka yankho lolondola limodzi mu mzere woyamba, nenani "Zikomo" siyilani pomwepo ntchitoyi ndipo chongani mu kabokosi komwe kali pamapeto ndi kupitiriza ndi ntchito ina.

Chitsanzo : S u P

1	2	3	4	5	6	7	8	9	10	
D	i	t	i	O	T	g	C	T	m	(10)
H	t	O	A	r	C	n	e	h	R	(20)
L	e	H	p	e	A	i	o	z	U	(30)
h	f	i	N	T	o	o	F	d	E	(40)
e	r	P	H	r	d	T	K	t	a	(50)
y	w	e	L	e	E	U	N	o	d	(60)
W	e	A	A	S	E	n	i	m	R	(70)
s	t	C	V	S	N	D	t	i	L	(80)
A	s	J	G	e	E	i	A	C	n	(90)
N	a	H	S	t	U	B	y	S	o	(100)

Lembani nthawi yomwe yatsala pa wotchi pamapeto (nambala ya masekandi) :

Chongani m'kabokosi ngati ntchitoyi sinapitirizidwe chifukwa ophunzira analibe mayankho olondola mu mzere oyamba.

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## Gawo 2. Maphatikizo a Malembo

Ntchito iyi ndiyongomvera chabe. Ndikuuza mawu ndipo undiuzze maphatikizo omwe ali m'mawuwo. Mwachitsanzo, m'mawu oti "nguluwe" muli maphatikizo awa: "ngu-lu-we". Mu ntchito imeneyi ndikufuna kuti undiuzze maphatikizo amene uwamve m'mawu. Nditchula mawuwa kawiri. Umvetsera kenako undiuzze maphatikizo omwe ali m'mawuwo. Tiye tiyesere. Kodi maphatikizo omwe ali m'mawu oti "mayi", "mayi" ndi chiyani?

[Ngati ophunzira ayankhe molondola, nenani]: **Wakhoza**, maphatikizo a mawu oti "mayi" ndi "ma - yi".

Ngati mwana walephera kuyankha molondola, nenani: Mveranso kachiwiri: "mayi". Maphatikizo omwe ali m'mawu oti "mayi" ndi "ma-yi."

Tsopano yesera ena: Kodi maphatikizo omwe ali m'mawu oti "khwanya", "khwanya" ndi chiyani?.

[Ngati ophunzira ayankhe molondola, nenani]: **Wakhoza**, maphatikizo a mawu oti "khwanya" ndi "khwa - nya".

Ngati mwana walephera kuyankha molondola, nenani: Mveranso kachiwiri: "khwanya". Maphatikizo omwe ali m'mawu oti "khwanya" ndi "khwa" ndi "nya."

Kodi ukudziwa chomwe uyenera kuchita?

[Ngati ophunzira anene kuti ayi, muuzeni kuti]: **Yesetsa m'mene ungathere.**

Werengani ndi kutchula mawu oyenera kachiwiri. Lolani yankho lokhalo lili ndi liwu lolondola. Ngati ophunzira akanike kuyankha m'masekondi atatu, chongani "Palibe yankho" ndipo pitirizani kutchula mawu otsatira. Tchulani momveka bwino koma musatsindike kwambiri paphatikizo loyamba la mawu ena aliwonse.

**Langizo loyamba**: Ngati ophunzira alephere kuyankha molondola kapena kulephera kuwerenga mawu asanu oyambirira, nenani kuti "Zikomo", ndipo musapitirize ntchiyoyi ndipo mukatero chongani m'kabokosi kali pamapeto a tsamba lino ndi kuyamba ntchito yotsatirayo.

Kodi ndi maphatikizo ati omwe ali mmawu awa? [Bwerezani mawuwo kawiri]						
Ana	A – na	<input type="radio"/> wakhoza	<input type="radio"/> walakwa	<input type="radio"/> sakudziwa	<input type="radio"/> palibe yankho	
Boola	Bo-o – la	<input type="radio"/> wakhoza	<input type="radio"/> walakwa	<input type="radio"/> sakudziwa	<input type="radio"/> palibe yankho	
Mwamuna	Mwa – mu na	<input type="radio"/> wakhoza	<input type="radio"/> walakwa	<input type="radio"/> sakudziwa	<input type="radio"/> palibe yankho	
Bola	Bo – la	<input type="radio"/> wakhoza	<input type="radio"/> walakwa	<input type="radio"/> sakudziwa	<input type="radio"/> palibe yankho	
Mkaka	Mka – ka	<input type="radio"/> wakhoza	<input type="radio"/> walakwa	<input type="radio"/> sakudziwa	<input type="radio"/> palibe yankho	(mawu 5)
Nama	Na – ma	<input type="radio"/> wakhoza	<input type="radio"/> walakwa	<input type="radio"/> sakudziwa	<input type="radio"/> palibe yankho	
Kakamiza	Ka – ka – mi – za	<input type="radio"/> wakhoza	<input type="radio"/> walakwa	<input type="radio"/> sakudziwa	<input type="radio"/> palibe yankho	
Mbola	Mbo – la	<input type="radio"/> wakhoza	<input type="radio"/> walakwa	<input type="radio"/> sakudziwa	<input type="radio"/> palibe yankho	
Mnkhwani	Mnkhwa–ni	<input type="radio"/> wakhoza	<input type="radio"/> walakwa	<input type="radio"/> sakudziwa	<input type="radio"/> palibe yankho	
Kankha	Ka – nkha	<input type="radio"/> wakhoza	<input type="radio"/> walakwa	<input type="radio"/> sakudziwa	<input type="radio"/> palibe yankho	

Chongani m'kabokosi ngati ntchitoyi sinapitirizidwe chifukwa ophunzira analibe mayankho olondola mu mawu asanu oyamba :

### **Gawo 3. Kutchula liwu loyamba**

Ntchito iyi siyofunika kuwerengera nthawi ndipo PALIBE TSAMBA LA WOPHUNZIRA. Werengani mawu aliwonse kawiri ndipo mufunse ophunzira kuti atchule liwu loyamba m'mawu amenewa. kumbukirani kutchula maliwu moyenera : /p/ osati /pu/ monga: /p/, ---- "puh" kapena "pe." Nenani:

**Ntchito iyi ndiyomvera chabe. Ndikufuna kuti undiuze liwu loyamba m'mawu ena aliwonse. Mwachitsanzo, m'mawu oti 'galu', liwu loyamba ndi "/g/". Mu ntchito imeneyi, ndifuna undiuze liwu loyamba limene ukulimva m'mawu ena aliwonse. Nditchula mawuwo kawiri. Umvetsera mawuwo, kenaka undiuze liwu loyamba lomwe likumveka m'mawuwo. Tiye tiyesere. Kodi liwu loyamba m'mawu oti "mayi", "mayi" ndi chiyani?**  
 [Ngati ophunzira ayankhe molondola, nenani]: **Wakhoza**, liwu loyamba m'mawu oti "mayi" ndi /mmmmm/  
 [Ngati ophunzira sanayankhe molondola, nenani]: mvetsera kawiri: "mmmayi". Liwu loyamba m'mawu oti "mayi" ndi /mmmmm/.

**Tsopano yesera mawu ena: Kodi ndi liwu loyamba m'mawu oti "nzimbe", "nzimbe" ndi chiyani?**  
 Ngati mwana wayankha molondola, nenani: **Wakhoza**, liwu loyamba m'mawu oti "nzimbe" ndi "/n/"  
 Ngati mwana walephera kuyankha molondola, nenani: mveranso kaciwiri: **liwu loyamba la m'mawu oti "nzimbe" ndi /n/**

**Kodi ukudziwa chomwe uyenera kuchita?**  
 [Ngati wophunzira anene kuti ayi, muzeni kuti]: **Yesetsa m'mene ungathere.**

Werengani ndi kutchula mawu oyenera kawiri. Lolani yankho lokhalo lili ndi liwu lolondola. Ngati ophunzira akanike kuyankha m'masekondi atatu, chongani "Palibe yankho" ndipo pitirizani kutchula mawu otsatira. Tchulani momveka bwino koma musatsindike kwambiri liwu loyamba la mawu ena ali wonse.

**Langizo loyamba:** Ngati ophunzira alephere kuyankha molondola kapena kulephera kuwerenga mawu asanu oyambirira, nenani kuti "Zikomo", ndipo musapitirize ntchiyoyi ndipo mukatero chongani m'kabokosi kali pamapeto a tsamba lino ndi kuyamba ntchito yotsatirayo.

Tchula liwu loyamba m'mawu awa ndi chiyani [Tchulani mawuwo]					
Kala	/k/	<input type="radio"/> wakhoza	<input type="radio"/> walakwa	<input type="radio"/> sakudziwa	<input type="radio"/> palibe yankho
Dona	/d/	<input type="radio"/> wakhoza	<input type="radio"/> walakwa	<input type="radio"/> sakudziwa	<input type="radio"/> palibe yankho
Khala	/kh/	<input type="radio"/> wakhoza	<input type="radio"/> walakwa	<input type="radio"/> sakudziwa	<input type="radio"/> palibe yankho
Atate	/a/	<input type="radio"/> wakhoza	<input type="radio"/> walakwa	<input type="radio"/> sakudziwa	<input type="radio"/> palibe yankho
Bala	/b/	<input type="radio"/> wakhoza	<input type="radio"/> walakwa	<input type="radio"/> sakudziwa	<input type="radio"/> palibe yankho (mawu 5)
Mana	/mmm/	<input type="radio"/> wakhoza	<input type="radio"/> walakwa	<input type="radio"/> sakudziwa	<input type="radio"/> palibe yankho
Gada	/g/	<input type="radio"/> wakhoza	<input type="radio"/> walakwa	<input type="radio"/> sakudziwa	<input type="radio"/> palibe yankho
Wada	/www/	<input type="radio"/> wakhoza	<input type="radio"/> walakwa	<input type="radio"/> sakudziwa	<input type="radio"/> palibe yankho
Nola	/n/	<input type="radio"/> wakhoza	<input type="radio"/> walakwa	<input type="radio"/> sakudziwa	<input type="radio"/> palibe yankho
Gwada	/g/	<input type="radio"/> wakhoza	<input type="radio"/> walakwa	<input type="radio"/> sakudziwa	<input type="radio"/> palibe yankho

Chongani m'kabokosi ngati ntchitoyi sinapitirizidwe chifukwa ophunzira analibe mayankho olondola mu mawu asanu oyamba :

## Gawo 4. Kuwerenga Maphatikizo

Onetsani wophunzira pepala la maphatikizo kuchokera m' buku la ophunzira. Nenani,

Awa ndi maphatikizo a malembo. Ndikufunsa kuti uwerenge maphatikizo ochuluka mmene ungathere.

Mwachitsanzo, phatikizo ili ndi: "jo".

Tiye tiwerenge phatikizo ili: [lozani phatikizo loti "bwe"]:

[Ngati ophunzira ayankhe molondola, nenani]: **Wakhoza**, phatikizo ili ndi "bwe"

[Ngati ophunzira alephere kuyankha molondola, nenani]: **phatikizo ili ndi "bwe"**

esa phatikizo lina: werenga phatikizo ili [lozani phatikizo loti "nu"]

[Ngati ophunzira ayankhe molondola, nenani]: **Wakhoza**, phatikizo ili ndi "nu"

[Ngati ophunzira alephere kuyankha molondola, nenani]: **phatikizo ili ndi "nu"**

Ndikanena kuti yamba, uwerenge maphatikizo mofulumira ndi mosamala. Werenga maphatikizo ali pa mzere uli wonse. Ndikhala chete kukumvetsera pokhapokha ukafuna chithandizo. Kodi ukudziwa zomwe ukuyenera kuchita? Ngati wakonzeka tiye tiyambepo.



Yambani kuwerengera nthawi pamene ophunzira wawerenga phatikizo loyamba. Yendetsani pensulo ndi kuchonga moyenera yankho lolakwa pogwiritsa ntchito pensulo polemba chizindikiro ichi (/). Werengerani phatikizo lomwe wazikonza yekha ngati lolondola. Ngati mwachonga kale mayankho odzikonza yekha ngati olakwa, zunguzani mzere pa phatikizolo ndi kupitiriza. Khalani chete pokapokha akamapereka mayankho motere: ngati ophunzira adodoma kuyankha pa masekondi atatu, lozani phatikizo lotsatira ndi kunena, pitiriza. Izi ziyenera kuchitika kamodzi kokha. Chongani phatikizo lomwe mwapereka kwa mwana.

**PAKATHA MASEKONDI MAKUMI ASANU NDI LIMODZI** nenani "lekeza pomwepo." Lozerani phatikizolomalizira kuwerenga ndi chizindikiro ichi.

**Lamulo loyamba:** Ngati ophunzira alephere kupereka yankho lolondola limodzi mu mzere woyamba, nenani "Zikomo" siyilani pomwepo ntchitoyi ndipo chongani mu kabokosi komwe kali pamapeto ndi kupitiriza ndi ntchito

Chitsanzo : jo bwe nu

1	2	3	4	5	6	7	8	9	10	
ka	mi	po	ra	bwa	Dza	mnya	na	da	li	(10)
nja	thu	da	ki	fu	Ngi	ko	tsi	i	mphu	(20)
mfu	fa	o	se	pi	Lu	mda	mse	dzi	tsa	(30)
ma	ye	re	na	me	Pa	mkha	wo	si	ntha	(40)
dya	nyu	u	wa	ri	Ka	mwa	ba	ku	go	(50)
e	le	tu	sa	nkho	Nga	fi	wi	la	nda	(60)
te	mba	ndi	ti	zi	Zo	va	ya	no	mu	(70)
phu	mbo	Be	cha	kwa	Mbi	tho	za	ne	chi	(80)
yo	yi	pe	ke	mle	Kwe	ndo	wu	nkha	ta	(90)
tso	ngo	ni	A	kho	Bwi	lo	nzi	ndu	mo	(100)

Lembani nthawi yomwe yatsala pa wotchi pamapeto (nambala ya masekandi):


Chongani m'kabokosi ngati ntchitoyi sinapitirizidwe chifukwa ophunzira analibe mayankho olondola mu mzere oyamba.

## **Gawo 5. Kuwerenga Mawu Odziwika**

Onetsani ophunzira pepala la malembokuchokera m' buku la ophunzira. Nenani,

**Awa ndi mawu a m'Chichewa. Ndipo ndikufuna iwe undiwerengere mawu ambiri omwe ungate. Mwachitsanzo, mawu awa: "khama".**

**Tiye tiwerenge mawu awa:** [lozani mawu oti "ona".]:

[Ngati ophunzira ayankhe molondola, nenani]: **Wakhoza, mawu awa ndi "ona"**

[Ngati ophunzira alephere kuyankha molondola, nenani]: **mawu awa ndi "ona"**.

**Yesa mawu ena: werenga mawu awa** [lozani mawu oti "bakha"]

[Ngati ophunzira ayankhe molondola, nenani]: **Wakhoza, mawu awa ndi "bakha"**

[Ngati ophunzira alephere kuyankha molondola, nenani]: **mawu awa ndi "bakha"**

**Ndikanena kuti yamba, uwerenge mawu mofulumira ndi mosamala. Werenga mawuwo pa mzere uli wonse. Ndikhala chete kukumvetsera pokhapokha ukafuna chithandizo. Kodi ukudziwa zomwe uchite? Ngati wakonzeka tiye tiyambepo.**

 Yambani kuwerengera nthawi pamene ophunzira wawerenga mawu woyamba. Yendetsani pensulo ndi kuchonga moyenera yankho lolakwika pogwiritsa ntchito pensulo polemba chizindikiro ichi (I). Werengerani mawu odzikonza yekha ngati olondola. Ngati mwachonga kale mayankho odzikonza yekha ngati olakwa, zunguzani mzere pa lembolo ndi kupitiriza. Khalani chete pokhapokha akamapereka mayankho motere: ngati ophunzira adodoma kuyankha pa masekondi atatu, werengani mawuwo ndi kunena, pitiriza. Izi ziyenera kuchitika kamodzi kokha. Chongani mawu omwe mwapereka kwa mwana.

**PAKATHA MASEKONDI MAKUMI ASANU NDI LIMODZI (60)nenani "lekeza pomwepo." Lozerani mawu omalizira kuwerenga ndi chizindikiro ichi (I).**

**Lamulo loyamba:** Ngati ophunzira alephere kuwerenga mawu amodzi mu mzere woyamba, nenani "Zikomo"siyilani pomwepo ntchitoyi ndipo chongani m'kabokosi komwe kali pamapeto ndi kupitiriza ndi ntchito ina.

Chitsanzo : khama ona bakha

1	2	3	4	5	
Atate	chiwala	Amayi	zovala	chakudya	(5)
Zina	atate	nyumba	lata	ndi	(10)
Fisi	malangizo	Mutu	mbalame	mnyamata	(15)
Pamanda	agogo	Tsiku	chimanga	bwino	(20)
Monga	mbewu	Zinthu	anthu	mitengo	(25)
Kalulu	ambiri	kwambiri	ana	abambo	(30)
Mbozi	kwa	zakudya	mphunzitsi	koma	(35)
Izi	kudziwa	Lina	mlonda	kusamala	(40)
Kuti	zipatso	nkhalango	iwo	zambiri	(45)
Mlendo	ena	mbatata	lye	akulu	(50)

Lembani nthawi yomwe yatsala pa wotchi pamapeto (nambala ya masekandi:

Chongani m'kabokosi ngati ntchitoyi sinapitirizidwe chifukwa ophunzira analibe mayankho olondola mu mzere woyamba.

## Gawo 6. Kuwerenga Mawu Opeka

Onetsani wophunzira pepala la malembo kuchokera m' buku la ophunzira. Nenani,

**Awa ndi mawu ongopeka m'Chichewa. Ndipo ndikufuna undiwerengere mawu omwe ungate. Mwachitsanzo, "biva".**

**Yesera kuwerenga mawu awa:** [lozani mawu oti "lufa"]:

[Ngati wophunzira anene kuti "aga" nenani]: **Wakhoza, mawu awa ndi "aga"**

[Ngati wophunzira alephere kuwerenga mawu woti "aga"nenani] **Mawu awa timatchula kuti "aga"**

**Yesera mawu ena: werenga mawu awa** [lozani mawu woti "kete"]:

[Ngati wophunzira anene kuti "kete" molondola, nenani]: **Wakhoza, mawu awa ndi "kete"**

[Ngati wophunzira alephere kutchula "kete" molondola nenani]: **"Mawu awa timatchula kuti "kete"**

**Ndikanela kuti yamba, uwerenge mawu mofulumira ndi mosamala. Uwerenge mawuwo kuyambira mzere woyamba.**

**Ndikhalana chete kumvera pamene ukuwerenga, ukalephera kuwerenga mawu ena ndikuthandiza. Ngati wakonzeka yamba.**



Yambani kuwerengera nthawi pamene ophunzira wawerenga lembo loyamba. Yendetsani pensulo ndi kuchonga moyenera yankho lolakwa pogwiritsa ntchito pensulo polemba chizindikiro ichi (/). Werengerani ngati cholondola pamene wophunzira wadzikonza yekha. Ngati munachonga kale mayankho wodzikonza yekha ngati olakwa, zunguzani mzere pa mawuwo ndi kupitirira. Khalani chete wophunzira akamawerenga, ngati wophunzira wadodoma kuwerenga mawu pa masekondi atatu, werengani mawuwo ndipo lozani mawu otsatira ndikumuuza kuti "pitiriza". Izi ziyenera kuchitika kamodzi kokha Chongani mawu omwe mwapereka kwa wophunzira. Ngati wophunzira awerenga mawu asanu molakwitsa, asapitilize ndipo chongani mkabosi komwe kali patsamba lotsatira

**PAKATHA MASEKONDI MAKUMI ASANU (60) NDI LIMODZI NENANI "Ilekeza pomwepo." Lozerani mawu omalizira kuwerenga ndi chizindikiro ichi (I)**

**Lamulo loyamba:** Ngati wophunzira walephere kuwerenga mawu a mumzere woyamba, nenani "Zikomo" siyilani pomwepo ntchitoyi ndipo chongani m'kabokosi komwe kali pamapeto ndi kupitiriza ndi ntchito ina.

Chitsanzo :      lufa                              aga                              kete

1	2	3	4	5	
Aza	Leta	geba	upa	atu	(5)
Omo	Mnkhwani	mvuvu	bwazo	goju	(10)
Nthibe	Aza	Suule	mpholi	nkhiki	(15)
Tchefe	Juje	udo	mng'ene	nkhwena	(20)
Booli	Chizi	thyata	eze	ngogo	(25)
zefa	Mnapa	mphwika	pwika	sati	(30)
thobi	Uto	khuda	tapuli	ono	(35)
ndwigo	Faano	Fese	bzyata	nyanu	(40)
zeepi	Iso	Patu	ilu	deeni	(45)
popo	Phena	Laafi	tetu	ntchuka	(50)

Lembani nthawi yomwe yatsala pa wotchi pamapeto (nambala ya masekandi: )

Chongani m'kabokosi ngati ntchitoyi sinapitirizidwe chifukwa wophunzira analibe mayankho olondola mu mzere woyamba.

### **Gawo 7a. Kumvetsera nkhani**

Iyi ndi nkhani yayifupi. Ndifuna iwe undiwerengere mokweza, mofulumira koma mosamala. Ukatha kuwerengako ndikufunsa mafunso pa zomwe wawerenga. Yamba kuwerenga.



Yambani kuwerengera nthawi pamene wophunzira wawerenga mawu oyamba. Yendetsani pensulo ndi kuchonga moyenera yankho lolakwa pogwiritsa ntchito pensulo polemba chizindikiro ichi (/). Werengerani ngati cholondola pamene wophunzira wadzikonza yekha. Ngati munachonga kale mawu wadzikonza yekha ngati olakwa, lembani mzere mozungulira mawuwa ndi kupitirira. Khalani chete wophunzira akamawerenga, ngati wophunzira wadodoma kuwerenga pa mphindi zitatu, muwerengereni mawuwo kenak lozani mawu otsatira ndikumuuza kuti “pitiriza”.Izi ziyenera kuchitika kamodzi kokha Chongani mawu omwe mwapereka kwa wophunzira.

**PAKATHA MASEKONDI MAKUMI ASANU NDI LIMODZI (60) NENANI “lekeza pomwepo.” Lozerani mawu omalizirakuwerenga ndi chizindikiro ichi (I)**

**Lamulo loyamba:** Ngati wophunzira walephera kuwerenga mawu a mumzere woyamba, nenani “Zikomo”siyira pomwepa kuwerenga. Ndipo chongani m’kabokosi komwe kali pamapeto ndi kupitiriza ndi ntchito ina.

### **Gawo 7b. Kuwerenga ndi kumvetsa nkhani**

**Pakatha masekandi 60 kapena wophunzira akatsiriza kuwerenga ndime m’masekandi osaposepa 60, chotsani ndimeyo patsogolo pa ophunzira ndipo werengani funso loyamba.**

**Mpatseni wophunzira masekandi 15 kuti ayankhe funsolo.Chongani yankho la wophunzira ndi kumuwerenga funso lotsatira.**

**Werengani mafunso a mzere uliwonse mpaka pamene ophunzira walekeza kuwerenga.**

		Tsopano ndikufunsa mafunso angapo okhudza nkhani yomwe wawerenga.			
		wakhoza	walakwa	sakudzi wa	Palibe yankho
Lachisanu m'mawa Mada anakonzeka kupita ku sukulu.	6	<b>Kodi nkhaniyi inachitikira kuti ?</b> <i>[Nkhaniyi imachitikira ku sukulu. Tsiku</i>			
Tsikuli lidali lotsekera sukulu. Mafumu ndi makolo anafika ku sukulu ya Kaliza kuti adzawonerere luso	22	<b>Nanga chimachitikira pa tsikuli ndi chiyani?</b>			
Iyeyu adali ndi nkhwawa chifukwa adali mtsikana wamng'ono ndipo anali kuyamba kumene	36	<b>Kodi n'chifukwa chiyani Mada anali ndi nkhwawa?</b>			
<b><i>Mada anawerenga mopatsa chidwi poyerekeza ndi msinkhu wake. Anthu adasangalala kwambiri ndipo anamusupa ndalama.</i></b>	49	<b>Tchulani chifukwa chimene mbiri ya Mada inapita patali?</b> <i>[Mada amawerenga mopatsa chidwi poyerekeza ndi msinkhu wake.]</i>			
<b><i>Mbiri ya Mada idapita patali.</i></b>	54	<b>Kodi anthu amamusupa chiyani Mada ?</b>			

Lembani nthawi yomwe yatsala pa wotchi pamapeto (nambala ya masekandi) :

Chongani m'kabokosi ngati ntchitoyi sinapitirizidwe chifukwa wophunzira analibe mayankho olondola mu mzere woyamba


## **Gawo 8. Kumvetsa Nkhani**

*Ntchito iyi siyofunika kugwiritsa ntchito TSAMBA LA WOPHUNZIRA. (Werengani ndimeyi mokweza kawiri mopatsa chidwi.)*

**Ndiwerengera ndime yayifupi kawiri kenaka ndidzakufunsa mafunso angapo. Chonde umvetsere bwino pamene ndikuwerenga nkhanayi. Uyenera kuyankha mafunsowa m'mene ungathere. Kodi ukudziwa chomwe ukuyenera kuchita? Kodi uli wokonzeka? Tiyeni tiyambe tsopano.**

**Tsiku lina ndimapita ku mtsika kukagula nyama. Mphepete mwamsewu ndinaona chikwama ndipo ndinachitola. Mkati mwa chikwamacho munali ndalama ndi makadi a ku banki. Nditawauza mayi anga iwo anandilangiza kukapereka chikwamacho kwa Mfumu. Tsiku lina mayi anga anayitanidwa kwa Mfumu. Kumeneku tinakumana ndi abambo ena omwe anali mwini chikwama chija. Bambowa anathokoza ndi ndalama zokwana K5000.00 ndi kulonjeza kupereka chithandizo pa maphunziro anga.**

<b>Tsopano ndikufunsa mafunso angapo okhudza nkhanu yomwe ndawerenga.</b>				
	<b>wakhoza</b>	<b>walakwa</b>	<b>sakudziwa</b>	<b>palibe yankho</b>
<b>Kodi nkhanayi idachitika kuti?</b> <i>[Inachitika kumudzi, mphepete mwa msewu, popita ku msika]</i>				
<b>Kodi mkati mwa chikwama munali chiyani?</b> <i>[munali ndalama ndi makadi a ku banki]</i>				
<b>Chifukwa chiyani chikwama anakachipereka kwa Mfumu?</b> <i>[kuti chisungike chinthu a mfumu amayenera kudziwa]</i>				
<b>Kodi kwa mfumu kunabwera ndani?</b> <i>[Kunabwera, mwini wa chikwama]</i>				
<b>Ndi mphatso yanji yomwe mwini chikwama uja anapereka?</b> <i>[mphatso ya ndalama zokwana K5000.00 ndi chithandizo pa maphunziro]</i>				

<b>Nthawi yomaliza kuyesa ophunzira:</b>	_____ : _____ <b>(maola 24)</b>
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# ANNEX III: CLASSROOM OBSERVATION PROTOCOL



## Malawi National Reading Assessment

### Classroom Observation Protocol

June 2014

**Instructions:** Meet with the Head Teacher and tell him/her you want to observe a Standard 1 and Standard 3 classroom where the teacher has been teaching most of the year. For those classes, ask when the Chichewa and English reading classes are and when the breaks/recess and school feeding occurs in each class. You will need to determine your observation schedule based on this information, observing Std. 1 and Std. 3 each for 3 lessons for the same teacher. If a teacher is absent and no other class and teacher is available to be sampled, learner teachers may be observed. We do not want to observe caretaker teachers.

**Enumerator: COMPLETE A SEPARATE PROTOCOL FOR EACH LESSON**

1. Questionnaire ID: \_\_\_\_\_
  2. Enumerator Name: \_\_\_\_\_
  3. Survey and Logistics Manager Signature: \_\_\_\_\_
  4. Technical Manager Signature: \_\_\_\_\_
  5. Division: \_\_\_\_\_
  6. District: \_\_\_\_\_
  7. Zone: \_\_\_\_\_
  8. School: \_\_\_\_\_
  9. EMIS ID Number: \_\_\_\_\_
  10. Teacher name: \_\_\_\_\_
  11. Teacher gender: \_\_\_\_\_
  12. Date: \_\_\_\_\_
  13. Class Standard: \_\_\_\_\_
  14. Is teacher present when lesson is scheduled to begin? Yes \_\_\_\_\_ No \_\_\_\_\_
  15. Time lesson begins: \_\_\_\_\_
- For 16 and 17, enter the number of boys/girls present when the lesson begins and then add those who come late at the end of the lesson – from #20.
16. Number of boys present: \_\_\_\_\_
  17. Number of girls present: \_\_\_\_\_

18. Number of adults helping in the classroom in addition to the teacher: \_\_\_\_\_

19. Subject being taught:

- a. Reading (in Chichewa)
- b. English
- c. Reading in another language, please specify language \_\_\_\_\_
- d. Other, please specify \_\_\_\_\_

20. Number of learners that come to class late: *(Complete table by entering under "minutes" columns a tick in the appropriate cell each time a learner comes in late, then sum and record an "X" in each appropriate row)*

No. of Learners	Time late in minutes			
	A - 1 - 10	B - 11 - 20	C - 21 - 30	D - Total late
1 - Boys				
2 - Girls				

21. Number of textbooks being used by learners: \_\_\_\_\_

22. Number of reading materials on walls and around classroom (NOT painted walls): \_\_\_\_\_

23. Number of reading materials on the walls and around the classroom that appear to be recent: \_\_\_\_\_

24. Language teacher uses	A - Local only	B - Local + Chichewa	C - Local + English	D - Chichewa only	E - English only	F - Chichewa + English
Put X in appropriate box						

**NOTES ABOUT THE LESSON:** \_\_\_\_\_

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TEACHER BEHAVIOR OBSERVED	1 Opposite of behavior described or do not see the behavior described	2 See the behavior sometimes or partially correct	3 See the behavior done very well and consistently where appropriate	4 Not Applicable (Behavior is not relevant to the subject being taught)
25a. Uses a lesson plan				
25b. Uses a scripted lesson plan				
26. Introduces lesson by <b>connecting</b> to what learners have learned previously				
27. Introduces lesson with <b>advance organizer</b>				
28. Manages instructional time effectively				
29. Demonstrates effective <b>classroom management</b> skills				
30. Makes effective use of different instructional resources and strategies				
31. Treats all learners equally/fairly				
32. Engages learners in carefully planned <b>cooperative learning</b> strategies				
33. Asks <b>probing, open-ended questions</b> that encourage thinking and helps learners explicate their thinking				
34. Provides learners with structured opportunities to <b>apply their understanding and skills</b> to everyday life and problems				
35. Provides opportunities for learners to <b>develop higher-order and critical</b> thinking skills				

36. Uses appropriate learning materials besides textbooks				
37. <b>Assesses</b> learner learning				
<b>BIAS or MISTREATMENT</b>				
38. Avoids using <b>gender biased</b> language				
	1 Opposite of behavior described or do not see the behavior described	2 See the behavior sometimes or partially correct	3 See the behavior done very well and consistently where appropriate	4 Not Applicable (Behavior is not relevant to the subject being
39. Avoids using <b>abusive language</b>				
40. Provides positive, encouraging <b>feedback</b>				
41. Does not allow learners to use gender bias				
42. Does not allow learners to use abusive language				
43. <b>Girls</b> have equal <b>access</b> to desks, learning materials, etc.				
<b>READING PRACTICE</b>				
May need to mark Option 4 for many of these, if not observing a reading class				
45. Engages learners in reading activities or games appropriate to their reading level				
46. Encourages learners to “ <b>sound it out</b> ” when they don’t know a word				
47. <b>Avoids criticizing</b> learners who don’t answer correctly or read poorly				
48. When teacher or learner(s) read a story, teacher asks learners <b>pre-reading questions</b> such as “What do you think the story will be about based on the pictures and/or title of the book?”				
49. When teacher or learners read a story, teacher asks learners to make <b>appropriate sounds or act something</b>				

out, such as the roar a lion makes or the way a frog hops				
50. Applies <b>multiple methods to support comprehension</b> , including games, group work, etc.				
51. Encourages learners to <b>help each other</b>				
52. Has individual learners <b>read aloud</b>				
	<b>1</b> Opposite of behavior described or do not see the behavior described	<b>2</b> See the behavior sometimes or partially correct	<b>3</b> See the behavior done very well and consistently where appropriate	<b>4</b> Not Applicable (Behavior is not relevant to the subject being
53. Provides instructions on how to <b>decode</b> syllables and words				
54. Teaches learners <b>meanings of new</b> words				
55. Asks learners questions to assess their understanding of something the learner(s) or teacher have/has <b>read</b>				
57. Asks learners questions to assess their understanding of stories they <b>hear</b>				
58. Asks learners to <b>recognize letters and</b> say letter names and/or sound				
59. Learners <b>retell a story</b> they or the teacher read				
60. Asks learners to <b>recite the alphabet</b>				
61. Assigns <b>reading</b> for learners to do on <b>their own</b> during school time				
62. Provides a variety of methods for learners to establish <b>good writing</b> skills				
<b>PUPIL BEHAVIOR</b>				
63. Most learners are <b>paying attention</b>				
64. Most learners are <b>actively engaged</b> in the lesson				

65. Most learners are <b>actively engaged</b> when working in <b>small groups or in pairs</b>				
66. Learners appear to <b>understand</b> what the teacher is saying				

Time lesson ends: \_\_\_\_\_

Length of Lesson: \_\_\_\_\_

# ANNEX IV: HEAD TEACHER INTERVIEW PROTOCOL



## Malawi National Reading Assessment

### Head Teacher Questionnaire

June 2014

The Malawi Ministry of Education, Science and Technology (MoEST) with funding from USAID are conducting a nationwide assessment of learner reading ability in Standards 1 and 3. Your school was selected through a process of statistical sampling to take part in this study. We would like your help in this. But you do not have to take part if you do not want to, and you are free to opt out of any questions you do not feel comfortable answering. If you decide to take part, your name will not be mentioned anywhere in the survey data or report. The results of our analysis will be used by the Ministry of Education, Science and Technology to help identify additional support that is needed to help ensure that all children in Malawi become good readers. Additionally, your school will receive a report of the results that you can use to help you better address the needs of children in your school. This interview will take approximately one hour to complete.

If you agree to help with this study, please read the consent statement below, sign on the line, and answer the questions I will ask you as completely and accurately as you can.

CONSENT STATEMENT: I understand and agree to participate in this reading research study by filling out this questionnaire as completely and accurately as possible.

HEAD TEACHER SIGNATURE: \_\_\_\_\_

Please answer all questions truthfully.

Date:

Time Started:

Time Ended:

Enumerator Name:

Survey and Logistics Manager Signature:

Technical Manager Signature:

School Name:

EMIS ID:

Questionnaire ID:

Division:

District:

Zone:

Location Type: Urban Rural Peri-Urban (circle one)

Type of School: Coed All Boys All Girls (circle one)

Designation of School: Junior Primary Full Primary (circle one)

**RESPONDENT BACKGROUND**

1a. Respondent name:\_\_\_\_\_

1b. Respondent age:\_\_\_\_\_

2. What is your position at this school?

- a. Head Teacher (HT) = 1 (***Skip to QUESTION 3b***)
- b. Deputy Head Teacher (DHT) = 2
- c. Other, please specify\_\_\_\_\_ = 3

3a. Is the Head Teacher male or female?

- d. Male = 1
- e. Female = 2

3b. What is the sex of the person being interviewed (observe, do not ask)

- f. Male = 1
- g. Female = 2

4. How many years have you been in this position (as HT or DHT)? (Don't know/Refuse to answer = 9999):\_\_\_\_\_ (***please write the number of years***)

5. How many years have you been in this position **at this school**? (Don't know/Refuse to answer = 9999):\_\_\_\_\_ (***please write the number of years***)

6. What is your highest academic qualification? (*Do not prompt; select the answer that matches the response provided*)

- a. JCE = 1
- b. MSCE = 2
- c. Diploma = 3
- d. Degree = 4
- e. Other, please specify:\_\_\_\_\_ = 5
- f. Don't know/Refuse to answer = 9999

7. Are you a trained teacher?

- a. No = 0
- b. Yes = 1
- c. Don't know/Refuse to answer = 9999

## SCHOOL BACKGROUND

8. What is the length of the school day for each of the following standards? (Don't know/Refuse to answer = 9999) (List in hours and minutes; example – 2½ hours = 2 hours 30 minutes):

- a. Standard 1: \_\_\_\_\_ Hours \_\_\_\_\_ Minutes
- b. Standard 2: \_\_\_\_\_ Hours \_\_\_\_\_ Minutes
- c. Standard 3: \_\_\_\_\_ Hours \_\_\_\_\_ Minutes
- d. Standard 4: \_\_\_\_\_ Hours \_\_\_\_\_ Minutes

1. 10a Does this school operate on shifts?

- a. No = 0 (**Skip to QUESTION 12**)
- b. Yes = 1
- c. Don't know/Refuse to answer = 9999 (**Skip to QUESTION 12**)

10b. Which standards are offered during shift one? (**multiple responses possible**)

- a. Standard 1
- b. Standard 2
- c. Standard 3
- d. Standard 4
- e. None
- f. Don't know/Refuse to answer

11. Which standards are offered during shift two? (**multiple responses possible**)

- a. Standard 1
- b. Standard 2
- c. Standard 3
- d. Standard 4
- e. None
- f. Don't know/Refuse to answer

12. How many classes are there at this school for each of the following standards? (Don't know/Refuse to answer = 9999):

- a. Standard 1: \_\_\_\_\_
- b. Standard 2: \_\_\_\_\_
- c. Standard 3: \_\_\_\_\_
- d. Standard 4: \_\_\_\_\_

20. In which standards, if any, does your school teach English? (**Select all that apply; multiple responses possible**):

- a. We don't teach English in Standards 1-4 (**Skip to QUESTION 22**)
- b. Standard 1
- c. Standard 2
- d. Standard 3
- e. Standard 4
- f. Don't know/Refuse to answer

21. Does your school teach learners how to read in English in any of the following standards? (**Select all that apply; multiple responses possible**):

- a. We don't teach learners to read in English in Standards 1-4
- b. Standard 1
- c. Standard 2
- d. Standard 3

- e. Standard 4
- f. Don't know/Refuse to answer

## RESOURCES

22. Do all of your learners have the prescribed number of textbooks?
- a. No = 0
  - b. Yes = 1 (***Skip to QUESTION 24***)
  - c. Don't know/Refuse to answer = 9999 (***Skip to QUESTION 24***)
23. Why not? (*Do not prompt; select all that apply; multiple responses possible*).
- a. The ministry did not provide more textbooks
  - b. The donor organization did not provide enough textbooks
  - c. We have more textbooks, but they are in too poor of condition to hand out
  - d. We don't like to hand out all textbooks because we want to keep some in good condition
  - e. Other, please specify \_\_\_\_\_
  - f. Don't know/Refuse to answer
24. Has your school received textbooks or materials in the local familiar language?
- a. No = 0 (***Skip to QUESTION 26***)
  - b. Yes = 1
  - c. Don't know/Refuse to answer = 9999 (***Skip to QUESTION 26***)
25. Who provided/provides learners with textbooks in the local familiar language? (*Do not prompt; select all that apply; multiple responses possible*).
- a. MoEST = 1
  - b. MTPDS = 2
  - c. EGRA = 3
  - d. Read Malawi = 4
  - e. UNICEF = 5
  - f. Other, please specify \_\_\_\_\_ = 6
  - g. Don't know/Refuse to answer = 9999
26. Is there a clean, safe water supply available on school premises?
- a. No = 0
  - b. Yes = 1
  - c. Don't know/Refuse to answer = 9999
27. Does the school have electricity?
- a. No = 0
  - b. Yes = 1
  - c. Don't know/Refuse to answer = 9999
28. Does your school have a school feeding program?
- a. No = 0 (***Skip to QUESTION 32***)
  - b. Yes = 1
  - c. Don't know/Refuse to answer = 9999 (***Skip to QUESTION 32***)
29. If yes, what time does the feeding occur in the school day?
- a. Before school starts = 0
  - b. In the middle of the day = 1
  - c. After school = 2
  - d. Don't know/Refuse to answer = 9999

30. Is school feeding offered every school day?
- No = 0
  - Yes = 1
  - Don't know/Refuse to answer = 9999
31. How long has the school been participating in the school feeding program? (*Do not prompt*)
- Less than one year = 0
  - One year = 1
  - Two years = 2
  - Three years = 3
  - Four years = 4
  - Five years = 5
  - More than five years = 6
  - Don't know/Refuse to answer = 9999

### TEACHER INFORMATION

32. How many Standard 1-Standard 4 teachers are there at this school? (Don't know/Refuse to answer = 9999):\_\_\_\_\_
33. How many of the Standard 1-Standard 4 teachers at this school are trained? (Don't know/Refuse to answer = 9999):\_\_\_\_\_
34. How many Standard 1-4 teachers from this school participated in an **MTPDS** training on how to teach reading in the past three years? (Don't know/Refuse to answer = 9999):\_\_\_\_\_ (*If the answer is "0," Skip to QUESTION 37*)
35. Among those who participated in this training, on average, how many MTPDS trainings did each of the Standard 1-Standard 4 teachers participate in during the past three years? (Don't know/Refuse to answer = 9999):\_\_\_\_\_
36. How many of the Standard 1-Standard 4 teachers are using the MTPDS methods in their teaching? (Don't know/Refuse to answer = 9999):\_\_\_\_\_
37. How many Standard 1-4 teachers from this school have participated in an **EGRA** training on how to teach reading in the past three years? (Don't know/Refuse to answer = 9999):\_\_\_\_\_ (*If the answer is "0," Skip to QUESTION 41*)
38. Among those who participated in this training, on average, how many **EGRA** trainings has each of the Standard 1-Standard 4 teachers participated in the past three years? (Don't know/Refuse to answer = 9999):\_\_\_\_\_
39. How many of the Standard 1-Standard 4 teachers are using the **EGRA** methods in their teaching? (Don't know/Refuse to answer = 9999):\_\_\_\_\_ (*If the answer is "0," Skip to QUESTION 41*)
40. How many of the Standard 1-Standard 4 teachers do you think feel confident about using the **EGRA** teaching methods? (Don't know/Refuse to answer = 9999):\_\_\_\_\_
41. How many of the Standard 1-Standard 4 teachers do you think need additional training on applying early grade reading methods in the classroom? (Don't know/Refuse to answer = 9999):\_\_\_\_\_
42. How many of the Standard 1-Standard 4 teachers have participated in training in another approach to teaching reading? (Don't know/Refuse to answer = 9999):\_\_\_\_\_ (*If the answer is "0," Skip to QUESTION 46*)

43. Which organization(s) organized these trainings? (*Do not prompt; select all that apply; multiple responses possible*):
- DTED
  - MIE
  - Read Malawi
  - UNICEF
  - World Vision (NASFEM)
  - MTPDS
  - Plan Malawi
  - Tikwere
  - Save the Children
  - SIG (Ministry of Education Program)
  - Other, please specify \_\_\_\_\_
  - Don't know/Refuse to answer
44. Among those who have participated in such trainings, on average, how many **non-MTPDS and non-EGRA** reading trainings has each of the Standard 1-Standard 4 teachers participated in during the past three years? (Don't know/Refuse to answer = 9999): \_\_\_\_\_
45. How many of the Standard 1-Standard 4 teachers are using these other methods of teaching reading in their classrooms? (Don't know/Refuse to answer = 9999): \_\_\_\_\_
46. How many Standard 1 to Standard 4 teachers were absent yesterday (or on the last school day)? (Don't know/Refuse to answer): \_\_\_\_\_
- 2.
47. How many Standard 1 to Standard 4 teachers often arrive late or after the start of classes? (Don't know/Refuse to answer = 9999): \_\_\_\_\_
48. Do you maintain records of teacher absences? (*If yes, ask to see them and provide an estimate of the numbers of absences for all teachers in Standard 1-Standard 4 for the entire year*). (If no, mark with an 8888; Don't know/Refuse to answer = 9999): \_\_\_\_\_
49. How often do you or someone else from your school review teacher lesson plans? (*Do not prompt*)
- Never = 0
  - Once per year = 1
  - Once every 2-3 months = 2
  - Once per month = 3
  - Once every two weeks = 4
  - Every week = 5
  - Once a day = 6
  - Don't know/Refuse to answer = 9999
50. In a term, how many times are teachers provided with supervision or coaching in their classrooms by someone in this school? (*Do not prompt*)
- Never = 0
  - One time = 1
  - Two times = 2
  - Three times = 3
  - Four or more times = 4
  - Other, please specify \_\_\_\_\_ = 5
  - Don't know/Refuse to answer = 9999

## INFORMATION ON PUPILS

53. Rank the three primary reasons, not including transfers, in this school for the **Standard 1** dropouts? (*Do not prompt; mark the greatest reason with a 1, the second greatest with a 2, and the third greatest with a 3. Leave all other reasons blank after answer first three.*):
- Limited availability of teachers:\_\_\_\_\_
  - Employment/helping with family work:\_\_\_\_\_
  - Taking care of siblings or other relatives:\_\_\_\_\_
  - Fees:\_\_\_\_\_
  - Long travel distances:\_\_\_\_\_
  - Marriage:\_\_\_\_\_
  - Poor school facilities:\_\_\_\_\_
  - Pregnancy:\_\_\_\_\_
  - Sickness or Injury:\_\_\_\_\_
  - Violence:\_\_\_\_\_
  - Not motivated/Don't see importance of education:\_\_\_\_\_
  - Difficultly understanding the curriculum/Poor performance:\_\_\_\_\_
  - Other, please list \_\_\_\_\_ :\_\_\_\_\_
  - Don't know/Refuse to answer (Write 9999 if selected):\_\_\_\_\_
54. Rank the three primary reasons, not including transfers, in this school for the **Standard 2** dropouts? (*Do not prompt; mark the greatest reason with a 1, the second greatest with a 2, and the third greatest with a 3. Leave all other reasons blank after answer first three.*):
- Limited availability of teachers:\_\_\_\_\_
  - Employment/helping with family work:\_\_\_\_\_
  - Taking care of siblings or other relatives:\_\_\_\_\_
  - Fees:\_\_\_\_\_
  - Long distances travel:\_\_\_\_\_
  - Marriage:\_\_\_\_\_
  - Poor school facilities:\_\_\_\_\_
  - Pregnancy:\_\_\_\_\_
  - Sickness or injury:\_\_\_\_\_
  - Violence:\_\_\_\_\_
  - Not motivated/Don't see importance of education:\_\_\_\_\_
  - Difficultly understanding the curriculum/Poor performance:\_\_\_\_\_
  - Other, please list \_\_\_\_\_ :\_\_\_\_\_
  - Don't know/Refuse to answer (Write 9999 if selected):\_\_\_\_\_
55. Rank the three primary reasons, not including transfers, in this school for the **Standard 3** dropouts? (*Do not prompt; mark the greatest reason with a 1, the second greatest with a 2, and the third greatest with a 3. Leave all other reasons blank after answer first three.*):
- Limited availability of teachers:\_\_\_\_\_
  - Employment/helping with family work:\_\_\_\_\_
  - Taking care of siblings or other relatives:\_\_\_\_\_
  - Fees:\_\_\_\_\_
  - Long distances travel:\_\_\_\_\_
  - Marriage:\_\_\_\_\_
  - Poor school facilities:\_\_\_\_\_
  - Pregnancy:\_\_\_\_\_
  - Sickness:\_\_\_\_\_
  - Violence or Injury:\_\_\_\_\_
  - Not motivated/Don't see importance of education:\_\_\_\_\_
  - Difficultly understanding the curriculum/Poor performance:\_\_\_\_\_
  - Other, please list \_\_\_\_\_ :\_\_\_\_\_

56. Rank the three primary reasons, not including transfers, in this school for the **Standard 4** dropouts? (*Do not prompt; mark the greatest reason with a 1, the second greatest with a 2, and the third greatest with a 3*):
- Limited availability of teachers:\_\_\_\_\_
  - Employment/helping with family work:\_\_\_\_\_
  - Taking care of siblings or other relatives:\_\_\_\_\_
  - Fees:\_\_\_\_\_
  - Long distances travel:\_\_\_\_\_
  - Marriage:\_\_\_\_\_
  - Poor school facilities:\_\_\_\_\_
  - Pregnancy:\_\_\_\_\_
  - Sickness:\_\_\_\_\_
  - Violence or Injury:\_\_\_\_\_
  - Not motivated/Don't see importance of education:\_\_\_\_\_
  - Difficultly understanding the curriculum/Poor performance:\_\_\_\_\_
  - Other, please list \_\_\_\_\_ :\_\_\_\_\_
  - Don't know/Refuse to answer (Write 9999 if selected):\_\_\_\_\_

57. Are dropout rates higher or lower for boys or girls?
- Higher for girls = 1 (***Explain in 58***)
  - Higher for boys = 2(***Explain in 58***)
  - About the same for both sexes = 3 (***Skip to QUESTION 59***)
  - It varies by standard level = 4 (***Explain in 58***)
  - Don't know/Refuse to answer = 9999 (***Skip to QUESTION 59***)

58. Why do dropout rates vary by sex or standard level? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

59a. What, if anything has been done (by you, as the head teacher or deputy head teacher, the school as a whole, the Parent-Teacher Association, and the Community) to reduce dropouts at your school? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

59b. What else would you like to be doing to reduce dropouts in your school if the resources were available? \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

60. What is the average repetition rate (percent) for learners in the following standards? (Don't know/Refuse to answer = 9999):
- Standard 1:\_\_\_\_\_
  - Standard 2:\_\_\_\_\_
  - Standard 3:\_\_\_\_\_
  - Standard 4:\_\_\_\_\_

61a. What is the **main** reason for learners' repetition? (*Do not prompt*)

- a. They don't study = 1
- b. They don't have textbooks = 2
- c. There are too many learners in the class = 3
- d. They don't pay attention = 4
- e. There isn't enough time in the school day = 5
- f. I can't effectively teach this many learners = 6
- g. Some of the learners are too young = 7
- h. They can't study at home because there is no electricity = 8
- i. They can't study at home because they don't have any materials to take home = 9
- j. Other, please specify \_\_\_\_\_ = 10
- k. Don't know/Refuse to answer = 9999

61b. What, if anything has been done (by you, as the head teacher or deputy head teacher, the school as a whole, the Parent-Teacher Association, and the Community) to reduce repetition at your school? \_\_\_\_\_

61c. What else would you like to be doing to reduce repetition in your school if the resources were available? \_\_\_\_\_

62. Are boys or girls more likely to repeat a standard?

- a. Boys are more likely to repeat a standard = 1 Why? \_\_\_\_\_
- b. Girls are more likely to repeat a standard = 2 Why? \_\_\_\_\_
- c. They are equally likely to repeat a standard = 3
- d. It varies by standard level = 4, Explain \_\_\_\_\_
- e. Don't know/Refuse to answer = 9999

63. How many learners with disabilities are there in the school? (Don't know/Refuse to answer = 9999): \_\_\_\_\_

64. How, if at all, does the school cater to learners with disabilities? (Don't know/Refuse to answer = 9999): \_\_\_\_\_

### COMMUNITY INVOLVEMENT IN THE SCHOOL

65. Does the school have a PTA?

- a. No = 0 (***Skip to QUESTION 72***)
- b. Yes = 1
- c. Don't know/Refuse to answer = 9999 (***Skip to QUESTION 72***)

66. When did it begin operating? (*Enter year*) (Don't know/Refuse to answer = 9999): \_\_\_\_\_ (*If before 1990, choose 1990*)

67. How often did the PTA meet in this academic year? (*Do not prompt unless the Head Teacher is struggling with understanding the questions. Then, it is okay to list the answer choices.*)
- Never = 0
  - Once a year = 1
  - Twice per year - 2
  - Once every 2-3 months = 3
  - Once a month = 4
  - Once a week = 5
  - Don't know/Refuse to answer = 9999
68. For which of the following does the PTA have decision making authority and/or responsibility? (*Read each answer choice; select all that apply; **multiple responses possible***):
- School management
  - Learner learning challenges and solutions
  - Curriculum
  - Physical school improvement efforts
  - Maintenance of infrastructure/equipment
  - Financial issues/fund raising
  - Procurement and/or distribution of textbooks
  - Don't know/Refuse to answer
69. Does the school have a school committee?
- No = 0 (**Skip to QUESTION 76**)
  - Yes = 1
  - Don't know/Refuse to answer = 9999 (**Skip to QUESTION 76**)
70. When did it begin operating? (*Enter year*) (Don't know/Refuse to answer = 9999): \_\_\_\_\_ (*If before 1990, choose 1990*)
71. How often did the school committee meet in this academic year? (*Do not prompt*)
- Never = 0
  - Once a year = 1
  - Twice per year - 2
  - Once every 2-3 months = 3
  - Once a month = 4
  - Once a week = 5
  - Don't know/Refuse to answer = 9999
72. For which of the following does the school committee have decision making authority and/or responsibility? (*Read each answer choice; select all that apply; **multiple responses possible***):
- School management
  - Learner learning challenges and solutions
  - Curriculum
  - Physical school improvement efforts
  - Maintenance of infrastructure/equipment
  - Financial issues/fund raising
  - Procurement and/or distribution of textbooks
  - Don't know/Refuse to answer
73. Do you ever invite parents to participate in their learners' classrooms or become engaged in extra-curricular activities?
- No = 0
  - Yes = 1

- c. Don't know/Refuse to answer = 9999
74. Other than the PTA, school committee, and parents, is the community (individuals, organizations, or businesses) involved in supporting the school and learner learning?
- No = 0 (**Skip to QUESTION 76**)
  - Yes = 1
  - Don't know/Refuse to answer = 9999 (**Skip to QUESTION 76**)
75. In what other ways, if any, does the community (including local individuals and businesses) get involved with your school? (*Do not prompt; just select all those that apply*)

	<b>A – Way</b> ( <i>see below list for codes; list only one code per box</i> )	<b>B - When did involvement begin</b> ( <i>year</i> )	<b>C - Has this support helped the school</b> ( <i>No = 0, Yes = 1, Don't know = 9999</i> )	<b>D - If so, in what ways</b> ( <i>see below list for codes; multiple selections possible</i> )
1				
2				
3				

**Codes for 75A:**

- Helping with construction (i.e. molding bricks, constructing buildings) = 1
- Digging wells/toilets = 2
- Donating materials and resources for construction = 3
- Cooking = 4
- Fundraising = 5
- Volunteering at schools; please specify in what way(s)\_\_\_\_\_ = 6
- Other, please list in space above = 7
- Don't know/Refuse to answer = 9999

**Codes for 75D:**

- It didn't benefit the school at all = 0
- Better facilities = 1
- More resources for teachers = 2
- More resources for learners = 3
- More motivation on the part of staff = 4
- More motivation on the part of learners = 5
- Better quality teaching = 6
- Longer school day = 7
- Learners are able to read better = 8
- Learner are able to learn better in other learning areas = 9
- Learners are getting better scores on their tests = 10
- Better or more regular attendance = 11
- Other, please list in space above = 12
- Don't know/Refuse to answer = 9999

76. Has community involvement increased or decreased over the past three years?
- It has decreased = 1
  - It has increased = 2
  - It has stayed the same = 3
  - Don't know/Refuse to answer = 9999

**SUPPORT FROM OUTSIDE ORGANIZATIONS**

77. Did your school receive support from MTPDS?
- No = 0 (***Skip to QUESTION 80***)
  - Yes = 1
  - Don't know/Refuse to respond = 9999 (***Skip to QUESTION 80***)
78. What types of support did the school receive from the MTPDS Project? (*Do not prompt; select all that apply; multiple responses possible*):
- We have received more textbooks for use in class
  - Our learners have textbooks to take home now
  - We have received sample lesson plans or help with our lesson plans
  - MTPDS helped to get more parents involved in school
  - MTPDS extended the length of our school day
  - MTPDS provided me with training
  - MTPDS provided other teachers in my school with training
  - MTPDS provided me with coaching
  - Other, please specify \_\_\_\_\_
  - Don't know/Refuse to answer
79. What effect(s) did the MTPDS Project have on your school? (*Do not prompt; select all that apply; multiple responses possible*):
- It didn't benefit the school at all
  - Better facilities
  - More resources for teachers
  - More resources for learners
  - More motivation on the part of staff
  - More motivation on the part of learners
  - Better quality teaching
  - Longer school day
  - Learners are able to read better
  - Learner are able to learn better in other learning areas
  - Learners are getting better scores on their tests
  - Better or more regular attendance
  - Other, please list \_\_\_\_\_
  - Don't know/Refuse to answer
80. Has your school received support from EGRA?
- No = 0 (***Skip to QUESTION 83***)
  - Yes = 1
  - Don't know/Refuse to respond = 9999 (***Skip to QUESTION 83***)

81. What types of support has the school received from the EGRA Project? (*Do not prompt; select all that apply; multiple responses possible*):
- a. We have received more textbooks for use in class
  - b. Our learners have textbooks to take home now
  - c. We have received sample lesson plans or help with our lesson plans
  - d. EGRA helped to get more parents involved in school
  - e. EGRA extended the length of our school day
  - f. EGRA provided me with training
  - g. EGRA provided other teachers in my school with training
  - h. EGRA provided me with coaching
  - i. Other, please specify \_\_\_\_\_
  - j. Don't know/Refuse to answer

- 82a. What effect has the EGRA Project had on your school? (*Do not prompt; select all that apply; multiple responses possible*):
- a. It didn't benefit the school at all
  - b. Better facilities
  - c. More resources for teachers
  - d. More resources for learners
  - e. More motivation on the part of staff
  - f. More motivation on the part of learners
  - g. Better quality teaching
  - h. Longer school day
  - i. Learners are able to read better
  - j. Learners are able to learn better in other learning areas
  - k. Learners are getting better scores on their tests
  - l. Better or more regular attendance
  - m. Other, please list \_\_\_\_\_
  - n. Don't know/Refuse to answer

- 82b. Has either the MTPDS Project, the EGRA Project, or another organization worked to add an hour to your school day for some Standards?
- a. Yes, the MTPDS Project added an hour = 1
  - b. Yes, the EGRA Project added an hour = 2
  - c. Yes, another organization or project added an hour = 3
  - d. No, our school day has not been extended = 4 (**Skip to QUESTION 83**)
  - e. Don't know/Refuse to answer = 9999 (**Skip to QUESTION 83**)

- 82c. For which Standards has the school day been extended by an hour? (*Don't prompt; select all that apply; multiple answers possible; Don't know/Refuse to answer = 9999*)
- a. Standard 1
  - b. Standard 2
  - c. Standard 3
  - d. Standard 4
  - e. Standard 5
  - f. Standard 6
  - g. Standard 7
  - h. Standard 8
  - i. Don't know/Refuse to answer

82d. How many days per week does the school day last an extra hour?

- a. One = 1
- b. Two = 2
- c. Three = 3
- d. Four = 4
- e. Five = 5
- f. It varies by standard level = 6
- g. Don't know/Refuse to answer = 9999

83. Are there any other individuals, organizations, or businesses that are involved in providing any kind of support/training/assistance to the school? Please include support or training received from Airtel, World Vision, UNICEF, FAWEMA, World Bank, and any other organizations.

- a. No = 0 (*Skip to QUESTION 85*)
- b. Yes = 1
- c. Don't know/Refuse to answer = 9999 (*Skip to QUESTION 85*)

84. Which other donor or nonprofit organizations are these, when did they begin providing support for this school, what type of support are they providing, has the support helped, and if so, in what ways (*Do not read options; just mark those that the respondents lists; multiple responses possible*):

<b>A – Donor or Nonprofit Organization</b>	<b>B - Year Support Began</b>	<b>C - Type of Support</b>	<b>D – Has this support helped the school</b> ( <i>No = 0, Yes = 1, Don't know = 9999</i> )	<b>E – In what ways</b> ( <i>see codes below; multiple responses possible; separate with commas</i> )
1 – Concern Universal				
2 – DFID				
3 – FAWEMA				
4 – Mary's Meals				
5 – Plan Malawi				
6 – Save the Children				
7 – UNICEF				
8 – World Vision				
9 – Yoneco				
10 – Other, specify _____				
11 – Other, specify _____				
12 – Other, specify _____				

**Codes for 84E:**

- It didn't benefit the school at all = 0
- Better facilities = 1
- More resources for teachers = 2
- More resources for learners = 3
- More motivation on the part of staff = 4
- More motivation on the part of learners = 5
- Better quality teaching = 6
- Longer school day = 7
- Learners are able to read better = 8
- Learners are able to learn better in other learning areas = 9
- Learners are getting better scores on their tests = 10
- Better or more regular attendance = 11
- Other, please list \_\_\_\_\_ = 12

85. What has been the **most helpful** type of support your school has received? (Don't know/Refuse to answer = 9999): \_\_\_\_\_

\_\_\_\_\_

86. What is the **least helpful** type of support your school has received? (Don't know/Refuse to answer = 9999): \_\_\_\_\_

\_\_\_\_\_

87. What additional support, if any, does your school most need in order to increase reading scores? (Don't know/Refuse to answer = 9999): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**RESPONDENT ROLE AND THOUGHTS**

88. For how many hours per week do you provide instructional support to your teachers? (Don't know/Refuse to answer = 9999): \_\_\_\_\_

89. What are the reasons you don't provide more instructional support? (*Don't prompt; select all that apply; multiple responses possible*):

- a. I think that amount of support is enough
- b. I have to teach classes too often
- c. I have too many administrative duties
- d. I don't feel comfortable providing instructional support
- e. The teachers don't like it when I provide instructional support
- f. Other, please specify \_\_\_\_\_
- g. Don't know/Refuse to answer

90. Have you participated in any training on instructional support?

- a. No = 0 (*Skip to QUESTION 93*)
- b. Yes = 1
- c. Don't know/Refuse to answer = 9999 (*Skip to QUESTION 93*)

91. Who provided the training on instructional support? (*Don't prompt; select all that apply; multiple responses possible*):
- MoEST DTED (DEMs, PEAs, etc.)
  - MIE
  - MTPDS
  - EGRA
  - Read Malawi
  - UNICEF
  - World Vision
  - Other, please specify \_\_\_\_\_
  - Don't know/Refuse to answer
92. How many days have you participated in instructional support training in the **past three years**? (Don't know/Refuse to answer = 9999): \_\_\_\_\_
93. Have you participated in training or taken courses in school management in the **past three years**?
- No = 0 (*Skip to QUESTION 97*)
  - Yes = 1
  - Don't know/Refuse to answer = 9999 (*Skip to QUESTION 97*)
94. Did you complete the MSSSP training?
- No = 0
  - Yes = 1
  - Don't know/Refuse to answer = 9999
  - 4.
95. Have you participated in any other school management training?
- No = 0 (*Skip to QUESTION 97*)
  - Yes = 1
  - Don't know/Refuse to answer (*Skip to QUESTION 97*)
96. How many hours of non-MSSSP training did you receive from each of the following organizations? (*Read out each organization; fill in the hours for all that apply or mark "0" if the head teacher did not receive any training from the specified organization*):
- DTED \_\_\_\_\_
  - MIE \_\_\_\_\_
  - MTPDS \_\_\_\_\_
  - EGRA \_\_\_\_\_
  - Read Malawi \_\_\_\_\_
  - UNICEF \_\_\_\_\_
  - World Vision \_\_\_\_\_
  - Other, please specify \_\_\_\_\_
  - Don't know/Refuse to respond
97. Have you received training (training of trainers) or taken courses on how to teach reading?
- No = 0 (*Skip to QUESTION 99*)
  - Yes = 1
  - Don't know/Refuse to answer = 9999 (*Skip to QUESTION 99*)

98. How many hours of training on how to teach reading did you receive from each of the following organizations? (*Read out each organization; fill in the hours for all that apply or mark "0" if the head teacher did not receive any training from the specified organization*):
- a. DTED \_\_\_\_\_
  - b. MIE \_\_\_\_\_
  - c. MTPDS \_\_\_\_\_
  - d. EGRA \_\_\_\_\_
  - e. Read Malawi \_\_\_\_\_
  - f. UNICEF \_\_\_\_\_
  - g. World Vision \_\_\_\_\_
  - h. Other, please specify \_\_\_\_\_
  - i. Don't know/Refuse to answer \_\_\_\_\_
99. Are you satisfied with the reading performance at Standard 3 in your school?
- a. No = 0
  - b. Yes = 1 (***Skip to QUESTION 104***)
  - c. Don't know/Refuse to answer = 9999 (***Skip to QUESTION 104***)

100. Why aren't you satisfied with the reading performance at Standard 3? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

101. What things would you suggest to improve reading performance in your school? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**QUESTIONS THAT MAY REQUIRE SOME RESEARCH**

102. What is the total enrollment at the school for Standards 1-4? (Don't know/Refuse to answer = 9999):
- a. Standard 1: \_\_\_\_\_
  - b. Standard 2: \_\_\_\_\_
  - c. Standard 3: \_\_\_\_\_
  - d. Standard 4: \_\_\_\_\_
103. What is the learner-teacher ratio across the following standards (including both trained and untrained teachers but not learner trainees or substitutes)? Don't know/Refuse to answer = 9999) (*If it is 200 to 1, list 200, etc.*):
- a. Standard 1: \_\_\_\_\_
  - b. Standard 2: \_\_\_\_\_
  - c. Standard 3: \_\_\_\_\_
  - d. Standard 4: \_\_\_\_\_
104. Since the start of the current school year, was this school closed for any days other than holidays?
- a. No = 0 (***Skip to QUESTION 107***)
  - b. Yes = 1
  - c. Don't know/Refuse to answer = 9999 (***Skip to QUESTION 107***)

105. How many days, other than holidays, was the school closed this academic year? (Don't know/Refuse to answer = 9999): \_\_\_\_\_

106. Why was the school closed for days other than holidays this year? (*Do not prompt; select all that apply; multiple responses possible.* Don't know/Refuse to answer = 9999):

- a. Strike by teachers
- b. Examinations
- c. Funeral / Death
- d. Weather
- e. Teacher absences
- f. Elections
- g. Other(s), please specify \_\_\_\_\_
- h. Don't know/Refuse to answer

107. What has been the average daily absentee rate (percentage) for learners in the following standards this academic year: (Don't know/Refuse to answer = 9999):

- a. Standard 1: \_\_\_\_\_
- b. Standard 2: \_\_\_\_\_
- c. Standard 3: \_\_\_\_\_
- d. Standard 4: \_\_\_\_\_

108. What is the dropout rate for all learners in the following standards this academic year? (Don't know/Refuse to answer = 9999):

- a. Standard 1: \_\_\_\_\_
- b. Standard 2: \_\_\_\_\_
- c. Standard 3: \_\_\_\_\_
- d. Standard 4: \_\_\_\_\_

**Thank you for your participation! You have been very helpful!**

# ANNEX V: TEACHER INTERVIEW PROTOCOL



## Malawi National Reading Assessment

### Teacher Questionnaire

June 2014

The Malawi Ministry of Education, Science and Technology (MoEST) with funding from USAID are conducting a nationwide assessment of learner reading ability in Standards 1 and 3. Your school was selected through a process of statistical sampling to take part in this study. We would like your help in this. But you do not have to take part if you do not want to, and you are free to opt out of any questions you do not feel comfortable answering. If you decide to take part, your name will not be mentioned anywhere in the survey data or report. The results of our analysis will be used by the Ministry of Education, Science and Technology to help identify additional support that is needed to help ensure that all children in Malawi become good readers. Additionally, your school will receive a report of the results that you can use to help you better address the needs of children in your school.

If you agree to help with this study, please read the consent statement below, sign your name, and answer the questions I will ask you as completely and accurately as you can. It should take us no more than one hour.

CONSENT STATEMENT: I understand and agree to participate in this reading research study by filling out this questionnaire as completely and accurately as possible.

TEACHER SIGNATURE: \_\_\_\_\_

Please answer all questions truthfully. *Ask teacher to have attendance and progress record books for the entire year as well as the inventory book for the class with them for the interview.*

Date:

Time Started:

Time Ended:

Enumerator Name:

Survey and Logistics Manager Signature:

Technical Manager Signature:

School Name:

School EMIS ID:

Questionnaire ID:

Location Type: Urban    Rural    Peri-Urban (circle one)

Type of School: Coed    All Boys    All Girls    (circle one)

**Instructions:** *The enumerator should read each of the questions to the teacher as is. He/she can also read the response choices (unless the question specifies that teachers should not be prompted). Once the teacher has selected an option, the letter associated with that option should be circled. Most questions should have only one response. In some cases, a question will specify that multiple responses are allowed. In those cases, the enumerator should circle the letters corresponding with all response options that apply. All regular text can be read to the respondents, whereas all italic text is meant for the enumerator clarification only.*

### **GENERAL BACKGROUND INFORMATION**

2. Division: \_\_\_\_\_
3. District: \_\_\_\_\_
4. Zone: \_\_\_\_\_
5. Teacher's Name: \_\_\_\_\_
6. Class level:
  - a. Standard 1 = 1
  - b. Standard 3 = 3

### **TEACHER BACKGROUND INFORMATION**

7. How old did you turn on your last birthday (Don't know/Refuse to answer = 9999): \_\_\_\_\_
8. How many years have you been teaching? (Don't know/Refuse to answer = 9999): \_\_\_\_\_
9. How many years have you been teaching in this school? (Don't know/Refuse to answer = 9999): \_\_\_\_\_
10. What is your highest academic qualification? (*Don't prompt*)
  - a. JCE = 1
  - b. MSCE = 2
  - c. Diploma = 3
  - d. Other (specify: \_\_\_\_\_) = 4
  - e. Don't know/Refuse to answer = 9999
11. Are you a trained teacher?
  - a. No = 0 (***Skip to QUESTION 12***)
  - b. Yes = 1
  - c. Don't know/Refuse to answer = 9999 (*Skip to question 12*)
12. How many years have you been teaching as a trained teacher? (Don't know/Refuse to answer = 9999): \_\_\_\_\_ (***Skip to QUESTION 13 after this question***)
13. If you are not a trained teacher, what is your teaching status? (*Don't prompt unless the teacher does not understand the question; then you can list*)
  - a. Voluntary teacher = 1
  - b. Learner teacher = 2
  - c. Teaching assistant = 3
  - d. Other, please specify \_\_\_\_\_ = 4
  - e. Don't know/Refuse to answer = 9999

## CLASS BACKGROUND INFORMATION

24. How many times each week do you use each of the following methods to measure/assess your learners' reading progress? (Don't know/Refuse to answer = 9999) (*Enter 0-5 for each*)
- Written evaluations:\_\_\_\_\_
  - Individual learner oral evaluations:\_\_\_\_\_
  - Whole class oral evaluations:\_\_\_\_\_
  - Small group oral evaluations:\_\_\_\_\_
  - Checking learners' exercise books:\_\_\_\_\_
  - Checking learners' homework:\_\_\_\_\_
  - Other methods (please describe):\_\_\_\_\_ #:\_\_\_\_\_
- 25a. In this school, what are the most important things that prevent learners from learning? (*Don't prompt; circle all that apply; **multiple responses possible***):
- Classes too large
  - Learners don't have textbooks
  - There's not enough time in the school day
  - Learners don't understand the language of instruction
  - There are too many subjects in the curriculum for the time available
  - Teachers don't have access to the teaching materials they need
  - There are too many languages for learners to learn at one time
  - Learners shouldn't have to learn English so early
  - Learners don't attend school regularly
  - Teachers don't have enough training
  - Teachers don't understand English enough to be able to teach it
  - Learners do not have enough to eat
  - Learners are taking care of younger siblings or helping parents with work
  - The distance to school is too far for children to travel
  - The school is lacking in other resources, please list \_\_\_\_\_
  - Other, please specify:\_\_\_\_\_
  - Don't know/Refuse to answer
- 25b. What percent of reading instruction in Standards 1-4 is in the local familiar language (**if something other than Chichewa**)? (Don't know/Refuse to answer = 9999):
- Standard 1:\_\_\_\_\_
  - Standard 2:\_\_\_\_\_
  - Standard 3:\_\_\_\_\_
  - Standard 4:\_\_\_\_\_

## SCHOOL RESOURCES

26. Does your school or classroom have a library?
- No = 0 (**Skip to QUESTION 29**)
  - Yes, a classroom library = 1 (*check to see if you see books there, and ask a follow up question if not*)
  - Yes, a school library = 2 (**Skip to QUESTION 28**)
  - Yes, both classroom and school libraries
  - Don't know/Refuse to answer = 9999(**Skip to QUESTION 29**)

27. How often do your learners use the classroom library? (*Don't prompt*)
- Every day = 1
  - Every other day = 2
  - Three – Four times a week = 3
  - Once a week = 4
  - Once or twice a month = 5
  - Only occasionally = 6
  - Never = 7
  - Don't know/Refuse to answer = 9999
28. How often do your learners use the school library? (*Don't prompt*)
- Every day = 1
  - Every other day = 2
  - Three – Four times a week = 3
  - Once a week = 4
  - Once or twice a month = 5
  - Only occasionally = 6
  - Never = 7
  - Don't know/Refuse to answer = 9999
29. Excluding textbooks, do you have sufficient teaching and learning resources (TALULAR)?
- No = 0
  - Yes = 1 (*check the room for them, and ask follow-up question if you don't see any*)
  - Don't know/Refuse to answer = 9999
30. How many reading textbooks do you have for your class? (Don't know/Refuse to answer = 9999):
- English = \_\_\_\_\_ (*count them to verify, if possible*)
  - Chichewa = \_\_\_\_\_ (*count them to verify, if possible*)
31. How many reading textbooks do you hand out to learners? (Don't know/Refuse to answer = 9999):
- English = \_\_\_\_\_ (*count them to verify, if possible*)
  - Chichewa = \_\_\_\_\_ (*count them to verify, if possible*)
- (*if both numbers match those in 30, skip to QUESTION 32b*)
- 32a. Why do you not hand them all out? (*Don't prompt*)
- There are not enough for each learner to have one.
  - Learners do not take good care of the books/destroy them
  - Learners tend to lose the books
  - Other, please specify \_\_\_\_\_
  - Don't know/Refuse to answer = 9999
- 32b. Do learners from your class ever take textbooks or library books home from school?
- No = 0
  - Yes = 1
  - Don't know/Refuse to answer = 9999
33. In what ways do the staff in your school work together to identify strategies for increasing learner success in learning in school? \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

## COMMUNITY INVOLVEMENT IN THE SCHOOL

34. Does your school have a functioning Parent Teacher Association?
- No = 0 (***Skip to QUESTION 37***)
  - Yes = 1
  - Don't know/Refuse to answer = 9999 (***Skip to QUESTION 37***)
35. How often does it meet? (*Don't prompt*)
- On an "as-needed" basis = 1
  - Weekly = 2
  - Twice per month = 3
  - Monthly = 4
  - Every other month = 5
  - Quarterly (once per term) = 6
  - Twice per year = 7
  - Annually = 8
  - Less than once/year = 9
  - Don't know/Refuse to answer = 9999
36. What sorts of activities does the PTA do to support the school? (*Don't prompt; multiple responses possible*)
- Manage/help with construction of school buildings
  - Help, manage, or fundraise to construct teacher houses
  - Dig wells/toilets or manage this process
  - Donate materials and resources for construction
  - Cook
  - Fundraise
  - Volunteer at schools; please specify in what way(s) \_\_\_\_\_
  - Mobilize the community to be more involved in the school
  - Encourage parental participation in their learner's education
  - Discuss/implement ways of reducing absenteeism
  - Discuss/implement ways of reducing dropouts
  - School maintenance
  - Other(s), please specify \_\_\_\_\_
  - Don't know/Refuse to answer
37. Do you have meetings with groups of parents of your learners (outside of PTA meetings)?
- No = 0 (***Skip to QUESTION 39***)
  - Yes = 1
  - Don't know/Refuse to answer = 9999 (***Skip to QUESTION 39***)
38. How often do you have meetings with groups of your learners' parents (outside of PTA meetings)? (*Don't prompt*)
- Once per school year = 1
  - Twice per school year = 2
  - Three times per school year = 3
  - Four or more times per school year = 4
  - Don't know/Refuse to answer = 9999
39. Do you ever invite parents to participate in their learners' classrooms or become engaged in extra-curricular activities?
- No = 0
  - Yes = 1
  - Don't know/Refuse to answer = 9999

## **SUPPORT FROM OUTSIDE ORGANIZATIONS**

40. Did your school receive support from the MTPDS Project?
- No = 0 (***Skip to QUESTION 43***)
  - Yes = 1
  - Don't know/Refuse to answer = 9999(***Skip to QUESTION 43***)
41. What types of support did the school receive from the MTPDS Project? (***Read through each option and mark with a "Yes," "No," or "9999" for Don't know/Refuse to answer; multiple responses possible***):
- We have received more textbooks for use in class: \_\_\_\_\_
  - Our learners have textbooks to take home now: \_\_\_\_\_
  - We have received sample lesson plans or help with our lesson plans: \_\_\_\_\_
  - MTPDS helped to get more parents involved in school: \_\_\_\_\_
  - MTPDS extended the length of our school day: \_\_\_\_\_
  - MTPDS provided me with training: \_\_\_\_\_
  - MTPDS provided other teachers in my school with training: \_\_\_\_\_
  - MTPDS provided me with coaching: \_\_\_\_\_
  - Other, please specify \_\_\_\_\_ : \_\_\_\_\_
42. What effect(s) did the MTPDS Project have on your school? (***Don't prompt; circle all that apply; multiple responses possible***):
- It didn't benefit the school at all
  - Better facilities
  - More resources for teachers
  - More resources for learners
  - More motivation on the part of staff
  - More motivation on the part of learners
  - Better quality teaching
  - Longer school day
  - Learners are able to read better
  - Learner are able to learn better in other learning areas
  - Learners are getting better scores on their tests
  - Better or more regular attendance
  - Other, please list \_\_\_\_\_
  - Don't know/Refuse to answer = 9999
43. Has your school received support from the EGRA Project?
- No = 0 (***Skip to QUESTION 46***)
  - Yes = 1
  - Don't know/Refuse to answer = 9999(***Skip to QUESTION 46***)
44. What types of support has the school received from the EGRA Project? (***Read through each option and mark with a "Yes," "No," or "9999" for Don't know/Refuse to answer; multiple responses possible***):
- Have you received more textbooks for use in class?: \_\_\_\_\_
  - Do learners have textbooks to take home now?: \_\_\_\_\_
  - Have you received sample lesson plans or help with your lesson plans: \_\_\_\_\_
  - Has EGRA helped to get more parents involved in school?: \_\_\_\_\_
  - Has EGRA extended the length of your school day?: \_\_\_\_\_
  - Has EGRA provided you with training?: \_\_\_\_\_
  - Has EGRA provided other teachers in your school with training?: \_\_\_\_\_
  - Has EGRA provided you with coaching?: \_\_\_\_\_
  - Has EGRA provided any other support?, please specify \_\_\_\_\_

45. What effect(s) has the EGRA Project had on your school? (*Don't prompt; circle all that apply; multiple responses possible*):
- It didn't benefit the school at all
  - Better facilities
  - More resources for teachers
  - More resources for learners
  - More motivation on the part of staff
  - More motivation on the part of learners
  - Better quality teaching
  - Longer school day
  - Learners are able to read better
  - Learners are able to learn better in other learning areas
  - Learners are getting better scores on their tests
  - Better or more regular attendance
  - Other, please list \_\_\_\_\_
  - Don't know/Refuse to answer = 9999
46. Are there any other donor or nonprofit organizations involved in providing any kind of support/training/assistance to the school?
- No = 0
  - Yes = 1
  - Don't know/Refuse to answer = 9999

**INSERVICE TRAINING/PROFESSIONAL DEVELOPMENT**

47. How many days of **any type of in-service training** or professional development have you attended during the **last three (3) years**? (Don't know/Refuse to answer = 9999): \_\_\_\_\_ (*If 0, skip to QUESTION 53*)
48. How many days of **MTPDS** in-service training or professional development in teaching reading have you attended during the last **three (3) years**? (Don't know/Refuse to answer = 9999): \_\_\_\_\_
49. How many days of **EGRA** in-service training or professional development in teaching reading have you attended during the last **three (3) years**? (Don't know/Refuse to answer = 9999): \_\_\_\_\_ (*If 0, skip to QUESTION 52*)
50. What were the **most** useful aspects of the **EGRA reading** trainings? (Don't know/Refuse to answer = 9999): \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
51. What were the **least** useful aspects of the **EGRA reading** trainings? (Don't know/Refuse to answer = 9999): \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
52. How many days of in-service training or professional development in **another method of teaching reading** have you attended during the last **three (3) years**? (Don't know/Refuse to answer = 9999): \_\_\_\_\_

**CLASSROOM-BASED COACHING**

53. Of the following list of possible supervision and/or coaching providers, please indicate the approximate number of hours each provider supervised/coached you in the past three (3) years and the last full term and then rate each coaching provider on a scale of 1-5 with **1 being least useful** and **5 being most useful**. (Don't know/Refuse to answer = 9999) (**Codes:** 0 = doesn't apply, 1=hurtful or discouraging, 2=not helpful, 3=somewhat helpful, 4=helpful, 5=very helpful):

Coaching provider	A - Approximate number of hours in past 3 years	B - Approximate number of hours in the last full term	C - Rating 1-5
1 - Head teacher			
2 - MoEST inspector			
3 - PEAs			
4 - Divisional inspector			
5 - MTPDS staff			
6 - EGRA staff			
7 - Teacher Training College Staff			
8 - Mentor Teacher			
9 - Other, please specify _____			

33. What were the most useful aspects of the coaching sessions? (Don't know/Refuse to answer = 9999): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

34. What were the least useful aspects of the coaching sessions? (Don't know/Refuse to answer = 9999): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

35. Was this training **enough** for you to be able to use these methods correctly in your classroom? (*Don't prompt*)

- a. No = 0
- b. Somewhat = 1
- c. Yes = 2
- d. Don't know/Refuse to answer = 9999

36. Do you feel you need more training?
- No = 0 (**Skip to END**)
  - Yes = 1
  - Don't know/Refuse to answer = 9999 (**Skip to END**)
37. In which topics would you like to receive more training? (Don't know/Refuse to answer = 9999): \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

**QUESTIONS THAT MAY REQUIRE SOME RESEARCH (Returns to #13)**

14. How many learners are enrolled in your class? (Don't know/Refuse to answer = 9999): \_\_\_\_\_
15. How many are girls? (Don't know/Refuse to answer = 9999): \_\_\_\_\_
16. *Is the teacher regularly maintaining an **attendance register**? (Look at his/her attendance register).*
- No = 0 (**Skip to QUESTION 17**)
  - Yes = 1
17. *If the teacher is maintaining an attendance register, make one "X" per column below for the **number** of absences during the Wednesday of the third week of the school year, the third week of January, and the most recent week (For any instances where numbers are not available, write – 9999, and if the school was closed on one of those Wednesdays, go to Thursday in that same week):*

Approximate number of absences	A – Wednesday of the Third Week of the School Year	B – Wednesday of the Third Week of January	C – Wednesday of the most recent full week
0 = 0			
1 = 1 – 15			
2 = 16 – 30			
3 = 31 – 50			
4 = 51 – 75			

18. *Is the teacher regularly maintaining a **progress record book**? (Look at his/her grade book).*
- No = 0
  - Yes = 1
19. How many learners have stopped attending or dropped out of your class during this academic year (since the third week of school)? *(if necessary, count the number of learners at week 3 and count the number that are recorded as somewhat regular attendance during the past two weeks, and subtract)*(Don't know/Refuse to answer **and** No attendance records available = 9999): \_\_\_\_\_ (**If 0, Skip to QUESTION 21**).
20. About how many of the learners who have stopped attending or dropped out have moved or transferred to another school during this academic year? (Don't know/Refuse to answer = 9999): \_\_\_\_\_

21. Why do you think learners drop out in your class? (*Do not prompt; **multiple responses possible**; select all that apply*)
- Lack of parental encouragement/support to attend school
  - Need for the learner to earn money/sell things/work outside of the home
  - Need for the learner to work inside of the home (caring for younger siblings or elderly family members or doing other chores)
  - Need for the learner to work on the family farm or tending to family animals
  - Learners live too far away from the school
  - Learners don't do well in school or repeat grades often
  - Learners get married young
  - Learners become pregnant (teen pregnancy)
  - Learners come from poor families and have insufficient food or resources
  - Learners are not interested in school
  - Learners do not have good role models showing them the value of education
  - Learners become ill
  - Learners move/migrate
  - Learners lose their parents/become orphans
  - Other(s), please specify\_\_\_\_\_
  - Don't know/Refuse to answer = 9999
22. How many of your learners are repeating this standard? (*Response of 0-100 should be recorded directly. For values more than 100, enter 101; enter 9999 only for Don't know/Refuse to answer*):\_\_\_\_\_ (**If 0, Skip to QUESTION 23**)
23. How many of your learners have been in this standard level for **more than two years**? (*Any response of 0-100 should be recorded directly. For values more than 100, enter 101; enter 9999 only for Don't know/Refuse to answer*):\_\_\_\_\_
24. What do you think are the main reasons learners in your class have had to repeat a standard? (*Don't prompt; select all that apply; **multiple responses possible***)
- They don't study
  - They don't have textbooks
  - There are too many learners in the class
  - They don't pay attention
  - There isn't enough time in the school day
  - I can't effectively teach this many learners
  - Some of the learners are too young
  - They can't study at home because there is no electricity
  - They can't study at home because they don't have materials to take home
  - Other, please specify:\_\_\_\_\_
  - Don't know/Refuse to answer

**Thank you for your participation! You have been very helpful!**

# ANNEX VI: LEARNER INTERVIEW PROTOCOL



## Malawi 2014 National Reading Assessment

### Learner Questionnaire June 2014

**Instructions:** *The enumerator should read each of the questions to the learner as is. He/she can also read the response choices (unless the question specifies that learners should not be prompted). Once the learner has selected an option, the letter associated with that option should be circled. Most questions should have only one response. However, in some cases, a question will specify that multiple responses are allowed. In those cases, the enumerator should circle the letters corresponding with all response options that apply. All regular text can be read to the respondents, and all italic text includes instructions to the enumerator.*

COMPLETE THESE QUESTIONS BEFORE STARTING THE ASSESSMENT OR QUESTIONNAIRE

Learner EMIS ID (Don't know/Refused to Answer, enter 9999):

Learner Name:

Date:

Time Started:

Time Ended:

Enumerator Name:

Survey and Logistics Manager Name:

Technical Manager Name:

School Name:

School EMIS ID:

Class Standard: Standard 1   Standard 3   (circle one)

Learner ID Number (01 to 16, from sample):

Questionnaire Number (EMIS + Standard + Learner number):

## LEARNER BACKGROUND

1. What is your age? \_\_\_\_\_
2. For how many years have you been attending school at this school? (*Don't prompt learners; let them answer, and then choose the best response based on their reply – you might need to compare this response to the learner's age to make sure they are old enough to have been there that long.*)
  - a. Less than one year = 0
  - b. One year = 1
  - c. Two years = 2
  - d. Three years = 3
  - e. Four years = 4
  - f. More than four years = 5
  - g. Don't know/Refuse to answer = 9999
3. In which class were you last year?
  - a. Not in school = 0
  - b. Standard 1 = 1
  - c. Standard 2 = 2
  - d. Standard 3 = 3
  - e. Standard 4 = 4
  - f. Don't know/Refuse to answer = 9999
4. How often did you miss school because you were sick this academic year?
  - a. Almost never = 1
  - b. Occasionally = 2
  - c. A lot = 3
  - d. Don't know/Refuse to answer = 9999
5. Do you usually go to a clinic or hospital when you are sick?
  - a. No = 0
  - b. Yes = 1
  - c. Don't know/Refuse to answer = 9999
6. How often have you seen the doctor or nurse or visited a health clinic this academic year?
  - a. Almost never = 1
  - b. Occasionally = 2
  - c. A lot = 3
  - d. Don't know/Refuse to answer = 9999

## READING

7. Does anyone at home read to you?
  - a. No = 0 (***Skip to QUESTION 9***)
  - b. Yes = 1
  - c. Don't know/Refuse to answer = 9999 (***Skip to QUESTION 9***)
8. How often does someone at home read to you? (*Don't prompt learners; let them answer without reading the answer choices*)
  - a. Hardly ever = 1
  - b. Only sometimes = 2
  - c. 2-3 times a week = 3
  - d. Every day = 4
  - e. Don't know/Refuse to answer = 9999

9. Do you read on your own at home? (*Don't prompt learners; let them answer without reading the answer choices*)
- No, never = 0
  - Yes, occasionally = 1
  - Yes, regularly = 2
  - Don't know/Refuse to answer = 9999
10. Does anyone at home help you with your homework?
- No = 0
  - Yes = 1
  - Don't know/Refuse to answer = 9999
11. Does anyone in your household know how to read?
- No = 0 (***Skip to Question 13***)
  - Yes = 1
  - Don't know/Refuse to answer = 9999 (***Skip to Question 13***)
12. Who else in your household knows how to read? (*Don't prompt learners; let them answer without reading the answer choices; select all that apply; **multiple answers possible***)
- Brother
  - Sister
  - Grandmother
  - Grandfather
  - Uncle
  - Aunt
  - Cousin
  - Mother
  - Father
  - Other, please specify \_\_\_\_\_
  - Don't know/Refuse to answer
13. How do you feel about reading?
- Happy = 1
  - Neutral = 2
  - Unhappy = 3
  - Don't know/Refuse to answer = 9999
- 14a. Do you ever take books home from school?
- No = 0 (***Skip to QUESTION 15***)
  - Yes = 1
  - Don't know/Refuse to answer = 9999 (***Skip to QUESTION 15***)
- 14b. Do you read the books you take home from school?
- No = 0 (***Skip to QUESTION 15***)
  - Yes = 1
  - Don't know/Refuse to answer = 9999 (***Skip to QUESTION 15***)
- 14c. Why do you not read the books you take home from school?
- I don't know how to read = 1
  - I don't have electricity; so, I can't see the books = 2
  - I don't have time = 3
  - Other, please specify \_\_\_\_\_ = 4

## MEAL INFORMATION

15. Do you eat breakfast every day?
- No = 0
  - Yes = 1 (**Skip to QUESTION 17**)
  - Don't know/Refuse to answer = 9999
16. About how many days per week do you eat breakfast? (*Don't prompt learners; let them answer without reading the answer choices*)
- Less than once per week = 1
  - One to two times per week = 2
  - Three to four times per week = 3
  - Five to six times per week = 4
  - Don't know/Refuse to answer = 9999
17. Do you eat breakfast at home or at school?
- Home = 1 (**Skip to QUESTION 19**)
  - School = 2
  - Both – home and school = 3
  - Don't know/Refuse to answer = 9999 (**Skip to QUESTION 19**)
18. What time do you eat breakfast at school? (*Please read response options*)
- Before classes = 0
  - During the first break = 1
  - During the second break = 2
  - After school = 3
  - Don't know/Refuse to answer = 9999
19. What do you usually eat at breakfast? (*Don't prompt learners; let them answer without reading the answer choices; multiple responses possible; circle all that apply*)
- Porridge = 1
  - Tea = 2
  - Nsima = 3
  - Sweet potatoes = 4
  - Fruit = 5
  - Other, please specify: \_\_\_\_\_ = 6
  - Don't know/Refuse to answer = 9999
20. Do you eat lunch every day?
- No = 0
  - Yes = 1 (**Skip to QUESTIONS 22**)
  - Don't know/Refuse to answer = 9999 (**Skip to QUESTIONS 22**)
21. About how many days per week do you eat lunch? (*Don't prompt learners; let them answer without reading the answer choices*)
- Less than once per week = 1
  - One to two times per week = 2
  - Three to four times per week = 3
  - Five to six times per week = 4
  - Don't know/Refuse to answer = 9999

22. What do you usually eat for lunch? (*Don't prompt learners; let them answer without reading the answer choices; multiple responses possible; circle all that apply*)
- Rice = 1
  - Nsima/rice and vegetables = 2
  - Sweet potatoes = 3
  - Nsima/rice and chicken = 4
  - Nsima/rice with beef/goat = 5
  - Nsima/rice with usipa 6
  - Other, please specify: \_\_\_\_\_ = 7
  - Don't know/Refuse to answer = 9999
- 23a. Do you eat lunch at home, bring lunch from home with you to school, or does the school give you lunch?
- Eat at home = 1 (***Skip to QUESTION 24***)
  - Bring lunch to school = 2
  - Eat lunch at school = 3
  - Don't know/Refuse to answer = 9999
- 23b. What time do you eat lunch at school? (*Please read response options*)
- Before classes = 0
  - During the first break = 1
  - During the second break = 2
  - After school = 3
  - Don't know/Refuse to answer = 9999
24. Are there some days when you don't eat?
- No = 0 (***Skip to QUESTION 26***)
  - Yes = 1
  - Don't know/Refuse to answer = 9999 (***Skip to QUESTION 26***)
25. How many days in the past week did you not eat any food? (*If the learner does not understand the question, you can ask "From this same day last week to today, how many days did you not eat any food?" Don't prompt learners; let them answer without reading the answer choices*)
- Once = 1
  - Twice = 2
  - Three times = 3
  - Four times = 4
  - Five times = 5
  - Six times = 6
  - Seven times = 7
  - Don't know/Refuse to answer = 9999
26. How often do you feel hungry at school? (*Don't prompt learners; let them answer without reading the answer choices*)
- Never = 0
  - Not very often = 1
  - A few times a week = 2
  - Every day = 3
  - Don't know/Refuse to answer = 9999
27. Do you get tired at school?
- No = 0 (***Skip to QUESTION 29***)
  - Sometimes = 1
  - Yes = 2
  - Don't know/Refuse to answer = 9999 (***Skip to QUESTION 29***)

28. When are you most tired?
- When school starts = 1
  - In the middle of the school day = 2
  - When school is finished = 3
  - Don't know/Refuse to answer = 9999

### FEELINGS ABOUT SCHOOL

29. What do you **like** about coming to school? (*Don't read these options to the learner. If the learner is slow to respond, wait up to 8 seconds before asking "Are there things you **like** about coming to school? If so, what are they?" (The learner may not give these exact responses, but circle all those that are close to what he/she indicates. Select all that apply; **multiple responses possible**):*
- Seeing my friends
  - Learning new things
  - Seeing my teacher
  - School meals
  - I like everything
  - Other, please specify \_\_\_\_\_
  - I don't like anything
  - Don't know/Refuse to answer
30. What do you **not like** about coming to school? (*Don't read these options to the learner. If the learner is slow to respond, wait up to 8 seconds before asking "Are there things **you do not** like about coming to school? If so, what are they?" (The learner may not give these exact responses, but circle all those that are close to what he/she indicates. Select all that apply; **multiple responses possible**):*
- Other children are mean
  - It's boring
  - I don't understand the lessons
  - The teacher is mean
  - There's no latrine or it's too dirty
  - I have to sit on the floor – no desk
  - I can't see the textbooks or don't have textbooks
  - I'm too tired
  - I'm hungry
  - It's hard to pay attention
  - I don't feel well
  - Other children fight too much
  - I like everything
  - Other, please specify \_\_\_\_\_
  - Don't know/Refuse to answer
31. Do you feel happy or sad about coming to school? (*Don't prompt learners; let them answer without reading the answer choices*)
- Happy = 1
  - Neutral = 2
  - Sad = 3
  - Don't know/Refuse to answer = 9999

32. How would you describe your Chichewa teacher's personality? (*Don't prompt learners; let them answer without reading the answer choices. If the learner answers does not match any of the choices, you can read the answer choices to the learner.*)
- Nice/happy = 1
  - Neutral/neither happy nor unhappy = 2
  - Mean/unhappy = 3
  - Don't know/Refuse to answer = 9999
33. How much do you think you learn at school? (*Don't prompt learners; let them answer without reading the answer choices*)
- Not anything = 0
  - Not much = 1
  - Some = 2
  - A lot = 3
  - Don't know/Refuse to answer = 9999
34. Do you think school is boring? (*Don't prompt learners; let them answer without reading the answer choices*)
- No = 0
  - Sometimes = 1
  - Yes = 2
  - Don't know/Refuse to answer = 9999

### SCHOOL ENVIRONMENT

35. Do you feel comfortable about using the latrine at school?
- No = 0
  - Yes = 1 (***Skip to QUESTION 37***)
  - Don't know/Refuse to answer = 9999 (***Skip to QUESTION 37***)
36. Why do you not feel comfortable using the latrine? (*Don't prompt learners; let them answer without reading the answer choices; select all that apply; **multiple responses possible***)
- It's dirty
  - It's smelly
  - I'm afraid other children/boys/girls will come in while I'm using it
  - A snake (any animal/insect) may be in there
  - Other, please specify: \_\_\_\_\_
  - Don't know/Refuse to answer
37. How long does it take you to walk to school?
- A short time (Less than 30 minutes) = 1
  - A medium amount of time (30 minutes to 1 hour) = 2
  - A long time (More than an hour) = 3
  - Don't know/Refuse to answer = 9999
38. Do you ever get teased at school:
- No = 0
  - Yes = 1
  - Don't know/Refuse to answer = 9999
39. Do you feel safe walking to school?
- No = 0
  - Yes = 1 (***Skip to QUESTION 41***)
  - Don't know/Refuse to answer = 9999 (***Skip to QUESTION 41***)

40. If you don't feel safe walking to school, what kind of things make you feel unsafe? (*Don't prompt learners; let them answer without reading the answer choices; select all that apply; **multiple responses possible***)
- a. Animals
  - b. Snakes
  - c. Difficult-to-walk-on roads/paths (example – muddy, lots of rocks, many cars passing, etc.)
  - d. Bad men or boys
  - e. Other kids who are mean
  - f. I'm afraid of getting lost
  - g. Other, please specify: \_\_\_\_\_
  - h. Don't know/Refuse to answer
41. Do you ever get punished at school?
- a. No = 0 (***Skip to QUESTION 44***)
  - b. Yes = 1
  - c. Don't know/Refuse to answer = 9999 (***Skip to QUESTION 44***)
42. If yes, what do you get punished for? (*Don't prompt learners; let them answer without reading the answer choices; select all that apply; **multiple responses possible***)
- a. Making too much noise/talking
  - b. Showing up late
  - c. Fighting with other children
  - d. Answering a question incorrectly
  - e. Not paying attention
  - f. Other, please specify: \_\_\_\_\_
  - g. Don't know/Refuse to answer
43. If yes, how do you get punished? (*Don't prompt learners; let them answer without reading the answer choices; select all that apply; **multiple responses possible***)
- a. Send learner out of classroom
  - b. Sweep or clean the classroom or school grounds
  - c. Corporal punishment
  - d. Kneel or stand on one leg for a long time
  - e. Bring grass or reeds
  - f. Stay after school and do school work
  - g. Other (specify) \_\_\_\_\_
  - h. Don't know/Refuse to answer
-

## HOUSEHOLD ASSETS

44. What is your household's main source of drinking water? (*Don't prompt learners; let them answer without reading the answer choices*) **Kodi madzi akumwa mumatunga kuti?**
- Piped water into dwelling = 1
  - Piped water into yard/plot = 2
  - Piped water into community/stand pipe = 3
  - Unprotected well = 4 (*This is a dug well for which one of the following conditions is true: 1) the well is not protected from runoff water; or 2) the well is not protected from bird droppings and animals. If at least one of these conditions is true, the well is unprotected*).
  - Protected well = 5
  - Borehole = 6
  - Spring = 7
  - River/stream = 8
  - Pond/lake = 9
  - Dam = 10
  - Rainwater = 11
  - Tanker truck/bowser = 12
  - Bottled water = 13
  - Other, please specify \_\_\_\_\_ = 14
  - Don't know/Refuse to answer = 9999
45. What kind of toilet facility does your household use? (*Don't prompt learners; let them answer without reading the answer choices*) **Kodi pakhome pano mumagwiritsa ntchito chimbudzi chantundu wanji?**
- Flush toilet = 1
  - Traditional pit toilet = 2
  - Ventilated pit toilet (ventilated improved pit) = 3
  - No facility = 4
  - Other, please specify \_\_\_\_\_ = 6
  - Don't know/Refuse to answer = 9999
46. Which of the following does your household have? **Kodi khomo lino liri ndi zinthu izi?** (*Read response options to the respondent and select all that apply; multiple responses possible. Don't know/Refuse to answer = 9999*)
- A lamp
  - A cell phone
  - A bicycle
  - A table
  - A bed with mattress
  - A sofa
  - A radio
  - A television
  - An ox plow
  - Gold/silver jewelry
  - A motorcycle or motorized scooter
  - A refrigerator
  - A car or truck
  - A tractor

47. What is the main source of lighting in your house? **Kodi nthawi zambiri mumaunikira chiyani?**
- a. Electricity = 1
  - b. Gas = 2
  - c. Paraffin = 3
  - d. Firewood = 4
  - e. Grass = 5
  - f. Candle = 6
  - g. Solar = 7
  - h. Torch = 8
  - i. Battery-lit light bulbs = 9
  - j. No lighting = 10
  - k. Other, please specify \_\_\_\_\_ = 11
  - l. Don't know/Refuse to answer = 9999
48. Not including the bathroom, how many rooms does your house have? **Osaphatikiza kubafa kapena ku chimbudzi, nyumba iyi ili ndi zipinda zingati?**
- a. List number \_\_\_\_\_
  - b. Don't know/Refuse to answer = 9999

**Thank you for your participation! You have been very helpful!**

# ANNEX VII: SCHOOL CLIMATE PROTOCOL

Strongly Agree	Agree	Disagree	Strongly Disagree	Not Applicable	Observed Conditions	No improvement is needed	Slight improvement is needed	Much improvement is needed	Urgent improvement is needed	Not applicable
					School grounds well maintained – without litter					
					Rubbish bins are available to dispose of rubbish					
					School has plantings to make the school more attractive					
					There are no broken windows					
					Buildings and classrooms have functioning locks					
					Classrooms have space for the teacher and learners to move around					
					Class schedule for entire school is available in HT's office or Teachers Room ( <i>only use not applicable if there is no HT office</i> )					
					A teachers' lounge/room is available					
					Teachers' lounge/room is in good condition					
					Classrooms have sufficient ventilation					
					Classrooms have sufficient light					
					Classrooms have electricity					
					The school has clean water available for learners to drink/wash their hands					
					Classrooms appear to have a range of learning materials available – not simply years-old posters or paintings on the wall					
					Latrines are available					
					Latrines are clean					
					Latrines are available specifically for girls					
					Latrines are available specifically for boys					



Enumerator Signature: \_\_\_\_\_

Survey and Logistics Manager Signature: \_\_\_\_\_

Technical Manager Signature: \_\_\_\_\_

NOTES: \_\_\_\_\_

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# ANNEX VII: REGRESSION TABLES, INCLUDING EDUCATION DIVISIONS

**Table 55: Regressions Results Standard I Boys, including Divisions**

Number of obs = 1539

F( 13, 1525) = 3.73

Prob > F = 0.0000

R-squared = 0.0308

Adj R-squared = 0.0225

Root MSE = 3.5468

Variable	Coefficient	Std. Err.	t	P>t	95% Confidence Interval	
Learners were read to at home	0.4508325	0.186823	2.41	0.016	0.084376	0.8172892
Female head teacher	0.0909641	0.331387	0.27	0.784	-0.55906	0.740987
EGRA Intervention	0.3248772	0.221812	1.46	0.143	-0.11021	0.7599655
Learners brought books home	0.4633982	0.257733	1.8	0.072	-0.04215	0.9689463
Level of school resources	-0.0934613	0.058611	-1.59	0.111	-0.20843	0.021506
Class size	-0.0020249	0.001183	-1.71	0.087	-0.00435	0.0002964
Head teacher took MSSSP	0.3683475	0.20651	1.78	0.075	-0.03673	0.773421
Learner was repeating his grade	0.0416375	0.185261	0.22	0.822	-0.32176	0.4050303
CWED	-0.0189427	0.34043	-0.06	0.956	-0.6867	0.6488187
NED	-0.0273331	0.356789	-0.08	0.939	-0.72718	0.6725166
SEED	1.154235	0.36904	3.13	0.002	0.430356	1.878115
SHED	0.7656971	0.334941	2.29	0.022	0.108703	1.422691
SWED	0.1396451	0.334072	0.42	0.676	-0.51564	0.7949347
Constant	-0.0994744	0.49464	-0.2	0.841	-1.06972	0.8707725

**Table 56: Regressions Results Standard 3 Boys, including Divisions**

Number of obs = 1491  
 F( 13, 1477) = 5.27  
 Prob > F = 0.0000  
 R-squared = 0.0443  
 Adj R-squared = 0.0359  
 Root MSE = 13.924

Variable	Coefficient	Std. Err.	t	P>t	95% Confidence Interval	
Learners were read to at home	3.03275	0.763338	3.97	0	1.535408	4.530093
Female head teacher	1.179125	1.317109	0.9	0.371	-1.40448	3.762729
EGRA Intervention	-0.6467072	0.894308	-0.72	0.47	-2.40096	1.107541
Learners brought books home	1.855535	0.750159	2.47	0.013	0.384045	3.327026
Level of school resources	0.2247289	0.233577	0.96	0.336	-0.23345	0.682907
Class size	-0.0148949	0.00702	-2.12	0.034	-0.02867	-0.00112
Head Teacher took MSSSP Training in Past 3 Years	-0.434907	0.820229	-0.53	0.596	-2.04385	1.174031
Learner was repeating his grade	-1.935843	0.770226	-2.51	0.012	-3.4467	-0.42499
CWED	0.9945533	1.320758	0.75	0.452	-1.59621	3.585315
NED	-1.731284	1.358205	-1.27	0.203	-4.3955	0.932932
SEED	5.04238	1.502225	3.36	0.001	2.095659	7.989101
SHED	2.091864	1.32975	1.57	0.116	-0.51654	4.700263
SWED	1.206679	1.326877	0.91	0.363	-1.39609	3.809443
Constant	7.954792	1.888028	4.21	0	4.251291	11.65829

**Table 57: Regressions Results Standard I Girls, including Divisions**

Number of obs = 1523

F( 13, 1509) = 4.77

Prob &gt; F = 0.0000

R-squared = 0.0395

Adj R-squared = 0.0312

Root MSE = 3.8114

Variable	Coefficient	Std. Err.	t	P>t	95% Confidence Interval	
Learners were read to at home	0.085126	0.201099	0.42	0.672	-0.30934	0.47959
Female head teacher	0.275758	0.356933	0.77	0.44	-0.42438	0.975895
EGRA Intervention	0.166474	0.237703	0.7	0.484	-0.29979	0.632738
Learners brought books home	1.615762	0.310016	5.21	0	1.007654	2.223869
Level of school resources	0.017852	0.063001	0.28	0.777	-0.10573	0.141431
Class size	-0.00232	0.001284	-1.81	0.071	-0.00484	0.000197
Head Teacher took MSSSP Training in Past 3 Years	0.586234	0.223083	2.63	0.009	0.148649	1.02382
Learner was repeating his grade	-0.20182	0.199512	-1.01	0.312	-0.59317	0.189526
CWED	0.267429	0.363972	0.73	0.463	-0.44651	0.981373
NED	0.663551	0.384525	1.73	0.085	-0.09071	1.417811
SEED	0.859013	0.399612	2.15	0.032	0.075159	1.642866
SHED	0.796096	0.35746	2.23	0.026	0.094926	1.497267
SWED	0.324759	0.36279	0.9	0.371	-0.38687	1.036384
Constant	-0.10978	0.522919	-0.21	0.834	-1.1355	0.915949

**Table 58: Regressions Results Standard 3 Girls, including Divisions**

Number of obs = 1489

F( 13, 1475) = 6.17

Prob &gt; F = 0.0000

R-squared = 0.0516

Adj R-squared = 0.0432

Root MSE = 15.134

Variable	Coefficient	Std. Err.	t	P>t	95% Confidence Interval	
Learners were read to at home	5.035058	0.847874	5.94	0	3.371891	6.698225
Female head teacher	3.297505	1.417995	2.33	0.02	0.5160033	6.079006
EGRA Intervention	1.227475	0.972549	1.26	0.207	-	3.135202
Learners brought books home	1.42988	0.806433	1.77	0.076	-	3.011758
Level of school resources	0.73888	0.253168	2.92	0.004	0.242272	1.235488
Class size	-0.01323	0.007628	-1.73	0.083	-	0.001735
Head Teacher took MSSSP Training in Past 3 Years	-0.06271	0.890904	-0.07	0.944	-1.81028	1.684867
Learner was repeating his grade	-1.24387	0.875166	-1.42	0.155	-2.960574	0.4728313
CWED	1.870764	1.438076	1.3	0.194	-	4.691655
NED	-0.37187	1.483014	-0.25	0.802	-3.280916	2.537167
SEED	3.862788	1.635902	2.36	0.018	0.6538457	7.07173
SHED	1.696364	1.444831	1.17	0.241	-1.13778	4.530507
SWED	-0.14751	1.45307	-0.1	0.919	-2.997813	2.702795
Constant	4.324942	2.063877	2.1	0.036	0.2764963	8.373388

# ANNEX VIII: REGRESSION TABLES, INCLUDING EDUCATION DIVISIONS

**Table 51: Regressions Results Standard 1 Boys, including Divisions**

Number of obs = 1698

F( 13, 1685) = 2.15

Prob > F = 0.0094

Pseudo R-squared = 0.0429

Variable	dy/dx	Std. Err.	z	P>z	95% Confidence		X
					Interval		
Students were read to at home	0.38	0.292	1.3	0.193	-0.192	0.952	0.38
Learners brought books home	0.65	0.441	1.47	0.141	-0.215	1.515	0.167
EGRA Intervention	0.533	0.285	1.87	0.061	-0.025	1.092	0.52
Teacher checks homework weekly	0.844	0.33	2.56	0.011	0.197	1.491	0.711
Learner is overage for their grade	0.769	0.426	1.81	0.071	-0.065	1.603	0.176
Teacher is new	-2.33	0.529	-4.41	0	-3.367	-1.294	0.057
School has a feeding program	0.159	0.318	0.5	0.618	-0.464	0.782	0.315
Teacher is above the average age (34)	-0.694	0.329	-2.11	0.035	-1.338	-0.049	0.687
CWED	-0.39	0.514	-0.76	0.448	-1.398	0.617	0.229
NED	-0.082	0.508	-0.16	0.872	-1.079	0.914	0.165
SEED	0.996	0.59	1.69	0.091	-0.159	2.152	0.188
SWED	0.39	0.611	0.64	0.524	-0.808	1.588	0.077
SHED	0.939	0.679	1.38	0.167	-0.392	2.27	0.142
Constant	7.76						

**Table 52: Regressions Results Standard 3 Boys, including Divisions**

Number of obs = 1688

F( 13, 1477) = 3.40

Prob > F = 0.0000

Pseudo R-squared = 0.0065

Variable	dy/dx	Std. Err.	z	P>z	95% Confidence Interval		X
Learner took books home	1.68	0.65	2.59	0.01	0.407	2.954	0.49
Learners were read to at home – some	0.298	0.732	0.41	0.68	-1.14	1.733	0.41
Learners were read to at home – often	5.876	0.991	5.93	0	3.934	7.817	0.19
Hours per school day	0.829	0.415	2	0.05	0.015	1.642	5.32
PCA for assets	0.2	0.184	1.09	0.28	-0.16	0.561	0.22
Learner’s sick days	-1.398	0.543	-2.57	0.01	-2.46	-0.33	1.8
PCA for good teaching practices	0.284	0.115	2.47	0.01	0.058	0.511	0.5
CWED	1.567	1.135	1.38	0.17	-0.66	3.791	0.21
NED	-0.308	1.035	-0.3	0.77	-2.34	1.72	0.2
SEED	3.136	1.187	2.64	0.01	0.81	5.462	0.18
SWED	2.77	1.283	2.16	0.03	0.256	5.284	0.07
SHED	1.49	1.089	1.37	0.17	-0.64	3.623	0.16
Constant	19.19						

**Table 53: Regressions Results Standard 1 Girls, including Divisions**

Number of obs = 1675

F( 13, 1509) = 1.99

Prob > F = 0.0182

Pseudo R-squared = 0.0463

Variable	dy/dx	Std. Err.	z	P>z	95% Confidence Interval		X
Students were read to at home	0.151	0.353	0.43	0.67	-0.54	0.843	0.41
Learners brought books home	1.807	0.698	2.59	0.01	0.44	3.174	0.12
EGRA Intervention	0.536	0.383	1.4	0.16	-0.21	1.286	0.52
Teacher checks homework weekly	0.619	0.384	1.61	0.11	-0.13	1.372	0.71
Learner is overage for his/her grade	0.544	0.483	1.13	0.26	-0.4	1.491	0.14
Teacher is new	-1.786	0.773	-2.31	0.02	-3.3	-0.27	0.06
School has a feeding program	-0.024	0.358	-0.07	0.95	-0.72	0.677	0.31
Teacher is above the average age (34)	-0.637	0.427	-1.49	0.14	-1.47	0.2	0.69
CWED	0.852	0.777	1.1	0.27	-0.67	2.374	0.22
NED	2.255	0.961	2.35	0.02	0.372	4.138	0.16
SEED	2.655	0.879	3.02	0	0.933	4.378	0.19
SWED	1.518	0.896	1.69	0.09	-0.24	3.274	0.07
SHED	2.925	1.006	2.91	0	0.954	4.897	0.15
Constant	9.879						

**Table 54: Regressions Results Standard 3 Girls, including Divisions**

Number of obs = 1677

F( 13, 1475) = 3.12

Prob > F = 0.0001

Pseudo R-squared = 0.0057

Variable	dy/dx	Std. Err.	z	P>z	95% Confidence Interval		X
Learner took books home	1.568	0.687	2.28	0.02	0.222	2.914	0.5
Learners were read to at home – some	2.206	0.858	2.57	0.01	0.525	3.887	0.41
Learners were read to at home – often	7.279	1.121	6.5	0	5.082	9.475	0.24
Hours per school day	1.700	0.517	3.29	0	0.688	2.713	5.32
PCA for assets	0.387	0.177	2.19	0.03	0.041	0.733	0.19
Learner’s sick days	-1.720	0.631	-2.72	0.01	-2.96	-0.48	1.88
PCA for good teaching practices	0.470	0.121	3.87	0	0.232	0.708	0.42
CWED	2.530	1.205	2.1	0.04	0.168	4.892	0.22
NED	0.727	1.205	0.6	0.55	-1.63	3.09	0.18
SEED	2.795	1.264	2.21	0.03	0.318	5.271	0.18
SWED	1.188	1.336	0.89	0.37	-1.43	3.806	0.06
SHED	1.407	1.179	1.19	0.23	-0.9	3.717	0.17
Constant	21.517						

# ANNEX VIII: POWER CALCULATIONS FOR SAMPLE SIZE PRIOR TO NRA

The USAID sample size specifications for National Reading Assessment required a minimum of 7,200 learners drawn from 720 classrooms in 360 schools located within the six Malawian education divisions. Prior to data collection, SI conducted power calculations to verify the adequacy of the sample size to provide a nationally representative snapshot of early standard reading skills for Standard 1 and 3 learners.

In order to assess differences between these groups over time, SI conducted analysis to understand what the typical differences were in the percentage of learners in each group achieving benchmarks. Since the population of interest is learners in Standards 1 and 3, the sample was calculated based on performance of Standard 2 learners, being one year removed from the target group of 1<sup>st</sup> and 3<sup>rd</sup> standard learners. This information was used to determine the Minimal Detectable Effect Sizes, which is the estimated amount of change that SI will be able to measure for each subtask over time as well as between groups (such as boys and girls) at any given point of time. If a change of less than this amount occurs, SI would not recognize this change as being different from no change at all. For that reason, the MDES is very important and should be carefully considered in line with expected changes over time.

The intra-cluster correlations (ICCs) for sex and education divisions were derived from data on oral reading fluency subtask scores for Standards 2 and 4 from the EGRA Impact Evaluation (IE) Baseline Assessment conducted by SI in 2013. The ICCs for rural/urban comparisons were derived from MTPDS data, as the EGRA IE Baseline data did not contain information on rural and urban demographics. The assessment team used impact evaluation industry standard specifications for selecting the appropriate power and significance levels for the calculations—80 percent and 95 percent, respectively.

Using the above, SI found that the sample of 7,200 learners across 360 schools was adequate to measure the minimum detectable effect sizes (MDESs) presented in Tables below. The sample size will allow disaggregation by subgroups by observed differences between urban and rural learners, male and female learners, and learners compared across each of Malawi's six education divisions.

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**Sex**

**Minimum Detectable Change – Standard 2**

	ICC	Schools with surveyed females	Number of each sex surveyed per grade	Minimal Detectable Effect Size	Detectable Change, %	Avg. % achieving benchmark (for Standard 2)	Standard Deviation
Listening Comprehension	0.182	360	5	0.040848	3.16%	0.6261	0.4839
Letter Name Knowledge	0.1321	360	5	0.030224	7.47%	0.1407	0.3476
Syllable Segmentation	0.1357	360	5	0.043194	4.76%	0.452	0.4978
Initial Sound Identification	0.2095	360	5	0.018638	7.85%	0.0533	0.2246
Syllable Reading	0.0754	360	5	0.024016	8.28%	0.0776	0.2676
Familiar Word Reading	0.1291	360	5	0.023691	8.01%	0.0804	0.272
Unfamiliar Word Reading	0.0785	360	5	0.0217	8.40%	0.0626	0.2422
Oral Reading Fluency	0.1304	360	5	0.024396	7.96%	0.0859	0.2803
Oral Reading Comprehension	0.0377	360	5	0.016874	8.83%	0.0352	0.1843

**Minimum Detectable Change – Standard 4**

	ICC	Schools with surveyed females	Number of each sex surveyed per grade	Minimal Detectable Effect Size	Detectable Change, %	Avg. % achieving benchmark (for Standard 4)	Standard Deviation
Listening Comprehension	0.1226	360	5	0.042191	3.23%	0.6309	0.4826
Letter Name Knowledge	0.1281	360	5	0.040734	5.91%	0.3222	0.4674
Syllable Segmentation	0.1062	360	5	0.043713	3.69%	0.5861	0.4954
Initial Sound Identification	0.2189	360	5	0.020795	7.69%	0.0682	0.2521
Syllable Reading	0.0879	360	5	0.034933	7.23%	0.1894	0.3919
Familiar Word Reading	0.0736	360	5	0.029348	7.89%	0.1215	0.3267
Unfamiliar Word Reading	0.071	360	5	0.01362	8.77%	0.0235	0.1514
Oral Reading	0.0703	360	5	0.027664	8.05%	0.1056	0.3074
Oral Reading Comprehension	0.0511	360	5	0.024966	8.35%	0.0821	0.2746

Given the sample above, differences as small as 3.16 % (Listening Comprehension) up to 8.83% (Oral Reading Comprehension) can be detected between boys and girls at the national level. In each case, the indicator of interest is percentage of students meeting EGRA Coordinating Committee benchmarks. The above estimates were drawn from Standards 2 and 4 EGRA data.

**Urban vs. Rural**

**Minimum Detectable Change – Standard 2**

	ICC-Rural	Number of Rural Schools	Number of rural students surveyed per grade	Minimal Detectable Effect Size	Detectable Change, %	Avg. % achieving benchmark (for Standard 2)	Standard Deviation
Letter Name Knowledge		180	10			0.6261	0.4839
Initial Sound Identification	0.0214	180	10	0.070564	17.4%	0.1407	0.3476
Familiar Word Reading		180	10			0.452	0.4978
Oral Reading	0.0289	180	10	0.039384	16.6%	0.0533	0.2246
Syllable Reading		180	10			0.0776	0.2676
Familiar Word Reading	0.0837	180	10	0.055314	18.7%	0.0804	0.272
Unfamiliar Word		180	10			0.0626	0.2422
Oral Reading	0.0207	180	10	0.050828	16.6%	0.0859	0.2803
Oral Reading Comprehension		180	10			0.0352	0.1843

**Minimum Detectable Change – Standard 4**

	ICC-Rural	Number of Rural Schools	Number of rural students surveyed per grade	Minimal Detectable Effect Size	Detectable Change, %	Avg. % achieving benchmark (for Standard 4)	Standard Deviation
Letter Name Knowledge		180	10			0.6309	0.4826
Initial Sound Identification	0.0214	180	10	0.094883	13.8%	0.3222	0.4674
Familiar Word Reading		180	10			0.5861	0.4954
Oral Reading	0.0289	180	10	0.044206	16.3%	0.0682	0.2521
Syllable Reading		180	10			0.1894	0.3919
Familiar Word Reading	0.0837	180	10	0.066438	17.9%	0.1215	0.3267
Unfamiliar Word Reading		180	10			0.0235	0.1514
Oral Reading	0.0207	180	10	0.055742	16.2%	0.1056	0.3074
Oral Reading Comprehension		180	10			0.0821	0.2746

The tables above show that urban/rural differences as low as 13.8 % (Initial Sound Identification) to 18.7 % (Familiar Word Reading) can be detected on the national level. Because the EGRA IE did not include urban districts, this data was sourced from the previous MTPDS assessment, which did not include all subtasks. The above estimates were drawn from Standards 2 and 4 EGRA data.

**Education Division**

**Minimum Detectable Change – Standard 2**

	ICC	Number of Schools per Division	Students surveyed per grade	Minimal Detectable Effect Size	Minimum Detectable Change, %	Avg. % achieving benchmark (for Standard 2)	Standard Deviation
Listening Comprehension	0.182	60	10	0.127055	9.8%	0.6261	0.4839
Letter Name Knowledge	0.1321	60	10	0.083136	20.5%	0.1407	0.3476
Syllable Segmentation	0.1357	60	10	0.119938	13.2%	0.452	0.4978
Initial Sound Identification	0.2095	60	10	0.061676	26.0%	0.0533	0.2246
Syllable Reading	0.0754	60	10	0.056048	19.3%	0.0776	0.2676
Familiar Word Reading	0.1291	60	10	0.064652	21.9%	0.0804	0.272
Unfamiliar Word Reading	0.0785	60	10	0.051148	19.8%	0.0626	0.2422
Oral Reading	0.1304	60	10	0.066805	21.8%	0.0859	0.2803
Oral Reading Comprehension	0.0377	60	10	0.03448	18.1%	0.0352	0.1843

#### Minimum Detectable Change – Standard 4

	ICC	Number of Schools per Division	Students surveyed per grade	Minimal Detectable Effect Size	Minimum Detectable Change, %	Avg. % achieving benchmark (for Standard 4)	Standard Deviation
Listening Comprehension	0.1226	60	10	0.1131477	8.66%	0.6309	0.4826
Letter Name Knowledge	0.1281	60	10	0.1108659	16.08%	0.3222	0.4674
Syllable Segmentation	0.1062	60	10	0.1119994	9.47%	0.5861	0.4954
Initial Sound Identification	0.2189	60	10	0.0702354	25.96%	0.0682	0.2521
Syllable Reading	0.0879	60	10	0.0847876	17.54%	0.1894	0.3919
Familiar Word Reading	0.0736	60	10	0.0680949	18.31%	0.1215	0.3267
Unfamiliar Word Reading	0.071	60	10	0.0313338	20.19%	0.0235	0.1514
Oral Reading	0.0703	60	10	0.0634972	18.48%	0.1056	0.3074
Oral Reading Comprehension	0.0511	60	10	0.0536364	17.94%	0.0821	0.2746

Differences between Malawi's six education divisions will be detectable for individual sub-tasks at levels as low as 8.7% (Listening Comprehension) and 26.0% (Initial Sound Identification).