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# MALAWI NATIONAL READING PROGRAM BASELINE ASSESSMENT

MAY 2018

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# MALAWI NATIONAL READING PROGRAM: BASELINE ASSESSMENT

RESULTS OF MALAWI NATIONAL READING PROGRAM  
BASELINE ASSESSMENT OF STANDARD 2 AND 4 LEARNERS

MAY 2018

## DISCLAIMER

The authors' views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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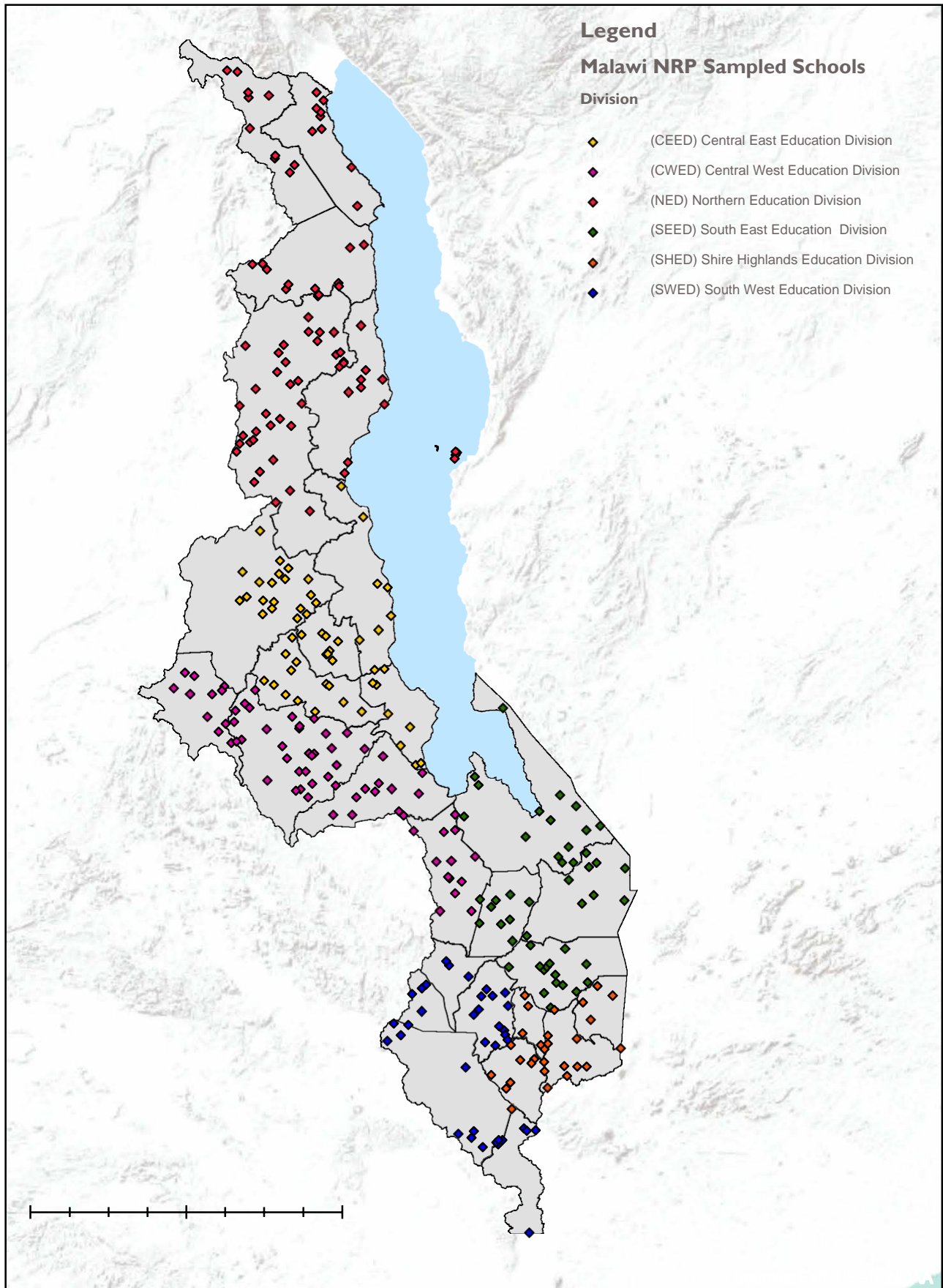


## ACRONYMS

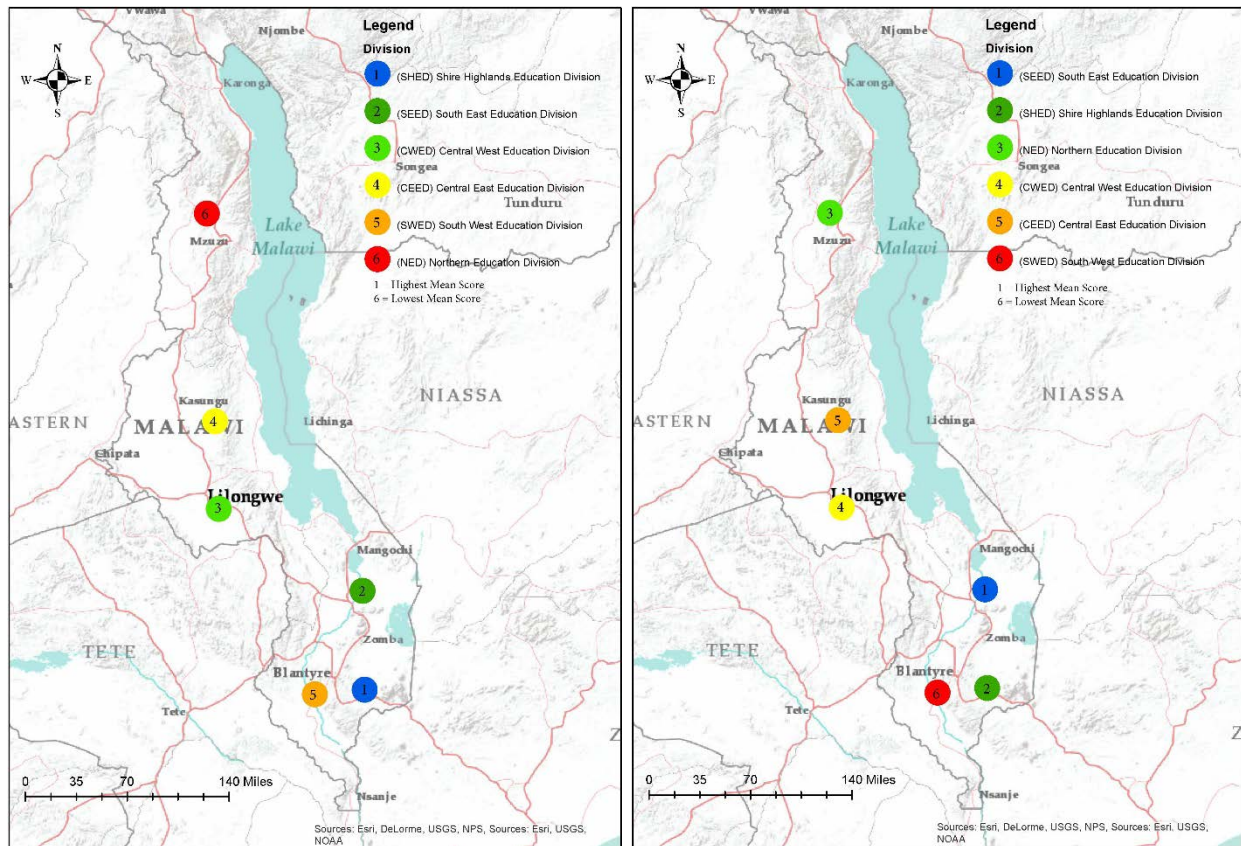
<b>ADS</b>	Automated Directive Systems
<b>CEED</b>	Central Eastern Education Division
<b>CLPM</b>	Correct Letters per Minute
<b>CSPM</b>	Correct Syllables per Minute
<b>COR</b>	Contracting Officer's Representative
<b>CWED</b>	Central Western Education Division
<b>CWPM</b>	Correct Words per Minute
<b>DEC</b>	Development Experience Clearinghouse
<b>DIAS</b>	Department of Inspection and Advisory Services
<b>DTED</b>	Department of Teacher Education Development
<b>EGRA</b>	Early Grade Reading Activity/Assessment
<b>EMIS</b>	Education Management Information Systems
<b>EQUI</b>	Evaluation Quality, Utilization, and Impact
<b>GOM</b>	Government of Malawi
<b>ICC</b>	Intra Cluster Correlation
<b>IE</b>	Impact Evaluation
<b>IKI</b>	Invest in Knowledge Initiative
<b>IRB</b>	Institutional Review Board
<b>IRR</b>	Inter-Rater Reliability
<b>JCE</b>	Junior Certificate of Education
<b>MDES</b>	Minimal Detectable Effect Size
<b>MERIT</b>	Malawi Early Grade Reading Improvement Activity
<b>MOEST</b>	Ministry of Education, Science, And Technology
<b>MSCE</b>	Malawi School Certificate of Education
<b>MSSSP</b>	Malawi School Support Systems Program
<b>MTPDS</b>	Malawi Teacher Professional Development Support
<b>NED</b>	Northern Education Division
<b>NRA</b>	National Reading Assessment
<b>NRP</b>	National Reading Program
<b>ODK</b>	Open Data Kit
<b>OLS</b>	Ordinary Least Squares
<b>PCA</b>	Principal Component Analysis
<b>PTA</b>	Parent Teacher Association
<b>RA</b>	Reading Assessment
<b>RTI</b>	Research Triangle Institute



<b>SD</b>	Standard Deviation
<b>SE</b>	Standard Error
<b>SEED</b>	Southern Eastern Education Division
<b>SHED</b>	Shire Highlands Education Division
<b>SOW</b>	Statement of Work
<b>SWED</b>	Southern Western Education Division
<b>SI</b>	Social Impact
<b>USAID</b>	United States Agency for International Development



**FIGURE I: MAP SHOWING RANKS OF EDUCATION DIVISIONS BY AVEARGE ORAL READING  
FLUENCY SCORES (CWPM)  
– CHICHEWA (LEFT) AND ENGLISH (RIGHT)**



## ABSTRACT

In September 2016, the Ministry of Education, Science, and Technology (MoEST) rolled-out a five-year National Reading Program (NRP), starting with Standard 1, in all 34 education districts in Malawi. In 2017, prior to rollout to other standards, the MoEST and USAID partnered to conduct an NRP baseline assessment to measure standard 2 and 4 learners' reading skills in Chichewa and English. Results indicate that learners in both standards are pre-readers in Chichewa. But, most learners in both standards and languages did not exhibit any initial decoding reading skills that help build oral reading and comprehension skills. Consequently, even at the end of four years of schooling, most Malawian learners could not read fluently or comprehend a grade level text in Chichewa or English. In Chichewa, almost no learners qualified as readers in Standard 2, while about one fifth of learners in Standard 4 could be considered as readers.

## EXECUTIVE SUMMARY

For more than two decades, USAID/Malawi, the Government of Malawi (GoM), and the Ministry of Education, Science, and Technology (MoEST) have been working together on several activities to improve the quality of teaching in schools, get communities more involved in schools, and improve learner reading scores. Continuing those efforts, since September 2016, the MoEST, with funding and technical assistance from USAID, is implementing a five -year National Reading Program (NRP) in all 34 education districts in Malawi.

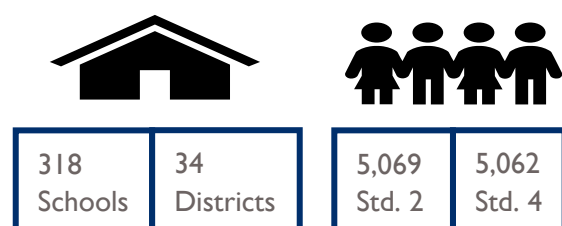
In April 2017, USAID/Malawi commissioned a baseline assessment of NRP order to generate rigorous and adequate information for use by the MoEST and USAID/Malawi to track progress in learners' reading skills in English and Chichewa under NRP, to understand the program's effects, and to use the information for making policy and programmatic decisions. Specifically, the NRP baseline is intended to address the following questions for Standard 2 and 4, prior to NRP rollout in these standards in September 2017:

- To what extent are Standard 2 and 4 students acquiring pre-reading and initial reading skills in Chichewa and English?
- To what extent are Standard 2 and 4 students acquiring reading fluency in Chichewa and English?
- To what extent are Standard 2 and 4 students reading grade-level text with comprehension in Chichewa and English?

The NRP baseline was conducted by Social Impact, Inc. (SI), a Virginia-based development consulting firm located in the United States, following an award of a contract from USAID/Malawi. This report presents the methodology and findings for the 2017 NRP baseline and makes recommendations to USAID, the MoEST, and other stakeholders on possible ways to improve the quality of reading among primary school learners in Malawi.

## ASSESSMENT METHODOLOGY

To conduct the assessment, SI partnered with the MoEST and the Invest in Knowledge Initiative (IKI), a Malawian data collection firm, to gather data from May – June 2017 at the end of the 2016/17 school year.



A sample of 318 schools were selected using a cluster random sampling approach. The 318 schools were proportionately distributed across the 34 education districts, and the schools allocated to each district were randomly drawn from all the schools in the district. Then, in each sampled school, up to 32 learners were

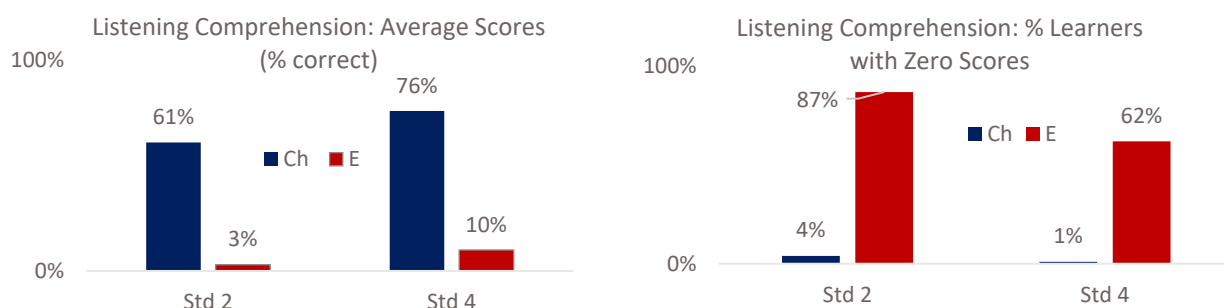
randomly drawn from Standards 2 and 4 for the assessment. An equal number of learners in each standard and sex were assessed for their reading skills in Chichewa and English. As a result, a total of 10,131 learners (5,053 boys and 5,078 girls) in Standard 2 and 4 were drawn randomly from the 318 schools for the assessment.

Learners were assessed using the reading assessment (RA) tools for the following skills in Chichewa and English: (i) listening comprehension for pre-reading skill, (ii) letter name knowledge and familiar word reading for initial reading skills, and (iii) oral reading Fluency and comprehension skills. Also, under initial reading skills, syllable reading for Chichewa and letter sound reading for English were assessed. SI also administered head teacher and learner questionnaires to establish school characteristics and learner demographics. During analysis, data were made representative of the population through multi-level weighting process.

## FINDINGS

### PRE-READING SKILLS

FIGURE 2: PRE-READING SKILLS BASELINE RESULTS



Pre-reading skills are captured by the learners' performance on the listening comprehension subtask. Learners are asked to respond to five questions with a word or simple statement after they hear a passage read aloud to them by the enumerator.

**In Chichewa, learners performed well in listening comprehension.** As shown in Figure 2, Standard 2 learners were able to answer an average of 3.05 questions correctly (61 percent), and Standard 4 learners answered an average of 3.80 (76 percent). Zero scores were very low at just four percent and one percent in Standards 2 and 4, respectively.

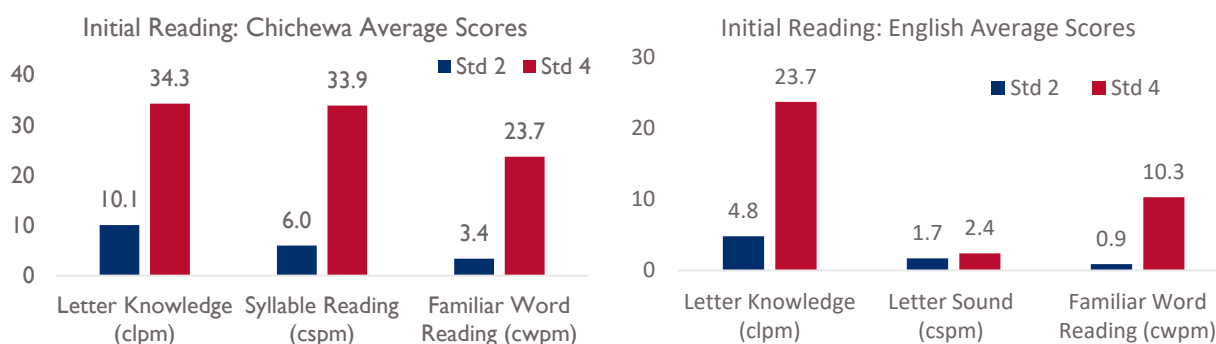
**In English, learners struggled with listening comprehension in both standards.** Learners scored an average of three percent in Standard 2 and ten percent in Standard 4, meaning that, on average, learners in neither standard could answer even one question out of five correctly (Figure 2). Some 87 percent of learners in Standard 2 and 62 percent of learners in Standard 4 scored zero on the assessment.

**Girls scored slightly lower than boys.** Zero scores for girls were slightly higher when compared to boys in both Standards 2 and 4 for Chichewa and among Standard 4 learners for English. Average scores for girls in both standards in Chichewa and for girls in Standard 4 in English were significantly lower than average scores among boys. Among learners tested for English in Standard 2, average scores for girls and boys were similar.

**Learners across all divisions performed better in Chichewa than in English for both standards.** Average scores in Chichewa were higher than in English in all divisions in both Standards 2 and 4. In English, learners in the Southern Western Education Division (SWED) performed the lowest, with average scores of 2.4 percent and 8.1 percent in Standards 2 and 4, respectively, while learners in Standard 2 in the Central Western Education Division (CWED) and Standard 4 in the Northern Education Division (NED) scored the highest. In Chichewa, learners in CWED scored the highest in both standards, while NED ranked the lowest, likely because Chichewa is not the first language spoken by most people in the region.

## INITIAL READING SKILLS

**FIGURE 3: BASELINE RESULTS OF INITIAL READING SCORES**



**In letter recognition, learners recognized letters slightly more in Chichewa than in English.** In Chichewa, learners in Standard 2 were able to read an average of 10.08 correct letters per minute (clpm), with 34.29 clpm for learners in Standard 4 (Figure 3). Zero scores were relatively low for Standard 4 learners, with only six percent of learners not being able to read a single letter, while in Standard 2, zero scores stood at 33 percent. For English, learners read an average of 4.84 and 23.74 clpm in Standards 2 and 4, respectively (Figure 3), and zero scores were at 63 percent in Standard 2 and 17 percent in Standard 4. The average scores were low compared to the 100 letters included in the test that could potentially be correctly recognized in a minute.

**In English letter sound knowledge, learners in both standards could not decode.** Learners did not exhibit any initial decoding skills in terms of correctly sounding letters. Nearly 80 percent of learners in Standards 2 and 4 could not correctly sound even a single letter, as indicated by the very high zero scores. Average scores were slightly higher among Standard 4 (2.35 clpm) versus Standard 2 (1.70 clpm)



learners (Figure 3). But, these average scores were very low relative to the 100 letters included in the test that could be correctly sounded in a minute, indicating ample room for improvement.

**In Chichewa syllable reading, zero scores were as high as 60 percent in Standard 2.** On average, learners in Standard 2 read 6.01 correct syllables per minute (cspm), and zero scores were high, at 60 percent. In Standard 4, learners read an average of 33.92 cspm, but zero scores were relatively low, at only 12 percent. But, the average scores were still low compared to the 100 syllables included in the test that could potentially be correctly read in a minute.

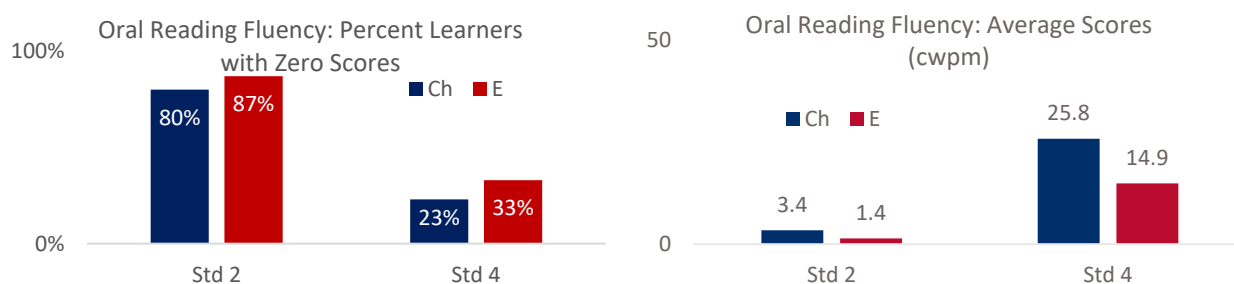
**In familiar word reading, learners struggled overall, although they performed slightly better in Chichewa than in English** (Figure 3). Learners struggled with this subtask, although they performed slightly better in Chichewa than in English. In Standard 2, learners read an average of 3.38 correct words per minute (cwpm) in Chichewa but less than one cwpm (0.94) in English. Some 71 percent and 81 percent of learners were unable to read a single word correctly in Chichewa and English, respectively. Results were slightly better in Standard 4, with learners reading an average of 23.70 and 10.32 cwpm in Chichewa and English, respectively. However, the average scores were still low even in Standard 4 in Chichewa compared to the 50 familiar words included in the test to be read in a minute. Zero scores were moderately low, at 16 percent in Chichewa and 21 percent in English.

**Girls scored higher than boys in all initial reading subtasks.** In both Chichewa and English, and in Standards 2 and 4, on average, girls outperformed boys, and differences were significant for syllable reading in Standard 2 and for all initial reading subtasks for Standard 4. For English, differences between boys and girls were significant in letter sounds for Standard 2 and in familiar word reading for Standard 4.

**Among the education divisions, the Central Eastern Education Division (CEED) performed poorly.** In letter name knowledge, learners in both Standards 2 and 4 struggled the most in CEED for Chichewa and in NED for English, in that learners in these divisions scored the lowest on average, and zero scores were the highest, while learners in the Shire Highlands Education Division (SHED) scored the highest on average.

## ORAL READING FLUENCY

**FIGURE 4: BASELINE RESULTS OF ORAL READING FLUENCY SCORES**



The test passage contained 56 words in Chichewa and 47 words in English to be read in a minute. Number of correct words read in a minute were recorded to calculate scores in correct words per minute (cwpm).

**Learners struggled to read fluently, though they did better in Chichewa than in English** (Figure 4). Standard 2 learners in Chichewa read an average of 3.4 correct words per minute (cwpm), and 80 percent of learners scored zero in that they could not read a single word correctly. Results were similar



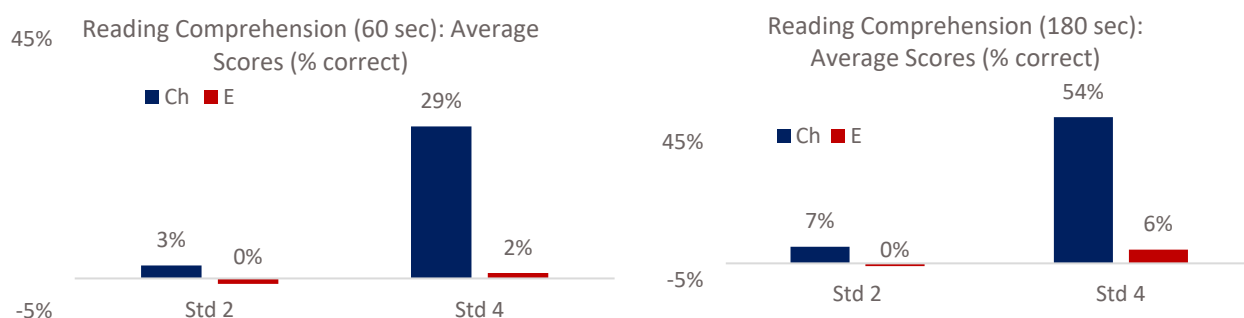
in English, with learners reading an average of 1.4 cwpm, and 87 percent of learners scoring zero. Standard 4 learners read an average of 25.8 cwpm in Chichewa and 14.9 cwpm in English, and zero scores stood at 23 percent in Chichewa and 33 percent in English. Further, most learners in Standard 2 were not able to read half of the words in the passage correctly in either language. Results were slightly better in Standard 4, with nearly one-third of learners in English and 51 percent of learners in Chichewa reading at least half of the words in the passage correctly.

**Girls on average scored higher than boys.** In Chichewa, differences in average scores by learner sex in both standards were noticed but were not significant in Standard 2, though they were significant for Standard 4. In English, the largest gap by learner sex was noticed in Standard 4, with girls scoring higher than boys, and more boys (over four percentage points) than girls were unable to read a single word correctly.

**Only slight differences in scores existed across divisions.** While there were some slight differences noted in average scores in reading fluency by standard and by language, they were neither very high nor notable.

## READING COMPREHENSION

**FIGURE 5: BASELINE RESULTS OF READING COMPREHENSION**



This subtask followed the oral reading fluency test above. After the learners were given a minute to read a passage for testing their oral reading fluency skills, they were given the opportunity to answer as many comprehension questions as they could. The maximum achievable performance involved answering all 5 questions correctly (100%).

**Most learners could not comprehend text.** Among learners in Standard 2 for Chichewa, the large majority (89 percent) could not answer a single comprehension question correctly. As shown in Figure 5, while learners in Standard 4 also performed poorly, they answered an average of one out of five questions correctly, which shows that they were beginning to acquire some comprehension skills at the end of four years of schooling. In English, almost all learners were unable to answer a single question correctly (100 percent in Standard 2 and 94 percent in Standard 4).

**Girls on average scored higher than boys.** In both Chichewa and English in both standards, slight differences by learner sex were noted. Statistically, in Standard 2, difference by sex was not significant for

Chichewa but was noticed for English. In contrast, a statistically significant difference was noted by sex in Standard 4 for Chichewa but not for English.

**Divisional differences existed in comprehension skills.** Among Standard 2 learners, the percent of zero scores was the highest in SWED for Chichewa, and in CEED, SHED, and SWED for English, with almost all learners scoring zero. In Standard 4, zero scores were the highest in NED for Chichewa and the highest in CWED for English.

**Almost no learners qualified as “readers” in Standard 2 while about a one fifth of learners qualified in Standard 4 in Chichewa.** The designers of the early grade assessment tools consider learners as *readers* if they score above zero on the reading fluency subtask and can at least answer 60 percent (three out of four) of the comprehension questions correctly or answer 80 percent (four out of five) correctly at a higher criterion. . In Chichewa, under the criteria of 60 percent answered correctly, 10 learners (0.39 percent) in Standard 2 and 521 learners (20.5 percent) in Standard 4 can be considered as “readers”. The share of readers reduced when the higher criteria of 80 percent answered correctly was used. By such higher criteria, only four Standard 2 learners (0.2 percent) and 209 Standard 4 learners (8.2 percent) qualified as “readers”.

Following the one-minute version to test comprehension skills (for which results were discussed above), all learners were also assessed through a three-minute version. Here, the learners were given three minutes to read a passage and then provided with the opportunity to answer as many comprehension questions as they could. The maximum achievable performance involved answering all 5 questions correctly (100%).

**Learners comprehended better with three minutes than with one minute allowed for the test** (Figure 5). Small improvements among Standard 2 learners in Chichewa, and in English overall, were noted with the three-minute version. However, improvements were most notable among Standard 4 learners tested for Chichewa. On the one-minute version, learners scored an average of 28.8 percent correct, but when provided three minutes for the passage, learners answered an average of 54.1 percent of the questions correctly. Further, only 26.5 percent of learners were unable to answer a single question correctly on the extended version, which was an improvement from 32.6 percent of learners on the one-minute version. For English, learners improved from an average of 1.9 percent on the one-minute version to 6.4 percent on the extended version, and zero scores declined from 93.6 percent to 80.7 percent on the one- and three-minute versions, respectively.

## FACTORS ASSOCIATED WITH ORAL READING FLUENCY

Chichewa or English oral reading fluency skills analyzed through regressions for factors predicting correct words read per minute in Standards 2 and 4 showed the following:



**Being read to at home more than twice per week strongly and positively predicts higher scores** for oral reading fluency. Learners who were read to more frequently at home scored significantly higher than those who were not, more so in Chichewa than in English.



**Learners taking books home is a strong positive predictor.** Those who took books home scored significantly higher than those who did not in both languages, especially among Standard 4 learners.



**Repeater status is a significant negative predictor**, except for Standard 2 learners tested for English reading fluency, and it was consistently negatively associated with oral reading fluency.



**Presence of school feeding programs is positively associated with higher scores** among learners in both standards taking Chichewa or English assessments but only is a significant predictor for Standard 2 learners taking the Chichewa assessment.



**Higher levels of school resource scores are a significant positive predictor** for both standards and languages. Specifically, resources that contributed to the learning environment such as having enough desks for learners, having a school library, classrooms with a wide range of learning materials, and buildings and classrooms with functioning locks were the main drivers of school resource scores.



**In areas where non-Chichewa languages are also spoken, Standard 4 learners score significantly higher in English relative to learners in primarily Chichewa-speaking areas.** Schools in the education divisions where non-Chichewa languages are also spoken were found to offer English and reading in English more often than in primarily Chichewa-speaking divisions, thus providing more opportunities for learners to learn and read English.

## CONCLUSIONS AND RECOMMENDATIONS

**Malawian learners performed well in the pre-reading subtask but struggled with initial reading subtasks.** Learners exhibited strong pre-reading listening comprehension skills in Chichewa than in English likely due to more exposure to the language since infancy. Among initial reading skills, learners in both standards performed slightly better in letter recognition in both languages than in other subtasks. They did not exhibit any initial decoding skills in terms of correctly sounding letters in English or reading syllables in Chichewa indicating that acquisition of mechanics of reading that is essential for advanced reading fluency and comprehension is poor. They also struggled at familiar word reading, although they performed slightly better in Chichewa than in English. By sex, boys slightly but consistently underperformed girls except in the pre-reading subtask. Overall, while learners showed some signs of acquiring initial reading skills slightly more in Chichewa than in English, average scores fell well below maximum achievable performance in both standards and languages.

**Even at the end of four years of schooling, most Malawian learners could not read fluently or comprehend a grade level text in Chichewa or English.** In Chichewa, only 0.4 percent of Standard 2 learners and 20.5 percent of Standard 4 learners qualified as “readers” by scoring above zero on reading fluency and being able to answer 60 percent of the comprehension questions correctly. Girls generally performed slightly better than boys across both standards and languages. However, both boys and girls underperformed in their ability to read even up to half of the maximum performance achievable in the subtask. Oral reading fluency in both languages and standards could, however, be improved through learners being read to at home more than twice per week, learners taking books home to read and ensuring availability of wide range of learning materials in classes.

Based on the findings and conclusions above, SI recommends the following to USAID and the MoEST to improve reading skills among primary learners in Malawi:

**Encourage parents and guardians to read more often to and with learners.** NRP activities have recently started building community programs to encourage parents and household members to read to learners more frequently. Such programs that focus on household member involvement in learners’ reading need to continue and be made sustainable, since reading skills are clearly shown to improve and class repetition tends to decline with such practices, among other factors. Moreover, demonstrations at reading camps and reading fairs can be held to promote practices such as parental behavior of reading to and also reading with learners at home such that learners can also practice reading in addition to listening to reading at home. In areas where parent/caretaker literacy is low, afterschool reading activities staffed by community volunteers may offer an alternative option to ensure that learners are read to more regularly and also could practice reading outside of the classroom. Public media, radio, and television can also be effectively used to inform parents and community members of practical ways to support their children at home and within the community to develop and practice reading skills.

**Work with schools and communities to ensure there are enough books available for learners to take books home to read.** Adequate text books and appropriate reading materials including NRP aligned supplementary reading materials should be made more readily available for children to take home to be read to and with their family. Further, learners could be encouraged to take books home to read, possibly through reading incentive programs that provide small non-financial rewards for learners who read multiple books over school break periods or even throughout the academic year. Furthermore, relevant books to read to children should be distributed regularly.

**Provide more reading practice at school.** Ensure that teachers provide more reading practice for learners, and that Primary Education Advisor (PEAs), Head Teachers and Section Heads provide coaching and mentoring to teachers for them to help learners to read. Teacher guides developed under NRP include activities for reading practices and learner books contain text for reading practice. Also, nationwide trainings were provided on use of the teacher guides for remediation classes. Adherence to teacher guides and scripted lesson plans would help provide more reading practice at school for both regular and remedial classes.

**Assess reasons for any differences in reading skills by sex to improve reading skills of both girls and boys.** Early reading skills are the most basic learning skills that help learners in their later educational attainments. Therefore, any gender- based differences in reading skills should be identified at early stages and addressed. Reading promoted through afterschool clubs staffed by local mentors in some

African countries have been shown to improve reading skills. Further, qualitative assessments could be performed to understand factors that could contribute to differences in scores by learner sex.

**Update or develop benchmarks for both languages and for Standards 1 to 4.** Currently, benchmarks developed for Chichewa in 2011 and 2014 for Standards 1 to 3 are the only official benchmarks available for use to understand the extent of reading skills acquired by primary learners. However, with the NRP-initiated efforts to improve reading skills, the benchmarks need to be updated for Chichewa for all standards in primary school and newly developed for English. The extensive and longitudinal reading assessment data for Chichewa now available through multiple nationwide assessments and this baseline assessment data could be used for such purposes. These actions are essential to build a robust database with realistic and relevant data that can be analyzed to track progress and make programmatic policy decisions to improve primary educational quality in Malawi. Also, it is important for all technical stakeholders to periodically review the benchmarks and adjust them based on realities to avoid setting very ambitious standards that could not be reached within a specified period within the general quality of teaching in public schools. Once the benchmarks are updated, assessment tools should be revisited to align with the benchmarks.

**Embed a process evaluation to also examine the links between NRP activities and reading performance.** Future data collection activities may include assessing fidelity of NRP implementation alongside learner assessments to understand how NRP achieved its intended targets in outcomes. In that regard, links between use of scripted lesson plans to help teach reading skills and reading performance should be examined.

## I. INTRODUCTION

The Government of Malawi (GoM) has made considerable progress in improving access to primary education, as indicated by primary school enrollment increasing from 2.6 million in 1996 to nearly 4.1 million in 2014 and net primary school enrollment reaching 97 percent.<sup>1</sup> The country, however, is still placed well below average on worldwide education indices, with a rank of 173 (out of 188 countries) in 2015 on the United Nations' Human Development Report Education Index.<sup>2</sup> Therefore, USAID/Malawi and the Ministry of Education, Science, and Technology (MoEST) have worked to improve the quality of primary education through several activities. For example, the Early Grade Reading Activity (EGRA) was implemented in 11 education districts from 2013 to 2016, and a National Reading Program (NRP) was launched in September 2016 and will run until 2020 in all 34 education districts in Malawi.<sup>3</sup>

To better understand how these activities as well as changes to GoM educational policies affect learner outcomes such as reading scores, USAID and the GoM partnered on a reading assessment (RA) to provide valuable data on learner reading performance across Malawi to facilitate greater accountability and evidence-based decision-making within Malawi's education sector. To that end, USAID/Malawi, in April 2017, contracted Social Impact, Inc. (SI), a consulting firm based in Virginia, United States, to conduct a baseline of NRP to enable USAID to report on the effect of the program on Standard 2 and 4 learners' reading abilities in outer years.

This baseline report discusses the methodology and findings for the NRP assessment conducted in 2017 and provides recommendations to USAID, the MoEST, and other stakeholders on possible ways to improve the quality of reading among primary school learners in Malawi in the future.

### NATIONAL READING PROGRAM BACKGROUND

NRP is a five -year program launched by the MoEST under the Education Sector Implementation Plan (ESIP) 2. It was rolled out on September 5, 2016, across Malawi. The NRP intends to facilitate MoEST's objective of promoting reading and writing skills in English and Chichewa among Standard 1 to 4 learners in all public primary schools in Malawi. NRP activities include providing teaching and learning materials, enhancing reading instruction skills of teachers, promoting parental, family, and community engagement in supporting public schools and learners' reading, creating safer learning environments and access to learning for primary school learners, and enhancing the capacity of the MoEST to sustain improvements in reading outcomes. The program is expected to benefit over six million Standard 1 to 4 students through 2021.

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<sup>1</sup> See World Bank, World Development Indicators, Country Data, <http://data.worldbank.org/country/malawi>. Downloaded in March 2017. The net enrollment ratio refers to ratio of children of official school age who are enrolled in school to the population of the corresponding official school age. Data here refers to 2009, and no latest data were available. It is likely that a population increase created demand for primary schools that was met by supply-related expansion in schools.

<sup>2</sup> Human Development Report, UNDP, 2015. Downloaded in February 2017. [http://hdr.undp.org/sites/default/files/2015\\_human\\_development\\_report.pdf](http://hdr.undp.org/sites/default/files/2015_human_development_report.pdf)

<sup>3</sup> To improve educational quality, in 2010, USAID/Malawi funded a three-year Malawi Teachers' Professional Development Support (MTPDS) activity to improve educational outcomes by building MoEST capacity, improving teacher efficacy in teaching reading, and improving school management and leadership. The activity provided continuous professional development (CPD) training to all 34,000 lower primary teachers and higher-intensity literacy intervention in seven districts. As a follow-on to MTPDS, based on lessons learned, USAID/Malawi designed EGRA in 2013 that ran until 2016. Now, NRP builds on the lessons from EGRA and will run for five years from September 2016 until August 2021.

NRP is primarily supported by USAID/Malawi through technical and financial assistance, with some supplementary financial support from United Kingdom's Department for International Development (DFID).

As part of the NRP, under an award from USAID/Malawi, the Malawi Early Grade Reading Improvement Activity (MERIT) is also being implemented by Research Triangle Institute International (RTI).<sup>4</sup> MERIT is designed to technically assist MoEST's NRP efforts. MERIT targets learners in public schools in Standards 1 to 4, and it specifically focuses on building capacity of teachers through improved reading instruction pedagogy, developing and supplying textbooks for learners' use in classrooms, providing safe spaces for practicing reading, and working with parents and communities to support the teaching of reading to learners after school. Since October 2016, MERIT has been rolled out to Standard 1 in the 2016/17 academic year and then rolled out to Standards 2 to 4 in the 2017/18 academic year.<sup>5</sup> This baseline was conducted in May 2017, prior to NRP rollout in standards 2 to 4.

## **BASELINE ASSESSMENT PURPOSE AND QUESTIONS**

In 2016, the MERIT activity at RTI conducted a baseline among learners in Standard 1 and 3 and will be tracking their progress annually until 2020. Similarly, there was a need to conduct a baseline reading assessment for Standards 2 and 4 before the NRP rollout began in September 2017 for those standards, to enable USAID/Malawi and the MoEST to track trends in reading outcomes and adjust programming accordingly over time. Therefore, USAID/Malawi commissioned this baseline to assess Standard 2 and 4 learners' reading abilities in Malawi. Specifically, USAID/Malawi, through this assessment, intends to set a baseline to understand the extent to which Standard 2 and 4 learners have acquired reading skills in outer years under NRP. USAID/Malawi requires the assessment to help generate rigorous and adequate information so that they and the MoEST can use this information to track progress in learners' abilities in English and Chichewa under NRP and understand NRP's effects for making policy and programmatic decisions.

The NRP baseline is intended to address the following assessment questions<sup>6</sup>:

- To what extent are Standard 2 and 4 students acquiring pre-reading and initial reading skills in Chichewa and English?
- To what extent are Standard 2 and 4 students acquiring reading fluency in Chichewa and English?
- To what extent are Standard 2 and 4 students reading grade-level text with comprehension in Chichewa and English?

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<sup>4</sup> NRP includes MERIT within its overall activities, and MERIT involves technical support to NRP.

<sup>5</sup> The academic year in Malawi is comprised of three terms, starting in September and ending in July. Under NRP, for rollout in the 2016/17 academic year, all Standard 1 teachers were trained and 1.36 million each of Chichewa and English textbooks were distributed for use among Standard 1 learners in all public primary schools across the country. In August to September, 2017, it was also rolled out to Standard 2 to 4, with over 41,000 Standard 2 to 4 teachers trained and 5.48 million Chichewa and English textbooks being distributed for use in Standard 2 to 4 classrooms.

<sup>6</sup> See Annex 1 for SOW, and table in Annex 2 that maps the assessment questions and tasks required as per the SOW to the activities undertaken by SI to meet the deliverables.



As per the statement of work (SOW) issued by USAID to SI in April 2017, six reading subtasks fall under the pre-reading, initial reading, and reading fluency and comprehension skills:

- Pre-reading skills: Listening Comprehension in Chichewa and English
- Initial reading skills: Letter Name Knowledge and , Familiar Word Reading in Chichewa and English, Letter Sound Knowledge in English, and Syllable Reading in Chichewa.
- Reading fluency and comprehension skills: Oral Reading Fluency, and Reading Comprehension—timed at 60 seconds and 180 seconds in Chichewa and English.

## **II. BASELINE ASSESSMENT METHODOLOGY, TOOLS, AND LIMITATIONS**

**SUMMARY:** SI partnered with the MoEST and Invest in Knowledge Initiative (IKI), a Malawian data collection firm, to gather data in May and June of 2017 from a nationally representative sample of over 10,000 Standard 2 and 4 learners drawn from 318 primary public schools located across 34 education districts within the six education divisions in Malawi. The learners were drawn using a two-stage cluster random sampling approach. Enumerators assessed learners using the Chichewa and English RA tools that were adapted by RTI from other RAs used in many countries throughout the developing world. The RAs tested learners on their ability to read and understand basic Chichewa and English text. Specifically, they assessed learners' pre-reading abilities, initial reading skills, and fluency and comprehension capabilities through the following six reading subtasks: Listening Comprehension, Letter Name Knowledge, Letter Sound Knowledge/Syllable Reading, Familiar Word Reading, Oral Reading Fluency, and Reading Comprehension. In addition to assessing learner reading, enumerators also collected data on school conditions through a head teacher survey, a school environment checklist, and information on learners, as well as a limited amount of their household characteristics through a learner questionnaire. The following sections discuss assessment methodology, including sample size, tools, and procedures used for gathering data and for analyzing the data to address the assessment questions.

### **STAGES OF READING AND HOW THESE ARE MEASURED IN THE ASSESSMENT**

Teaching learners the essential reading skills to become successful and independent readers in early primary school is required for achieving lifelong literacy. In 2000, the United States 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 was 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 use phonetics to sound out words.

Although learners learn basic reading 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 pre-reading stage typically lasts from birth to kindergarten, when children should learn oral language and listening comprehension skills and is a prerequisite competency to reading. Initial reading skills consist of phonics, or alphabetic understanding,

and decoding skills and builds on the concept of identifying sound patterns in speech by connecting the sound patterns to the printed letters. 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.

## **ASSESSMENT APPROACH**

Progress made under NRP can be examined through a before and after assessment design where results from the baseline gathered prior to the national roll out of NRP in Standards 2 and 4 in September 2017 can be compared to results obtained from subsequent assessments in outer years.<sup>7</sup> For the pre-post assessment design to yield reliable and consistent results that can be compared across the years, clearly identified performance indicators, rigorous grade-appropriate reading assessment tools, a nationally representative sample of learners, and rigorous methods to analyze data to obtain results are essential. Such elements for the assessment are discussed below.

## **PERFORMANCE INDICATORS**

For this baseline, SI focused on the following performance indicators to address the assessment questions:

- average and median learner scores on six reading subtasks of Listening Comprehension, Letter Name Knowledge, Letter Sound Knowledge/Syllable Reading, Familiar Word Reading, Oral Reading Fluency, and Reading Comprehension; and
- the percentage of learners scoring zero in each of the above six subtasks.

In order to measure the above indicators, SI considered the knowledge gained by learners in a full academic year. Therefore, data were gathered toward the end of the 2016/17 school year, i.e., by late May and June. All the above results are disaggregated by language, learner sex, and geographic division, as appropriate, and presented in this report.

## **SAMPLING METHODOLOGY**

The MoEST identifies six education divisions in the country: Central Eastern Education Division (CEED), Central Western Education Division (CWED), Northern Education Division (NED), Shire Highlands Education Division (SHED), Southern Eastern Education Division (SEED), and Southern Western Education Division (SWED). As per the MoEST's latest Education Management Information System (EMIS) database in 2017, there are 34 education districts in the country, with approximately six districts per educational division, though this may vary across the divisions (NED has eight and SHED has four, for example). Countrywide, the latest EMIS database obtained in 2017 listed a total of 5,542 public primary schools, an average of about 924 schools per education division and 163 schools per district.

The NRP is implemented in all 34 education districts in all public primary schools across Malawi. SI's contract with USAID specified that the NRP would provide a nationally representative snapshot of early

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<sup>7</sup> Starting in September 2017, NRP is rolled out uniformly across Malawi among all Standard 2 and 4 learners. The simultaneous national rollout of a uniform set of activities across all Standard 2 and 4 public school learners precludes clear identification of treatment and comparison/control clusters/schools/learners to track and understand the impact effects of NRP on learners' reading abilities.

grade reading skills for Standard 2 and 4 learners from all 34 districts located within the six educational divisions. USAID also expects the sample to allow for disaggregation by sex, language tested, and educational division.

In order to address USAID's sampling requirements and rigorously assess reading skills of the learners under NRP, SI used a two-stage cluster random sampling method.<sup>8</sup> To that end, SI used a sample frame drawn from the latest EMIS database of schools obtained in 2017 for Standards 2 and 4 with at least 16 learners (boys and girls) enrolled in each of the standards. From the sample frame, SI randomly selected the required number of schools, calculated for a rigorous assessment from the districts, and then randomly selected individual learners from each of the selected schools.

### SAMPLE SIZE<sup>9</sup>

Prior to data collection, SI conducted sample size calculations to determine the sample required to rigorously measure and track progress in reading skills, as per the SOW requirements for this assessment. Calculations showed that a sample of 306 schools selected randomly across the 34 education districts would be adequate to conduct the baseline using the performance indicators discussed earlier for reading skills among Standard 2 and 4 learners.

For the baseline to draw a sample of schools and learners from all 34 districts so that the MoEST can monitor results by district in the future, SI proportionately distributed the 306 schools among the 34 districts.<sup>10</sup> The proportions were determined by the latest EMIS data on the number of schools and enrollment in each district. However, such proportional distribution in some smaller districts yielded fewer than two schools. Therefore, to enable comparisons within a district as much as possible, SI oversampled in the smaller districts to ensure a minimum of four schools per district. This led to the required sample size of 318 schools across the 34 districts for the NRP baseline assessment, as indicated in Table 1. Using our sample size calculations, the total number of learners to be sampled from the 318 schools from Standards 2 and 4 to test for Chichewa and English reading skills was calculated to be 10,176, equally divided between boys and girls.

**TABLE 1: NUMBER OF SCHOOLS SAMPLED FOR THE NRP ASSESSMENT, BY DIVISION**

ITEM	EDUCATION DIVISION						TOTAL
	CEED	CWED	NED	SEED	SHED	SWED	
Number of districts	5	6	8	5	4	6	34
Number of schools	57	67	80	48	29	37	318

In short, SI considered that the overall calculated sample size could provide USAID, its partners, and the MoEST with nationally representative data to assess student reading abilities at these standards. The sampling strategy would also allow for testing differences in scores statistically across standards, languages,

<sup>8</sup> While a simple random sampling at the student level could be used, it would require the enumerators to travel to hundreds of different schools to interview only one or two students, which is time consuming and costly.

<sup>9</sup> See Annex 9 for more details.

<sup>10</sup> Note that for results to be only nationally representative, fewer schools and students could participate than when results for districts need to be reported. But, given the disaggregation required for this study, a larger sample size was needed.

and learners' sex, as well as overall performance in the six educational divisions. Due to smaller sample sizes in some districts, while simple comparisons of performance over time within a district could be made, no statistical test could be meaningfully conducted to test for differences across districts or rank the districts by reading performance.

As per the sample size calculations, within each selected school and for each standard, SI intended to include four girls and four boys to be randomly selected to test for Chichewa and another four girls and four boys to be randomly selected to test for English. Thus, the grand total of learners required for the study was calculated to be 9,792, with a sample size requirement of 306 schools, and 10,176, with an oversampled number of schools at 318, equally divided between learner sex and the two languages tested.

The final sample composition for the assessment is presented in Table 2. The final sample was equal to what was planned for in terms of number of schools by district and education division. However, there was a very small reduction in the sample size in number of learners—a reduction by 45 learners—from 10,176 learners calculated for the oversampled 318 schools to 10,131 realized from those 318 schools. The 45 learners were spread across many schools, and the reduction was primarily due to low attendance on the day of the survey. Nonetheless, the power calculations for a nationally representative sample, conducted prior to baseline, remained valid, since the calculated sample size of 306 schools with 9,792 learners was fully realized.

**TABLE 2: SAMPLE SIZE REALIZED, BY STANDARD, LANGUAGE, AND SEX**

LANGUAGE TESTED	STANDARD 2			STANDARD 4			GRAND TOTAL
	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL	
Chichewa	1,274	1,270	2,544	1,266	1,276	2,542	5,069
English	1,260	1,265	2,525	1,253	1,267	2,520	5,062
Total	2,534	2,535	5,069	2,519	2,543	5,062	10,131

## DATA COLLECTION INSTRUMENTS

### CHICHEWA AND ENGLISH READING ASSESSMENT INSTRUMENTS

English and Chichewa are the official languages of Malawi, and English is now the primary language of instruction for all learners beginning in Standard 1 (the MoEST passed a new policy in 2014 that changed the language of instruction). However, learners in the early grades are still being taught in Chichewa in addition to English. Therefore, learners need to be tested in reading skills in both languages. To address the NRP assessment questions, standardized Reading Assessment instruments in both English and Chichewa are essential.

Prior to the NRP baseline, SI reviewed all the existing RA tools in Malawi with USAID/Malawi and its partners (E3 in Washington, D.C., and RTI) for suitability for the assessment. Since the curriculum has not changed for Standard 2 or 4 since 2013 (the revised scope under MERIT does not explicitly include curriculum change) and the SI assessments were conducted only among a cross section of learners from a sample of schools spread across the country at an interval of two years, the English and Chichewa tools

developed in 2011 still remained relevant for the primary standards.<sup>11</sup> Therefore, based on our reviews and discussions with USAID, SI chose to use the existing English and Chichewa tools for this baseline assessment to measure reading skills of Standard 2 and 4 learners (See Annex 3 and Annex 4 for the RA tools).

As shown in Table 3, the Chichewa RA tool and the English RA tool used in the NRP baseline assessment were well aligned with the foundational key skills discussed earlier in this section and thus measure children’s abilities according to the three stages of reading—pre-reading skills, initial reading skills, and reading and comprehension—as required by the SOW.

**TABLE 3: DESCRIPTION OF SUBTASKS IN THE READING ASSESSMENT TOOLS USED IN THE NRP BASELINE ASSESSMENT (STAGES OF READING SHOWN IN PARENTHESIS)**

DESCRIPTION OF SUBTASKS <sup>12</sup>		
SUBTASK	EARLY READING SKILL	SKILL DEMONSTRATED BY LEARNERS’ ABILITY TO:
<b>Listening Comprehension (Pre-reading)</b>	Listening comprehension; oral language	Respond correctly to different types of questions, including literal and inferential questions about the text the assessor reads to them
<b>Letter Name Knowledge (Initial reading)</b>	Alphabet knowledge	Provide the names of letters presented in both upper case and lower case in a random order
<b>Letter Sound Knowledge (Initial reading)<sup>13</sup></b>	Alphabet knowledge	Provide the sounds of letters presented in both upper case and lower case in a random order
<b>Syllable Reading (Initial reading)<sup>14</sup></b>	Alphabetic knowledge	Identify legal syllables in random order
<b>Familiar Word Reading (Initial reading)</b>	Word recognition	Read simple and common words that are randomly ordered and drawn from a list of frequent words
<b>Oral Reading Fluency (Reading fluency)</b>	Oral reading fluency	Read a story with accuracy, little effort, and at a sufficient rate and respond to literal and inferential questions about the text read
<b>Reading Comprehension (Reading comprehension)</b>	Reading comprehension	Read a paragraph and respond to literal and inferential questions about the text read

With the Chichewa RA tool, fluency and comprehension skills are measured through a simple oral reading passage composed of 56 words and five comprehension questions under the reading comprehension subtask, while the English RA tool includes a reading passage with 47 words and five comprehension questions based on the passage. In the RAs that have been used by SI in the past, oral reading of the passage is timed at 60 seconds, and the number of questions asked for testing learners’ comprehension varied based on the extent of the passage read within a minute. However, for this baseline, USAID/Malawi also required the assessment to measure learners’ reading comprehension when they are provided additional time to read the paragraph silently and are asked to respond to all five comprehension questions. Therefore, after the learner completed the reading comprehension subtask using guidelines followed by SI in its previous evaluations, SI also allowed the learner to again read the passage silently for 180 seconds and then allowed them to answer as many of the five questions under the comprehension sub-section as they could. Since the tools could still be administered within the 20 minutes stipulated by the tool originators even with this slight modification, SI considers the approach to be appropriate for the assessment.

<sup>11</sup> See Annex 2 for more details.

<sup>12</sup> RTI. (2016). “Early Grade Reading Assessment (EGRA) Toolkit, Second Edition”

<sup>13</sup> This subtask is in the English RA tool only.

<sup>14</sup> This subtask is in the Chichewa RA tool only.

Learners' reading abilities were shown to be related to many external and internal factors that affect their skills (Social Impact, 2014; Social Impact, 2016). Therefore, in addition to the RAs, SI used the following tools to fully understand progress made in reading skills over time (see Annex 5-Annex 7 for the tools).

### LEARNER QUESTIONNAIRE

The tool was administered to each learner participating in the assessment by the enumerators following the learner's completion of the RA. The instrument included questions on learners' attitudes toward school, reasons for attending or not attending school regularly, how often and what they eat, and whether they are read to at home and by whom.

### HEAD TEACHER QUESTIONNAIRE

The instrument was administered to head teachers by an enumerator and contained a range of questions, including qualifications of the head teachers, types and numbers of teacher trainings offered to teachers in their schools, general school environment including availability of resources, school operations, and the level of community involvement in the school. Enumerators collected the information using a pilot-tested instrument through hour-long, face-to-face interviews with head teachers, deputy head teachers, or acting head teachers at each sampled school.

### SCHOOL ENVIRONMENT CHECKLIST

The checklist was completed by enumerators as 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, access to libraries and their resources; and other items related to the physical and environmental condition of the school.

The assessment utilized electronic data collection to collect all data.

## DATA COLLECTION PROCEDURES

### LOCAL COLLABORATION

In line with SI's strong commitment to local capacity building, SI partnered with the MoEST and a local survey firm called Invest in Knowledge Initiative (IKI) to administer the RAs and other tools for the assessment. The partnership was symbiotic in that it allowed for developing local research capacity at both the institutional and individual levels and helped SI to understand the local context to better design and implement the assessment. Additionally, through the involvement of MoEST personnel, there was an increased probability that assessment results will be utilized well and influence MoEST policies, thus increasing the importance of building their capacity to implement and analyze RA data in the future. Trainers, enumerators, technical managers, and monitors that were recruited from MoEST were provided with all guidelines and protocols to conduct the assessments. MoEST staff was also consulted at crucial stages such as during tool finalization, and report findings will be shared with them. The collaboration is expected to have built the MoEST's capacity to design and conduct similar assessments in the future using local resources.

## DATA COLLECTION<sup>15</sup>

Data collection activity for the assessments was carried out for a period of five weeks, from May 22 to June 29, 2017. SI carried out the assessments using 22 well-trained data collection teams. Each team consisted of four members. Once the instruments and protocols were collaboratively agreed upon with USAID and its partners and cleared by SI's Institutional Review Board (IRB), SI, IKI, and MoEST officials trained the data collection teams. The training also included an inter-rater reliability (IRR) test to ensure that enumerators were marking assessments consistently (see Annex 9 for details). Further, a one-day field test was conducted to pilot the instruments and protocols and allow data collection teams the opportunity to practice live data collection with real respondents. The pilot was used to inform final instrument revisions, including reprogramming of the survey forms on the tablets to ensure ease of use. It also informed the last two days of enumerator training, allowing trainers to hone in on persistent challenges in data collection and provide gap training.

## DATA ANALYSIS

Following data collection, the local data collection team, IKI, delivered the raw data to SI by July 2017. IKI and SI then coded and cleaned all data adhering to SI's proprietary quality assurance system called "Evaluation Quality, Utilization, and Impact" (EQUI).<sup>16</sup> The IKI and SI teams 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 teams then worked to identify outliers and any important missing values, and IKI called back MoEST officials and study respondents where necessary to verify or correct these data. Following the data cleaning and preparation, the SI evaluation team analyzed the data using the following steps to determine the extent to which the Standard 2 and 4 learners have acquired reading skills in English and Chichewa.

## WEIGHTING THE DATA

The assessment used a two-stage cluster random sampling approach. The learners tested for the assessment were randomly selected but were clustered within schools, and the selected schools were located within each district. Since not every school and learner would have an equal chance of selection, statistical procedures were needed to adjust for design effects. Therefore, SI constructed appropriate weights based on the probability of selection of each school and learner in the sample. Sampling weights were constructed at both the district level and the school/standard level and used in the analysis in this report. The weights were applied to the dataset as probability weights, or *pweights*, using STATA version 15's set of survey commands.

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<sup>15</sup> See Annex 2 for more details.

<sup>16</sup> Developed after nearly a decade of experience conducting over 30 IEs worldwide, EQUI has helped SI project teams to efficiently manage complex evaluation activities and achieve SI's high technical quality standards. Adherence to EQUI is governed by a manual containing set of checklists, templates, and guidelines, which are also instituted through training. While these tools are customized to the unique needs of each project, the manual covers all activities in the project lifecycle. Particularly for data management and data cleaning and analysis of this baseline data, project team members followed EQUI guidance documents and checklists that were implemented for each phase of the data collection and analysis to ensure compliance with quality assurance requirements, and at report preparation phase to ensure utilization and impact of the findings.



## ANALYSIS OF SAMPLE CHARACTERISTICS AND READING SKILLS

SI used frequencies, averages, cross tabulations, and other descriptive statistic tests to discuss survey sample demographics and to produce detailed summary statistics on learners' reading performance. To measure the extent of reading performance, SI analyzed the weighted reading scores disaggregated by standards, sex, and languages.

## ANALYSIS OF PREDICTORS OF ORAL READING SKILLS

To truly understand what amount of variation in oral reading fluency can be explained by internal and external factors, SI also examined factors that correlate with higher or lower learner reading scores. Data gathered through learner interviews, school climate protocols, and head teacher interviews were used as factors to explain learner scores. The analysis used Tobit regressions to identify factors correlated with oral reading fluency scores. Factors considered in the regressions included learner sex, access to female lavatories at school, class size, school feeding, length of the school day, school resources, teacher and head teacher training and qualifications, education division, and several household factors including whether family members provide learners help with their homework, among many others. It is important to note, however, that if a factor was found not to be correlated with outcomes, it was not included in the findings section even though SI considered the possible effects of that factor. For factors such as school resources, SI 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 (e.g., age, sex, learner-to-teacher ratio, etc.). PCA index and its components are described in detail in Annex 8.

## LIMITATIONS OF THE ASSESSMENT

### VALIDITY OF THE RESULTS

The validity of results can be reduced by inadequate measurement induced by less relevant or unreliable data collection instruments, enumerator bias, and bias due to non-representative sampling of the population. SI took all necessary precautions to reduce such bias by using validated instruments, rigorously training enumerators, using quality assurance protocols, and using a nationally representative sample. SI, in addition to utilizing an adequate sample size, randomly selected the sample at all levels, so the results can be trusted with a 95 percent confidence level to detect changes in the future. However, when stratified cluster sampling is used, there is always the potential that the sample might be biased, which is not unique to this assessment.

Further, the conclusions from the assessment are valid for Malawi but may not hold true for other contexts that do not resemble the characteristics of the nationally representative sample from Malawi. This limitation is also not unique to this assessment. Having extensive data about the learners, their schools, and their communities will help users of this study assess how similar the context of the learners sampled is to other contexts such that 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.

## DISAGGREGATIONS

The proposed sample size is deemed sufficient to test for changes according to the specific requirements laid out by USAID/Malawi for disaggregation by language, sex, and education division. While district-disaggregated data can be presented for various subgroups, a rigorous testing for changes across districts cannot be ensured by the sample size. Such district-level subgroups will require relatively large real-world differences between groups or over time in order for the evaluation team to be able to identify statistically significant differences.

## USE OF GOVERNMENT EMPLOYEES AS SUPERVISORS AND ENUMERATORS

A 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 previous IEs and studies), 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 an activity are asked to assess the activity. However, MoEST staff have been involved in data collection activities for other activities in the past and have conducted themselves in a professional and objective manner. Further, these data serve an important purpose for the MoEST, and as such, they 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>17</sup>

## GENERALIZABILITY AT THE SCHOOL LEVEL

During school visits, enumerators sampled learners from one class per standard only, implementing the RA tool and learner questionnaire with those learners. Since this approach was limited to one class per standard (two classes per school), the responses and results potentially have a limited ability to generalize or support 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 was sought other than the class having enough learners to sample from. Further, many schools only had one class per standard, thus limiting any bias due to the potential design effect related to multiple classes within a standard.

## 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. The risk of response bias was especially high for the learner survey, as learners in Standard 2 and 4 were asked to report on household-level information such as family members helping them read. Nonetheless, the responses from these

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<sup>17</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 IE conducted by SI since 2013 and the Malawi Teacher Professional Development Support (MTPDS) activity.

surveys were generally consistent with the data from the household survey conducted in the EGRA IE baseline, midline, and endline; thus, the study considered the data reliable for 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 data should remain valid even if a bias were detected. 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.

Also, the ability of learners to clearly understand the instructions given to them by the enumerators prior to the test could affect the responses. This bias could arise especially in English RA, where learners are intentionally given instructions in English in order to additionally assess their listening comprehension, even though it is not the mother tongue in Malawi. During pilot testing of tools, SI also tested for comprehension of instructions and revised a few words to improve clarity, although some bias could remain and affect results.

### **III. SAMPLE CHARACTERISTICS**

This section discusses school, teacher, and learner sample characteristics, using the data that were gathered in May 2017 for this NRP baseline. Wherever relevant, the sample characteristics are compared with National Reading Assessments conducted by SI in 2014 and 2016 with a nationally representative sample of 360 schools to draw similarities and divergences over time. While the same 360 schools were assessed in both 2014 and 2016, they were not part of the 2017 baseline. Therefore, comparisons are made only to indicate general trends.

#### **SCHOOL CHARACTERISTICS**

Enumerators gathered school-specific data at each of the 318 sampled schools using the head-teacher survey instrument and the school climate protocol. Below are the results from these surveys both at the national level and at the disaggregated level by education division and sex.

#### **ENROLLMENT**

The average enrollment per school across Standards 1 to 4 was about 624.9 learners, based on head teacher-reported data. The data were consistent with national statistics reported in the latest EMIS data in 2016 that showed an average of 789 learners per school in Standards 1 to 4. When disaggregated by standard, the average enrollment was about 156 learners per standard.<sup>18</sup> Learner enrollment per standard, however, slowly dwindled as the standard-level increased, in that it was an average of 207.3 learners in Standard 1 while it was 116.5 in Standard 4 (Figure 6). This declining trend was in line with previous national-level early grade assessments conducted by SI in 2014 and 2016,<sup>19</sup> in addition to a UNESCO

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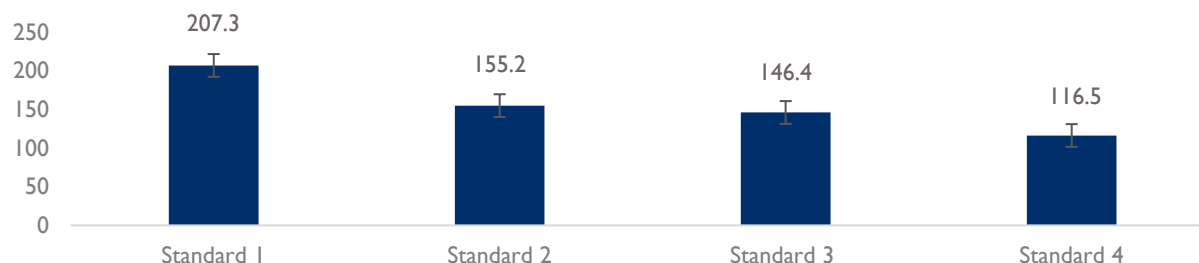
<sup>18</sup> In 2014 and 2016 national assessments conducted by SI, the average enrollment, respectively, in Standards 1 to 4 combined was 527 and 520 learners per school, and the average enrollment was about 132 and 130 learners per Standard.

<sup>19</sup> In both 2014 and 2016 assessments conducted by SI, learner enrollment per standard slowly dwindled as the standard level increased in that the average was 174 and 173, and 131 and 134 learners in Standard 1 and Standard 2, respectively, and only 101 and 103 in Standard 4, respectively.

statistic that 54.1 percent and 62.3 percent of learners persisted through the last grade of primary education in Malawi in 2013 and 2012, respectively.<sup>20</sup>

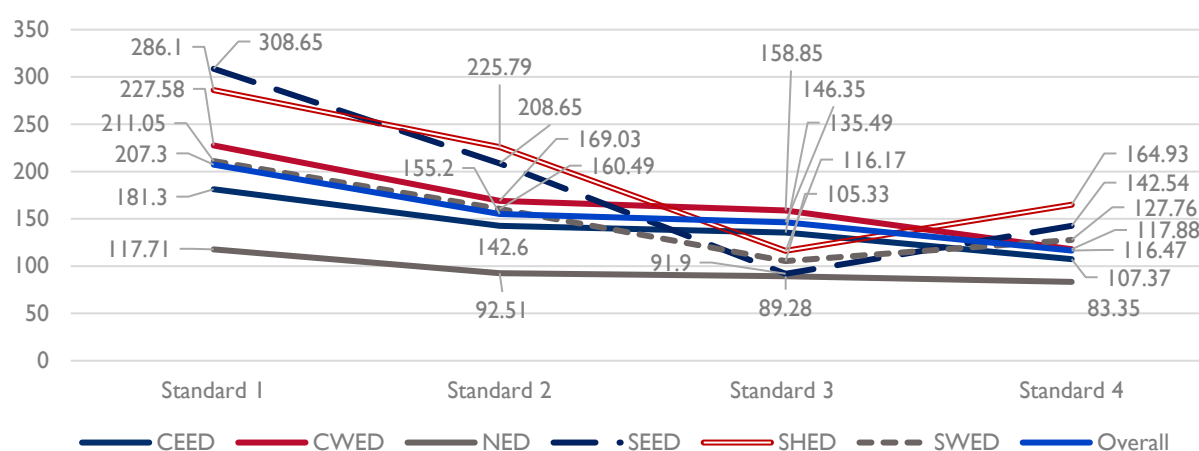
As shown in Figure 7, enrollment also varied by education division. For all four standards combined, NED had the lowest enrollment numbers, while SHED and SWED had the highest.<sup>21</sup> By standards, NED consistently reported the lowest enrollments. However, in SHED and SWED, enrollments were the highest in Standard 1, experienced the largest drop between Standard 2 and Standard 3, and again climbed to the highest by Standard 4, although not to the same level as in Standard 1.

**FIGURE 6: AVERAGE NUMBER OF LEARNERS ENROLLED BY STANDARD**



Head Teacher Survey, 2017.

**FIGURE 7: AVERAGE NUMBER OF LEARNERS ENROLLED BY DIVISION AND STANDARD**



Head Teacher Survey, 2017.

## NUMBER OF TEACHERS

As shown in Table 4, data gathered from interviews with head teachers showed an average of 6.6 teachers per school.<sup>22</sup> The lowest average number of teachers was reported in NED and CEED (4.7 and 6.2

<sup>20</sup> According to the UNESCO Institute of Statistics, which measured this figure, the persistence to last grade of primary is the “percentage of children enrolled in the first grade of primary school who eventually reach the last grade of primary education,” with the estimate based on the reconstructed cohort method. <https://data.worldbank.org/indicator/se.prm.prs.lz?locations=mw>

<sup>21</sup> A similar trend was also noticed in 2014 and 2016 assessments: SHED with the highest enrollment numbers for all four standards, with NED reporting the lowest enrollment numbers.

<sup>22</sup> In 2014 and 2016 assessments, the average number of teachers per school was 6.7 and 6.2 teachers, respectively.

teachers, respectively) and the highest in SHED (9.1 teachers). These findings are similar to 2014 and 2016 assessments.

On average, head teachers reported that there were 6.2 trained teachers per school. Head teachers also reported an average of two teachers who participated in the EGRA training on reading since 2013. Among those who participated in trainings, head teachers reported that the teachers had attended them on average 4.5 times since 2013. There were differences noticed across the divisions. Schools in SEED and CWED reported about an average of seven trained teachers per school, while schools in NED only reported about three. SHED reported the largest difference between the average number of teachers at the school and average number of teachers trained, with an average of 4.9 teachers trained out of 9.1 teachers overall. The highest number of teachers who have participated in EGRA trainings was reported to be four teachers in schools in SHED, and the lowest was 1.2 teachers in schools in NED. On average, teachers in CWED participated 5.6 times in an EGRA training on reading since 2013; this marks the highest across all divisions. The lowest of this figure was marked by NED, where head teachers reported that teachers participated 3.3 times on average in the EGRA training since 2013.

### LEARNER-TO-TEACHER RATIO

Comparing head teacher-reported learner enrollment with the number of teachers they reported for Standards 1 to 4, and with an assumption of one teacher per class, the study found an average of 100 learners per teacher (Table 4). In 2014 and 2016 assessments, it was found to be 83 and 92 learners per teacher, respectively, suggesting that the learner-to-teacher ratio has been increasing since 2014. The trend could be due in part to the increase noticed in the number of learners per school rather than any big change in the number of teachers per school.

The lowest average learner-to-teacher ratio was observed in NED with about 79 learners per teacher. The highest was recorded in SEED, with about 123.5 students per teacher. In both 2014 and 2016, most divisions fell within the range of 94 to 101 learners per teacher, except for NED, which reported a much lower figure around 77 (Table 4).

**TABLE 4: AVERAGE SCHOOL ENROLLMENT AND TEACHERS, BY DIVISION**

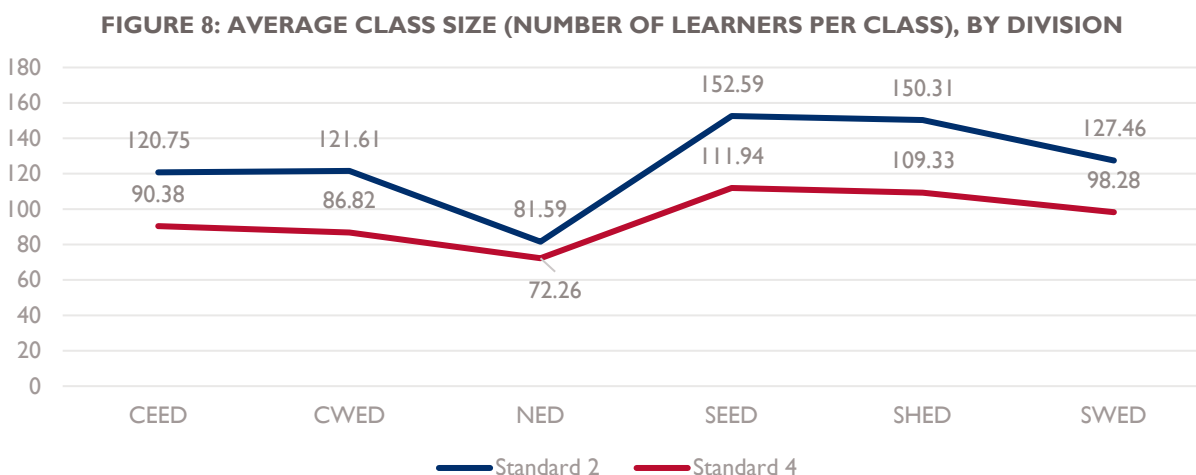
DIVISION	AVERAGE ENROLLMENT	SD	AVERAGE NUMBER OF TEACHERS	SD	AVERAGE LEARNER:TEACHER RATIO	SD
CEED	566.75	253.14	6.21	3.47	102.14	41.44
CWED	670.97	417.85	7.45	5.10	97.38	32.04
NED	382.85	225.80	4.78	2.41	78.75	31.65
SEED	845.60	376.06	7.58	4.07	123.53	57.43
SHED	879.24	422.66	8.93	4.85	106.61	38.04
SWED	668.41	374.16	6.27	3.54	112.29	50.89
Overall	624.86	377.34	6.59	4.08	100.07	43.58

*Head Teacher Survey, 2017.*

### CLASS SIZE

Class size differed by standard. According to the head teacher survey, the average class size in Standard 2 was 119.36 learners. This figure declined as learners progressed to Standard 4, with 91 learners per class.

As shown in Figure 8, class size also varied by division. Class size for Standard 2 was lowest in NED at 81.6 learners per class and highest at 150.31 learners per class in SEED. This trend was consistent with Standard 4, in which class size was lowest in NED at 72.26 learners per class, and highest in SEED, at 112 learners per class.



Head Teacher Survey, 2017.

## LENGTH OF SCHOOL DAY

A typical school day in Malawi starts at 7:30am, and for Standard 2 learners lasts for about 5 hours and for Standard 4 learners lasts about 6.3 hours, as reported by head teachers. Table 5 breaks down the hours by standard and division. Relative to figures reported in 2014 and 2016, the overall length of the school day in 2017 appears to have increased by an average of 30 minutes for both Standards 2 and 4. Overall, 47.6 percent of schools reported to have extended the school day by an hour. Of those, 61 percent of schools reported adding the hour through EGRA, 11 percent through the Malawi Teacher Professional Development Support (MTPDS) activity (both funded by USAID), and 15.4 percent through other projects funded by other organizations.

On average, 4.2 days out of the week were reported to have an added hour. This figure was the lowest in schools in SHED, with 3.6 days per week with an added hour, while schools in CEED and NED had nearly 4.6 days with an extra hour per week.

The greatest improvement between 2014 and 2016 was in the percentage of schools reporting school days of three hours or less. In 2014, nearly 55.3 and 27.1 percent of Standards 1 and 2, respectively, reported school days that were less than 3 hours. In 2016, these figures dropped to 6.6 percent for Standard 1 and 0.6 percent for Standard 2. When surveyed in 2017, there were no schools that had school days less than three hours.

**TABLE 5: LENGTH OF SCHOOL DAYS BY STANDARD AND DIVISION**

STANDARD	CEED	CWED	NED	SEED	SHED	SWED
Standard 1	4.53	4.54	4.56	4.44	4.63	4.59
Standard 2	5.00	5.00	5.03	4.91	5.04	5.05
Standard 3	5.81	5.92	5.87	5.67	5.76	5.89
Standard 4	6.36	6.39	6.27	6.12	6.38	6.35

Head Teacher Survey, 2017.

**TABLE 6: AVERAGE NUMBER OF DAYS PER WEEK WITH AN EXTRA SCHOOL HOUR**

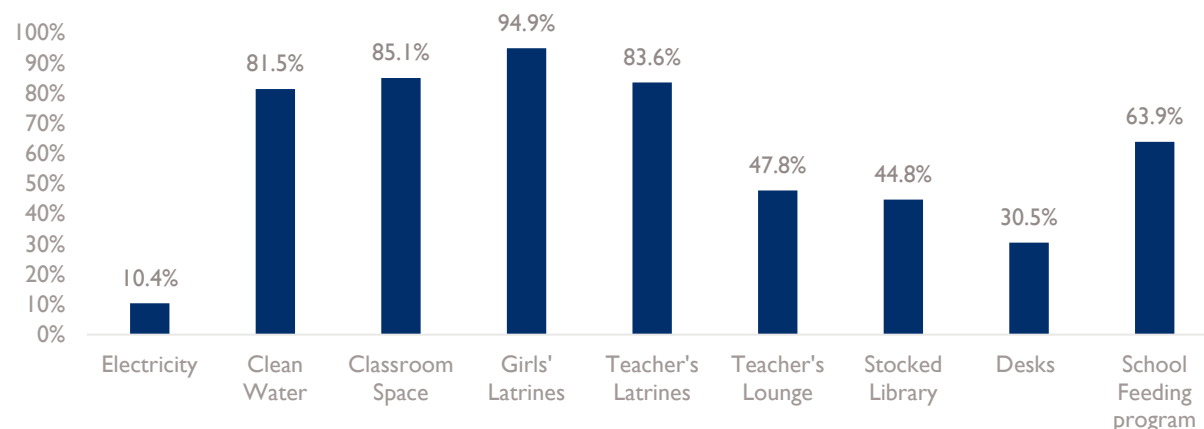
DIVISION	DAYS
CEED	4.57
CWED	4.08
NED	4.58
SEED	3.94
SHED	3.64
SWED	4.33

Head Teacher Survey, 2017.

## ACCESS TO RESOURCES AND PHYSICAL INFRASTRUCTURE

As shown in Figure 9, data gathered using the 2017 school climate survey indicated that most of the schools had textbooks for learners and a teacher's lounge. In addition, 81.5 percent of schools had access to clean water, and 95.0 percent had dedicated latrines for girls. However, only 10.4 percent of schools reported having electricity, and only 30.5 percent of schools had desks for learners. About half of the schools generally had sufficient classroom space to move around, as reported by the SI enumerators.

Despite room for improvement, physical infrastructure appears to have improved steadily since 2014, with a three percentage point increase in electricity access, seven percentage point increase in prevalence of girls' latrines, four percentage point increase in adequate classroom space, and 13 percentage point increase in schools with a well-stocked library.

**FIGURE 9: PERCENT OF SCHOOLS REPORTED TO HAVE RESOURCES**



## COMMUNITY SUPPORT TO SCHOOL

According to head teacher-reported data shown in Table 7, all sampled schools had some level of community involvement. As shown in Table 7, almost all sampled schools had a school committee or a Parent Teacher Association (PTA). Most notably, 77.3 percent of schools reported that their communities have become more involved over the past three years, with about nine percent reporting involvement remaining the same and the other 13.5 percent reporting a decline.

About 42 percent of PTAs and 44.6 percent of the school committees met at least monthly in the 2017 academic year, followed by a slightly lower percentage of PTAs or school committee meetings held every two to three months. The majority of school committees or PTAs, as shown in Table 8, were responsible for school management, pupil learning challenges and solutions, physical school improvement, infrastructure maintenance, financial issues, and procurement or distribution of textbooks. Only about 41.2 percent were reported to have engaged in curriculum development. These findings are on par with findings from 2014 and 2016 assessments.

**TABLE 7: HEAD TEACHER-REPORTED COMMUNITY INVOLVEMENT IN SCHOOLS**

COMMUNITY INVOLVEMENT	OBSERVATIONS	PERCENT OF SCHOOLS	SD
PTA	317	99.37	0.08
School Committee	317	99.69	0.06
Parents Invited to Class	318	63.84	0.48
Other Community Involvement	317	71.61	0.45

Head Teacher Survey, 2017.

**TABLE 8: PERCENT OF PTA/SCHOOL COMMITTEE WITH VARIOUS RESPONSIBILITIES**

PTA/SCHOOL COMMITTEE RESPONSIBILITIES	PERCENT OF SCHOOLS
School Management	84.28
Pupil learning challenges and solutions	83.81
Curriculum	41.20
Physical school improvement efforts	82.55
Maintenance of infrastructure/equipment	86.01
Financial issues/fund raising	84.75
Procurement and/or distribution of textbooks	73.27
Reading instruction in after-school programming	42.14

Head Teacher Survey, 2017.

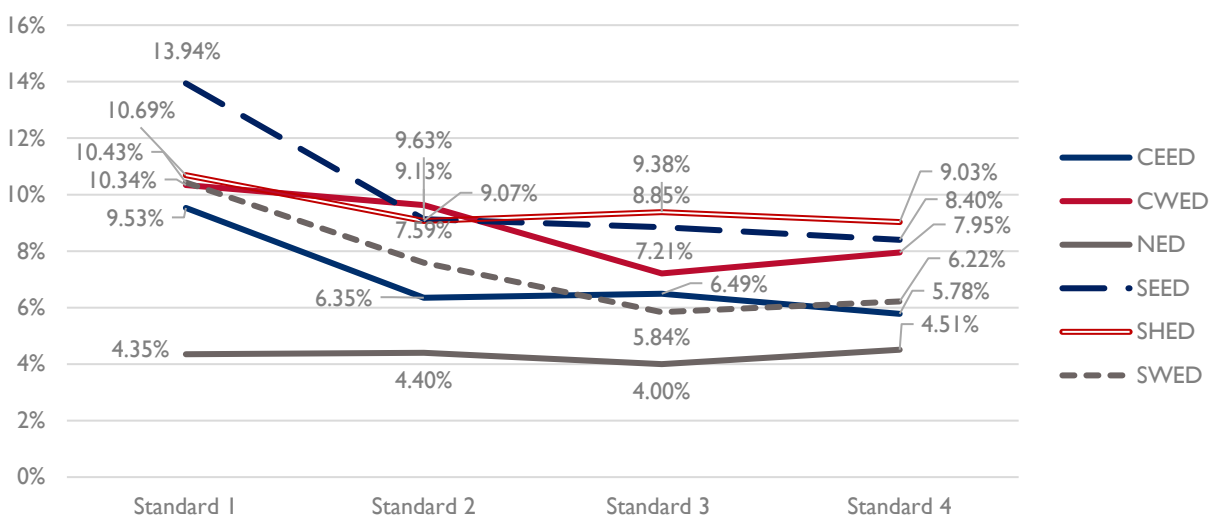
## DROPOUT RATES

The overall average dropout rate was 7.7 percent, although it steadily declined with progression in standards: 9.3 percent for Standard 1, 7.4 percent for Standard 2, 6.6 percent for Standard 3, and 6.7 percent for Standard 4. These findings are similar to those noticed in 2014 and 2016. There were variations noted among the divisions, however. As shown in Figure 10, NED reported the lowest dropout rates, with the steadiest decline in dropout rates as standards progressed, while SEED and CEED reported an

approximately four percentage point decrease in dropout rates from Standard 1 to Standard 2. While learners in SHED, SEED, and CEED drop out less from Standard 3 to Standard 4, learners in SWED, CWED, and NED showed the opposite, where there were more learners who dropped out in Standard 4 relative to Standard 3.

When asked about the difference in dropout rates between girls and boys, the majority of head teachers responded that the dropout rates were higher for girls due to early marriages (24.1 percent), pregnancy (5.3 percent), and household chores (7.3 percent). Head teachers who observed that boys were more likely to drop out cited employment and other labor engagement as reasons for dropping out (19.9 percent).

**FIGURE 10: AVERAGE DROPOUT RATES BY STANDARD AND DIVISION**



Head Teacher Survey, 2017.

## REPETITION RATES

Overall, 31 percent of learners reported that they were repeating their current standard. This figure did not vary by sex. Across divisions, repetition rates declined as standards progressed, with repetition rates being the highest in Standard 1 and the lowest in Standard 4, with a slight increase from Standard 2 to Standard 3 (Table 9). This is largely consistent with repetition rates found in 2014 and 2016 in that repetition rates dropped as standards progressed from Standard 1 to 4, with stagnated repetition rates from Standard 2 to 3. Head teachers identified lack of engagement and participation in classes to be the primary reason for learners' repetition of standards. Other reasons that were cited included lack of textbooks and too many learners in the class.

**TABLE 9: AVERAGE REPETITION RATES BY STANDARD AND DIVISION IN PERCENTAGE**

STANDARD	CEED	CWED	NED	SEED	SHED	SWED
Standard 1	27.63	26.09	21.10	26.00	24.97	23.70
Standard 2	21.98	19.92	18.71	23.77	18.76	19.68
Standard 3	23.44	20.53	18.75	25.81	21.86	20.51
Standard 4	18.11	15.30	17.17	17.53	17.62	15.05

Head Teacher Survey, 2017.

## HEAD TEACHER DEMOGRAPHICS: GENDER, EDUCATION, AND TRAINING

There were very few female head teachers. As shown in Table 10, out of 318 schools surveyed for this baseline assessment, 40 schools (12.5 percent) had female head teachers, and the rest had male head teachers. When disaggregated by division, 6.3 percent of schools in SEED had a female head teacher, which was the lowest percentage across all divisions. While the percentage of schools with female head teachers in CEED, CWED, and NED ranged around 11 to 12 percent, in SHED and SWED, it was 18.9 percent and 20.7 percent, respectively.

Overall, head teachers had been in their position at their current school for nearly four years and had previously been a deputy head teacher or head teacher for close to eight years. Approximately 85 percent of the head teachers held a Malawi School Certificate of Education (MSCE), while about 14 percent reported holding a Junior Certificate of Education (JCE). The qualifications of head teachers did not vary much by division (Table 10).

All but two head teachers reported receiving any form of training in the past. Of the 129 who reported receiving a training in the past three years on school management, 45 percent received Malawi School Support Systems Program (MSSSP) training, and 66 percent received other management training

**TABLE 10: HEAD TEACHER DEMOGRAPHICS BY STANDARD AND DIVISION IN PERCENTAGE**

CATEGORIES	CEED	CWED	NED	SEED	SHED	SWED	OVERALL
Female head teachers	12.28	11.94	11.25	6.25	20.69	18.92	12.58
JCE	12.28	10.45	18.75	16.67	17.24	5.41	13.84
MSCE	87.72	86.57	78.75	83.33	82.76	94.59	84.91
Years of experience in this position	7.77	7.45	7.58	8.85	8.11	7.30	7.79
Years of experience in current school	3.58	4.26	3.49	4.22	5.11	2.97	3.33
PARTICIPATED IN TRAININGS(%)							
Instructional support	53.4%	58.3%	58.6%	52.0%	46.1%	53.3%	54.1%
School Management	33.7%	44.7%	43.5%	43.2%	47.8%	54.5%	44.0%
Teaching Instructions for Reading	62.0%	68.3%	56.2%	64.0%	56.9%	41.8%	59.5%

*Head Teacher Survey, 2017.*

## LEARNER CHARACTERISTICS

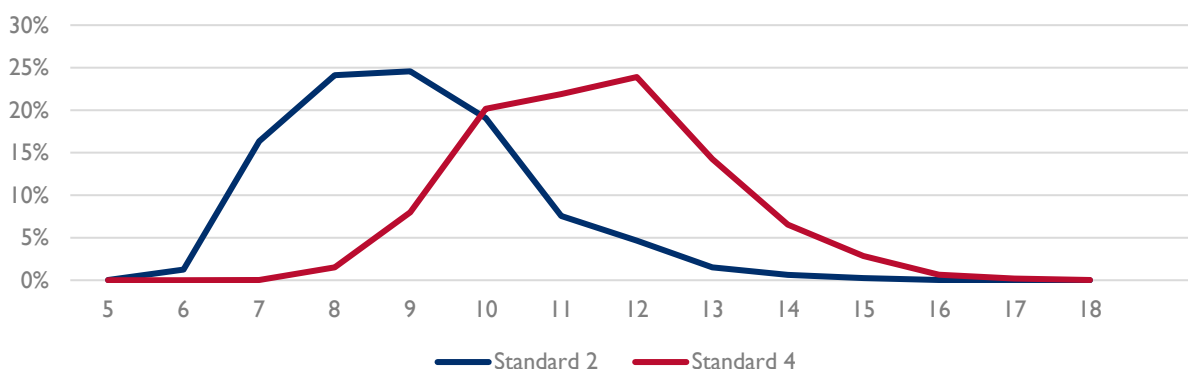
### AGE OF LEARNERS

Learners in Malawi are eligible to begin school in Standard 1 at age six to seven. If learners were to progress through one standard per year, as intended, Standard 2 learners would be age seven to eight, and Standard 4 learners would be nine to ten years old.

As per the self-reported data gathered through the learner survey, the average age of learners was about nine to ten years for Standard 2 and 11.5 years for Standard 4, as indicated in Figure 11 below. These data did not vary much by division. Similar results were also noticed in 2014 and 2016, where the average age of learners in Standard 2 was 9 and in Standard 4 was 12. By learner sex, the average age of Standard 2 boys was 9.2 and girls was 8.8. The gap between boys and girls remained the same in Standard 4, where boys were 11.7 years old on average, while girls were 11.3.

Overall, there were more over-age learners in Standard 4 than in Standard 2, with 48.4 percent of learners in Standard 4 and 33.7 percent in Standard 2. The difference in percentage of over-age learners between Standards 2 and 4 was most notable in NED, at 19 percentage points. By sex, there were more over-age boys than girls, with an 8.5 and 9 percentage point difference in Standards 2 and 4, respectively. Additionally, less than two percent of learners in Standards 2 and 4 were considered underage (i.e., six years or younger in Standard 2, eight years or younger in Standard 4).

**FIGURE 11: AVERAGE AGE OF LEARNERS BY STANDARD**



*Learner Survey, 2017.*

## LEARNER HEALTH AND FOOD AVAILABILITY

Nearly 42 percent of head teachers surveyed reported that their school participated in a school feeding program. Of those, 80.3 percent indicated that these school feeding programs occur before the school day starts. Some teachers had accounted this to be the reason for tardiness of their learners because learners need to be fed before class starts, which may delay learners getting to class on time. Half of the head teachers reported that these feeding programs were established over five years ago.

Overall, as per the learner surveys, 71.5 percent of learners reported to eat breakfast every morning and 94.2 percent to eat lunch every day. Of those who responded that they eat breakfast, 81.6 percent of learners responded that they have it at home, and of those who responded that they eat lunch, 98.7 percent of learners have it at home.

The average number of days learners eat breakfast per week was 5.4 days, with lunch at 6.7 days. More than half (52.5 percent) of the learners reported that they do not feel hungry at school. This was also indirectly corroborated by the finding that only 0.6 percent of learners picked hunger as a reason for disliking school.

When disaggregated by division, learners from both NED and SHED had breakfast about six days per week. The lowest number was in SEED, with an average of 4.9 days per week. When disaggregated by division for lunch, there were slightly fewer learners in SEED, SWED, and SHED who reported to eat lunch everyday than learners in CEED, CWED, and NED.

When learners were asked about days without eating any food, on average it was about 1.8 days per week. When disaggregated by division, learners in SEED, SWED, and SHED went without any food for about two days per week, whereas it was 1.5 days and 1.7 days, respectively, for learners in CWED and NED.

Over half (62.5 percent) of the learners responded that they missed school occasionally when they were sick. There were particularly more learners in SWED than in other divisions who reported missing school when they were sick. Further, 92.4 percent of learners responded that they go to a clinic or hospital when they are sick. When disaggregated by division, 94.4 percent and 94.3 percent of learners in NED and SWED responded that they visit a clinic or hospital when they are sick, with only 89.9 percent of learners in SEED doing so. Over three-quarters (76.8 percent) of learners in SWED also reported that they visit a doctor or a nurse often, compared to the overall average of 72 percent across the divisions.

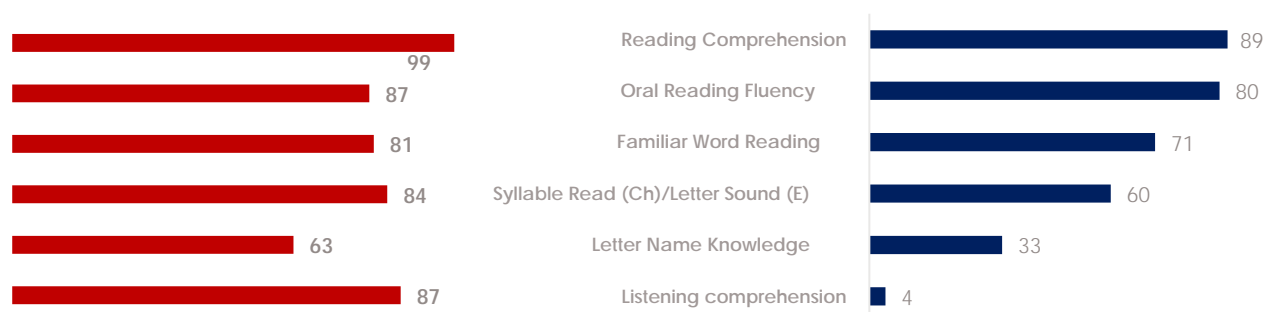
## **IV. FINDINGS: READING ASSESSMENT**

NRP baseline assessment data were weighted appropriately and analyzed. The following are the results:

### **ZERO SCORES**

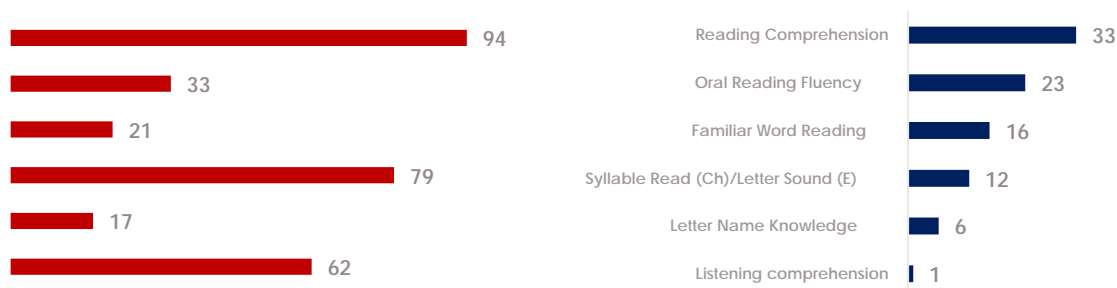
Percent of learners scoring zeros in each of the six subtasks tested in both languages and standards are shown in Figure 12 and Figure 13. Learners appear to be pre-readers in Chichewa with only four percent of learners in Standard 2 unable to answer a single question correctly. But, in English even in Standard 4, two thirds of learners could not answer a single question correctly, indicating that learners have not acquired pre-reading skills in English even after four years of schooling. While zero scores for letter recognition were the lowest among all the six subtasks in both languages and standards, most learners in Standard 2 scored zeros in initial decoding skills captured through sounding letters in English and reading syllables in Chichewa likely due to lack of acquisition of reading mechanics that is taught up to Standard 2. Consequently, most learners did not have critical early grade oral reading skills and comprehension. While there was a notable decline in percentage of learners scoring zero in oral reading fluency and reading comprehension from Standard 2 to 4, indicating that as learners moved to higher standards, they performed better in their reading skills, zero scores were still very high. In Standard 2, 80 percent of learners tested for Chichewa and 87 percent of learners tested for English, respectively, scored zero in correctly reading a text fluently, and 89 percent and over 99 percent of learners tested for Chichewa and English, respectively, were unable to correctly answer a single comprehension question after reading the text.

**FIGURE 12: STANDARD 2 ENGLISH (LEFT) AND CHICHEWA (RIGHT) ZERO SCORES PERCENTAGE LEARNERS**



Early Grade Reading Assessment, 2017.

**FIGURE 13: STANDARD 4: ENGLISH (LEFT) AND CHICHEWA (RIGHT) ZERO SCORES PERCENTAGE OF LEARNERS**



Early Grade Reading Assessment, 2017.

## NATIONAL READING ASSESSMENT FINDINGS BY SUBTASK FOR ENGLISH AND CHICHEWA

This section reports results of the NRP baseline assessment by subtask, organized based on the three stages of reading development. Each section includes a brief description of the subtask(s), the average and median Chichewa and English weighted scores,<sup>23</sup> and the percentage of learners scoring zero on the subtask, scoring perfectly on the subtask, and reading at least half of the words or answering at least half of the questions under the subtask correctly, for Standards 2 and 4.

### STAGE I: PRE-READING SKILLS

Pre-reading skills were captured through listening comprehension, for which results are presented below.

The Listening Comprehension subtask assessed whether a learner can listen to a passage read aloud and answer several inferential and factual questions correctly with a word or simple statement. During the

<sup>23</sup> Both mean and median indicate central tendency of the data. But, median is less affected by the presence of outliers relative to the mean. When the mean and the median are the same, the scores are more or less evenly distributed from the lowest to highest values and the data are symmetric. But, when there are scores that are skewed toward highest values, the mean will be larger than the median. When there are scores skewed toward lowest values, the mean will be smaller than the median.

listening comprehension subtask, the enumerators read an unfamiliar fable approximately 30 words long aloud to the learner and then asked them five comprehension questions. SI calculated scores for this subtask according to the percentage of questions that the learner answered correctly.

**Learners are performing well in the pre-reading skill of listening comprehension in Chichewa but are struggling in English. Most learners can answer at least three out of five of the questions correctly in Chichewa but almost none in English.**

As shown in Table 11, based on the average percent correct in Chichewa for each standard at 61 percent and 76 percent for Standards 2 and 4, respectively, Standard 2 learners were able to answer an average of 3.05 questions correct out of the total five questions asked, while Standard 4 learners answered an average of 3.8 out of five. In English, however, learners only scored an average of three percent in Standard 2 and ten percent in Standard 4, meaning that on average, learners in neither standard could answer even one question out of five correctly. The majority of learners in English scored below the mean score (87.12 percent in Standard 2 and 61.92 percent in Standard 4), while in Chichewa slightly over half of Standard 2 learners (56.27 percent) and only one-third of Standard 4 learners (33.64 percent) scored below the mean.

Zero scores in Chichewa were very low for this pre-reading subtask, at just four percent and one percent in Standards 2 and 4, respectively, likely due to familiarity with the language or similar native languages since infancy. However, zero scores for English were very high, at 87 percent of learners in Standard 2 and 62 percent of learners in Standard 4. Indeed, about one-third of the learners tested in Chichewa in Standard 4 were able to answer all five questions correctly; less than one percent were able to do so in English.

As shown in the last column, for Chichewa over half of learners in Standard 2 and over two-thirds in Standard 4 were able to answer at least three of the five listening comprehension questions, while in English less than two percent of learners were able to answer at least three out of five of the questions across both standards.

**TABLE 11: LISTENING COMPREHENSION SUBTASK RESULTS**

STANDARD	MEDIAN SCORE (PERCENT CORRECT)	AVERAGE SCORE (PERCENT CORRECT)	PERCENT LEARNERS BELOW AVERAGE SCORE	PERCENT LEARNERS ANSWERING ZERO QUESTIONS CORRECTLY (FLOOR)	PERCENT LEARNERS ANSWERING ALL QUESTIONS CORRECTLY (CEILING)	PERCENT LEARNERS ANSWERING 60% OF QUESTIONS CORRECTLY
CHICHEWA						
2	60	61	56.27	4	16.38	66.06
4	80	76	33.64	1	33.57	86.76
ENGLISH						
2	0	3	87.12	87	0.00	0.27
4	0	10	61.92	62	0.40	1.47

*Early Grade Reading Assessment, 2017.*



## STAGE 2: INITIAL READING AND DECODING SKILLS

The skills under the initial reading stage include letter name knowledge and familiar word reading in both Chichewa and English, letter sound knowledge in English, and syllable reading in Chichewa. Results on the individual subtasks are presented below.

**LETTER NAME KNOWLEDGE** The first initial-reading subtask measured the most basic reading skill of letter recognition. It assessed 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 was 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.

**In letter name knowledge, learners are showing beginning signs of letter recognition, slightly more in Chichewa than in English.**

As shown in Table 12, learners taking the Chichewa assessment in Standard 2 were able to read an average of 10.1 correct letters per minute, and 34.3 correct letters per minute for learners in Standard 4. Zero scores were relatively low in Chichewa for Standard 4 learners, with only six percent of learners not being able to read a single letter. In Standard 2, zero scores were higher at 33 percent. No learners in Standard 2 or Standard 4 were able to read all letters correctly. Further, while the mean score was similar to the median for learners in Standard 4 (around 35 clpm for both figures), the mean was much higher than the median for learners in Standard 2 (5.00 clpm for the median, and 10.08 clpm for the mean), indicating uneven distribution of scores and that there were some learners whose scores skewed more toward the highest values.

As teachers moved away from the whole-word approach of teaching (which was how learners were taught in Malawi prior to the MTPDS and EGRA interventions) to using phonics, it was expected that there would be improvements in these skills among the learners. Indeed, scores appeared to have slightly improved from 2016 for Chichewa. In the 2016 national reading assessment, learners in Standard 2 could read an average of 9.3 clpm, and in Standard 4, 32.7 clpm. While only seven percent of Standard 4 learners scored zero, 35 percent of learners in Standard 2 could not recognize a single letter correctly.

In English, learners read an average of 4.8 and 23.7 clpm in Standards 2 and 4, respectively. Zero scores were higher in English than in Chichewa, at 63 percent in Standard 2 and 17 percent in Standard 4. As in Chichewa, no learners were able to read all letters correctly. Also similar to Chichewa, the mean and median scores were nearly identical for learners in Standard 4 (around 23 clpm for both figures), while in Standard 2 the score distribution was uneven in that the mean and median, respectively, were at 4.84 clpm and 0.00 clpm.

**TABLE 12: LETTER NAME KNOWLEDGE SUBTASK RESULTS**

STANDARD	MEDIAN SCORE (CLPM)	AVERAGE SCORE (CLPM)	PERCENT LEARNERS BELOW AVERAGE SCORE	PERCENT LEARNERS SCORING ZERO LETTERS CORRECTLY (FLOOR)	PERCENT LEARNERS SCORING ALL LETTERS CORRECTLY (CEILING)	PERCENT LEARNERS SCORING 50% OF LETTERS CORRECTLY
CHICHEWA						
2	5.00	10.08	67.99	33	0	2.01
4	35.00	34.29	49.83	6	0	24.27
ENGLISH						
2	0.00	4.84	72.88	63	0	0.53
4	23.00	23.74	50.58	17	0	8.66

*Early Grade Reading Assessment, 2017.*

**LETTER SOUND KNOWLEDGE (ENGLISH)** For English, letter sound knowledge was shown to be directly linked to the children's ability to decode words and thus able to assess initial decoding skills (EGRA Toolkit, Second Edition, 2016, p. 23). For this subtask, enumerators provided learners with a page of 100 randomly distributed upper- and lowercase letters and asked learners to sound as many as possible letters within one minute. The subtask was scored by the number of letters that a learner correctly sounded in one minute (correct letters per minute—clpm) out of a total of 100 possible letters.

**Learners in both Standard 2 and 4 did not exhibit any initial decoding skills in English in terms of correctly sounding letters.**

As shown in Table 13, nearly 80 percent of learners in Standard 2 or 4 could not correctly sound even a single letter, as indicated by the very high zero scores. Although average scores were slightly higher among Standard 4 (2.4 clpm) relative to Standard 2 (1.7 clpm) learners, zero percent of learners in Standards 2 and 4 were able to read all letters correctly. Further, none of the learners in Standards 2 and 4 could read at least 50 of the 100 letters correctly. The average scores were very low, and the median score for both standards was zero.

**TABLE 13: LETTER SOUND KNOWLEDGE SUBTASK RESULTS (ENGLISH)**

STANDARD	MEDIAN SCORE (CLPM)	AVERAGE SCORE (CLPM)	PERCENT LEARNERS BELOW AVERAGE SCORE	PERCENT LEARNERS SCORING ZERO LETTERS CORRECTLY (FLOOR)	PERCENT LEARNERS SCORING ALL LETTERS CORRECTLY (CEILING)	PERCENT LEARNERS SCORING 50% OF LETTERS CORRECTLY
ENGLISH						
2	0	1.7	85.13	84	0	0.00
4	0	2.35	81.68	79	0	0.00

*Early Grade Reading Assessment, 2017.*

**SYLLABLE READING (CHICHEWA)** This subtask is generally used where the language has primarily open syllables and/or where the reading pedagogy in that language stresses syllabic combinations (EGRA Toolkit, Second Edition, 2016, p. 23). Since the Chichewa language is syllabic in nature, consisting of complex multi-syllable words, syllable reading is taught in language classes.<sup>24</sup> It is believed that this method will facilitate language acquisition. Given that the English language is not syllabic, this subtask was not included in the English RA tool. The subtask measured learners' ability to read syllables (e.g., "mi", "po," or "mle"). For this subtask, enumerators gave learners a table of 100 randomly ordered common syllables and asked them to read as many syllables as possible within one minute. The test was scored according to the number of correct syllables read per minute (cspm).

As shown in Table 14, scores for syllable reading were relatively low in both standards but less so in Standard 4. On average, learners in Standard 2 read six correct syllables per minute, while zero scores were high, at 60 percent. In Standard 4, learners read an average of 33.92 correct syllables per minute, while zero scores were relatively low, at only 12 percent. Less than one percent of learners in either standard could read all syllables correctly. Further, the average and median scores were similar in Standard 4 (36.00 and 33.92 cspm for median and average, respectively), but the median score was lower than the average for Standard 2 learners (0.00 and 6.01 cspm for median and average, respectively), indicating uneven distribution of scores and the presence of some scores that skewed toward high values.

**TABLE 14: SYLLABLE READING SUBTASK RESULTS (CHICHEWA)**

STANDARD	MEDIAN SCORE (CSPM)	AVERAGE SCORE (CSPM)	PERCENT LEARNERS BELOW AVERAGE SCORE	PERCENT LEARNERS SCORING ZERO SYLLABLES CORRECTLY (FLOOR)	PERCENT LEARNERS SCORING ALL SYLLABLES CORRECTLY (CEILING)	PERCENT LEARNERS SCORING 50% OF SYLLABLES CORRECTLY
CHICHEWA						
2	0.00	6.01	77.56	60	0	1.77
4	36.00	33.92	47.65	12	0.17	28.24

*Early Grade Reading Assessment, 2017.*

**FAMILIAR WORD READING** This test measured 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., for Chichewa: *atate*, *chiwala*, *zovala*; in English: *help*, *car*, *stop*). This assessed 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 was a timed test that was measured by the number of correct words read per minute (cwpm).

<sup>24</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. This is called the "syllabic method" of language teaching.

Learners struggled with familiar word reading, although they performed slightly better in Chichewa than in English. Learners in Standard 4 performed better than learners in Standard 2 in both languages.

As shown in Table 15, in Standard 2, learners read an average of 3.4 correct words per minute in Chichewa but less than one correct word per minute (0.94) in English. 71 percent and 81 percent of learners were unable to read a single word correctly in Chichewa and English, respectively. Results were slightly better in Standard 4, with learners reading an average of 23.7 and 10.3 cwpm in Chichewa and English, respectively. Zero scores for this subtask were moderately low, at 16 percent in Chichewa and 21 percent in English, but very few learners were able to read all words correctly. Further, the majority of learners in Standard 2 in both Chichewa and English scored below the average score (around 80 percent for Standard 2 learners in both languages). Around 65 percent for Standard 4 learners in English and around 47 percent for Standard 4 learners in Chichewa scored below the average score.

**TABLE 15: FAMILIAR WORD READING SUBTASK RESULTS**

STANDARD	MEDIAN SCORE (CWPM)	AVERAGE SCORE (CWPM)	PERCENT LEARNERS BELOW AVERAGE SCORE	PERCENT LEARNERS SCORING ZERO WORDS CORRECTLY (FLOOR)	PERCENT LEARNERS SCORING ALL WORDS CORRECTLY (CEILING)	PERCENT LEARNERS SCORING 50% OF WORDS CORRECTLY
CHICHEWA						
2	0	3.38	79.95	71	0.11	3.67
4	27	23.70	46.62	16	3.04	52.04
ENGLISH						
2	0	0.94	81.03	81	0.00	0.24
4	6	10.32	64.98	21	0.24	14.42

*Early Grade Reading Assessment, 2017.*

### STAGE 3: CONFIRMATION AND FLUENCY

The subtasks under this stage of reading include oral reading fluency and comprehension. Results for the individual subtasks are presented below.

**ORAL READING FLUENCY** This subtask measured learners' ability to read with fluency, accuracy, and comprehension. In this subtask, enumerators asked learners to read an oral reading passage of 56 words for the Chichewa RA and 47 words for the English RA. After one minute, the enumerator recorded the number of words read correctly (cwpm) and then asked 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 was able to read in the minute. There was a question for every two lines or so of text completed by the learner, with a total of five possible questions.

Reading fluency in both Chichewa and English was difficult, although slightly better in Chichewa than in English, for learners in both Standards 2 and 4.

As shown in Table 16, in Standard 2 for Chichewa, learners read an average of 3.4 cwpm, while 80 percent of learners were not able to read a single word correctly. Results were similar in English, with learners reading an average of 1.4 cwpm and 87 percent of learners not being able to read a single word of the story.

Standard 4 learners read an average of 25.8 cwpm in Chichewa and 14.9 cwpm in English. Although the majority of learners scored below the average score (over 80 percent for Standard 2 learners in both languages, and around half of Standard 4 learners in both languages), zero scores were much lower than in Standard 2 (23 percent in Chichewa and 33 percent in English). Further, most learners in Standard 2 for both languages were not able to read half of the words. Results were slightly better for Standard 4 learners taking the English assessment, with nearly one-third of learners reading at least half of the words correctly, while this figure was much better for Standard 4 learners taking the Chichewa assessment (50.56 percent).

**TABLE 16: ORAL READING FLUENCY SUBTASK RESULTS**

STANDARD	MEDIAN SCORE (CWPM)	AVERAGE SCORE (CWPM)	PERCENT LEARNERS BELOW AVERAGE SCORE	PERCENT LEARNERS SCORING ZERO WORDS CORRECTLY (FLOOR)	PERCENT LEARNERS SCORING ALL WORDS CORRECTLY (CEILING)	PERCENT LEARNERS SCORING 50% OF WORDS CORRECTLY
CHICHEWA						
2	0	3.39	82.46	80	0.19	3.33
4	29	25.82	46.12	23	4.15	50.56
ENGLISH						
2	0	1.39	87.68	87	0.00	1.36
4	13	14.87	57.17	33	1.03	28.45

*Early Grade Reading Assessment, 2017.*

Table 17 shows the range of words learners were able to read on the reading fluency subtask for Standards 2 and 4, measured by cwpm. In Standard 2, nearly all learners in both languages were not able to read any words correctly (79.84 percent in Chichewa and 86.91 in English). In Standard 4, though, the distribution varied throughout the range of words. Among Standard 4 learners taking the Chichewa assessment, nearly one-fourth of learners could not read a single word correctly, but one-fifth of learners were able to read 30–39 words, and about one-seventh of learners were able to read 40–49 words. Further, slightly over five percent of learners were able to read 56 words correctly per minute. In English, Standard 4 learners scored slightly lower, but the distribution still varied more than among Standard 2 learners. Nearly one-third of learners were unable to read a single word correctly, but slightly over one-fifth of learners could read 10–19 correct words per minute, and nearly one-seventh of learners were able to read 20–29 words correctly. However, only one percent of learners were able to read 47 correct words per minute.

**TABLE 17: DISTRIBUTION OF ORAL READING SCORES (PERCENT LEARNERS READING CORRECTLY)**

STANDARD		CHICHEWA (cwpm)						
2	0 WORDS	1–9 WORDS	10–19 WORDS	20–29 WORDS	30–39 WORDS	40–49 WORDS	50–55 WORDS	56 WORDS
	79.84	6.89	5.64	4.88	1.95	0.29	0.21	0.30
4	0 WORDS	1–9 WORDS	10–19 WORDS	20–29 WORDS	30–39 WORDS	40–49 WORDS	50–55 WORDS	56 WORDS
	22.83	4.99	8.69	16.82	20.81	14.88	5.46	5.53
		ENGLISH (cwpm)						
2	0 WORDS	1–9 WORDS	10–19 WORDS	20–29 WORDS	30–35 WORDS	36–40 WORDS	41–46 WORDS	47 WORDS
	86.91	7.37	3.76	1.35	0.38	0.12	0.11	0.00
4	0 WORDS	1–9 WORDS	10–19 WORDS	20–29 WORDS	30–35 WORDS	36–40 WORDS	41–46 WORDS	47 WORDS
	32.60	12.09	20.74	14.19	6.45	6.14	6.75	1.03

Early Grade Reading Assessment, 2017.

**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.

**Reading comprehension in both Chichewa and English was difficult, although slightly better in Chichewa than in English, for learners in both Standards 2 and 4.**

As shown in Table 18, learners in Standard 2 answered on average none of the five questions correctly. The large majority (89 percent) could not answer even 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. Learners in Standard 4 also performed poorly but answered an average of one of the five questions correctly, while 20.37 percent of learners were able to answer at least three out of the five comprehension questions correctly, which shows that they are beginning to acquire comprehension skills. In English, almost all learners could not answer a single question correctly or did not read far enough to be asked questions (100 percent in Standard 2 and 94 percent in Standard 4).

**TABLE 18: READING COMPREHENSION SUBTASK RESULTS**

STANDARD	MEDIAN SCORE (PERCENT CORRECT)	AVERAGE SCORE (PERCENT CORRECT)	PERCENT LEARNERS BELOW AVERAGE SCORE	PERCENT LEARNERS ANSWERING ZERO QUESTIONS CORRECTLY (FLOOR)	PERCENT LEARNERS ANSWERING ALL QUESTIONS CORRECTLY (CEILING)	PERCENT LEARNERS ANSWERING 60% OF QUESTIONS CORRECTLY
CHICHEWA						
2	0	3	88.82	89	0.16	0.59
4	20	29	55.69	33	4.14	20.37
ENGLISH						
2	0	0	99.74	100	0.00	0.00
4	0	2	93.55	94	0.00	0.69

*Early Grade Reading Assessment, 2017.*

**RELATION BETWEEN ORAL READING FLUENCY AND READING COMPREHENSION IN CHICHEWA** Results for the oral reading fluency and reading comprehension subtasks were closely related. For Chichewa, overall scores on reading comprehension indicated learners' ability to read fluently with comprehension. In Standard 2, zero scores were high, and over three-fourths of learners scored below the already low average score of 3.39 cwpm. Scores began to improve in Standard 4, albeit slightly, with nearly one-fourth of learners still unable to read a single word correctly and nearly half of learners scoring below the average score. This trend continued with reading comprehension, where in Standard 2 nearly 90 percent of learners were unable to answer a single comprehension question and scored below the low average score of three percent.

The designers of the early grade assessment tools consider learners as *readers* if they score above zero on the reading fluency subtask and can at least answer 60 percent (three out of four) of the comprehension questions correctly or answer 80 percent (four out of five) correctly at higher criteria. For Chichewa, under the criteria of 60 percent (three out of five questions) answered correctly, 10 learners (0.39 percent) in Standard 2 and 521 learners (20.5 percent) in Standard 4 can be considered as "readers". The share of readers reduced when the higher criteria of 80 percent (four out of five questions) answered correctly was used. By such higher criteria, only four Standard 2 learners (0.2 percent) and 209 Standard 4 learners (8.2 percent) qualified as "readers".

Poor performance on reading fluency and comprehension suggests that learners may have trouble with decoding and with reading fluently enough to comprehend a text. 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 later subtasks.

### **READING COMPREHENSION RESULTS: TEST TIMED AT ONE MINUTE VS. THREE MINUTES**

As discussed above, fluency and comprehension skills were measured through a simple oral reading passage of 56 words on the Chichewa RA and 47 words on the English RA, and five comprehension questions for both RAs under the reading comprehension subtask. In the RAs that are typically used globally and by SI in the past, oral reading of the passage was timed at 60 seconds, and the number of questions asked for testing learners' comprehension varied based on the extent of the passage read within



a minute. However, for this assessment, USAID/Malawi also requested that SI measure learners' reading comprehension when they were provided additional time to read the paragraph either silently to themselves or out loud and were asked to respond to as many of the five comprehension questions as they were able. Therefore, after the learner completed the reading comprehension subtask using guidelines followed by SI in its previous assessments, SI allowed the learner to again read the passage silently to themselves or out loud for three minutes and then allowed them to answer as many of the five questions under the comprehension sub-section as they were able. Since the entire RA tools were still administered within the 20 minutes stipulated by the tool originators, SI considered the additional component to be appropriate for the NRP assessment.

**When learners were given three minutes to read the passage and given the opportunity to answer as many comprehension questions as they were able to, improvements were most notable among Standard 4 learners tested for Chichewa. Much smaller improvements were found among Standard 2 learners in Chichewa and in English overall.**

As demonstrated by Table 19, in Standard 2, performance improved only slightly in both Chichewa and English with an extended time allowed. In Chichewa, learners in Standard 2 scored an average of 7.4 percent on the extended version of the subtask with three minutes, which is an improvement from 3.1 percent on the one-minute version. Zero scores also decreased, albeit slightly, from 88.8 percent on the one-minute version to 85.2 percent on the three-minute version. Differences between the one- and three-minute versions in English among Standard 2 learners were not notable.

Among learners taking the Chichewa RA in Standard 4, improvements were notable when they were given three minutes. On the one-minute version, learners scored an average of 28.8 percent correct, but when provided more time with the passage, learners answered an average of 54.1 percent of the questions correctly. Further, only 26.5 percent of learners were unable to answer a single question correctly on the extended version, which is an improvement from 32.6 percent of learners on the one-minute version.<sup>25</sup> For English, performance improved from an average of 1.9 percent on the one-minute version to 6.4 percent on the extended version, and zero scores decreased from 93.6 percent to 80.7 percent on the one- and three-minute versions, respectively.

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<sup>25</sup> The extended reading comprehension subtask was only given to learners who scored higher than zero on the oral reading fluency subtask, meaning that in Chichewa, 80 percent and 23 percent of learners were not given this subtask in Standards 2 and 4, respectively. In English, 87 percent of learners in Standard 2 and 33 percent of learners in Standard 4 were not given this subtask. These results should be interpreted accordingly.

**TABLE 19: READING COMPREHENSION RESULTS, TIMED AT ONE AND THREE MINUTES**

STANDARD	AT ONE MINUTE (PERCENT CORRECT)	AT THREE MINUTES (PERCENT CORRECT)	PERCENT SCORING ZERO – ONE MINUTE	PERCENT SCORING ZERO – THREE MINUTES
CHICHEWA				
2	3.09	7.38	88.82	85.16
4	28.81	54.09	32.55	26.49
ENGLISH				
2	0.07	0.24	99.74	99.14
4	1.92	6.37	93.55	80.68

*Early Grade Reading Assessment, 2017.*

## FINDINGS BY LEARNER SEX FOR ENGLISH AND CHICHEWA

For Chichewa, in both Standards 2 and 4, girls on average scored higher than boys in all subtasks except in listening comprehension. For English, in both Standards 2 and 4, girls on average scored as well as or higher than boys in most subtasks.

**CHICHEWA** Table 20 illustrates scores for boys and girls across all subtasks in Chichewa. In general, there were only minor differences noted in average scores between boys and girls for most subtasks. The largest differences by learner sex in both standards were noted only in syllable reading and oral reading fluency, where girls scored higher than boys. This trend continued for boys and girls scoring zero and scoring at the ceiling for subtasks.

In both standards, the greatest difference between boys and girls scoring zero was in syllable reading, where in Standard 2, 62.48 percent of boys and 57.38 percent of girls were unable to read a single syllable correctly, while in Standard 4, this figure was 13.51 percent of boys and 10.55 percent of girls.

Less than one percent of boys and girls were able to score at the ceiling for any subtask in Standard 2, except for listening comprehension, where around 16 percent of boys and girls were able to answer all five questions. In Standard 4, less than five percent of boys and girls could score at the ceiling for all subtasks, except for listening comprehension, where 35.40 percent of boys and 31.83 percent of girls were able to answer all five questions.

Statistically, average scores in Standard 2 among girls were significantly different from boys only for pre-reading skills of listening comprehension and one initial reading subtask of syllable reading. However, average scores in Standard 4 among girls were significantly different from boys for pre-reading, all initial-reading-related subtasks, and oral reading and comprehension subtasks.

**TABLE 20: SUBTASK LEARNER SCORES IN CHICHEWA, BY STANDARD AND SEX**

SUBTASK	BOYS			GIRLS			% SCORING ZERO		% SCORING AT THE CEILING	
	MEDIAN	MEAN	% BELOW MEAN	MEDIAN	MEAN	% BELOW MEAN	BOYS	GIRLS	BOYS	GIRLS
STANDARD 2										
Listening comprehension	60 percent correct	63 percent correct	52.7	60 percent correct	59 percent correct	59.84	3.22	4.49	16.60	16.16
Syllable reading	0 cspm	5.45 cspm	79.51	0 cspm	6.57 cspm	75.61	62.48	57.38	0.00	0.00
Familiar word reading	0 cwpm	3.1 cwpm	81.19	0 cwpm	3.65 cwpm	78.72	73.14	69.10	0.23	0.00
Oral reading	0 cwpm	3.14 cwpm	83.02	0 cwpm	3.65 cwpm	81.89	81.29	78.39	0.00	0.37
Reading comprehension (60 seconds)	0 percent	3 percent correct	89.11	0 percent	3 percent correct	88.52	89.11	88.52	0.23	0.10
STANDARD 4										
Listening comprehension	80 percent correct	77 percent correct	31.87	80 percent correct	75 percent correct	35.33	0.38	0.86	35.40	31.83
Syllable reading	36 cspm	31.59 cspm	52.1	36 cspm	36.13 cspm	43.39	13.51	10.55	0.17	0.17
Familiar word reading	27 cwpm	22.02 cwpm	51.97	27 cwpm	25.32 cwpm	41.48	18.30	14.21	2.70	3.37
Oral reading	29 cwpm	23.98 cwpm	50.68	29 cwpm	27.58 cwpm	41.75	23.25	22.41	3.49	4.78
Reading comprehension (60 seconds)	20 percent correct	28 percent correct	56.51	20 percent correct	30 percent correct	54.89	32.99	32.13	3.82	4.45

Early Grade Reading Assessment, 2017.

**ENGLISH** Table 21 illustrates average scores for boys and girls across all subtasks in English. Similar to the Chichewa RA, in both Standards 2 and 4, only minor differences between boys and girls were noticed for all subtasks. The largest differences in both standards were in letter sounds and oral reading, where girls scored higher than boys. Also similar to Chichewa, the differences between boys and girls scoring zero and at the ceiling were minor among all subtasks across both standards. In both Standards 2 and 4, nearly no differences existed between sexes for being able to score at the ceiling. For learners scoring zero, the greatest difference between boys and girls in Standard 2 was in familiar word reading, where 83.34 percent of boys and 78.73 percent of girls were unable to read a single word correctly. In Standard 4, the greatest difference was in oral reading fluency, with 34.63 percent of boys and 30.64 percent of girls unable to read a single word correctly.

**TABLE 21: LEARNER SCORES, BY SUBTASKS IN ENGLISH, STANDARDS, AND SEX**

SUBTASK	BOYS			GIRLS			% SCORING ZERO		% SCORING AT THE CEILING	
	MEDIAN	MEAN	% BELOW MEAN	MEDIAN	MEAN	% BELOW MEAN	BOYS	GIRLS	BOYS	GIRLS
STANDARD 2										
Listening Comprehension	0 percent correct	3 percent correct	87.79	0 percent correct	3 percent correct	86.45	87.79	86.45	0.00	0.12
Letter Sound	0 cspm	1.4 clpm	86.68	0 cspm	2.01 clpm	83.59	82.35	82.99	0.00	0.00
Familiar Word Reading	0 cwpm	0.96 cwpm	83.34	0 cwpm	0.92 cwpm	78.73	83.34	78.73	0.00	0.00
Oral Reading Fluency	0 cwpm	1.24 cwpm	89.37	0 cwpm	1.55 cwpm	85.99	88.30	85.53	0.00	0.00
Reading Comprehension	0 percent correct	0 percent correct	99.58	0 percent correct	0 percent correct	99.91	99.58	99.91	0.00	0.00
STANDARD 4										
Listening Comprehension	0 percent correct	10 percent correct	60.29	0 percent correct	9 percent correct	63.49	60.29	63.49	0.52	0.28
Letter Sound	0 cspm	2.27 clpm	81.87	0 cspm	2.43 clpm	81.49	79.29	79.53	0.00	0.00
Familiar Word Reading	6 cwpm	9.86 cwpm	65.74	6 cwpm	10.75 cwpm	64.24	22.79	19.26	0.00	0.39
Oral Reading Fluency	13 cwpm	13.94 cwpm	60.04	13 cwpm	15.78 cwpm	54.39	34.63	30.64	1.28	0.79
Reading Comprehension	0 percent correct	2 percent correct	94.11	0 percent correct	2 percent correct	92.99	94.11	92.99	0.00	0.19

Early Grade Reading Assessment, 2017.

## FINDINGS BY GEOGRAPHIC LOCATION FOR ENGLISH AND CHICHEWA

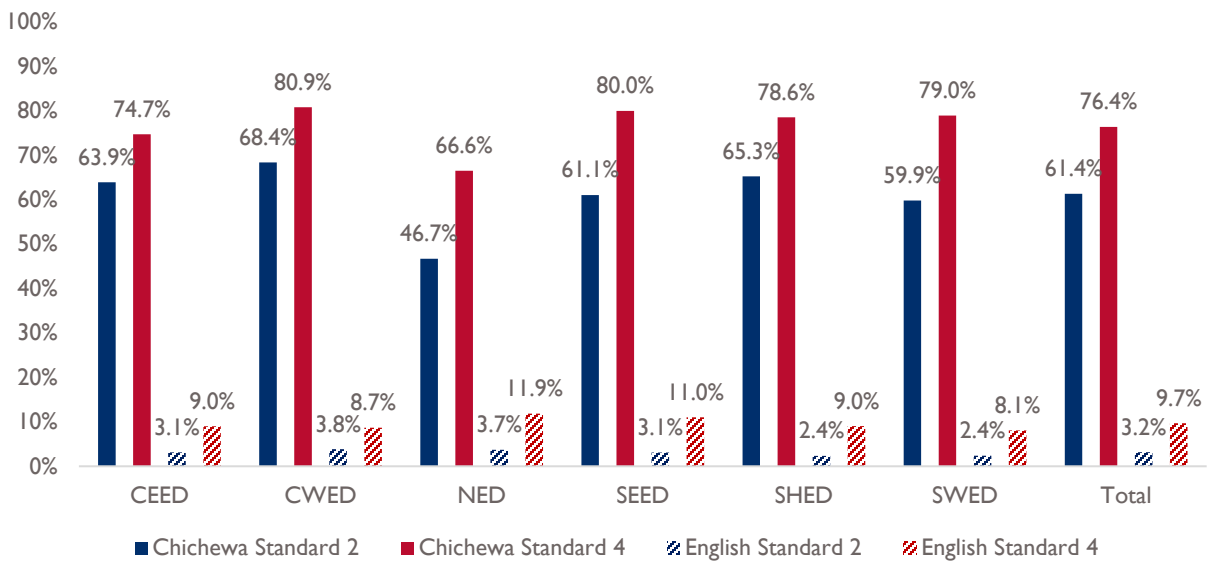
This section reports findings for a sample of subtasks disaggregated by the six education divisions. To compare results between divisions, SI analyzed one subtask per reading stage, selecting the subtasks that had the most variation in that reading stage to better enable the team to highlight differences 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

**Learners across all divisions performed much better on the Chichewa RA than on the English RA in both standards.**

As seen in Figure 14, learners in English struggled with listening comprehension, with learners in SWED performing the lowest (scoring an average of 2.4 percent and 8.1 percent in Standards 2 and 4, respectively). Learners in CWED scored the highest in both standards for Chichewa and in Standard 2 for English. For Standard 4 learners taking the English RA, learners in NED scored the highest, at 11.9 percent.

**FIGURE 14: AVERAGE LISTENING COMPREHENSION SCORES BY STANDARD AND DIVISION**



## LETTER NAME KNOWLEDGE BY EDUCATION DIVISION

In Standard 2, learners in CEED struggled the most in Chichewa letter name knowledge; in Standard 4, learners in NED struggled the most. For English, learners in NED in both standards scored the lowest on average (Figure 15). Learners in SHED scored the highest among all divisions and higher than the national average in both standards for both languages.

**FIGURE 15: AVERAGE LETTER NAME KNOWLEDGE SCORES BY STANDARD AND DIVISION**

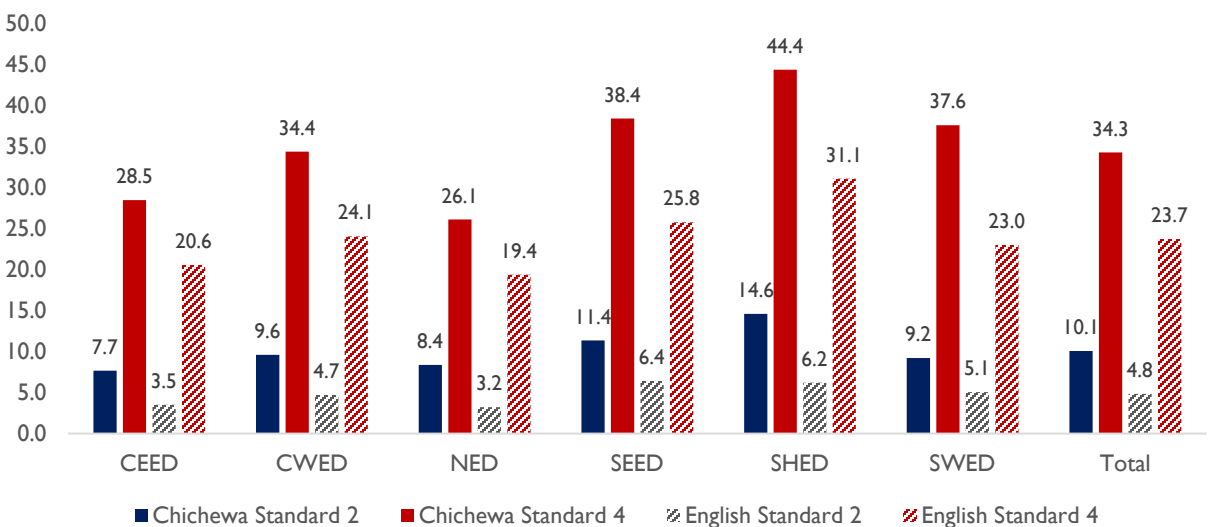
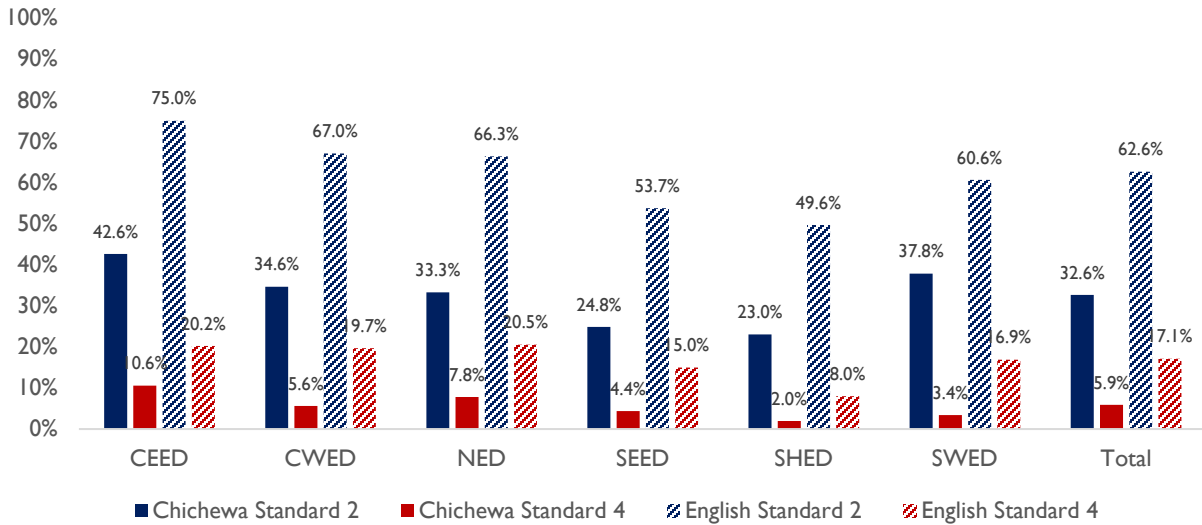


Figure 16 exhibits the percentage of zero scores on the letter name knowledge subtask by division. CEED showed the highest percentages of zero scores in Standard 2, at 42.6 percent in Chichewa and 70 percent in English. In Standard 4, zero scores were also the highest in CEED for Chichewa (10.6 percent) and the highest in NED for English (20.5 percent).

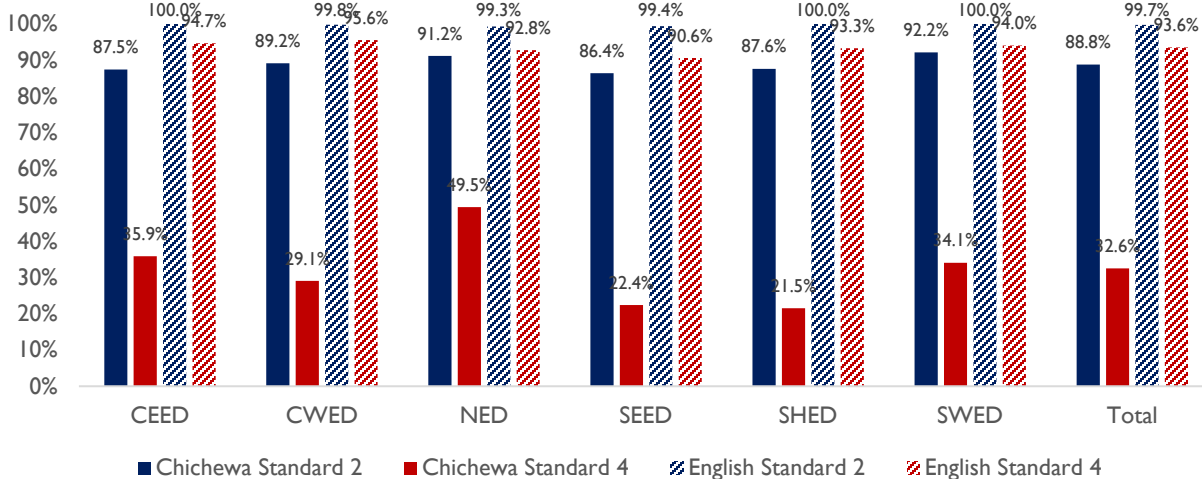
**FIGURE 16: PERCENT OF LEARNERS RECEIVING ZERO SCORES ON LETTER NAME KNOWLEDGE BY DIVISION**



## READING COMPREHENSION BY EDUCATION DIVISION

Disaggregation of reading comprehension zero scores by education division and standard are displayed in Figure 17. With the exception of Standard 4 learners testing for Chichewa, there was a high proportion of learners in both standards who could not read and comprehend a standard appropriate short story fluently. Nearly 90 percent of learners in Standard 2 scored zero on this subtask in Chichewa and nearly 100 percent in English. Nearly 94 percent of learners in Standard 4 scored zero on this subtask in English, in contrast to nearly 33 percent in Chichewa. Across both standards, the percentage of zero scores was consistent across all education divisions but was lowest in SHED for Chichewa and lowest in NED for English. Across both standards, zero scores were highest in NED for Chichewa (71.9 percent) and highest in CWED for English (98.1 percent).

**FIGURE 17: PERCENT RECEIVING ZERO SCORES ON READING COMPREHENSION BY EDUCATION DIVISION AND STANDARD**



## SUMMARY OF RESULTS

### TO WHAT EXTENT ARE STANDARD 2 AND 4 STUDENTS ACQUIRING PRE-READING SKILLS IN CHICHEWA AND ENGLISH?

Pre-reading skills are captured by the learners' performance on the listening comprehension subtask. Learners are asked to respond to five questions with a word or simple statement after they hear a passage read aloud to them by the enumerator.

**In Chichewa, learners performed well in listening comprehension.** Zero scores were very low at four percent and one percent in Standards 2 and 4, respectively. Standard 2 learners were able to answer an average of 3.05 questions correctly (61 percent), and Standard 4 learners answered an average of 3.80 correctly (76 percent).

**In English, learners struggled with listening comprehension in both standards.** 87 percent of learners in Standard 2 and 62 percent of learners in Standard 4 scored zero on the assessment. Learners scored an average of three percent in Standard 2 and ten percent in Standard 4, meaning that, on average, learners in neither standard could answer even one question out of five correctly.

**Girls scored slightly lower than boys in listening comprehension.** Zero scores for girls were slightly higher when compared to boys in both Standards 2 and 4 for Chichewa and among Standard 4 learners for English. Average scores for girls in both standards in Chichewa and for girls in Standard 4 in English were *significantly* lower than average scores among boys. Among learners tested for English in Standard 2, however, average scores for girls and boys were similar.

**Learners across all divisions performed better in Chichewa than in English for both standards in listening comprehension.** In English, Standard 2 learners in the Central Western Education Division (CWED) and Standard 4 learners in the Northern Education Division (NED) scored the highest, and learners in both standards in the Southern Western Education Division (SWED) performed the lowest. In Chichewa, learners in both standards in CWED scored the highest while NED ranked the lowest, likely because Chichewa is not the first language spoken by most people in the region.

### TO WHAT EXTENT ARE STANDARD 2 AND 4 STUDENTS ACQUIRING INITIAL READING SKILLS IN CHICHEWA AND ENGLISH?

Results from testing letter name knowledge and familiar word reading skills in Chichewa and English, and syllable reading in Chichewa and letter sound reading in English are discussed below.

**In letter name knowledge, learners recognized slightly more letters in Chichewa than in English.** In Chichewa, zero scores stood at 33 percent in Standard 2 but were relatively low in Standard 4 with only six percent of learners not being able to read a single letter. On average, Standard 2 learners were able to read 10.08 correct letters per minute (clpm), and Standard 4 learners read at 34.29 clpm. For English, zero scores were at 63 percent in Standard 2 and 17 percent in Standard 4. Learners read at an average of 4.84 clpm in Standard 2 and 23.74 clpm in Standard 4. The average scores were low compared to the 100 letters included in the test that could be correctly recognized in a minute.

**In Chichewa syllable reading, Standard 4 performed better than Standard 2 learners, though**



**scores were still very low.** On average, Standard 2 learners read 6.01 correct syllables per minute (cspm), and zero scores were high, at 60 percent. In Standard 4, learners read at an average of 33.92 cspm and zero scores were relatively low at only 12 percent. But, the average scores were still low compared to the 100 syllables included in the test that could be correctly read in a minute.

**In English letter sound knowledge, learners in both standards could not decode.** Learners did not exhibit any initial decoding skills in terms of correctly sounding letters. Nearly 80 percent of learners in Standards 2 and 4 scored zero. Average scores were slightly higher among Standard 4 learners (2.35 clpm) compared to Standard 2 learners (1.70 clpm). However, these average scores were very low relative to the 100 letters included in the test that could be correctly identified in a minute, indicating ample room for improvement.

**In familiar word reading, learners struggled overall, although they performed slightly better in Chichewa than in English.** In Standard 2, learners read at an average of 3.38 correct words per minute (cwpm) in Chichewa but less than one cwpm (0.94) in English. Some 71 percent of learners were unable to read a single word correctly in Chichewa and 81 percent of learners were unable to read a single word correctly in English. Results were slightly better in Standard 4, with learners reading at an average of 23.70 cwpm in Chichewa and 10.32 cwpm in English. Zero scores were moderately low, at 16 percent in Chichewa and 21 percent in English. However, the average scores were still low even in Standard 4 in Chichewa compared to the 50 familiar words included in the test to be read in a minute.

**Girls overall scored higher than boys in initial reading subtasks.** In both languages and standards, on average, girls scored higher than boys. In Chichewa, the differences in average scores were statistically *significant* for syllable reading in Standard 2 and for all initial reading subtasks for Standard 4. In English, differences between boys and girls were *significant* in letter sounds for Standard 2 and in familiar word reading for Standard 4.

**Differences in average scores in initial reading were noted across the education divisions.** In Chichewa, standard 2 learners in the Central Eastern Education Division (CEED) and Standard 4 learners in NED performed poorly across all the three initial reading subtasks. In English, learners in NED performed poorly in letter name knowledge subtask in both standards. In both languages, learners in Shire Highlands Education Division (SHED) scored the highest among all divisions and higher than the national average in both standards in all initial reading subtasks.

## **TO WHAT EXTENT ARE STANDARD 2 AND 4 STUDENTS ACQUIRING READING FLUENCY IN CHICHEWA AND ENGLISH?**

**Learners struggled to read fluently, though they did better in Chichewa than in English.** Among Standard 2 learners, 80 percent of learners scored zero in Chichewa in that they could not read a single word correctly. On average, they read at 3.4 cwpm. Results were similar in English, with 87 percent of learners scoring zero and learners reading at an average of 1.4 cwpm. In standard 4, zero scores stood at 23 percent in Chichewa and 33 percent in English. Learners read at an average of 25.8 cwpm in Chichewa and 14.9 cwpm in English.

Most learners in Standard 2 scored well below the maximum level of performance in both languages. Results were slightly better in Standard 4, with nearly one-third of learners in English and 51 percent of learners in Chichewa reading above 28 cwpm, half of maximum achievable level of 56 words.

**Girls on average scored higher than boys in oral reading fluency.** In Chichewa, differences in average scores by sex in both standards were noticed but the difference was *significant* only for Standard 4. In English, any difference in average scores by learner sex was only noticed in Standard 4 with girls *significantly* scoring higher than boys.

**Only slight differences in average scores existed across divisions for oral reading fluency.** While there were some slight differences noted in average scores in reading fluency by standard and by language across divisions, they were not notable.

#### TO WHAT EXTENT ARE STANDARD 2 AND 4 STUDENTS READING GRADE-LEVEL TEXT WITH COMPREHENSION IN CHICHEWA AND ENGLISH?

**Most learners could not comprehend grade level text.** Among learners in Standard 2 for Chichewa, the large majority (89 percent) could not answer a single comprehension question correctly. While learners in Standard 4 also performed poorly, they answered an average of one out of five questions correctly, which shows that they were beginning to acquire some comprehension skills only at the end of four years of schooling. In English, almost all learners were unable to answer a single question correctly (100 percent in Standard 2 and 94 percent in Standard 4).

**Girls on average scored higher than boys in reading comprehension.** In both Chichewa and English in both standards, some differences in average scores were noted. Statistically, in Standard 2 difference by sex was only significant for English. However, in Standard 4 a statistically significant difference by learner sex was noted only for Chichewa.

**Divisional differences existed in comprehension skills.** Among Standard 2 learners, zero scores were the highest in SWED for Chichewa. For English, almost all learners in CEED, SHED and SWED scored zero. In Standard 4, zero scores were the highest in NED for Chichewa and the highest in CWED for English.

**Almost no learners qualified as “readers” in Standard 2 while about a one fifth of learners qualified in Standard 4 in Chichewa.** The designers of the early grade assessment tools consider learners as *readers* if they score above zero on the reading fluency subtask and can at least answer 60 percent (three out of four) of the comprehension questions correctly or answer 80 percent (four out of five) correctly at a higher criterion. Under the criteria of 60 percent answered correctly, 10 learners (0.39 percent) in Standard 2 and 521 learners (20.5 percent) in Standard 4 can be considered as “readers”. By the higher criteria of 80 percent answered correctly was used, only four Standard 2 learners (0.2 percent) and 209 Standard 4 learners (8.2 percent) qualified as “readers”.

Following the one-minute version to test comprehension skills (for which results were discussed above), all learners were also assessed through a three-minute version. Here, the learners were given three minutes to read a passage and then provided with the opportunity to answer as many comprehension questions as they could. The maximum achievable performance involved answering all 5 questions correctly (100 percent).

**Learners comprehended better with three minutes than with one minute allowed for the test.** Small improvements among Standard 2 learners in Chichewa, and in English overall, were noted with the three-minute version. However, improvements were most notable among Standard 4 learners tested

for Chichewa. On the one-minute version, learners scored an average of 28.8 percent correct, but when provided three minutes for the passage, learners answered an average of 54.1 percent correctly, almost doubling their score when they were given additional time. Further, only 26.5 percent of learners were unable to answer a single question correctly on the extended version, which was an improvement from 32.6 percent of learners on the one-minute version. For English, learners improved from an average of 1.9 percent on the one-minute version to 6.4 percent on the extended version, almost three times more when given additional time. Zero scores also declined from 93.6 percent in one-minute version to 80.7 percent on the three-minute version.

## **V. FINDINGS ON FACTORS PREDICTING ORAL READING FLUENCY**

In order to draw policy relevant conclusions and recommendations, SI examined the factors that are associated with learner reading skills. To that end, SI further examined learner scores in oral reading fluency, and results are presented below. Using statistical methods, SI analyzed relationships between Chichewa and English oral reading fluency and potential prediction variables from the head teacher questionnaire, learner questionnaire, and the school climate protocol. Specifically, SI 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 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 detect. 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.

Based on extensive literature and past assessments, the SI team postulated plausible factors that relate to oral reading fluency. The factors include variables related to learner, household, school, teacher, and community characteristics. SI examined multiple conceptually plausible variables related to the factors and selected those that remained stable across various regression specifications. Below, SI presents only those variables that were found to be (a) most consistently and robustly correlated with oral reading fluency, (b) of expressed interest to USAID (such as class size), or (c) control variables that helped ensure accuracy and precision of the estimates (such as PCA for school resources). SI additionally conducted regressions by standards and learner sex, since summary statistics discussed earlier on this report on learner characteristics showed variations by standards and sex. This heterogeneity might be explained by the possibility that some factors differentially affect learners of different ages and sex or different levels of reading fluency. Regression results from the full models are shown in Annex II by standards, sex and language. Here, we discuss results of significant variables that were extracted from the full model.

In what follows, we explore the predictors in greater detail and offer additional analysis to contextualize the regression findings.

### **HOUSEHOLD MEMBERS READ TO LEARNERS**

**Whether learners were read to at home often (more than twice per week) was the strongest predictor of oral reading fluency. Learners who were read to more**

frequently scored significantly higher on oral reading fluency than those who were not, particularly more in Chichewa than in English.

**TABLE 22: EFFECTS OF READING TO LEARNERS AT HOME ON ORAL READING FLUENCY: REGRESSIONS RESULTS FOR CHICHEWA AND ENGLISH, BY SEX AND STANDARD (EXTRACTED FROM TABLES 23 TO 26)**

INDEPENDENT VARIABLE - LEARNERS ARE READ TO AT HOME OFTEN (>2 TIMES PER WEEK) (DUMMY)	GIRLS + BOYS		GIRLS ONLY		BOYS ONLY	
STANDARDS AND LANGUAGE	MARGINAL COEFFICIENT	SE	MARGINAL COEFFICIENT	SE	MARGINAL COEFFICIENT	SE
Chichewa – Standard 2	2.13	0.56***	2.06	0.86**	2.12	0.77***
Chichewa – Standard 4	6.21	0.84***	7.56	1.22***	4.83	1.09***
English – Standard 2	1.51	0.45***	0.24	0.53	2.77	0.67***
English – Standard 4	2.89	0.67***	2.30	0.95**	3.68	0.88***

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

As shown in Table 22, in both Chichewa and English, learners who were read to at home on a regular basis were able to read on average more correct words per minute than learners who are read to less frequently (i.e., sometimes, rarely, or never). This effect was highest for learners in Standard 4 for both languages: learners taking the Chichewa RA who were read to at home often could read an average of 6.21 cwpm more; learners taking the English RA who reported being read to at home often could read an average of 2.89 cwpm more. In Standard 2, learners who were read to at home read an average of 2.13 cwpm more on the Chichewa RA and 1.51 cwpm more on the English RA. These results were consistent with the 2016 NRA conducted by SI, which also showed that learners being read to at home often is a significant factor consistently correlated with higher Chichewa reading scores.

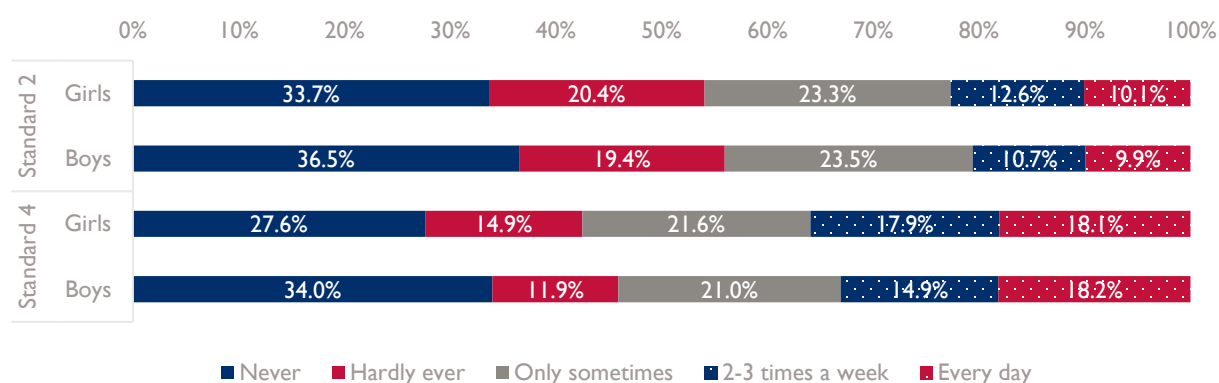
The differences in magnitude of the effect by sex were notable in all models, as shown in Table 22.<sup>26</sup> In English, Standard 4 boys who were read to often at home scored an average of 3.68 cwpm higher than those who were not, while girls scored an average of 2.3 cwpm higher. In Standard 2, being read to at home frequently improved oral reading fluency by about 2.77 cwpm for boys and 0.24 cwpm for girls relative to those who were not read to at home often. In Chichewa for Standard 2 learners, it was 2.12 cwpm more for boys and 2.06 cwpm more for girls, respectively, among those who were read to more frequently at home relative to those who were not. In Standard 4, girls who were frequently read to at home were able to read 7.56 cwpm more than those who were not, and boys were able to read an additional 4.83 cwpm than those who were not.

Recall that girls scored higher than boys on oral reading fluency across standards and languages, as shown in Table 20 and Table 21. Specifically, in Chichewa, girls in Standard 2 read an average of 3.65 cwpm, while boys read 3.14 cwpm, while in Standard 4, these figures were 27.58 cwpm and 23.98 cwpm for girls and boys, respectively. In English, girls in Standard 2 read an average of 1.55 cwpm, while boys read an average

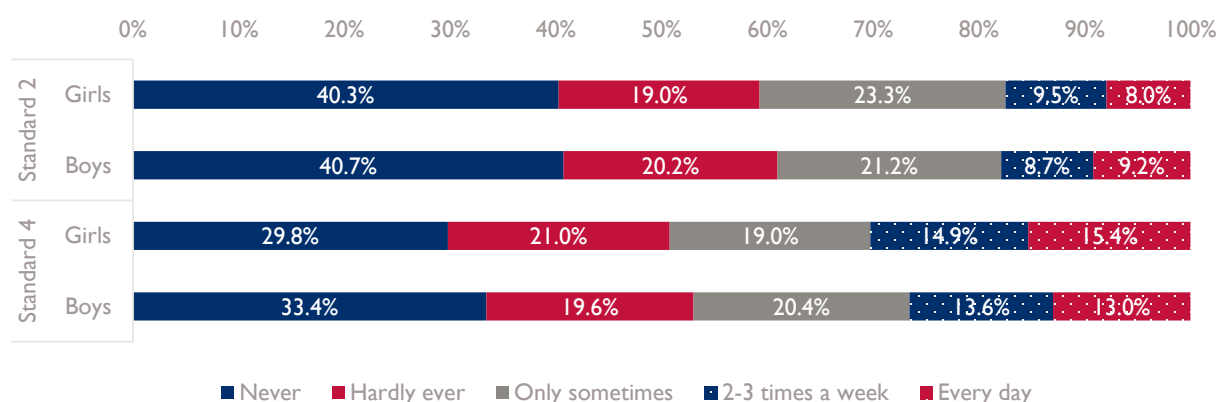
<sup>26</sup> In models disaggregated by learner sex, the effects of the indicator on oral reading fluency should be interpreted for that sex only. For example, results shown under “boys only” refer to effects of frequent reading to learners at home on reading fluency among boys relative to less frequent or no reading to learners at home for boys. Comparisons across sex should be made cautiously.

of 1.24 cwpm; in Standard 4, girls scored about 15.78 cwpm, while boys scored about 13.94 cwpm. These results may have been influenced by the fact that girls reported being read to more often than boys did. As evidenced by data drawn from the learner questionnaire, girls reported being read to more frequently than boys across languages and standards, as exhibited in Figure 18 and Figure 19. Further, learners taking the Chichewa RA reported being read to at home more often than learners taking the English RA. These results of girls being read to more often and learners taking the Chichewa RA being read to more often were all consistent with oral reading fluency scores being higher among girls who were read to more often at home and overall learners taking the Chichewa RA. Nonetheless, the finding that reading often to learners had a positive and significant effect on boys as well implies that scores among boys could be improved further if they are read to more often, as girls are, thereby closing the gap in scores between girls and boys.

**FIGURE 18: FREQUENCY OF BEING READ TO AT HOME, BY STANDARD AND SEX—CHICHEWA**



**FIGURE 19: FREQUENCY OF BEING READ TO AT HOME, BY STANDARD AND SEX – ENGLISH**



The large, robust relationship between being regularly read to at home and oral reading fluency suggests an excellent opportunity for programming that encourages parents and guardians to read to their children on a regular basis. As shown in Figure 18 and Figure 19, over two-thirds of children—regardless of sex and standard—are not being read to on a regular basis. Programs encouraging reading at home, however, should consider parents' own reading capabilities. Indeed, it is of little surprise that at least 30 percent of children in the sample report never being read to at home, as 38.7 percent of adults in Malawi are classified

as illiterate.<sup>27</sup> In areas where parent/guardian literacy is low, after-school reading activities staffed by community volunteers may offer an alternative option for ensuring that children are given the opportunity to more regularly practice reading outside of the classroom.

## LEARNERS TAKE BOOKS HOME FROM SCHOOL

Learners taking books home was a strong predictor of oral reading fluency. Learners who took books home scored significantly higher on oral reading fluency than those who did not, especially among Standard 4 learners.

**TABLE 23: EFFECTS OF LEARNER TAKES BOOKS HOME FROM SCHOOL ON ORAL READING FLUENCY: REGRESSIONS RESULTS FOR CHICHEWA AND ENGLISH, BY SEX AND STANDARD (EXTRACTED FROM TABLES 23 TO 26)**

INDEPENDENT VARIABLE - LEARNER TAKES BOOKS HOME FROM SCHOOL (DUMMY)	GIRLS + BOYS		GIRLS ONLY		BOYS ONLY	
	MARGINAL COEFFICIENT	SE	MARGINAL COEFFICIENT	SE	MARGINAL COEFFICIENT	SE
Standards and Language						
Chichewa – Standard 2	1.12	0.53**	0.62	0.65	1.55	0.95
Chichewa – Standard 4	5.91	1.12***	6.13	1.65** *	5.78	1.57***
English – Standard 2	1.37	0.34***	1.78	0.48** *	0.85	0.50*
English – Standard 4	2.49	0.74***	3.07	1.29**	2.24	1.07**

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

As shown in Table 23, learners who reported taking books home from school was another strong predictor of oral reading fluency across all models. Similar to learners being read to at home, there was some variation in the magnitude of effect. In Chichewa, Standard 2 learners who took books home were able to read an average of 1.12 cwpm more than learners who did not take books home, while learners in Standard 4 were able to read 5.91 cwpm more. In English, these increases were 1.37 cwpm more in Standard 2 and 2.49 cwpm more in Standard 4.<sup>28</sup>

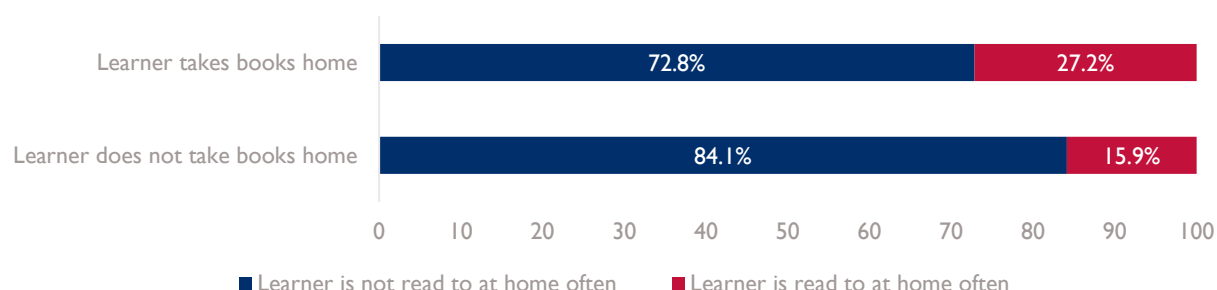
The majority of learners reported taking books home, though girls were slightly more likely than boys (78.6 percent versus 76.9 percent), and learners in Standard 4 were more likely to take books home than learners in Standard 2 (84.6 percent versus 70.8 percent) with no difference between girls and boys. Of the learners who reported that they bring books home, over 90 percent reported reading them with little difference between girls and boys (92.6 percent and 91.6 percent, respectively), and learners in Standard 4 were more likely to read the books they brought home than learners in Standard 2 (96.5 percent and 86.9 percent, respectively). Of the small percentage of learners who reported not reading the books they

<sup>27</sup> [http://www.unicef.org/infobycountry/malawi\\_statistics.htm](http://www.unicef.org/infobycountry/malawi_statistics.htm)

<sup>28</sup> In another assessment in Malawi (Social Impact, 2016, National Reading Assessment), it was found that teachers hesitated to hand out all the textbooks they have been provided for the following three reasons: there were not enough for each learner to have one, they were worried that learners will not take good care of them, and they were worried that learners will lose them. Under NRP, text books are printed and distributed to all schools, mandated to handover books to take home, and will be replenished annually. Also, community level activities would focus on caring for books that the children bring home.

bring home, nearly all (88.8 percent) said it was because they could not read.<sup>29</sup> As evidenced by Figure 20, though, when learners bring books home, the likelihood that they will be read to often by someone in their household goes up by nearly 12 percentage points relative to learners who do not bring books home (p-value<0.001). Given the strong relationship between bringing books home/being read to at home and oral reading performance, policymakers should consider how to make reading materials more readily available for children and their guardians to use at home.

**FIGURE 20: NUMBER OF LEARNERS WHO READ OFTEN, BY WHETHER THEY TAKE BOOKS HOME**



## LEARNER AGE AND REPETITION

Age was a significant predictor of oral reading fluency, positively for learners in Standard 2 but negatively for learners in Standard 4.

**TABLE 24: EFFECTS OF LEARNER AGE ON ORAL READING FLUENCY: REGRESSIONS RESULTS FOR CHICHEWA AND ENGLISH, BY SEX AND STANDARD (EXTRACTED FROM TABLES 23 TO 26)**

INDEPENDENT VARIABLE - LEARNER AGE (IN YEARS)	GIRLS + BOYS		GIRLS ONLY		BOYS ONLY	
	MARGINAL COEFFICIENT	SE	MARGINAL COEFFICIENT	SE	MARGINAL COEFFICIENT	SE
STANDARDS AND LANGUAGE						
Chichewa – Standard 2	0.37	0.18**	0.02	0.22	0.63	0.21***
Chichewa – Standard 4	-0.56	0.29*	-0.40	0.47	-0.57	0.39
English – Standard 2	0.14	0.09	0.07	0.14	0.34	0.13***
English – Standard 4	-0.83	0.19***	-1.22	0.28***	-0.29	0.24

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

As shown in Table 24, age was a significant predictor of oral reading fluency across most models.<sup>30</sup> Overall, results indicate that age was a positive predictor for learners in Standard 2 and a negative predictor for learners in Standard 4. For Standard 2 learners taking the Chichewa RA, age was a significantly positive predictor overall and for boys and a positive but not significant predictor for girls. Specifically, learner scores increased 0.37 cwpm overall and 0.63 cwpm for boys for each additional year of age. This effect

<sup>29</sup> Nearly all (89.8 percent) learners who reported not reading the books they bring home because they cannot read were not read to at home frequently. The reasons behind this are unknown and are an area for further exploration. For example, these learners may not have a literate household member to read to them.

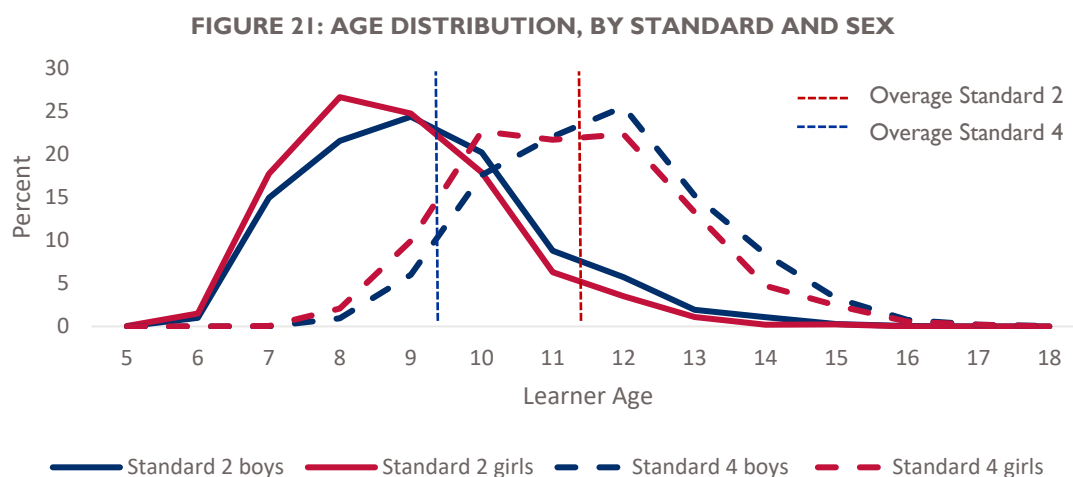
<sup>30</sup> Age was self-reported by learners, therefore results surrounding this indicator should be interpreted with caution, given that learners may not accurately report their own age.



was not present for Standard 4 learners taking the Chichewa RA when disaggregated by sex, but age was a slightly significant negative predictor for these Standard 4 learners overall, with oral reading fluency scores decreasing by 0.56 cwpm for each additional year of age. Results were even less consistent for learners taking the English RA. In Standard 2, age was a significant positive predictor for boys only, with learner scores improving by 0.34 cwpm for each additional year of age. In Standard 4, age was a significant negative predictor overall and for girls, with oral reading fluency scores dropping by 0.83 cwpm and 1.22 cwpm for each additional year of age, respectively.

This positive relationship for Standard 2 learners and negative relationship for Standard 4 learners was further explored through Figure 21. Overall, the average age among learners in Standard 2 was nine years, which is slightly above the expected age for their standard (seven to eight years old). When disaggregated by sex, boys were slightly older than girls, with boys at 9.2 years old and girls at 8.8 years old. Further, over one-third of boys and slightly under one-third of girls were considered officially over-age for their standard (ten years old). Given that age was only a significant positive predictor among boys in Standard 2 but not girls, it is possible that boys' slightly older age drove this positive effect.

In Standard 4, however, age was a negative predictor. In Standard 4, the average age among learners was 11.5 years old, which is above the expected age for Standard 4 (nine to ten years old). Similar to Standard 2, boys were slightly older than girls (11.7 and 11.3, respectively). Further, over half of boys (53.4 percent) were officially over-age for Standard 4 (12 years old), while 43.5 percent of girls were officially over-age. It may be the case that older children in Standard 4 were less likely to attend lessons regularly, as they may face more demands outside of school such as helping with household chores and engaging in labor or farming. These results were consistent with the 2016 NRA regression results. The reasons underlying this negative relationship are areas for further research.



Very few head teachers reported being underage as a reason for learners repeating a standard (4.51 percent in Standard 2; 0.3 percent in Standard 4). Further, less than two percent of learners in Standards 2 and 4 were considered underage (i.e., six years or younger in Standard 2, eight years or younger in Standard 4). Contrary to teacher beliefs, underage learners in the study actually performed better on oral reading fluency, significantly so in Standard 4, with underage Standard 4 learners scoring 12.2 cwpm higher ( $p\text{-value} < 0.001$ ) on the Chichewa RA and 10.5 cwpm higher ( $p\text{-value} < 0.001$ ) on the English RA than their non-underage counterparts.

Repeater status was a significant predictor, except for Standard 2 learners tested for English reading skills. It was, however, consistently negatively associated with oral reading fluency.

**TABLE 25: EFFECTS OF LEARNER REPETITION ON ORAL READING FLUENCY: REGRESSIONS RESULTS FOR CHICHEWA AND ENGLISH, BY SEX AND STANDARD (EXTRACTED FROM TABLES 23 TO 26)**

INDEPENDENT VARIABLE - LEARNER REPEATER STATUS (DUMMY)	GIRLS + BOYS		GIRLS ONLY		BOYS ONLY	
STANDARDS AND LANGUAGE	MARGINAL COEFFICIENT	SE	MARGINAL COEFFICIENT	SE	MARGINAL COEFFICIENT	SE
Chichewa – Standard 2	-1.65	0.56***	-1.91	0.76**	-1.28	0.66*
Chichewa – Standard 4	-6.10	1.00***	-7.41	1.43***	-4.90	1.30***
English – Standard 2	-0.31	0.34	-0.22	0.46	-0.56	0.44
English – Standard 4	-3.73	0.77***	-3.74	0.94***	-3.83	0.89***

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

As shown in Table 25, repeater status was consistently a significant and negative predictor of oral reading fluency across all models, except for Standard 2 learners taking the English RA, where it was not significant. In Chichewa, repeaters significantly scored an average of 1.7 points lower in Standard 2 and 6.1 points lower in Standard 4 relative to those who did not repeat the class. In English, it was 3.7 points lower in Standard 4. When disaggregated by sex, there was typically not a notable difference from the above trends. These results indicate that reading skills would not improve with class repetition. Therefore, identification of learners that lag behind in classes and offering remediation opportunities should be considered as a means to improve reading skills. Also, reasons for repetition should be examined and addressed well.

Interestingly, learners in Standard 2 were more likely to repeat a standard than learners in Standard 4, with 36 percent of Standard 2 learners repeating the current school year, and only 21.6 percent of Standard 4 learners repeating ( $p$ -value<0.001). A contributing factor of this may be that the survival rate in Standard 2 in sampled schools was 90.7 percent, whereas it was 76.7 percent in Standard 4, suggesting that would-be repeaters in Standard 4 already dropped out in a previous standard.<sup>31</sup>

To better understand the factors driving repetition, given its strong negative association with oral reading fluency, SI examined learner characteristics, as reported in the learner questionnaire, to determine which factors were associated with repetition. Table 26 presents factors for which there were statistically significant differences between repeaters and non-repeaters. Overall, repeaters were more likely to miss school often because they were sick, more likely to get tired at school, and less likely to be read to at home on a regular basis. These results, *ceteris paribus*, likely imply that by improving learners' health and by reading to learners frequently at home, repetition could potentially be reduced, and reading fluency skills could thereby be improved.

<sup>31</sup> Extrapolated based on dropout rates for Standards 1–4 as reported by head teachers in the 2017 Head Teacher Questionnaire.

**TABLE 26: CHARACTERISTICS OF REPEATERS AND NON-REPEATERS**

VARIABLE	REPEATERS		NON-REPEATERS		T-TEST	
	PERCENT	SD	PERCENT	SD	T-STATISTIC	P-VALUE
Learner misses school often due to sickness	12	0.32	9	0.29	-3.58	0.0003
Learner gets tired at school	26	0.44	22	0.41	-4.58	0.0000
Learner is read to at home frequently	22	0.41	26	0.44	4.24	0.0000

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

## SCHOOL FEEDING AND LEARNER NUTRITION

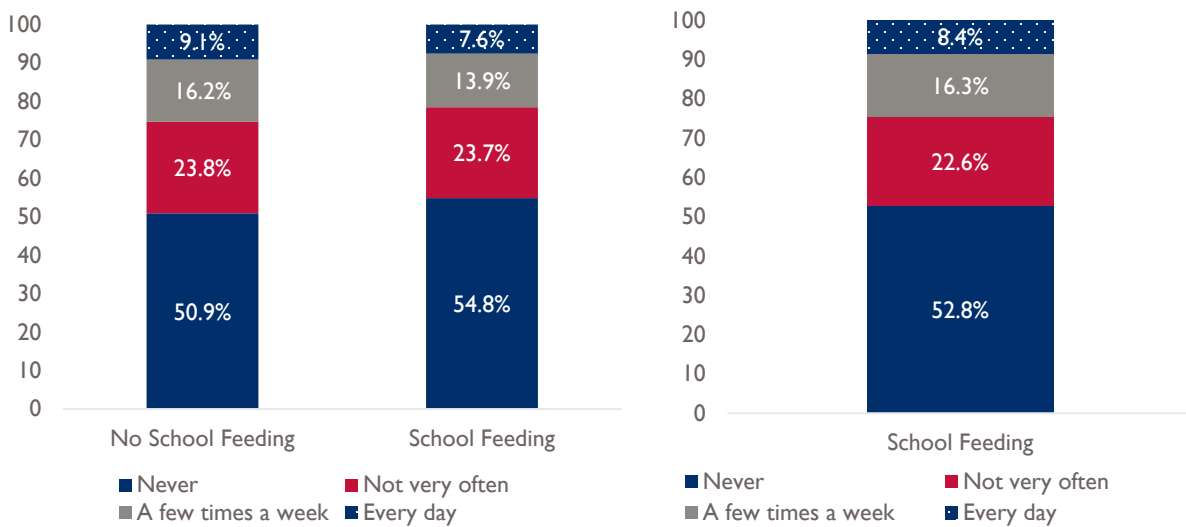
School feeding was found to be positively associated with higher scores among learners in both Standards taking Chichewa or English RA but only was a significant predictor for Standard 2 learners taking the Chichewa RA.

For Chichewa, Standard 2 learners who were in schools with feeding programs were able to read 1.55 cwpm more than learners in schools without school feeding programs. When disaggregated by sex, school feeding remained significant for boys but not for girls. Boys in schools with feeding programs were able to read 1.87 cwpm more than boys in schools without feeding programs.

As reported by head teachers, 41.6 percent of schools had a feeding program. Of these schools, the majority of head teachers (80.3 percent) reported that school feeding occurs before school starts, while 18.2 percent and 1.5 percent reported that feeding occurs in the middle of the day and after school, respectively. Further, over two-thirds of head teachers (78 percent) reported that school feeding occurs every day, while over half (50.7 percent) expressed that the feeding programs have been at their school for more than five years. However, despite this high prevalence of school feeding programs, only 34 percent of learners reported eating breakfast at schools (conditional on the school having a school feeding program), and less than one percent of learners reported eating lunch at school (conditional on the school having a school feeding program). These results suggest a potential opportunity to improve participation in school feeding programs for learners, either through advocacy with learners and their guardians or by adjusting the timing and quality of meals to maximize takeup and thereby improving the reading skills.

Further, in schools that have a school feeding program, almost 22 percent of learners reported feeling hungry at school at least a few times a week, while this figure was slightly over 25 percent for learners in schools that do not have a school feeding program, as shown in Figure 22. However, when making this figure conditional on whether the learner ate breakfast or lunch at school, nearly 23 percent of learners still reported to be hungry at school a few times a week or every day, although the reduced sample size brought about by making this figure conditional should be considered. Further, learners who reported being hungry at school at least a few times a week were 3.6 percentage points more likely to be sick often than learners who did not report being hungry at school (p-value<0.001). These results may indicate that the breakfast being provided at school is likely not enough to sustain a learner or keep them healthy.

**FIGURE 22: FREQUENCY OF LEARNERS FEELING HUNGRY AT SCHOOL, BY SCHOOL FEEDING AVAILABILITY ALONE (LEFT) AND WHEN BREAKFAST OR LUNCH ARE PROVIDED (RIGHT)**



While the type of breakfast food consumed by learners was not a consistently significant predictor of oral reading fluency across all models, learners reporting eating sweet potatoes for breakfast was a slightly significant predictor for Standard 4 boys taking the Chichewa RA, overall for Standard 4 learners taking the English RA, and for girls in Standard 4 taking the English RA.<sup>32</sup> Specifically, Standard 4 boys who ate sweet potatoes scored an average of 2.08 points higher on the Chichewa RA than boys who did not eat sweet potatoes for breakfast, while Standard 4 learners overall and Standard 4 girls who ate sweet potatoes for breakfast were able to read 1.30 cwpm and 2.25 cwpm more than those who did not eat sweet potatoes for breakfast, respectively.

Learners who eat breakfast at home were over five percentage points more likely to eat sweet potatoes than learners who eat breakfast at school ( $p\text{-value} < 0.001$ ). This aligns with the fact that learners who go to a school with a feeding program were nearly ten percentage points less likely to eat sweet potatoes for breakfast than learners who do not go to a school with a feeding program ( $p\text{-value} < 0.001$ ). Given the significantly positive relationship between learners who eat sweet potatoes for breakfast and reading performance, these results provide an opportunity to improve the nutritional quality of meals to increase reading scores.

Further, the relationship between nutrition and learners reporting feeling tired at school was explored, given that feeling tired had a statistically negative relationship with oral reading fluency performance for Standard 2 learners taking the Chichewa RA as well as specifically for Standard 2 girls taking the Chichewa RA. Overall, Standard 2 learners' oral reading fluency scores dropped 1.24 points, and Standard 2 girls' scores dropped 1.64 points if they reported feeling tired at school. Certain foods significantly decreased learners' tiredness at school. Specifically, learners who have tea for breakfast were 4.4 percent less likely to be tired at school ( $p\text{-value} < 0.001$ ). However, learners were ten percentage points more likely to consume tea for breakfast if they eat breakfast at home than if they eat breakfast at school ( $p\text{-value} < 0.001$ ). Similar to the results on sweet potatoes' positive impact on oral reading fluency performance, these results

<sup>32</sup> SI tested with several types of breakfast foods such as *phala* (porridge), *nsima*, tea, sweet potatoes, etc., that were reported to be eaten by the learners. Only sweet potatoes were found to be correlated with reading scores.

provide an opportunity to improve the nutritional quality of meals to maximize effects of nutrition on improving reading scores.

## **CLASS SIZE**

**Class size was not a significant predictor of oral reading fluency performance.**

There was no clear pattern in terms of learner reading fluency and class size, with both lower- and higher-performing children being spread across a wide range of class sizes (see Annex 12). Similar result was also found in the 2016 NRA.

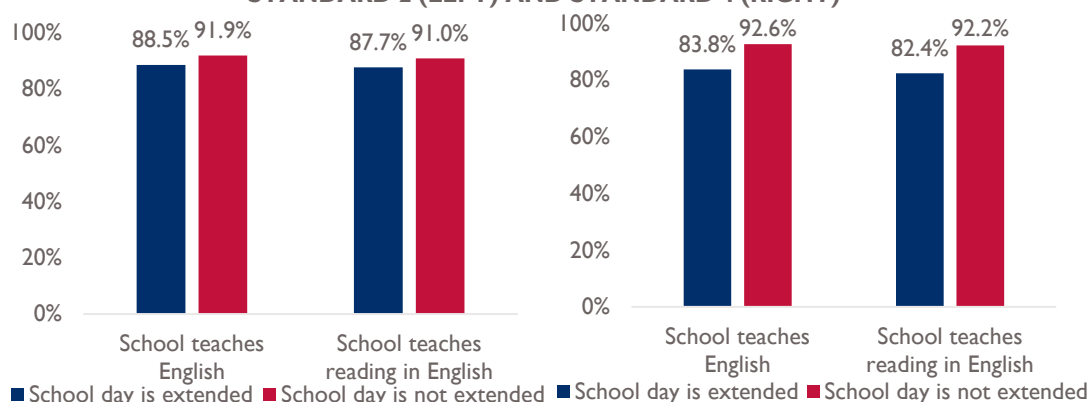
## **EXTENDED SCHOOL DAY**

**Schools having an extended school day was a significantly positive predictor only for Standard 4 learners taking the English RA.**

In Standard 4, among those who took English RA, learners who were in schools that have an extended school day were able to read 2.17 cwpm more than those who were not. When disaggregated by sex, the predictor remained positive only for boys. Specifically, boys in schools with an extended school day were able to read 2.96 cwpm more than those in schools that did not have it.

Less than half of head teachers (47.4 percent) reported that an extra hour has been added to their school day. Of those that reported extended school days, the majority were due to EGRA (29.2 percent), while less than ten percent were a result of MTPDS, another organization or project, or due to another reason. It was more common for the school day to be extended in Standard 2 than in Standard 4 (37.9 percent and 22.9 percent, respectively). However, within these standards that had an extended school day, Standard 4 was more likely to extend for all five school days than Standard 2, albeit slightly (69.3 percent and 65.6 percent, respectively). Figure 23 further shows extended school days and associated factors. Specifically, schools that have an extended school day were statistically significantly, albeit slightly, less likely to teach English or to teach reading in English than schools without an extended school day ( $p\text{-value} < 0.001$  for both indicators). This trend was present across both Standards 2 and 4. Schools whose school days were not extended in Standard 2 were over three percentage points less likely to teach English and reading in English. In Standard 4, these differences were more notable. Specifically, schools who did not have an extended day in Standard 4 were nearly 10 percentage points less likely to teach English and reading in English. There was already a slightly positive relationship between extending the school day and oral reading performance, though if that extended time were used for English reading instruction, the predictor could be a stronger driver of English oral reading fluency.

**FIGURE 23: SCHOOL TEACHES ENGLISH AND READING IN ENGLISH, BY SCHOOL DAY EXTENSION—STANDARD 2 (LEFT) AND STANDARD 4 (RIGHT)**

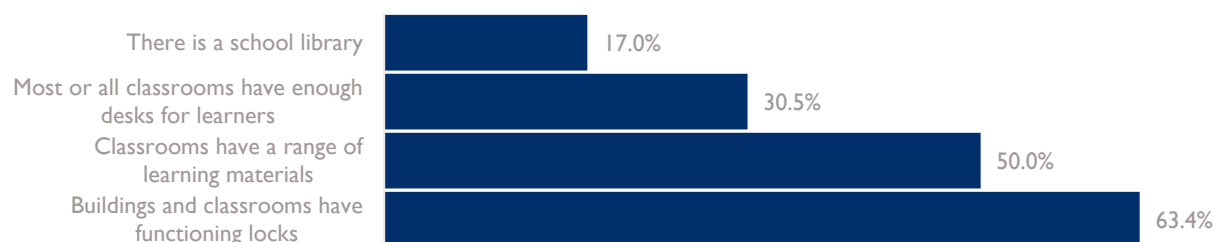


## SCHOOL RESOURCES

The school resources index score was a significantly positive predictor for both Standard 2 and 4 learners tested for Chichewa or English reading fluency.

In Standard 2, learners were able to score 0.41 cwpm more on the Chichewa RA and 0.42 cwpm more on the English RA with stronger school resources. In Standard 4, learners read about 1.11 cwpm and 0.65 cwpm more on the Chichewa and English RA, respectively. When disaggregated by sex, the school resources PCA was a significant predictor for Standard 2 girls taking the Chichewa RA (who were able to read 0.56 cwpm more), for Standard 4 girls and boys taking the Chichewa RA (whose scores improved by 1.00 cwpm and 1.31 cwpm, respectively), Standard 2 girls and boys taking the English RA (who were able to read 0.49 cwpm and 0.34 cwpm more respectively), and Standard 4 girls taking the English RA (who were able to read 0.99 cwpm more).

**FIGURE 24: EXPLANATORY VARIABLES OF SCHOOL RESOURCES PCA**



The PCA index score was made up of 11 related variables that together convey information about the school's infrastructure and learning environment (variables listed in Annex 7). Four variables in particular exhibited high correlation coefficients, meaning that these four variables were the main drivers of the PCA score and thus have high explanatory value. Specifically, schools having enough desks for learners, classrooms having a range of learning materials, buildings and classrooms having functioning locks, and schools having a school library contributed most to the PCA score. These variables all facilitate the learning environment in that sufficient desks allow learners to focus on the teaching in a comfortable atmosphere, classrooms having a range of learning materials provide comprehensive learning opportunities and encourage creativity, classroom locks ensure safety and allow learners to focus on learning, and school

libraries provide resources for learners to continue their learning in between class times and outside of school. The frequencies of these school resources are presented in Figure 24. Over half of schools had functioning locks on their buildings and classrooms (63.4 percent) and a range of learning materials in classrooms (50 percent). About 30 percent were found to have enough desks for learners in classrooms, and 17 percent had school libraries.

### **LANGUAGES SPOKEN IN EDUCATION DIVISIONS<sup>33</sup>**

Standard 4 learners tested for English reading fluency in the education divisions where non-Chichewa languages are also spoken scored significantly higher than learners in primarily Chichewa-speaking divisions. Schools in the education divisions where non-Chichewa languages are also spoken offered English and reading in English more often than in primarily Chichewa-speaking divisions, thus providing more opportunities for learners to learn and read English.

The predictor representing the divisions made of populations also speaking non-Chichewa languages was only significant for Standard 4 learners taking the English RA, who were able to read 1.78 cwpm more than learners who are in divisions primarily made of Chichewa-speakers. When disaggregated by sex, this indicator was a predictor only for girls, who were able to read 1.88 cwpm more than girls in divisions primarily made of Chichewa speakers.

SI further examined school-level characteristics, as reported in the head teacher questionnaire, to determine what factors were associated with divisions that also contain non-Chichewa speakers or primarily Chichewa speakers. As presented in Table 27, there were statistically significant, albeit minor, differences in the types of lessons offered at schools in different divisions. Specifically, schools in non-Chichewa-speaking divisions were more likely to offer English lessons and reading in English lessons across Standards 2 and 4, by six to seven percent. Recall that Standard 4 learners in these non-Chichewa speaking divisions were able to read nearly 2 cwpm more on the English RA than those in Chichewa-speaking divisions—these results may be driven by the fact that schools in the divisions where non-Chichewa languages are also spoken offered English and reading in English more often, thus providing more opportunities for learners to learn and comprehend English.

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<sup>33</sup> Chichewa is widely spoken in southern and central regions, while Tumbuka is spoken in northern regions; Yao is spoken in lake areas in the southern tip close to Mozambique. Therefore, SI considered CEED and CWED as primarily consisting of Chichewa-speaking populations, with NED, SEED, SHED, and SWED as including non-Chichewa speakers as well. For the dummy indicator, North (NED and SHED) and South (SWED and SEED) are coded as one and Central (CEED and CWED) as zero.



**TABLE 27: CHARACTERISTICS OF NON-CHICHEWA-SPEAKING DIVISION AND CHICHEWA-SPEAKING DIVISION**

VARIABLE	PRIMARYLY NON-CHICHEWA-SPEAKING DIVISION		PRIMARYLY CHICHEWA-SPEAKING DIVISION		T-TEST	
	PERCENT	SD	PERCENT	SD	T-STATISTIC	P-VALUE
School teaches English – Standard 2	93	0.26	87	0.34	-9.81	0.0000
School teaches reading in English – Standard 2	92	0.27	85	0.35	-11.20	0.0000
School teaches English – Standard 4	93	0.26	87	0.34	-9.81	0.0000
School teaches reading in English – Standard 4	92	0.27	86	0.34	-10.01	0.0000

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

### Summary of Factors that Predict Oral Reading Fluency

- *Learners being read to at home more than twice per week was the strongest predictor.* Those who were read to more frequently at home scored significantly higher than those who were not, particularly more in Chichewa than in English.
- *Learners taking books home was the next stronger predictor.* Those who took books home scored significantly higher than those who did not, especially among Standard 4 learners.
- *Age was a significant predictor,* positively for learners in Standard 2 but negatively for learners in Standard 4.
- *Repeater status was a significant predictor* except for Standard 2 learners taking the English RA. It was consistently negatively associated with oral reading fluency.
- *Presence of school feeding programs was positively associated with higher scores* among learners in both standards taking the Chichewa or English RA but was only a significant predictor for Standard 2 learners taking the Chichewa RA.
- *Higher levels of school resources were a significantly positive predictor* for both Standard 2 and 4 learners taking the Chichewa RA and the English RA. Specifically, resources that contribute to the learning environment such as having enough desks for learners, classrooms having a range of learning materials, buildings and classrooms having functioning locks, and having a school library were the main drivers of PCA scores.
- *Standard 4 learners taking the English RA in the education divisions where non-Chichewa languages are also spoken scored significantly higher than learners in primarily Chichewa-speaking divisions.* Schools in the education divisions where non-Chichewa languages are also spoken were found to offer English and reading in English more often than in primarily Chichewa-speaking divisions, thus providing more opportunities for learners to learn and read English.
- *Class size was not a significant predictor* of oral reading fluency scores for any standard, sex, or languages tested.

- *Extended school day was not a significant predictor for improving Chichewa scores. Schools having an extended school day was only a significantly positive predictor for Standard 4 learners taking the English RA.*

## VI. CONCLUSIONS AND RECOMMENDATIONS

**Malawian learners performed well in the pre-reading subtask but struggled with initial reading subtasks.** Learners exhibited strong pre-reading listening comprehension skills in Chichewa than in English likely due to more exposure to the language since infancy. Among initial reading skills, learners in both standards performed slightly better in letter recognition in both languages than in other subtasks. They did not exhibit any initial decoding skills in terms of correctly sounding letters in English or reading syllables in Chichewa indicating that acquisition of mechanics of reading that is essential for advanced reading fluency and comprehension is poor. They also struggled at familiar word reading, although they performed slightly better in Chichewa than in English. By sex, boys slightly but consistently underperformed girls except in the pre-reading subtask. Overall, while learners showed some signs of acquiring initial reading skills slightly more in Chichewa than in English, average scores fell well below maximum achievable performance in both standards and languages.

**Even at the end of four years of schooling, most Malawian learners could not read fluently or comprehend a grade level text in Chichewa or English.** In Chichewa, only 0.4 percent of Standard 2 learners and 20.5 percent of Standard 4 learners qualified as “readers” by scoring above zero on reading fluency and being able to answer 60 percent of the comprehension questions correctly. Girls generally performed slightly better than boys across both standards and languages. However, both boys and girls underperformed in their ability to read even up to half of the maximum performance achievable in the subtask. Oral reading fluency in both languages and standards could, however, be improved through learners being read to at home more than twice per week, learners taking books home to read and ensuring availability of wide range of learning materials in classes.

Based on the findings and conclusions above, SI recommends the following to USAID and the MoEST to improve reading skills among primary learners in Malawi:

**Encourage parents and guardians to read more often to and with learners.** NRP activities have recently started building community programs to encourage parents and household members to read to learners more frequently. Such programs that focus on household member involvement in learners’ reading need to continue and be made sustainable, since reading skills are clearly shown to improve and class repetition tends to decline with such practices, among other factors. Moreover, demonstrations at reading camps and reading fairs can be held to promote practices such as parental behavior of reading to and also reading with learners at home such that learners can also practice reading in addition to listening to reading at home. In areas where parent/caretaker literacy is low, afterschool reading activities staffed by community volunteers may offer an alternative option to ensure that learners are read to more regularly and also could practice reading outside of the classroom. Public media, radio, and television can also be effectively used to inform parents and community members of practical ways to support their children at home and within the community to develop and practice reading skills.

**Work with schools and communities to ensure there are enough books available for learners to take books home to read.** Adequate text books and appropriate reading materials including NRP aligned supplementary reading materials should be made more readily available for children to take home to

be read to and with their family. Further, learners could be encouraged to take books home to read, possibly through reading incentive programs that provide small non-financial rewards for learners who read multiple books over school break periods or even throughout the academic year. Furthermore, relevant books to read to children should be distributed regularly.

**Provide more reading practice at school.** Ensure that teachers provide more reading practice for learners, and that Primary Education Advisor (PEAs), Head Teachers and Section Heads<sup>34</sup> provide coaching and mentoring to teachers for them to help learners to read. Teacher guides developed under NRP include activities for reading practices and learner books contain text for reading practice. Also, nationwide trainings were provided on use of the teacher guides for remediation classes. Adherence to teacher guides and scripted lesson plans would help provide more reading practice at school for both regular and remedial classes.

**Assess reasons for any differences in reading skills by sex to improve reading skills of both girls and boys.** Early reading skills are the most basic learning skills that help learners in their later educational attainments. Therefore, any gender-based differences in reading skills should be identified at early stages and addressed. Reading promoted through afterschool clubs staffed by local mentors in some African countries have been shown to improve reading skills. Further, qualitative assessments could be performed to understand factors that could contribute to differences in scores by learner sex.

**Update or develop benchmarks for both languages and for Standards 1 to 4.** Currently, benchmarks developed for Chichewa in 2011 and 2014 for Standards 1 to 3 are the only official benchmarks available for use to understand the extent of reading skills acquired by primary learners. However, with the NRP-initiated efforts to improve reading skills, the benchmarks need to be updated for Chichewa for all standards in primary school and newly developed for English. The extensive and longitudinal reading assessment data for Chichewa now available through multiple nationwide assessments and this baseline assessment data could be used for such purposes. These actions are essential to build a robust database with realistic and relevant data that can be analyzed to track progress and make programmatic policy decisions to improve primary educational quality in Malawi. Also, it is important for all technical stakeholders to periodically review the benchmarks and adjust them based on realities to avoid setting very ambitious standards that could not be reached within a specified period within the general quality of teaching in public schools. Once the benchmarks are updated, assessment tools should be revisited to align with the benchmarks.

**Embed a process evaluation to also examine the links between NRP activities and reading performance.** Future data collection activities may include assessing fidelity of NRP implementation alongside learner assessments to understand how NRP achieved its intended targets in outcomes. In that regard, links between use of scripted lesson plans to help teach reading skills and reading performance should be examined.

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<sup>34</sup> Under NRP, section heads provide coaching and mentoring to teachers. In each school, 2 section heads for Standards 1 and 2, and 2 section heads for Standards 3 and 4 are trained to provide intense in-house coaching. Also, peer coaching is encouraged through teacher sharing circles.

# **ANNEX I: STATEMENT OF WORK**

## **STATEMENT OF WORK: 2017 NATIONAL READING ASSESSMENT**

### **INTRODUCTION AND BACKGROUND**

USAID/Malawi is implementing the Malawi Early Grade Reading Improvement Activity: MERIT that targets students in standards 1-4 in all schools nationwide. The activity involves building capacity of teachers with improved reading instruction pedagogy, developing and supplying textbooks for students use in classrooms, providing safe spaces for practicing reading and working with parents and communities to support the teaching of reading to students after school. This activity will complete in 2020 and is being implemented at a cost of \$65M. The activity has rolled out to standard 1 in 2016/2017 academic calendar and will further roll out to standards 2-4 in 2017/2018 academic calendar. Therefore there is a need to conduct baseline reading assessments in standard 2 and 4 before the roll-out. The baseline will enable USAID report on the before and after impact on students reading abilities in outer years

### **SCOPE/PURPOSE OF THE 2017 NATIONAL READING ASSESSMENT**

The purpose of the assessment is to determine the reading ability of students in standard 2 and 4 from a national representative sample.

### **ASSESSMENT QUESTIONS**

The assessment must answer the following questions:

- i. To what extent are standard 2 students acquiring pre-reading skills in Chichewa and English?
- ii. To what extent are standard 2 and 4 students acquiring reading fluency in Chichewa and English?
- iii. To what extent are standard 2 and 4 students reading grade level text with comprehension in Chichewa and English

### **TASKS**

The Contractor must perform the following tasks as part of this scope of work:

- Develop reading assessment instruments that are well equated grade appropriate and aligned to the revised scope and sequence for Standards 1-4 for English and Chichewa Subjects.
- Administer instruments through the assessments.
- Analyze the findings and draft the 2017 National Reading Assessment Report.

### **DELIVERABLES AND TIMELINE**

The Contractor must furnish the following deliverables following specific requirements highlighted below:

#### **A. Inception Report**

The inception report must describe how each question will be answered by way of data collection methods, data sources, sampling and indicators) and address all technical requirements. The Inception report should not exceed 15 pages, excluding annexes and at a minimum must contain the following:

- **Assessment Methodology:** The assessment design must include appropriate sample sizes required to ensure minimum detectable size effect to allow for required scientific rigor and describe and document the methodological approaches that will be used to answer the assessment questions sufficiently and clearly. The design must include an assessment framework and assessment tools for each assessment question and highlight the conceptual model(s); and specify the measurement criteria to be used to respond to each question. It must discuss any risks and limitations that may undermine the reliability and validity of the assessment results. The design must outline data collection processes for each question.
- Complete set of assessment questions, elaborated on as necessary. Any questions added during the contract negotiations must be clearly indicated and any deleted questions must be mentioned with a reason as to their exclusion.
- Discussion of risks and limitations that may undermine the reliability and validity of the assessment results.
- Specification of indicators that must be used as a guide in answering each question.
- Discussion of the data collection and data analysis methods that will be used for each question. State the limitations for each method. Include the level of precision required for quantitative and qualitative methods and value scales or coding used for qualitative methods. Standard data collection methods for USAID assessments are: surveys, questionnaires, interviews, focus groups, document review and observations.
- Detail key data sources that will be selected to answer each assessment question.
- Explanation of how existing data will be incorporated and used to answer the assessment questions.
- Timeline showing the assessment phases (data collection, data analysis and reporting) with their key deliverables and milestones.
- Specific responsibilities of each team member for each assessment phase. Include any changes in the assessment team.
- Discussion of logistics for carrying out the assessment. Include specific assistance that will be required from USAID, such as providing arrangements for key contacts within the Mission or Government.
- Discussion on the use of spatial data collection methods and formats to ensure locations included in the assessment sampling frame are captured for integration into the Mission's geographic information system and to permit spatial analysis of assessment data at the school level. The contractor must provide geo-referenced data sets to the USAID/Malawi Contracting Officer's Representative (COR). At a minimum, data must be provided in an MS Excel sheet that includes a unique identifier for each data record, with latitude and longitude locations in decimal degree format to the fifth place (e.g., 34.45673 and -13.36712). During the inception plan the AOR will work closely with the contractor to determine other applicable assessment data that will be included into the spatial data table for each assessment location. USAID/Malawi will provide a generic EXCEL template for the Contractor to use that will facilitate this process.
- Appended draft instruments for data collection specific to questions and indicators in the assessment.
- The inception report must clearly document and discuss how gender and disability analysis will be integrated into the design of the assessment.

## B. Draft Final Assessment Report

The Contractor must submit an evidence-based draft final assessment report that gives a clear and concise answer to each assessment question with relevant explanation and supporting information. The Mission will have 10 working days to review the draft report. The Contractor will have 10 working days after receipt of the Mission's comments to address the comments to the satisfaction of the Mission. The Contracting Officer's Representative will communicate the approval to the Contractor when it is attained.

### C. Final Assessment Report

The Contractor must submit an evidence-based final assessment report that answers, in full, each assessment question and incorporates any relevant information. The report must comply with the Checklist for Assessing USAID Assessment Reports and the technical requirements that will be provided to the Contractor by the COR. The final report format will be agreed with the USAID/Malawi Education Office, but should at minimum include:

- USAID branded cover page
- Executive summary
- 3-5 pages summarizing key points, including project purpose and background, key assessment questions, methods, findings, conclusions, and recommendations.
- Data Methods and Analysis
- Findings, Conclusions and Recommendations
- Appendices as appropriate

USAID/Malawi will approve the final report. The report must be in English, should not exceed 50 pages excluding relevant Annexes, (e.g. SOW, interview transcripts/notes, photos and success stories), and must include matrices and other visuals to consolidate and summarize data.

The Contractor must submit the final report through email. The Contractor must further submit the Final Report to the USAID Development Experience Clearinghouse, no later than 15 days upon USAID written acceptance of the Final Report.

The Contractor must ensure that Appendix One of the USAID Assessment Policy – Criteria to Ensure the Quality of the Assessment Report is followed. This includes:

- The assessment report must represent a thoughtful, well-researched and well-organized effort to objectively evaluate what worked in the activity, what did not and why;
- Assessment reports must address all assessment questions included in the scope of work;
- The assessment report should include the scope of work as an annex. All modifications to the scope of work, whether in technical requirements, assessment questions, assessment team composition, methodology or timeline need to be agreed upon in writing by the technical officer;
- Assessment methodology must be explained in detail and all tools used in conducting the assessment such as questionnaires, checklists and discussion guides will be included in an Annex in the final report;
- Assessment findings will evaluate outcomes and impact on men, women, girls, and boys as well as people with disabilities;

- Limitations to the assessment must be disclosed in the report, with particular attention to the limitations associated with the assessment methodology (selection bias, recall bias, unobservable differences between comparator groups, etc.);
- Assessment findings must be presented as analyzed facts, evidence and data and not based on anecdotes, hearsay or the compilation of people's opinions. Findings must be specific, concise and supported by strong quantitative or qualitative evidence;
- Sources of information must be properly identified and listed in an annex;
- Recommendations must be supported by a specific set of findings; and
- Recommendations must be action-oriented, practical and specific, with defined responsibility for the action.

#### D. ASSESSMENT DATA

The Contractor must submit data used in the assessment in accordance to USAID's Policy on Development Data and ADS 579. Guidance is available at

<https://www.usaid.gov/sites/default/files/documents/1868/ADS579FactSheet%202015-02-13.pdf>

#### Required Contractor Timelines for Deliverables

<b>DELIVERABLES</b>	<b>Due Date</b>
<b>Inception Report</b>	To be submitted within 15 business days upon modification to the contract
<b>Draft Final Report</b>	October 15, 2017
<b>Final Report</b>	November 15, 2017
<b>Upload of Final Report to the DEC</b>	December 15, 2017
<b>Submission of Assessment Data</b>	December 15, 2017

#### INFORMATIONAL RESOURCES PROVIDED BY USAID/MALAWI

The following documents will be provided by USAID/Malawi to the Contractor for use in the assessment:

- Malawi Basic Education Statistics (Malawi Education Information Management System)
- MERIT Annual Progress Report
- 2016 National Reading Assessment and Instruments

The Offerors are encouraged to review relevant USAID ADS (Chapters 203 and 578) and Evaluation Policy (<https://www.usaid.gov/sites/default/files/documents/2151/USAIDEvaluationPolicy.pdf>) requirements and recommendations.

#### PLACE OF PERFORMANCE

The Contractor must conduct the assessment in Malawi. Actual places for the assessment will be drawn by the Contractor from a nationally representative sample framework. The sample must be approved by USAID/Malawi.



## ANNEX 2: DATA COLLECTION IMPLEMENTATION

### MAPPING EVALUATION QUESTIONS AND TASKS TO ACTIVITIES AND DELIVERABLES

Table below maps the assessment questions and tasks required as per the statement of work and the activities undertaken by SI to meet the deliverables:

EVALUATION QUESTIONS	TASKS	ACTIVITIES	DELIVERABLES
<ul style="list-style-type: none"> <li>To what extent are Standard 2 and 4 students acquiring <b>pre-reading and initial reading skills</b> in Chichewa and English?</li> <li>To what extent are Standard 2 and 4 students acquiring <b>reading fluency</b> in Chichewa and English?</li> </ul>	Task 1. Develop reading assessment instruments that are well equated, grade appropriate, and aligned to the scope and sequence for standards 1-4 for English and Chichewa Subjects.	<ul style="list-style-type: none"> <li>Review of reading assessment instruments.</li> <li>Selection of reading assessment instruments for the task.</li> <li>Development of other instruments to complement reading instrument.</li> </ul>	Inception report
<ul style="list-style-type: none"> <li>To what extent are Standard 2 and 4 students reading <b>grade level text with comprehension</b> in Chichewa and English?</li> </ul>	Task 2. Administer instruments through the assessments.	<ul style="list-style-type: none"> <li>Assessment approach</li> <li>Sampling.</li> <li>Data collection methods and process.</li> <li>Quality assurance.</li> </ul>	<ul style="list-style-type: none"> <li>Inception report</li> <li>Quarterly reports</li> </ul>
	Task 3. Analyze the findings and draft 2017 National Reading Program Baseline Assessment Report.	<ul style="list-style-type: none"> <li>Data cleaning, processing, and analysis.</li> <li>Report preparation and completion.</li> <li>Data files preparation.</li> </ul>	<ul style="list-style-type: none"> <li>Draft and final reports.</li> <li>Geo referenced data files with code books.</li> </ul>

## READING ASSESSMENT TOOLS

Development of grade-appropriate and context-specific RA tools in several languages involves extensive research, drafting, adaptation, and pilot testing. Therefore, SI carefully examined the currently available RA tools in Malawi to adapt for this assessment.

In Malawi, RTI and the EGRA Coordinating Committee in 2010 developed two RA tools in Chichewa, and one RA tool in English. At that time, RTI conducted a multi-stakeholder adaptation workshop in Lilongwe to adapt tools from other similar languages into Chichewa to measure the achievements of primary school learners in Malawi. These tools followed the guidelines provided by the originators of the EGRA tool that have been validated and used in a variety of contexts and languages throughout the world to measure the reading ability of young learners.<sup>35</sup> The RA tools were extensively piloted and adapted to suit the Malawian context. The tools have been in use since 2010 in many large-scale assessments among Standard 1 to 4 learners including the two Malawi Teacher Professional Development Support (MTPDS) evaluations, and the EGRA impact evaluation conducted by SI.

In addition, SI hosted a four-day RA adaptation workshop in Lilongwe in 2013 that included officials from USAID/Malawi, MoEST staff from the Department of Inspection and Advisory Services (DIAS), Department of Teacher Education Development (DTED), the Malawi Institute of Education, and SI's reading specialists and evaluators. In the workshop, the English and Chichewa tools developed by RTI in 2010 were reviewed for relevance, suitability, and need for adjustments. Following the workshop, SI piloted RAs in Chichewa and English and finalized them. Since then, SI has successfully used the two Chichewa and English tools to conduct the assessments.<sup>36</sup>

## DATA COLLECTION TRAINING

Data collection survey teams were made of four members: 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 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.

Once the instruments and protocols were collaboratively agreed upon with USAID and its partners and cleared by SI's Institutional Review Board (IRB), SI, IKI, and MoEST officials trained the IKI Survey and Logistics Managers in Zomba from May 11 to 13, 2017. 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

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<sup>35</sup> See RTI International and International Rescue Committee (2011). Guidance Notes for Planning and Implementing EGRA, Research Triangle, NC

<sup>36</sup> The RA, programmed in Tangerine, are administered using electronic tablets and only the stimulus book is maintained in paper. SI took utmost care to make sure that stimulus books are not left behind in sampled schools such that there could be leakage of the RA test. Also, only 3 laminated copies of stimulus books are provided to each team and they are required to turn them in to SI after the data collection is over as per their agreed upon terms to participate in data collection. Therefore, leakage is minimal due to schools/teachers having copies of the tests that are used extensively in evaluations.

instruments, a review of data collection using tablets, and guidance on preparing and submitting weekly progress reports for the baseline.

Following the training of Survey Managers, USAID, MoEST, IKI, and SI hosted an enumerator and Technical Manager training at Linde Hotel in Mponela/Dowa from May 16 to 20, 2017. In coordination with USAID and MoEST, SI invited staff from both DIAS and other departments (such as the Department of Education Planning) to provide feedback to the enumerators. The training workshops were led by SI's Program Manager and Mid-Level Evaluation Specialist, and MoEST. IKI staff who were familiar with the data collection tablets and quality assurance protocols for data collection also helped to oversee the training. The training covered all of the same topics as the Survey Manager training and included an inter-rater reliability (IRR) test to ensure enumerators were marking assessments consistently. Further, a one-day field test was conducted 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 survey forms on the tablets to ensure ease of use. It also informed the last two days of enumerator training, allowing trainers to hone in on persistent challenges in data collection and provide gap training.

### USE OF ELECTRONIC TABLETS

SI equipped all enumerators with electronic tablets pre-loaded with all the RAs and survey instruments. SI programmed the tools into the tablets using Tangerine software II for the RA tools and Open Data Kit (ODK) software for the others and pilot tested each of the instruments prior to data collection.<sup>37</sup> Additionally, the evaluation team programmed the tablets with internal quality checks to ensure that many questions can only be answered with possible or reasonable responses through skip and logic checks. 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. In addition, skip logics were programmed into the forms so that questions were only asked to respondents when deemed relevant based on earlier responses. 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. Beyond its utility in cleaning, electronic data collection also ultimately resulted in fewer data entry operator errors and thus fewer dropped observations and a more complete and useful dataset. In addition, it made data available to SI quickly, allowing for enumerator performance monitoring and ensuring errors could be identified and corrected quickly.

### DATA COLLECTION TIMELINE

Data collection activity was carried out for a period of five weeks – from May 22 to June 29, 2017. Originally, data collection was supposed to last for three weeks from May 22 to June 9, but a nationwide teacher strike forced data collection to halt until the strike had ended and teachers were back at school. This teacher strike began on June 7 and lasted until June 26. Fortunately, SI had contingency plans in place to manage unexpected delays in data collection. As a result, this event did not cause any major disruptions in timely delivery of data nor any compromise to data quality.

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<sup>37</sup> ODK is a free, open source set of tools that can be used to author, field, and manage mobile data collection. SI uses ODK in conjunction with SurveyCTO, an online server and survey platform for electronic data-collection.

## DATA COLLECTION PROCEDURES

The data collection teams arrived at the schools before the start of classes to minimize the disruption to students and teachers. They met with the head teacher to introduce themselves, explained the reason for their visit, and confirmed arrangements for the assessment. At this point, the logistics manager randomly selected one Standard 2 classroom and one Standard 4 classroom from which to test learners. This was done by randomly choosing a class number out of a hat. Once in the classroom, learners were randomly selected by the Survey and Logistics Manager using one of the two methods discussed below:

Using classroom attendance lists, they added up the number of boys (and later girls) present that day, divided by four, and then used the result as a sampling interval to select learners for the Chichewa RA. Before starting counting, they had the teacher randomly select a number between one and four, and then started at that learner on the list and began counting down the list by the sampling interval until they had four learners. In case any of the original sample opted out of the study or otherwise could not complete their assessment, two alternate learners were selected using the same sampling methodology, only dividing by two instead of four to create the sampling interval and having the teacher randomly select a number between one and two. This same protocol was followed to select learners for the English assessment, but the six learners sampled above for the Chichewa RA (four to take the assessment, and two alternate learners if any of these four needed to be replaced) were first removed from the list to ensure that the same learner was not taking both learning assessments.

If no attendance list was available, the enumerators asked all the boys (and later girls) to stand in a line and used the same interval and start-point selection methodology described above.

If fewer than eight boys or eight girls per standard were present at the school, the study selected all learners present, and then followed the same protocol in another randomly selected Standard 2 or 4 class until the full sample of 16 learners per class were selected. This, however, seldom occurred in the sampled schools.

Once the assessments and learner interviews were completed, the technical manager conducted an interview with the 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. The Logistics Manager completed a school environment check list.

## EVALUATION ETHICS AND QUALITY CONTROL

### ETHICAL CONSIDERATIONS

SI's work is fully consistent with the Automated Directive Systems (ADS) 200 mandatory supplement "Protection of Human Subjects in Research Supported by USAID". Additionally, SI has a fully functional IRB, with established protocols for gathering informed consent, protecting anonymity and identifying information, and ensuring ethical data collection. To ensure compliance with our high ethical standards, all assessments involving children should pass through SI's IRB review prior to data collection. Further, SI insists that all staff involved in dealing with data showing personal identification should hold a currently valid IRB certificate. Prior to data collection, SI's IRB reviewed and approved all data collection instruments for this assessment to ensure application of the highest level of sensitivity to children, sex, and marginalized groups while also ensuring that informants are protected.

SI also insists on ensuring that data collection is conducted in a non-threatening way that engenders trust and security. Otherwise, the risk of doing harm to the children or having children refuse to respond will increase. IKI's managers have extensive experience leading surveys and interviews with children and were further trained and screened to ensure that they could do so in a way that emphasizes trust and safety. Also, prior to conducting the RA with a learner, enumerators were required to read an informed consent statement to these students. This statement emphasized that our work was intended only to learn more about the MERIT intervention and that individual data will be kept completely confidential. Enumerators also assured children that their data and identifying information will not be shared with authority figures such as teachers, school leaders, or families and that their responses will not have any influence on their participation in school or community activities. They explained to respondents that at any time they can refuse to answer questions or stop the survey without any negative repercussions. The students were then asked for verbal assent and the response was recorded. Enumerators proceeded with the assessments only upon this assent.

As a standard practice, all identifying information were collected together and immediately separated from additional data collected such that only a small number of researchers can link potentially sensitive responses to the individual who provided them. The SI team will also use similar established protocols for anonymizing data and datasets for final submission to CoR recommended databases.

## DATA QUALITY CONTROL

Prior to data collection, SI extensively trained all data collection team members and conducted checks on enumerators' accuracy in administering the RAs. Many of the MoEST enumerators also have extensive experience in conducting such assessments, though it is not improbable that enumerators may disagree with one another in scoring the learners during data collection. Therefore, to ensure reliability and consistency in scoring the students among the enumerators, SI tested them for Inter Rater Reliability in the field.

All team members were equipped with electronic tablets to record data. This method helped to reduce errors both at the time of data collection (by automatically prompting required skips and ensuring all questions are answered in an acceptable format through logic checks) and by avoiding data entry errors (that occur from entering data from paper forms into an electronic database), and to make the data quickly available to the evaluation teams. Having the rapid feedback allowed SI to catch errors soon after they happen, to alert the enumerators' attention to the issues immediately, and instruct them on ways to remedy these errors.

In addition to the quality assurance the electronic tablets provide, IKI also provided quality assurance through its regional supervisors and team logistics manager. IKI utilized tried and tested procedures to ensure data collection quality, including intensive training for enumerators and supervisors (including re-training), random data verification, and random spot checks. Data collection operated under the direction of the Research Director, who oversaw Research Managers, who in turn managed overall structure of data collection, including organizing meetings with local authorities and schools. Enumerators traveled with dedicated drivers and operated with the oversight of Research Managers. Finally, a Data Manager and Data Auditor managed the data as it was collected, including initial cleaning. The supervisors traveled with the team to review completed assessments and provided back testing of a portion of the sampled students to ensure accuracy. Local SI staff also traveled to the field to test and confirm data quality, including returning to a subset of schools to retest a subset of students and then comparing the results of these

retests with those of the original assessment. In addition, as during IE data collection, SI also invited high level MoEST staff to conduct periodic unannounced monitoring visits during data collection to ensure compliance with all data collection guidelines.

# ANNEX 3:CHICHEWA READING ASSESSMENT INSTRUMENT



## Malawi Early Grade Reading Assessment



### 2017 National Reading Program Baseline Administrator Instructions and Protocol for 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 ndipo ndikufunsa mafunso.
- 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 : _____ Mwezi : _____		I. Kalasi	<input type="radio"/> 2 = Sitandade 2 <input type="radio"/> 4 = Sitandade 4
B. Dzina la Woyesa			J. Dzina la Mphunzitsi	
C. Dzina la Sukulu			K. Sitilimu	
D. Dera			L. Dzina la ophunzira M. Nambala yachinsinsi ya ophunzira	
E. Boma			N. Zaka zakubadwa	
F. Chigawo			O. Mwamuna kapena Mkazi	<input type="radio"/> 1 = Mwamuna <input type="radio"/> 2 = Mkazi
G. Location :	<input type="radio"/> 1 = Urban <input type="radio"/> 2 = Rural			

Wachita bwino. Tsopano tiye tipite ku gawo lotsatira.



H. Mtundu wa Sukulu :	<input type="radio"/> 1 = Tsiku lonse <input type="radio"/> 2 = M'mawa <input type="radio"/> 3 = Masana		P. Nthawi Yoyambira	___ : ___
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## GAWO I. KUMVETSA NKHANI (LISTENING COMPREHENSION)

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

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

Tsiku lina ndimapita ku msika 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.

**Tsopano ndikufunsa mafunso angapo okhudza nkhani yomwe ndawerenga.**

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

## Gawo 2. Kudziwa Dzina la Lembo - (Letter Name Knowledge)

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

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

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 kamodzi kokha basi. Ndikakuwuzza udzipitiriza. Wakonzeka? Yamba tsopano.



Yambani kuwerengera nthawi pamene ophunzira wawerenga lembo loyamba. **Khalani Chete.** Yendetsani pensulo ndi kuchonga moyenera lembo lilironse lolakwa kapena lodumphidwa pogwiritsa ntchito pensulo polemba chizindikiro ichi (1). Werengerani lembo lomwe wazikonza yekha ngati lolondola. Ngati mwachonga kale lembo lodzikonza yekha kuti walakwa, zunguzani mzere pa lembolo ndi kupitiriza. Ngati wophunzira wakupatsani liwu la lembo otsati dzina la lembo, nenani kuti: ["Chonde undiwuze dzina la lembo"] Mwana athandizidwe motero kamodzi kokha basi mu gawoli. Ngati mwana wadumphira lembo, chongani lembolo kuti walakwa koma musamuyimitse wophunzira. Ngati mwana adodoma kuyankha pa masekondi atatu, tchulani lembo kamodzi kokha basi ndipo lozani lembo lotsatira ndi kunena, **pitiriza**. Ngati mwana adodomanso kachikena, lodzani lembo lotsatira ndikunena kuti **pitiriza**. Chongani lembo lomwe mwapereka (kamodzi kokha basi) kapena ngati mwana wadumphira lembo chongani kuti walakwa.

**PAKATHA MASEKONDI MAKUMI ASANU NDI LIMODZI (60) nenani "lekeza pomwepo." Lozerani lembo lomalizira kuwerenga ndi chizindikiro ichi (1).**

**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) Lembani masekondi ngati mwana wamaliza mofulumira :

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

Wachita bwino. Tsopano tiye tipite ku gawo lotsatira.

### GAWO 3. KUWERENGA MAPHATIKIZO (SYLLABLE READING)

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”

**Yesa** 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 momwe ungathere. **Werenga** maphatikizo ali pa mzere uli wonse kuyambira apa ndikupitiriza mundondomeko yotere. **Ngati** ufike pa phatikizo loti si ukulidziwa, ndikuwuzaphatikizoli kamodzi kokha basi. **Ndikhala** chete kukumvetsera. **Kodi** ukudziwa zomwe ukuyenera kuchita? **Ngati** wakonzeka tiye tiyambepo.



Yambani kuwerengera nthawi pamene ophunzira wawerenga phatikizo loyamba. **Khalani Chete**. Yendetsani pensulo ndi kuchonga moyenera yankho lilironse lolakwa kapena lodumphidwa pogwiritsa ntchito pensulo polemba chizindikiro ichi ( I ). Werengerani phatikizo lomwe wazikonza yekha ngati lolondola. Ngati mwachonga kale mayankho odzikonza yekha ngati olakwa, zunguzani mzere pa phatikizolo ndi kupitiriza. Ngati mwana adodoma kuyankha pa masekondi atatu, tchulani phatikizolo kamodzi kokha basi ndipo lozani phatikizo lotsatira ndi kunena kuti, **pitiriza**. Ngati mwana adodomanso kachikena, lodzani phatikizo lotsatira ndikunena kuti **pitiriza**. Chongani phatikizo lomwe mwapereka (kamodzi kokha basi) kapena ngati mwana wadumphaphatikizo chongani kuti walakwa.

**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	hi	mphu	(20)
mfu	fa	fo	se	pi	Lu	mda	mse	dzi	tza	(30)
ma	ye	re	na	me	Pa	mkha	wo	si	ntha	(40)
dya	nyu	nu	wa	ri	Ka	mwa	ba	ku	go	(50)
de	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	ja	kho	Bwi	lo	nzi	ndu	mo	(100)

Lembani nthawi yomwe yatsala pa wotchi pamapeto (nambala ya masekandi) Lembani masekondi ngati mwana wamaliza mofulumira:

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

### GAWO 4: KUWERENGA MAWU ODZIWIKA (Familiar Word Reading)

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

**Awa ndi mawu a m'Chichewa. Ndipo ndikufuna iwe undiwerengere mawu ambiri omwe ungathe. 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 pokapokha 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	ndili	(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	kwawa	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 masekondi: Lembani masekondi ngati mwana wamaliza mofulumira

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

GAWO 5. KUMVETSERA NKHANI (ORAL PASSAGE READING)

Onetsani ophunzira pepala la nkhani yaifupi kuchokera m’buku la ophunzira. Nenani:

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 wodzikonza yekha ngati olakwa, lembani mzere mozungulira mawuwa ndi kupitirira. Khalani chete wophunzira akamawerenga, ngati wophunzira wadodoma kuwerenga pa mphindi zitatu, muwerengereni mawuwo kenaka 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 (1)**

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 6. KUWERENGA NDI KUMVETSA NKHANI (READINGCOMPREHENSION)

Pakatha masekandi 60 kapena wophunzira akatsiriza kuwerenga ndime m’masekandi osaposeera , 60 werengani funso loyamba. CHOTSANI NDIMEYI PAMENE AKUYANKHA MAFUNSO

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	Wakhoza koma m’chingerezi	Walakwa	Palibe yankho
Lachisanu m’mawa Mada anakonzeka kupita ku sukulu.	6	Kodi nkhaniyi inachitikira kuti?  [Nkhaniyi imachitikira ku sukulu]				
Tsikuli lidali lotsekera sukulu. Mafumu ndi makolo anafika ku sukulu ya Kaliza kuti adzawonerere luso lowerenga.	22	Nanga chimachitika pa tsikuli ndi chiyani?				

		<i>[Tsiku lotsekera school. Ophunzira a Sitandade I amawonetsa luso lowerenga.]</i>					
Iyeyu adali ndi nkhawa chifukwa adali mtsikana wamng'ono ndipo anali kuyamba kumene sitandade I.	36	<b>Kodi n'chifukwa chiyani Mada anali ndi nkhawa?</b> <i>[Mada anali ndi nkhawa chifukwa anali mtsikana wamng'ono. Kunali kuyamba kumene sitandade I]</i>					
Mada anawerenga mopatsa chidwi poyerekeza ndi msinkhu wake. Anthu adasangalala kwambiri ndipo anamusupa ndalama.	49	<b>Tchulani chifukwa chimene mbiri ya Mada inapitira patali?</b> <i>[Mada amawerenga mopatsa chidwi poyerekeza ndi msinkhu wake.]</i>					
Mbiri ya Mada idapitira patali.	54	<b>Kodi anthu amamusupa chiyani Mada?</b> <i>[Anthu adamusupa Mada ndalama]</i>					

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

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

**GAWO 7A. KUMVETSERA NKHANI (ORAL PASSAGE READING: 180 SECONDS / 3MINUTES)**

**Musafunse gawo 7A ndi gawo 7B ngati wophunzira sanakhonze kenakalikonse mu gawo 5 ndi gawo 6. Ngati wakhonzapo, wonetsaninso wophunzira nkhani yomwe ili mukabukhu kamene kali ndiwophunzira.**



Nayinso nkhani ija. Tsopano ukhala ndi mphindi zitatu kuti uwerenge nkhaniyi momwe ukufunira, mokweza kaya cha m'mtima, ukhozanso kuwerenga mobwereza kuposa kamodzi. Ukamaliza kuwerenga, ndizakufunsa mafunso okhudzana ndi nkhani wawerenga. Kodi ukudziwa chomwe ukuyenera kuchita? Ndikanena kuti **“yamba”** uwerenge nkhaniyi momwe ukufunira. Ine ndikhala chete ndikukumvetsera mpaka mphindi zitatu zitatha. Wakonzeka? Yambapo.

**Yambani kuwerenga nthawi ndipo mukhale chete. PAKATHA MASEKONDI 180 NENANI “lekeza pomwepo.”**

**Lamulo ngati mwana wamaliza mwachangu kuwerenga:** Ngati wophunzira akuti wamaliza kuwerenga mphindi zitatu zisanathe, mutha kuyamba kumufunsa mafunso.

**GAWO 7B. KUWERENGA NDI KUMVETSA NKHANI (EXTENDED READING COMPREHENSION: 180 SECONDS / 3MIN)**

Pakatha masekandi **180** kapena wophunzira akatsiriza kuwerenga ndime m'masekandi osaposerera **180**. werengani funso loyamba. Siyani ndimeyi yotsegula kuti ophunzira athe kuona pamene akuyankha mafunso.

Mpatseni wophunzira masekandi **30** 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	Wakhoza koma m'chingerezi	Walakwa	Palibe yankho
Lachisanu m'mawa Mada anakonzeka kupita ku sukulu.	6	Kodi nkhaniyi inachitikira kuti				



		<i>[Nkhaniyi imachitikirira ku sukulu. Tsiku lotsekera sukulu]</i>					
Tsikuli lidali lotsekera sukulu. Mafumu ndi makolo anafika ku sukulu ya Kaliza kuti adzawonerere luso lowerenga.	22	<b>Nanga chimachitika pa tsikuli ndi chiyani?</b> <i>[Ophunzira a Sitandade I amawonetsa luso lowerenga.]</i>					
Iyeyu adali ndi nkhawa chifukwa adali mtsikana wamng'ono ndipo anali kuyamba kumene sitandade I.	36	<b>Kodi n'chifukwa chiyani Mada anali ndi nkhawa?</b> <i>[Mada anali ndi nkhawa chifukwa anali mtsikana wamng'ono. Kunali kuyamba kumene sitandade I]</i>					
Mada anawerenga mopatsa chidwi poyerekeza ndi msinkhu wake. Anthu adasangalala kwambiri ndipo anamusupa ndalama.	49	<b>Tchulani chifukwa chimene mbiri ya Mada inapitira patali?</b> <i>[Mada amawerenga mopatsa chidwi poyerekeza ndi msinkhu wake.]</i>					
Mbiri ya Mada idapitira patali.	54	<b>Kodi anthu amamusupa chiyani Mada ?</b> <i>[Anthu adamusupa Mada ndalama]</i>					

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

Chongani m'kabokosi ngati ntchitoyi sinachitike chifukwa wophunzira analibe mayankho olondola mu gawo 5 ndi 6

Nthawi yomaliza kuyesa ophunzira:

\_\_\_\_ : \_\_\_\_ (maola 24)

## ANNEX 4: ENGLISH ASSESSMENT INSTRUMENT

### Malawi Early Grade Reading Assessment 2017 National Reading Program Baseline Administrator Instructions and Protocol for ENGLISH

#### GENERAL INSTRUCTIONS:

It is important to establish a playful and relaxed rapport with the children to be assessed via some simple initial conversation among topics of interest to the child (see example below). The child should perceive the following assessment almost as a game to be enjoyed rather than a severe situation. It is important to read **ONLY** the sections in boxes aloud slowly and clearly.

**(if necessary, you may read this Introduction and Verbal Consent section in Chichewa. This is the **ONLY** section you can read in Chichewa – the rest of the assessment must be read in English only)**

Good morning. My name is \_\_\_\_, and I live in \_\_\_\_\_. I'd like to tell you a little bit about myself. [Number and ages of children; pets; sports; etc]

1. Could you tell me a little about yourself and your family? [Wait for response; if student is reluctant, ask question 2, but if they seem comfortable continue to verbal consent].

2. What do you like to do when you are not in school?

#### VERBAL CONSENT

- Let me tell you why I am here today. I work with the Ministry of Education, and we are trying to understand how children learn to read English. You were picked by chance, like in a raffle or lottery.
- We would like your help in this. But, you do not have to take part if you do not want to do so.
- We are going to play a reading game. I am going to ask you to read letters, words, and a short story out loud and ask you some questions.
- Using this stopwatch, I will see how long it takes you to read.
- This is **NOT** a test, and it will not affect your grade at school.
- I will also ask you other questions about your family and your experiences in school, like what language your family uses at home and whether you like school.
- I will **NOT** report your individual results to your parents, teacher, or anyone else. Instead, your results will be summarized with other students like you.
- Once again, you do not have to participate if you do not wish to. Once we begin, if you would rather not answer a question, that's all right.
- Do you have any questions? Are you ready to get started?

Check box if verbal consent is obtained:

☐ YES

(If verbal consent is not obtained, thank the child and move on to the next child, using this same form)

A. Date of assessment :	Day : _____ Month : _____
B. Enumerator's name :	
C. School Name :	
D. Zone :	
E. District :	
F. Division :	
G. Location :	<input type="radio"/> 1 = Urban <input type="radio"/> 2 = Rural
H. School shift :	<input type="radio"/> 1 = Full day <input type="radio"/> 2 = Morning <input type="radio"/> 3 = Afternoon

H. Class :	<input type="radio"/> 1 = Standard 2 <input type="radio"/> 2 = Standard 4
I. Teacher name :	
J. Stream name:	
K. EMIS Student ID:	
L. Student Name :	
M. Student Age :	
M. Student gender	<input type="radio"/> 1 = boy <input type="radio"/> 2 = girl
N. Time Started:	____ : ____ (24 hour system)

## SECTION I. LISTENING COMPREHENSION

Now, I am going to read you a short story. I will read it to you twice. When I have finished, I will ask you some questions about what I have read. Please listen to the story carefully as I am reading. After I read the story, please attempt to answer all of my questions as best as you can. Ready? Let's start.

Give the child at most 15 seconds to answer the question, mark the child's response, and move to the next question.

Dalitso had a dog. The dog was fat. One day Dalitso and the dog went out to play. The little dog ran away and got lost. Dalitso was sad, but after a while the dog came back. Dalitso took the dog home and gave him a bone. The little dog was tired, so he slept. When the dog woke up, Dalitso took the dog outside again to play.

Now I am going to ask you a few questions about the story I have just read. Try to answer the questions as best you can.

	Question	Correct Response	Correct in English	Correct in Chichewa	Incorrect	Don't Know	NR
1.	Who had a dog?	Dalitso					
2.	Was the dog thin or fat?	fat					
3.	Why was Dalitso sad?	the dog ran away/the dog got lost					
4.	What did the dog do after he got the bone?	he slept					
5.	Did the story have a happy ending? Why?	Yes, AND the dog came back; they went home together; the dog got a bone; he slept; they played again					
Total Correct							

Good effort! Let's go on to next section.

SECTION 2. LETTER NAME KNOWLEDGE

Show the child the sheet of letters in the student stimuli booklet. Say:

Here is a page of letters from the English alphabet. Please tell me the NAMES of as many letters as you can-- not the SOUNDS of the letters, but the names. You do not need to tell me if the letter is capital letter or small letter, only the NAME of the letter.

For example, the name of this letter [point to B] is "B"

Let's practice: tell me the name of this letter [point to V]:

If the child responds correctly, say: Good, the name of this letter is "VEE."

If the child does not respond correctly, say: The name of this letter is "VEE."

Now try another one: tell me the name of this letter [point to L]:


If the child responds correctly, say: Good, the name of this letter is "ELL."

If the child does not respond correctly, say: The name of this letter is "ELL."

Do you understand what you are to do?

When I say "Begin," please name the letters as quickly and carefully as you can. Start here and continue this way. [Point to the first letter on the top left of the first row after the example and draw your finger across the first line from left to right].

If you come to a letter you do not know, I will tell it to you once. If not, I will keep quiet & listen to you. Ready? Begin.

 Start the timer when the child reads the first letter. **Stay quiet.** Follow along with your pencil and clearly mark any incorrect or skipped letters with a slash ( / ). Count self-corrections as correct. If you've already marked the self-corrected letter as incorrect, circle the letter and go on. If the student gives you the letter sound, rather than the name, say: ["**Please tell me the NAME of the letter**"]. This prompt may be given **only once** during the exercise. If the student skips a letter, mark that one as incorrect, but do not stop the student. If the child hesitates for 3 seconds: the first time, say the letter **once**, and then point to the next letter and say "**Please go to the next letter.**" If they hesitate again, point to the next letter and say "**Please go on.**" Mark the letter you provided (once only) or if the child skipped the letter as incorrect.

**AFTER 60 SECONDS SAY, "stop." Mark the final letter read with a bracket ( ] ).**

**Early stop rule:** If the child does not give a single correct response on the first line, say "**Thank you!**", discontinue this exercise, check the box at the bottom, and go on to the next exercise.

Example : B v L

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

Time remaining on stopwatch at completion (number of SECONDS). Do not put seconds if child has discontinued early.

Check this box if the exercise was discontinued because the child had no correct answers in the first line. ☐

### SECTION 3. LETTER SOUND KNOWLEDGE

Show the child the sheet of letters in the student stimuli booklet. Say:

Here is a page full of letters of the English alphabet. Please tell me the **SOUNDS** of as many letters as you can -not the **NAMES** of the letters, but the **SOUNDS**.

For example, the sound of this letter [point to B] is “buh” as in “BOY”.

Let’s practice: tell me the sound of this letter [point to V]:

If the child responds correctly, say: **Good, the sound of this letter is “VVVV.”**

If the child does not respond correctly, say: **The sound of this letter is “VVVV.”**

Now try another one: tell me the sound of this letter [point to L]:

If the child responds correctly, say: **Good, the sound of this letter is “LLL.”**

If the child does not respond correctly, say: **The sound of this letter is “LLL.”**

Do you understand what you are to do?

When I say “Begin,” please sound out the letters as quickly and carefully as you can. Tell me the sound of the letters, starting here and continuing this way. [Point to the first letter on the row after the example and draw your finger across the first line]. If you come to a letter sound you do not know, I will tell it to you once. If not, I will keep quiet and listen to you. Ready? Begin.



Start the timer when the child says the first sound. **Stay quiet.** Follow along with your pencil and **clearly** mark any incorrect or skipped sounds with a slash ( / ). Count self-corrections as correct. If you’ve already marked the self-corrected letter as incorrect, circle the letter and go on. If the student gives you the letter, rather than the sound say: [“**Please tell me the SOUND of the letter**”]. This prompt may be given **only once** during the exercise. If the student skips a sound, mark that one as incorrect, but do not stop the student. If the child hesitates for 3 seconds: the first time the child hesitates, say the sound **once**, and then point to the next letter and say “**Please go to the next letter.**” If they hesitate again, point to the next letter and say “**Please go on.**” Mark the letter you provided (once only) OR if the child skipped the letter as incorrect.

**AFTER 60 SECONDS SAY, “stop.” Mark the final letter read with a bracket ( ] ).**

**Early stop rule:** If you have marked as incorrect all of the answers on the first line with no self-corrections, say “**Thank you!**”, discontinue this exercise, check the box at the bottom, and go on to the next exercise.

Note: The following letters have 2 correct sounds.

C – |s| OR |k| X - |eks| OR |z|

Example : B v L

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

Time remaining on stopwatch at completion (number of SECONDS). Do not put seconds if child has discontinued early.

Check this box if the exercise was discontinued because the child had no correct answers in the first line.

☐

**Good effort! Let’s go on to next section.**

## SECTION 4. FAMILIAR WORD READING

Show the child the sheet of familiar words in the student stimuli booklet. Say,

Here are some words. Please read as many words as you can (do not spell the words, but read them). For example, this word is: “cat”.

Let's practise: please read this word [point to the word “sick”]:

If the child responds correctly say: **Good, this word is “sick.”**

If the child does not respond correctly, say: **This word is “sick.”**

Now try another one: please read this word [point to the word “map”]:

If the child responds correctly say: **Good, this word is “map.”**

If the child does not respond correctly, say: **This word is “map.”**

When I say “begin,” read the words as quickly and carefully as you can. Read the words across the page, starting at the first row below the line. I will keep quiet and listen to you, unless you need help. Do you understand what you are to do? Ready? Begin.



Start the timer when the child reads the first word. Follow along with your pencil and clearly mark any incorrect words with a slash (/). Count self-corrections as correct. If you've already marked the self-corrected word as incorrect, circle the word and go on. **Stay quiet**, except if the child hesitates for 3 seconds, the first time, say the word once, point to the next word and say “**Please go to the next word.**” If they hesitate again, point to the next word and say “**Please go on.**” Mark the sound you provide to the child or the word you skip as incorrect. Mark the word skipped as incorrect. If the child skips a word, mark it as incorrect, but do not stop the child.

**AFTER 60 SECONDS, SAY “stop.” Mark the final word read with a bracket ( ] ).**

**Early stop rule:** If you have slashed/marked as incorrect all of the answers on the first line, say “**Thank you!**”, discontinue this exercise, check the box at the bottom, and go on to the next exercise.

Example : cat                      sick                                      map

1	2	3	4	5	
go	boy	up	find	come	(5)
help	two	run	see	down	(10)
tax	and	play	snail	you	(15)
chair	man	socks	now	dog	(20)
family	fox	like	they	doctor	(25)
sticks	big	are	jacket	him	(30)
jump	driver	ask	fly	visitor	(35)
hands	book	sing	car	fingers	(40)
many	small	some	sit	clean	(45)
stop	thieves	me	house	for	(50)

Time remaining on stopwatch at completion (number of SECONDS) :


Check this box if the exercise was discontinued because the child had no correct answers in the first line.

☐

SECTION 5. ORAL PASSAGE READING

Show the child the story in the student stimuli booklet. Say,

Here is a short story. I want you to read it aloud, quickly but carefully. When you have finished, I will ask you some questions about what you have read. Do you understand what you are to do? When I say “begin,” read the story as best as you can. I will keep quiet & listen to you, unless you need help. Ready? Begin.

 Start the timer when the child reads the first word. Follow along with your pencil and clearly mark any incorrect words with a slash (/). Count self-corrections as correct. **Stay quiet**, unless the child hesitates for 3 seconds, in which case provide the word and have them continue. This correction may be provided **only once**. If they hesitate or incorrectly read a word again, point to the next word and say “Please go on.” Mark the word you provide to the child or the word you skip as incorrect. **At 60 seconds, say “Stop.” Mark the final word read with a bracket ( ] ). Early stop rule:** If the child reads no words correctly on the first line, say “Thank you!”, discontinue this exercise, check the box at the bottom of the page, and go on to the next exercise.

SECTION 6. READING COMPREHENSION

When 60 seconds are up, or if the child finishes reading the passage in less than 60 seconds, remove the passage from in front of the child, and ask the first question below.

Give the child at most 15 seconds to answer the question, mark the child’s response, and move to the next question.

Read the questions for each line up to the bracket showing where the child stopped reading.

Now I am going to ask you a few questions about the story you just read. Try to answer the questions as well as you can.							
			Correct	Incorrect	Correct in Chichewa	Don't Know	No Response
I. My name is pat. I live on a farm with my family.	12	Where does Pat live? [On a farm]					
Every year, the land gets very dry before the rains come. We watch the sky and wait.	29	When does the land get dry? [Before the rain comes; when there is no rain; when there is a drought]					
		Why do Pat and his family watch the sky? [Hoping the rains come]					
One day i saw dark clouds, and then something hit my head.	41	What hit Pat on the head? [rain; water]					
The rains had come at last.	47	How do you think Pat felt when the rains came? [Excited, thankful, happy, any reasonable answer]					

Time remaining on stopwatch at completion (number of SECONDS):

Check this box if exercise stopped due to no correct answers in the first line.

Good effort! Let’s go on to next section.



SECTION 7A. ORAL PASSAGE READING (180 SECONDS / 3 MINUTES)

Do not administer 7a and 7b for learners that scored zero on Sections 5 and 6 above. If it was not zero, show the child the story in the student stimuli booklet again. Say,

Here is the story again. You will now have 3 minutes to read the story as many times as you wish, either silently or out loud. When you have finished, I will ask you some questions about what you have read. Do you understand what you are to do? When I say “begin,” read the story as you wish. I will keep quiet & listen to you until 3 minutes is finished. Ready? Begin.



Start the timer. Stay quiet. At 180 seconds, say “Stop.”

Early Finish Rule: If the learner says they are finished in under 180 seconds / 3 minutes, then you may begin asking questions.

SECTION 7B. EXTENDED READING COMPREHENSION

When 180 seconds are up or if the child finishes reading the passage in less than 180 seconds, ask the first question below.

Leave the passage open for the child to see as she answers the questions.

Give the child at most 30 seconds to answer the question, mark the child’s response, and move to the next question.

Now I am going to ask you a few questions about the story you just read. Try to answer the questions as well as you can.							
			Correct	Incorrect	Correct in Chichewa	Don't Know	No Response
I. My name is pat. I live on a farm with My family.	12	Where does Pat live? [On a farm]					
Every year, the land gets very dry before the rains come. We watch the sky and wait.	29	When does the land get dry? [Before the rain comes; when there is no rain; when there is a drought]					
		Why do Pat and his family watch the sky? [Hoping the rains come]					
One day i saw dark clouds, and then something hit my head.	41	What hit Pat on the head? [rain; water]					
The rains had come at last.	47	How do you think Pat felt when the rains came? [Excited, thankful, happy, any reasonable answer]					

Time remaining on stopwatch at completion (number of SECONDS):

Check this box if exercise **not conducted** due to no correct answers in Section 5 & 6.


## ANNEX 5: HEAD TEACHER INTERVIEW PROTOCOL



### Baseline of USAID/Malawi's National Reading Program Head Teacher Questionnaire May 2017

The Malawi Ministry of Education, Science and Technology (MoEST) with funding from USAID are conducting a nationwide assessment of student reading ability in Standards 2 and 4. 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. 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)

**Instructions:** The enumerator should read each of the questions to the head teacher as is. He/she can also read the response choices (unless the question specifies that the head teacher should not be prompted). Once the head teacher 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.

## **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?

A. Male = 1

B. Female = 2

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

A. Male = 1

B. 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. 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

9a. Does this school operate on shifts?

• No = 0 (*Skip to QUESTION 11*)

• Yes = 1

• Don't know/Refuse to answer = 9999 (*Skip to QUESTION 11*)

9b. 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

10. 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

11. 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: \_\_\_\_\_

12. 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 14*)
- B. Standard 1
- C. Standard 2
- D. Standard 3
- E. Standard 4
- F. Don't know/Refuse to answer

13. 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

14. Does your school teach students how to read in Chichewa in the following standards? (*Select all that apply; **multiple responses possible***):

- a. We don't teach learners to read in Chichewa in Standards 1-4
- b. Standard 1
- c. Standard 2
- d. Standard 3
- e. Standard 4
- f. Don't know/Refuse to answer

## **RESOURCES**

15. Do all of your learners have the prescribed number of textbooks?

- a. No = 0
- b. Yes = 1 (*Skip to QUESTION 17*)
- c. Don't know/Refuse to answer = 9999 (*Skip to QUESTION 17*)

16. 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. Don't know/Refuse to answer

17. Has your school received textbooks or materials in the local familiar language (other than Chichewa)?

- a. No = 0 (*Skip to QUESTION 19*)
- b. Yes = 1
- c. Don't know/Refuse to answer = 9999 (*Skip to QUESTION 19*)

18. Who provided/provides learners with textbooks in the local familiar language (other than Chichewa)? (*Do not prompt; select all that apply; multiple responses possible*).

- a. MoEST = 1
- b. EGRA = 2
- c. Read Malawi = 3
- d. UNICEF = 4
- e. Don't know/Refuse to answer = 9999

19. Does your school have a school feeding program?

- a. No = 0 (*Skip to QUESTION 23*)
- b. Yes = 1
- c. Don't know/Refuse to answer = 9999 (*Skip to QUESTION 23*)

20. 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

21. Is school feeding offered every school day?

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

22. How long has the school been participating in the school feeding program? (*Do not prompt*)

- a. Less than one year = 0
- b. One year = 1
- c. Two years = 2
- d. Three years = 3

- e. Four years = 4
- f. Five years = 5
- g. More than five years = 6
- h. Don't know/Refuse to answer = 9999

### **TEACHER INFORMATION**

23. How many Standard I-Standard 4 teachers are there at this school? (Don't know/Refuse to answer = 9999):\_\_\_\_\_

24. How many of the Standard I-Standard 4 teachers at this school are trained? (Don't know/Refuse to answer = 9999):\_\_\_\_\_

25. How many Standard I-4 teachers from this school have participated in an EGRA training on how to teach reading since 2013? (Don't know/Refuse to answer = 9999):\_\_\_\_\_ (If the answer is "0," Skip to QUESTION 28)

26. Among those who participated in this training, on average, how many EGRA trainings has each of the Standard I-Standard 4 teachers participated in the past two years? (Don't know/Refuse to answer = 9999):\_\_\_\_\_

27. How many of the Standard I-Standard 4 teachers use the EGRA methods in their teaching? (Don't know/Refuse to answer = 9999):\_\_\_\_\_

28. How many of the Standard I-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):\_\_\_\_\_

29. How many of the Standard I-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 33)

30. Which organization(s) organized these trainings? (Do not prompt; select all that apply; multiple responses possible):

- a. DTED
- b. MIE
- c. Read Malawi
- d. UNICEF
- e. World Vision (NASFEM)
- f. Plan Malawi
- g. Tikwere
- h. Save the Children
- i. SIG (Ministry of Education Program)
- j. Other, please specify\_\_\_\_\_
- k. Don't know/Refuse to answer

31. Among those who have participated in such trainings, on average, how many non-EGRA reading trainings has each of the Standard I-Standard 4 teachers participated in during the past two years? (Don't know/Refuse to answer = 9999):\_\_\_\_\_

32. How many of the Standard I-Standard 4 teachers are using these other methods of teaching reading in their classrooms? (Don't know/Refuse to answer = 9999):\_\_\_\_\_

33. How many Standard 1 to Standard 4 teachers were absent yesterday (or on the last school day)? (Don't know/Refuse to answer): \_\_\_\_\_

34. How many Standard 1 to Standard 4 teachers often arrive late or after the start of classes? (Don't know/Refuse to answer = 9999): \_\_\_\_\_

35. 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): \_\_\_\_\_

36. How often do you or someone else from your school review teacher lesson plans? (Do not prompt)

- a. Never = 0
- b. Once per year = 1
- c. Once every 2-3 months = 2
- d. Once per month = 3
- e. Once every two weeks = 4
- f. Every week = 5
- g. Once a day = 6
- h. Don't know/Refuse to answer = 9999

37. In a term, how many times are teachers provided with supervision or coaching in their classrooms by someone in this school? (Do not prompt)

- a. Never = 0
- b. One time = 1
- c. Two times = 2
- d. Three times = 3
- e. Four or more times = 4
- f. Other, please specify \_\_\_\_\_ = 5
- g. Don't know/Refuse to answer = 9999

### **INFORMATION ON LEARNERS**

38. 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.):

- a. Limited availability of teachers: \_\_\_\_\_
- b. Employment/helping with family work: \_\_\_\_\_
- c. Taking care of siblings or other relatives: \_\_\_\_\_
- d. Fees: \_\_\_\_\_
- e. Long distances: \_\_\_\_\_
- f. Marriage: \_\_\_\_\_
- g. Poor school facilities: \_\_\_\_\_
- h. Pregnancy: \_\_\_\_\_
- i. Sickness: \_\_\_\_\_
- j. Violence: \_\_\_\_\_
- k. Not motivated/Don't see importance of education: \_\_\_\_\_
- l. Difficultly understanding the curriculum/Poor performance: \_\_\_\_\_
- m. Other, please list \_\_\_\_\_ : \_\_\_\_\_
- n. Don't know/Refuse to answer (Write 9999 if selected): \_\_\_\_\_



39. 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):

- a. Limited availability of teachers: \_\_\_\_\_
- b. Employment/helping with family work: \_\_\_\_\_
- c. Taking care of siblings or other relatives: \_\_\_\_\_
- d. Fees: \_\_\_\_\_
- e. Long distances: \_\_\_\_\_
- f. Marriage: \_\_\_\_\_
- g. Poor school facilities: \_\_\_\_\_
- h. Pregnancy: \_\_\_\_\_
- i. Sickness: \_\_\_\_\_
- j. Violence: \_\_\_\_\_
- k. Not motivated/Don't see importance of education: \_\_\_\_\_
- l. Difficulty understanding the curriculum/Poor performance: \_\_\_\_\_
- m. Other, please list \_\_\_\_\_ : \_\_\_\_\_
- n. Don't know/Refuse to answer (Write 9999 if selected): \_\_\_\_\_

40. Are dropout rates higher or lower for boys or girls?

- a. Higher for girls = 1 (Explain in 41)
- b. Higher for boys = 2 (Explain in 41)
- c. About the same for both sexes = 3 (Skip to QUESTION 42a)
- d. It varies by standard level = 4 (Explain in 41)
- e. Don't know/Refuse to answer = 9999 (Skip to QUESTION 42a)

41. Why do dropout rates vary by sex or standard level?

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42a. 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 in the past 2 years? \_\_\_\_\_

---

42b. What else would you like to be doing to reduce dropouts in your school if the resources were available? \_\_\_\_\_

---

43. 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: \_\_\_\_\_

44a. What is the **main** reason for learners' repetition in Standard 2? (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. Don't know/Refuse to answer = 9999

44b. What is the **main** reason for learners' repetition in Standard 4? *(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. Don't know/Refuse to answer = 9999

44c. 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 in the past 2 years? \_\_\_\_\_

44d. What else would you like to be doing to reduce repetition in your school if the resources were available? \_\_\_\_\_

45. 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

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

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

#### COMMUNITY INVOLVEMENT IN THE SCHOOL

48. Does the school have a PTA?

- a. No = 0 *(Skip to QUESTION 51)*
- b. Yes = 1
- c. Don't know/Refuse to answer = 9999 *(Skip to QUESTION 51)*

49. 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).*

- a. Never = 0
- b. Once a year = 1
- c. Twice per year = 2

- d. Once every 2-3 months = 3
- e. Once a month = 4
- f. Once a week = 5
- g. Don't know/Refuse to answer = 9999

50. 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):

- a. School management
- b. Learner learning challenges and solutions
- c. Curriculum
- d. Physical school improvement efforts
- e. Maintenance of infrastructure/equipment
- f. Financial issues/fund raising
- g. Procurement and/or distribution of textbooks
- h. Reading instruction in after-school programming
- i. Other, please specify \_\_\_\_\_
- j. Don't know/Refuse to answer

51. Does the school have a school management committee (SMC)?

- a. No = 0 (Skip to QUESTION 54)
- b. Yes = 1
- c. Don't know/Refuse to answer = 9999 (Skip to QUESTION 54)

52. How often did the school management committee meet in this academic year? (Do not prompt)

- a. Never = 0
- b. Once a year = 1
- c. Twice per year = 2
- d. Once every 2-3 months = 3
- e. Once a month = 4
- f. Once a week = 5
- g. Don't know/Refuse to answer = 9999

53. For which of the following does the school management committee have decision making authority and/or responsibility? (Read each answer choice; select all that apply; multiple responses possible):

- a. School management
- b. Learner learning challenges and solutions
- c. Curriculum
- d. Physical school improvement efforts
- e. Maintenance of infrastructure/equipment
- f. Financial issues/fund raising
- g. Procurement and/or distribution of textbooks
- h. Don't know/Refuse to answer

54. Do you ever invite parents to participate in their learners' classrooms or become engaged in extra-curricular activities?

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

55. Other than the PTA, school management committee, and parents, is the community (individuals, organizations, or businesses) involved in supporting the school and learner learning?

a. No = 0 (*Skip to QUESTION 57*)

b. Yes = 1

c. Don't know/Refuse to answer = 9999 (*Skip to QUESTION 57*)

56. 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*)

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

Codes for 56A:

a. Helping with construction (i.e. molding bricks, constructing buildings) = 1

b. Digging wells/toilets = 2

c. Donating materials and resources for construction = 3

d. Cooking = 4

e. Fundraising = 5

f. Volunteering at schools; please specify in what way(s) \_\_\_\_\_ = 6

g. Don't know/Refuse to answer = 9999

Codes for 56D:

a. It didn't benefit the school at all = 0

b. Better facilities = 1

c. More resources for teachers = 2

d. More resources for learners = 3

e. More motivation on the part of staff = 4

f. More motivation on the part of learners = 5

g. Better quality teaching = 6

h. Longer school day = 7

i. Learners are able to read better = 8

j. Learners are able to learn better in other learning areas = 9

k. Learners are getting better scores on their tests = 10

l. Better or more regular attendance = 11

m. Don't know/Refuse to answer = 9999

57. Has community involvement increased or decreased over the past three years?

a. It has decreased = 1

b. It has increased = 2

c. It has stayed the same = 3

d. Don't know/Refuse to answer = 9999

## SUPPORT FROM OUTSIDE ORGANIZATIONS

58. Has your school received support from EGRA?

a. No = 0 (*Skip to QUESTION 61*)

b. Yes = 1

c. Don't know/Refuse to respond = 9999 (*Skip to QUESTION 61*)

59. 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 extended the length of our reading lessons

g. EGRA provided me with training

h. EGRA provided other teachers in my school with training

i. EGRA provided me with coaching

j. EGRA sent SMS messages

k. Other, please specify \_\_\_\_\_

l. Don't know/Refuse to answer

60. 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. Don't know/Refuse to answer

61. Has the EGRA Project, or another organization, worked to add an hour to your school day for some Standards in the past 3 years?

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. Yes, we have added an hour for other reasons

e. No, our school day has not been extended = 5 (*Skip to QUESTION 63*)

f. Don't know/Refuse to answer = 9999 (*Skip to QUESTION 63*)

62a. For which Standards has the school day been extended by an hour in the past 3 years? (*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

62b. How many days per week does the school day last an extra hour now (from the past 3 years)?

- 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

63. Have there been any other individuals, organizations, or businesses involved in providing any kind of support/training/assistance to the school in the past 3 years? Please include support or training received from Airtel, World Vision, UNICEF, FAWEMA, World Bank, and any other organizations.

- a. No = 0 (*Skip to QUESTION 65*)
- b. Yes = 1
- c. Don't know/Refuse to answer = 9999 (*Skip to QUESTION 65*)

64. 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*):

A – Donor or Nonprofit Organization	B - Year Support Began	C - Type of Support	D – Has this support helped the school (No = 0, Yes = 1, Don't know = 9999)	E – In what ways (see codes below; multiple responses possible; separate with commas)
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				

13 – Other, specify				
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Codes for 64E:

- a. It didn't benefit the school at all = 0
- b. Better facilities = 1
- c. More resources for teachers = 2
- d. More resources for learners = 3
- e. More motivation on the part of staff = 4
- f. More motivation on the part of learners = 5
- g. Better quality teaching = 6
- h. Longer school day = 7
- i. Learners are able to read better = 8
- j. Learner are able to learn better in other learning areas = 9
- k. Learners are getting better scores on their tests = 10
- l. Better or more regular attendance = 11
- m. Don't know/Refuse to answer = 9999

Codes for 64C:

- a. Construction of school buildings = 1
- b. Construction of wells/toilets = 2
- c. Donating materials and resources for construction = 3
- d. Providing textbooks = 4
- e. Providing other learning materials = 5
- f. Providing school feeding = 6
- g. Training teachers in reading methods = 7
- h. Training teachers in other methods = 8
- i. Providing onsite mentoring for teachers = 9
- j. Providing teachers with lesson plans = 10
- k. Working to get the community involved in the school = 11
- l. Providing after-school/extracurricular programs = 12
- m. Reading Fairs/Reading Camps = 13
- n. Providing the school a grant = 14
- o. Don't know/Refuse to answer = 9999

65. What has been the most helpful type of support your school has received in the past 3 years?  
(Don't know/Refuse to answer = 9999): \_\_\_\_\_

66. What is the least helpful type of support your school has received in the past 3 years ? (Don't know/Refuse to answer = 9999): \_\_\_\_\_

67. 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



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

68a. Do you think the instructional support you provide is enough?

- a. No = 0
- b. Yes = 1 (*Skip to Question 70*)
- c. Don't know/Refuse to answer = 9999 (*Skip to Question 70*)

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

- a. I have to teach classes too often
- b. I have too many administrative duties
- c. I don't feel comfortable providing instructional support
- d. The teachers don't like it when I provide instructional support
- e. Don't know/Refuse to answer

70. Have you participated in any training on instructional support in past 3 years?

- a. No = 0 (*Skip to QUESTION 73*)
- b. Yes = 1
- c. Don't know/Refuse to answer = 9999 (*Skip to QUESTION 73*)

71. If yes, who provided the training on instructional support? (Don't prompt; select all that apply; multiple responses possible):

- a. MoEST DTED (DEMs, PEAs, etc.)
- b. MIE
- c. EGRA
- d. Read Malawi
- e. UNICEF
- f. World Vision
- g. MERIT
- h. Don't know/Refuse to answer

72. How many days have you participated in instructional support training in the past three years? (Don't know/Refuse to answer = 9999):\_\_\_\_\_

73. Have you participated in training or taken courses in school management in the past three years?

- a. No = 0 (*Skip to QUESTION 77*)
- b. Yes = 1
- c. Don't know/Refuse to answer = 9999 (*Skip to QUESTION 77*)

74. Did you complete the MSSSP training?

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

75. Have you participated in any other school management training in the past three years?

- a. No = 0 (*Skip to QUESTION 77*)
- b. Yes = 1
- c. Don't know/Refuse to answer (*Skip to QUESTION 77*)

76. How many hours of non-MSSSP training did you receive from each of the following organizations in the past three years? (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. EGRA \_\_\_\_\_
- d. Read Malawi \_\_\_\_\_
- e. UNICEF \_\_\_\_\_
- f. World Vision \_\_\_\_\_
- g. MERIT??
- h. Other, please specify \_\_\_\_\_
- i. Don't know/Refuse to respond

77. Have you received training (training of trainers) or taken courses on how to teach reading in the past three years?

- a. No = 0 (Skip to QUESTION 79)
- b. Yes = 1
- c. Don't know/Refuse to answer = 9999 (Skip to QUESTION 79)

78. How many hours of training on how to teach reading did you receive from each of the following organizations in the past three years? (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. EGRA \_\_\_\_\_
- d. Read Malawi \_\_\_\_\_
- e. UNICEF \_\_\_\_\_
- f. World Vision \_\_\_\_\_
- g. Other organization
- h. Other, please specify \_\_\_\_\_

79. Are you satisfied with the reading performance in Standard 2 and 4 in your school?

- a. No = 0
- b. Yes = 1 (Skip to QUESTION 81)
- c. Don't know/Refuse to answer = 9999 (Skip to QUESTION 81)

80. Why aren't you satisfied with the reading performance of Standard 2 and 4 in your school?

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81. What things would you suggest to improve reading performance in your school for Standard 2 and 4?

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#### QUESTIONS THAT MAY REQUIRE SOME RESEARCH

82. What is the total enrollment at the school for Standards 1-4 from Sep 2016 to now (current school year)? (Don't know/Refuse to answer = 9999):

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

83. What is the learner-teacher ratio across the following standards (including both trained and untrained teachers but not student trainees or substitutes), from Sep 2016 to now (current school year)? 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: \_\_\_\_\_

84. Since the start of the current school year, was this school closed for any days other than holidays?

- a. No = 0 (Skip to QUESTION 87)
- b. Yes = 1
- c. Don't know/Refuse to answer = 9999 (Skip to QUESTION 87)

85. How many days, other than holidays, was the school closed this academic year? (Don't know/Refuse to answer = 9999): \_\_\_\_\_

86. 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
- h. Don't know/Refuse to answer

87. What has been the average daily absentee rate (percentage) for learners in the following standards this past academic year: (Don't know/Refuse to answer = 9999):

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

88. What is the dropout rate for all students 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 6: LEARNER INTERVIEW PROTOCOL



### Baseline of USAID/Malawi's National Reading Program

#### Learner Questionnaire

May 2017

**Instructions:** The enumerator should read each of the questions to the learner as is. 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.

#### LEARNER BACKGROUND

1. What is your age? \_\_\_\_\_
2. For how many years have you been attending school at this school? (*Don't prompt learner; 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. Are you repeating your current standard this year?
  - a. No = 0
  - b. Yes = 1
  - c. Don't know/Refuse to answer = 9999
5. 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
6. 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

7. How often have you seen the doctor or nurse or visited a health clinic this year?
- a. Almost never = 1
  - b. Occasionally = 2
  - c. A lot = 3
  - d. Don't know/Refuse to answer = 9999

## **READING**

8. Does anyone at home read to you?
- a. No = 0 (***Skip to QUESTION 10***)
  - b. Yes = 1
  - c. Don't know/Refuse to answer = 9999 (***Skip to QUESTION 10***)

9. How often does someone at home read to you?
- 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

10. Do you read on your own at home?
- a. No = 0
  - b. Yes, occasionally = 1
  - c. Yes, regularly = 2
  - d. Don't know/Refuse to answer = 9999

11. Does anyone at home help you with your homework?
- a. No = 0
  - b. Yes = 1
  - c. Don't know/Refuse to answer = 9999

12. How do you feel about reading?
- a. Happy = 1
  - b. Neutral = 2
  - c. Unhappy = 3
  - d. Don't know/Refuse to answer = 9999

- 13a. Do you ever take books home from school?

- a. No = 0 (***Skip to QUESTION 14***)
- b. Yes = 1
- c. Don't know/Refuse to answer = 9999 (***Skip to QUESTION 14***)

- 13b. Do you read the books you take home from school?

- a. No = 0

- b. Yes = 1 (**Skip to QUESTION 14**)
- c. Don't know/Refuse to answer = 9999 (**Skip to QUESTION 14**)

13c. Why do you not read the books you take home from school?

- a. I don't know how to read = 1
- b. I don't have electricity or lighting, so I can't see the books = 2
- c. I don't have time = 3
- d. Other, please specify \_\_\_\_\_ = 4

### **MEAL INFORMATION**

14. Do you eat breakfast every day?

- a. No = 0
- b. Yes = 1 (**Skip to QUESTION 16**)
- c. Don't know/Refuse to answer = 9999 (**Skip to QUESTION 16**)

15. About how many days per week do you eat breakfast? (*Don't prompt learners; let them answer without reading the answer choices*)

- a. Never = 0
- b. One to two times per week = 1
- c. Three to four times per week = 2
- d. Five to six times per week = 3
- e. Don't know/Refuse to answer = 9999

16. Do you eat breakfast at home or at school?

- a. Home = 1
- b. School = 2
- c. Both – Home and School = 3
- d. Don't know/Refuse to answer = 9999

17. 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*)

- a. Porridge = 1
- b. Tea = 2
- c. Nsima = 3
- d. Sweet potatoes = 4
- e. Fruit = 5
- f. Other, please specify: \_\_\_\_\_ = 6
- g. Don't know/Refuse to answer = 9999

18. Do you eat lunch every day?

- a. No = 0
- b. Yes = 1 (**Skip to QUESTIONS 20**)
- c. Don't know/Refuse to answer = 9999 (**Skip to QUESTIONS 20**)

19. About how many days per week do you eat lunch? (*Don't prompt learners; let them answer without reading the answer choices*)

- a. Never = 0

- b. One to two times per week = 1
- c. Three to four times per week = 2
- d. Five to six times per week = 3
- e. Don't know/Refuse to answer = 9999

20. 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**)

- a. Rice = 1
- b. Nsima/rice and vegetables = 2
- c. Sweet potatoes = 3
- d. Nsima/rice and chicken = 4
- e. Nsima/rice with beef/goat = 5
- f. Nsima/rice with usipa = 6
- g. Other, please specify: \_\_\_\_\_ = 7
- h. Don't know/Refuse to answer = 9999

21. Do you eat lunch at home, bring lunch from home with you to school, or does the school give you lunch?

- a. Eat at home = 1
- b. Bring lunch to school = 2
- c. Eat lunch at school = 3
- d. Don't know/Refuse to answer = 9999

22. Are there some days when you don't eat anything all day?

- a. No = 0 (**Skip to QUESTION 24**)
- b. Yes = 1
- c. Don't know/Refuse to answer = 9999 (**Skip to QUESTION 24**)

23. How many days last week did you NOT eat any food all day?

- a. None = 0
- b. Once = 1
- c. Twice = 2
- d. Three times = 3
- e. Four times = 4
- f. Five times = 5
- g. Six times = 6
- h. Seven times = 7
- i. Not applicable = 8888
- j. Don't know = 9999

24. How often do you feel hungry at school? (Don't prompt learners; let them answer without reading the answer choices)

- a. Never = 0
- b. Not very often = 1
- c. A few times a week = 2
- d. Every day = 3
- e. Don't know/Refuse to answer = 9999

25. Do you get tired at school?

- a. No = 0 (**Skip to QUESTION 27**)
- b. Sometimes = 1
- c. Yes = 2
- d. Don't know/Refuse to answer = 9999 (**Skip to QUESTION 27**)

26. When are you most tired?
- a. When school starts = 1
  - b. In the middle of the school day = 2
  - c. When school is finished = 3
  - d. Don't know/Refuse to answer = 9999

## **FEELINGS ABOUT SCHOOL**

27. 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**):

- a. Seeing my friends
- b. Learning new things
- c. Seeing my teacher
- d. School meals
- e. I like everything
- f. I don't like anything
- g. Don't know/Refuse to answer
- h. Other, please specify \_\_\_\_\_

28. 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 don't 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**):

- a. Other children are mean
- b. It's boring
- c. I don't understand the lessons
- d. The teacher is mean
- e. There's no latrine or it's too dirty
- f. I have to sit on the floor – no desk
- g. I can't see the textbooks or don't have textbooks
- h. I'm too tired
- i. I'm hungry
- j. It's hard to pay attention
- k. I don't feel well
- l. Other children fight too much
- m. I like everything
- n. Other, please specify \_\_\_\_\_
- o. Don't know/Refuse to answer

29. How would you describe your teacher?
- a. Nice/happy = 1
  - b. Neutral/neither happy nor unhappy = 2
  - c. Mean/unhappy = 3
  - d. Don't know/Refuse to answer = 9999

## **SCHOOL ENVIRONMENT**

30. Do you feel comfortable about using the latrine at school?
- a. No = 0
  - b. Yes = 1 (**Skip to QUESTION 32**)
  - c. Don't know/Refuse to answer = 9999 (**Skip to QUESTION 32**)



31. Why do you not feel comfortable using the latrine? (Select all that apply; **multiple responses possible**)
- a. It's dirty
  - b. It's smelly
  - c. I'm afraid other children/boys/girls will come in while I'm using it
  - d. A snake (any animal/insect) may be in there
  - e. Other, please specify: \_\_\_\_\_
  - f. Don't know/Refuse to answer
32. How long does it take you to walk to school?
- a. A short time (Less than 30 minutes) = 1
  - b. A medium amount of time (30 minutes to 1 hour) = 2
  - c. A long time (More than an hour) = 3
  - d. Don't know/Refuse to answer = 9999
33. Do you ever get teased at school?:
- a. No = 0
  - b. Yes = 1
  - c. Don't know/Refuse to answer = 9999
34. Do you feel safe walking to school?
- a. No = 0
  - b. Yes = 1 (**Skip to QUESTION 36**)
  - c. Don't know/Refuse to answer = 9999 (**Skip to QUESTION 36**)
35. If you don't feel safe walking to school, what kind of things make you feel unsafe? (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
36. Do you ever get punished at school?
- a. No = 0 (**Skip to END of interview**)
  - b. Yes = 1
  - c. Don't know/Refuse to answer = 9999 (**Skip to END of interview**)
37. If yes, what do you get punished for? (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

38. If yes, how do you get punished? (*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. Don't know/Refuse to answer
  - h. Other (specify)\_\_\_\_\_

**Thank you for your participation! You have been very helpful!**

## ANNEX 7: 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 or immediate improvement is needed
					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 & learners to move around				
					Class schedule for entire school is available in HT's office or Teachers Room				
					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				
					Latrines are available specifically for teachers				
					Most or all classrooms have enough desks for all learners				
					There is a school (not classroom) library				
					The library appears to be well stocked				
					The books in the library are in good condition				
					Most textbooks appear to have been distributed to learners				
					Resources in this school are adequate for teaching the material				
					If observed, school feeding functions in an orderly way				

School Name:

School EMIS ID:

School Questionnaire ID:

Location Type:

Type of School:

School Designation:

School GPS:

Enumerator Name:

Enumerator Signature:

Survey & Logistics Manager Signature:

Technical Manager Signature:

## ANNEX 8: PRINCIPAL COMPONENT ANALYSIS

The NRP baseline produced a large dataset, including hundreds of variables. Having many variables was necessary in order to capture complex concepts such as school resources etc., However, it was not practical to use all these variables in an unrestricted way during data analysis, for many reasons.<sup>38</sup> When a regression model incorporates several correlated variables, the problem of multi-collinearity could emerge. In such cases, 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 principal component. In a sense, it is then taken to represent all the other components of the index, and using it in place of the others avoids the problems outlined above related to large numbers of correlated variables. 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 grouped the variables under school resources using PCA. SI created a PCA score for school resources using data from the school environment protocol and head teacher questionnaire. Out of the many factors examined, the study compiled the school resources index using the school variables that correlated with a higher PCA score, meaning that all these factors were individually indicators of better school resources and that the PCA score effectively captures relative resource levels within the sampled schools. These variables are listed below.

Instead of utilizing all the variables that were collected in the survey and running into the problem of multi-collinearity, principal component analysis 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 principal component. In a sense, it is then taken to represent all the other components of the index, and using it in place of the others avoids the problems outlined above related to large numbers of correlated variables. 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.

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<sup>38</sup> Multi-collinearity 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.

The following table lists the variables used for principal component analysis. The assessment team created a PCA score for school resources based on the data from the school environment protocol and head teacher interview. The assessment team determined that the following variables were indicators of better school resources and that the PCA score captured relative resource levels within the sampled school.

Variable	Variable Labels
sc12a_binary	Classrooms have electricity
sc3a_binary	School has plantings to make the school more attractive
sc4a_binary	There are no broken windows
sc5a_binary	Buildings and classrooms have functioning locks
sc6a_binary	Classrooms have space for teacher/learners to move around
sc10a_binary	Classrooms have sufficient ventilation
sc13a_binary	School has clean water
sc14a_binary	Classrooms have a range of learning materials
sc20a_binary	Latrines are available for teachers
sc21a_binary	Most or all classrooms have enough desks for learners
sc22a_binary	There is a school library

## ANNEX 9: SAMPLE SIZE CALCULATIONS AND INTER-RATER RELIABILITY RESULTS

Prior to data collection, SI conducted sample size calculations to determine the sample required to rigorously measure and track progress in reading skills as per the statement of work requirements for this assessment. In doing so, the team used the data on several parameters such as Chichewa reading score means and standard deviations by learner sex and standards and intra cluster correlations (ICC) for each of the subtasks listed in the NRP statement of work from the National Reading Assessment (NRA) in Malawi conducted by SI in 2016. The 2016 assessment used a Chichewa tool similar to that used in the NRP to assess a nationally representative random sample of 7,200 learners from Standard 2 and 4 drawn from a random sample of 360 schools across twelve districts in Malawi. The learner sample was equally split between boys and girls.<sup>39</sup>

SI used industry standard specifications for selecting the appropriate power and significance levels for the calculations—80 percent and 0.05 percent, respectively. These data were used to calculate the Minimal Detectable Effect Sizes (MDES) for the NRP as shown in Tables below. Calculations showed that a sample of 306 schools selected randomly across the 34 education districts would be adequate to conduct the baseline using the performance indicators discussed earlier for Chichewa reading skills among Standard 2 and 4 learners.

MINIMUM DETECTABLE EFFECT SIZES FOR DIVISIONS, BY STANDARD WITH EIGHT LEARNERS (BOYS AND GIRLS) PER STANDARD IN EACH SCHOOL				
READING SUBTASKS	STANDARD 2		STANDARD 4	
	ICC	MDES	ICC	MDES
Listening Comprehension	0.133	0.037	0.122	0.040
Letter Knowledge Name	0.087	0.012	0.131	0.030
Syllable Reading	0.038	0.007	0.046	0.020
Familiar Word Reading	0.102	0.015	0.053	0.020
Oral Reading Fluency	0.006	0.007	0.029	0.020
Oral Reading Comprehension (60 seconds)	0.001	0.001	0.033	0.010

Key: ICC: Intra Cluster Correlation; C = # Schools; N = # learners/school; MDES = Minimum Detectable Effect Size; Avg % reaching benchmark set by EGRA/MoEST in 2015.

SI's calculations showed that a sample size of 306 schools spread across the six education divisions with eight learners (boys and girls) tested for Chichewa per standard per school would be adequate to detect any difference above 0.037 and 0.040 between education divisions in Standard 2 and 4 for listening comprehension, and 0.006 and 0.029 for Standard 2 and 4, respectively, for oral reading fluency.

<sup>39</sup> SI did not have access to any latest nationally representative data from English reading assessments for Standard 2 and 4 in Malawi to use for sample calculations. However, the sample size adequate for testing Chichewa in Standard 2 should also be sufficient for testing English since English reading fluency is only expected by Standard 4 by the 2016 National Reading Strategy.

### MINIMUM DETECTABLE EFFECT SIZES FOR LEARNER SEX, BY STANDARD, WITH FOUR LEARNERS (BOYS OR GIRLS) PER STANDARD IN EACH SCHOOL

SUB-TASKS	STANDARD 2		STANDARD 4	
	ICC	MDES	ICC	MDES
Listening Comprehension	0.133	0.053	0.122	0.053
Letter name Knowledge	0.174	0.036	0.130	0.040
Syllable Reading	0.038	0.010	0.046	0.022
Familiar Word Reading	0.025	0.009	0.053	0.031
Oral Reading Fluency	0.006	0.009	0.029	0.024
Oral Reading Comprehension	0.001	0.002	0.033	0.012

Key: ICC: Intra Cluster Correlation; C = # Schools; N = # learners/school; MDES = Minimum Detectable Effect Size; Avg % reaching benchmark set by EGRA/MoEST in 2015.

Similarly, as shown in table above, a sample size of four girls and four boys in each standard in each of the 306 schools would be adequate to detect any difference above 0.053 in Standard 2 or 4 for listening comprehension and 0.009 and 0.024 for Standard 2 and 4, respectively, for oral reading fluency between the sex of the learners.

As per the calculations above, 16 learners from Standard 2 and 4 per school needed to be tested for Chichewa for a total of 4,896 learners from across the country. Similarly, another 16 learners from Standard 2 and 4 per school needed to be tested for English for a total of 4,896 learners across the country. These calculations led to a grand total sample size of 9,792 learners, which after correcting for any sampling design effect due to stratification/clustering should be sufficient to assess reading levels at a 0.05 significance level (95% confidence level) in Standard 2. The precision could potentially be higher for Standard 4 reading because variation in scores are generally lower (relative to the mean) in Standard 4 compared to Standard 2.

### INTER RATER RELIABILITY

Assessments are typically conducted by multiple assessors with various levels of capacities and past assessment experiences. Therefore, when performing any one-on-one assessments, it is important to establish agreement among the multiple assessors to ensure they reliably score learners such that scores do not vary by assessor capacity. In other words, it is important to establish “interrater reliability” (IRR) to assure consistency and reliability across all assessors.

To ensure interrater reliability, prior to data collection we trained the assessors well during a five-day training period on all the assessment tools and in administering the tools. During the training, practicing the English and Chichewa reading assessment tools with fellow assessors and pilot testing the tools with learners helped to improve reliability.

While the enumerators / assessors were trained extensively and practiced and piloted the tests, there is always a possibility of disagreement among the assessors when assessments are taken to a large scale with numerous schools and learners of various characteristics. Therefore, in line with the guidance provided in

the USAID-EGRA Toolkit 2.0 issued in 2015, we also collected and analyzed IRR data during the data collection period.

For this study, we used the following procedures to conduct IRR tests during data collection period:

- The logistics manager in each team decided on which assessments are to be designated as IRR tests. In each tea, two assessors were paired as a team to assess the learner in Chichewa or English.
- For each team, a total of four IRR tests were conducted that were spread throughout the week. For example, two IRR tests were done on day 1 and 2 on Day 3 of each week of data collection for the first learner in a school for each standard. Or, one IRR test was done on each of the days 1, 2, 3, and 4 of a week.
- With 21 teams deployed to conduct NRP data collection, there were a total of  $21 \times 4 = 84$  IRR tests conducted in a week. The 84 tests were spread across English or Chichewa, Standard 2 or 4, and girl or boy.
- Prior to starting the test, the assessors clearly marked whether the assessment was an IRR assessment and his/her role in the IRR test (example: Assessor 1 as the one who administers the assessment to the learner; Assessor 2 as observer). These options were programmed into the tool such that assessors can easily mark them.
- Then, Assessor 1 called a learner and explained the study while Assessor 2 sat in a position from which he/she could observe the learner and listen to the assessor but not see what Assessor 1 was writing. Assessor 1 conducted the assessment as normal, testing the learner for reading skills and recording learners' responses. Assessor 2 began scoring a separate assessment for the same learner by just observing the learner and listening to Assessor 1. During the entire assessment, Assessor 2 never asked any questions, but merely observed, listened, and recorded.
- Once Assessor 1 and 2 entered a response onto their assessment, it was never changed, erased, or corrected after the learner left the room. Any points of disagreement were important to retain, as they provided information on interrater agreement and reliability.
- Once the assessors completed the IRR reading assessment, they separated and the assessor conducting the reading assessment continued with the learner questionnaire. The assessor who only observed the test then called the next learner for an individual assessment.

SI team analyzed the IRR data gathered from a total of 164 learners during two weeks of data collection (May 28 through June 11) by comparing the scores registered by the Assessor pairs (Assessor 1 as that conducted the assessment and Assessor 2 that observed – called as an Assessor pair) for each learner that they tested together. SI team split the IRR dataset into two by Assessor 1 and 2 and used the *cfout* command on Stata to produce the percentage of differences between the two datasets. The percentage of agreement was found by deducting the percentage of differences produced by the *cfout* command from 100. The following table displays the results disaggregated by learner sex and standard for Chichewa and English:



Interrater Reliability: Percentage of Agreement Between Assessors					
Week 1			Week 2		
	% in agreement	Number of Assessor Pairs		% in agreement	Number of Assessor Pairs
<b>Chichewa</b>					
Standard 2 Boy	97.78	13		99.65	14
Standard 2 Girl	94.53	9		96.88	14
Standard 4 Boy	90.05	9		97.54	9
Standard 4 Girl	91.03	12		97.13	6
Total (Chichewa)		43			43
<b>English</b>					
Standard 2 Boy	96.17	9		100.00	5
Standard 2 Girl	99.74	12		98.87	7
Standard 4 Boy	96.03	13		95.41	12
Standard 4 Girl	94.34	8		97.50	12
Total (English)		42			36
Grand Total (Chichewa + English)		<b>85</b>			<b>79</b>

In Week 1, a total of 85 learners were tested in English or Chichewa by 85 pairs of Assessors. The percentage of agreement between the assessors ranged from 90% to 99%. Technical managers in each team discussed the results with the Assessors, identified gaps in their training and coached them on properly scoring the learners. In Week 2, the percentage of agreement improved for all groups of learners due in part to the additional coaching provided to the assessors based on issues identified from IRR test results in Week 1. The very high level of agreement of 95% and above for both Chichewa and English assessments conducted among learners of both sex in both Standards 2 and 4 during Week 2 of data collection indicated reliability and consistency among the assessors in scoring the tests.

## ANNEX 10: ORAL READING FLUENCY RESULTS BY DISTRICT

### CHICHEWA: Weighted Average Oral Reading Fluency (cwpm) Results by District

District	STANDARD 2: Avg. score (cwpm)	No. Learners	STANDARD 4: Avg. score (cwpm)	No. Learners
Balaka	5.14	145	34.47	145
Blantyre Rural	2.15	144	22.23	144
Blantyre Urban	3.45	64	24.24	64
Chikhwawa	1.44	160	24.45	160
Chiradzulu	3.79	80	24.77	80
Chitipa	0.76	160	14.78	160
Dedza	3.29	208	30.22	208
Dowa	1.62	208	18.59	208
Karonga	4.02	144	18.82	144
Kasungu	7.37	320	21.4	320
Likoma	10.13	64	39.13	64
Lilongwe City	4.49	64	18.67	64
Lilongwe Rural East	1.2	192	26.96	192
Lilongwe Rural West	4.82	224	32.06	224
Machinga	2.05	144	27.45	144
Mangochi	2.55	240	27.29	240
Mchinji	1.55	176	26.04	176
Mulanje	5.13	144	27.66	144
Mwanza	1.96	64	28.86	64
Mzimba North	4.26	240	25.32	240
Mzimba South	3.47	272	20.91	272
Mzuzu City	1.61	64	23.57	64
Neno	0.11	64	27.54	64
Nkhata Bay	3.91	160	23.27	160
Nkhota-Kota	1.29	128	29.84	128
Nsanje	3.63	96	21.51	96
Ntcheu	4.15	208	31.61	208
Ntchisi	2.9	128	34.03	128
Phalombe	2.43	80	32.45	80
Rumphi	3.62	176	21.61	176
Salima	3.00	128	23.3	128
Thyolo	4.29	157	31.04	157
Zomba Rural	4.18	176	32.14	176
Zomba Urban	2.42	64	37.48	64
Overall	3.39	5086	25.82	5086

# **ENGLISH: Weighted Average Oral Reading Fluency (cwpm) Results by District**

District	STANDARD 2: Avg. Score (cwpm)	No. Learners	STANDARD 4: Avg. Score (cwpm)	No. Learners
Balaka	2.34	143	20.72	143
Blantyre Rural	0.23	144	11.91	144
Blantyre Urban	1.1	64	16.39	64
Chikhwawa	0.6	160	10.97	160
Chiradzulu	1.37	80	11.63	80
Chitipa	1.05	160	9.95	160
Dedza	1.21	208	15.85	208
Dowa	0.63	209	9.61	209
Karonga	1.1	140	14.77	140
Kasungu	1.15	320	12.94	320
Likoma	1.44	64	25.08	64
Lilongwe City	2.22	64	12.35	64
Lilongwe Rural East	0.61	192	14.43	192
Lilongwe Rural West	1.09	217	15.49	217
Machinga	3.1	144	12.8	144
Mangochi	1.88	240	16.28	240
Mchinji	0.63	176	12.28	176
Mulanje	0.98	144	18.48	144
Mwanza	0.63	64	11.16	64
Mzimba North	2.08	240	15.05	240
Mzimba South	2.59	265	8.9	265
Mzuzu City	0.54	64	16.81	64
Neno	0.61	64	10.16	64
Nkhata Bay	1.56	157	15.01	157
Nkhota-Kota	1.41	126	15.38	126
Nsanje	1.68	96	13.84	96
Ntcheu	3.01	208	16.66	208
Ntchisi	2.51	127	18.53	127
Phalombe	0.58	80	17.73	80
Rumphi	1.26	172	14.16	172
Salima	0.87	124	15.69	124
Thyolo	1.32	149	16.9	149
Zomba Rural	1.39	176	23.38	176
Zomba Urban	5.08	64	21.95	64
Overall	1.39	5045	14.87	5045

## ANNEX 11: FACTORS PREDICTING ORAL READING FLUENCY – FULL TOBIT REGRESSION MODEL RESULTS, BY STANDARDS, SEX, AND LANGUAGES

### REGRESSIONS RESULTS FOR CHICHEWA ORAL READING FLUENCY—STANDARD 2

INDEPENDENT VARIABLE	STANDARD 2 (GIRLS + BOYS)		STANDARD 2 GIRLS		STANDARD 2 BOYS	
	MARGINAL COEFFICIENT	SE	MARGINAL COEFFICIENT	SE	MARGINAL COEFFICIENT	SE
Learners are read to at home often (>2 times per week) (dummy)	2.13	0.56***	2.06	0.86**	2.12	0.77***
Learner takes books home from school (dummy)	1.12	0.53**	0.62	0.65	1.55	0.95
Learner age (in years)	0.37	0.18**	0.02	0.22	0.63	0.21***
Learner is a repeater (dummy)	-1.65	0.56***	-1.91	0.76**	-1.28	0.66*
Learner has sweet potatoes for breakfast (dummy)	-0.12	0.50	0.67	0.74	-0.87	0.63
Learner reports feeling tired at school (dummy)	-1.23	0.60**	-0.73	0.83	-1.63	0.80**
Learner receives help on homework at home (dummy)	0.01	0.44	0.90	0.67	-0.94	0.72
Class size (number of learners)	0.00	0.01	0.00	0.01	0.00	0.01
School has a feeding program (dummy)	1.55	0.78**	1.09	0.78	1.87	0.93**
School has an extended day (dummy)	0.12	0.66	0.13	0.76	0.01	0.78
PCA for school resources	0.41	0.24*	0.56	0.30*	0.25	0.25
Divisions primarily made of non-Chichewa-speakers (dummy) <sup>40</sup>	0.12	0.73	0.11	0.80	0.05	0.89

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

### REGRESSIONS RESULTS FOR CHICHEWA ORAL READING FLUENCY—STANDARD 4

INDEPENDENT VARIABLE	STANDARD 4 (GIRLS + BOYS)		STANDARD 4 GIRLS		STANDARD 4 BOYS	
	MARGINAL COEFFICIENT T	SE	MARGINAL COEFFICIENT	SE	MARGINAL COEFFICIENT	SE
Learners are read to at home often (>2 times per week) (dummy)	6.21	0.84***	7.56	1.22** *	4.83	1.09***
Learner takes books home from school (dummy)	5.91	1.12***	6.13	1.65** *	5.78	1.57***
Learner age (in years)	-0.56	0.29*	-0.40	0.47	-0.57	0.39
Learner is a repeater (dummy)	-6.10	1.00***	-7.41	1.43** *	-4.90	1.30***
Learner has sweet potatoes for breakfast (dummy)	1.36	0.84	0.65	1.28	2.08	1.10*
Learner reports feeling tired at school (dummy)	1.21	1.03	2.41	1.54	0.76	1.39
Learner receives help on homework at home (dummy)	-2.59	0.82***	-2.30	1.53	-2.94	1.19**
Class size (number of learners)	-0.01	0.01	-0.01	0.01	-0.00	0.01

<sup>40</sup> Chichewa is widely spoken in southern and central regions, while Tumbuka is spoken in northern regions; Yao is spoken in lake areas in the southern tip close to Mozambique. Therefore, SI considered CEED and CWED as primarily consisting of Chichewa-speaking populations, with NED, SEED, SHED, and SWED as including non-Chichewa speakers as well. For the dummy indicator, North (NED and SHED) and South (SWED and SEED) are coded as one and Central (CEED and CWED) as zero.

School has a feeding program (dummy)	1.07	1.33	1.37	1.68	1.02	1.59
School has an extended day (dummy)	1.72	1.12	1.74	1.57	1.60	1.32
PCA for school resources	1.11	0.34***	1.00	0.50**	1.31	0.47***
Divisions primarily made of non-Chichewa-speakers (dummy)	0.71	1.22	0.58	1.62	0.94	1.50

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

#### REGRESSIONS RESULTS FOR ENGLISH ORAL READING FLUENCY—STANDARD 2

INDEPENDENT VARIABLE	STANDARD 2 (GIRLS + BOYS)		STANDARD 2 GIRLS		STANDARD 2 BOYS	
	MARGINAL COEFFICIENT	SE	MARGINAL COEFFICIENT	SE	MARGINAL COEFFICIENT	SE
Learners are read to at home often (>2 times per week) (dummy)	1.51	0.45* **	0.24	0.53	2.77	0.67** *
Learner takes books home from school (dummy)	1.37	0.34* **	1.78	0.48***	0.85	0.50*
Learner age (in years)	0.14	0.09	0.07	0.14	0.34	0.13** *
Learner is a repeater (dummy)	-0.31	0.34	-0.22	0.46	-0.56	0.44
Learner has sweet potatoes for breakfast (dummy)	-0.34	0.34	-0.41	0.47	-0.09	0.44
Learner reports feeling tired at school (dummy)	-0.23	0.37	-0.02	0.48	-0.54	0.56
Learner receives help on homework at home (dummy)	0.44	0.33	1.06	0.44**	-0.24	0.38
Class size (number of learners)	-0.00	0.00	-0.00	0.01	-0.01	0.00
School has a feeding program (dummy)	0.23	0.45	0.35	0.56	0.07	0.52
School has an extended day (dummy)	0.37	0.43	0.61	0.53	0.01	0.50
PCA for school resources	0.42	0.16* **	0.49	0.20**	0.34	0.16**
Divisions primarily made of non-Chichewa-speakers (dummy)	0.31	0.44	0.72	0.48	-0.11	0.58

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

#### REGRESSIONS RESULTS FOR ENGLISH ORAL READING FLUENCY—STANDARD 4

INDEPENDENT VARIABLE	STANDARD 4 (GIRLS + BOYS)		STANDARD 4 GIRLS		STANDARD 4 BOYS	
	MARGINAL COEFFICIENT	SE	MARGINAL COEFFICIENT	SE	MARGINAL COEFFICIENT	SE
Learners are read to at home often (>2 times per week) (dummy)	2.89	0.67 ***	2.30	0.95* *	3.68	0.88***
Learner takes books home from school (dummy)	2.49	0.74 ***	3.07	1.29* *	2.24	1.07**
Learner age (in years)	-0.83	0.19 ***	-1.22	0.28* **	-0.29	0.24
Learner is a repeater (dummy)	-3.73	0.77 ***	-3.74	0.94* **	-3.83	0.89***
Learner has sweet potatoes for breakfast (dummy)	1.33	0.65 **	2.29	0.95* *	0.23	0.93
Learner reports feeling tired at school (dummy)	-0.25	0.71	-0.23	1.14	0.01	1.03
Learner receives help on homework at home (dummy)	-0.32	0.66	-1.10	0.86	0.33	0.87
Class size (number of learners)	-0.01	0.01	-0.01	0.01	-0.01	0.01
School has a feeding program (dummy)	0.67	1.04	0.40	1.13	0.80	1.15

School has an extended day (dummy)	2.17	0.87 **	1.45	1.00	2.96	1.03***
PCA for school resources	0.65	0.33 **	0.99	0.35* **	0.36	0.40
Divisions primarily made of non-Chichewa-speakers (dummy)	1.78	0.97 *	1.88	1.03*	1.89	1.17

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

## ANNEX 12: EFFECT OF CLASS SIZE ON ORAL READING FLUENCY SCORES

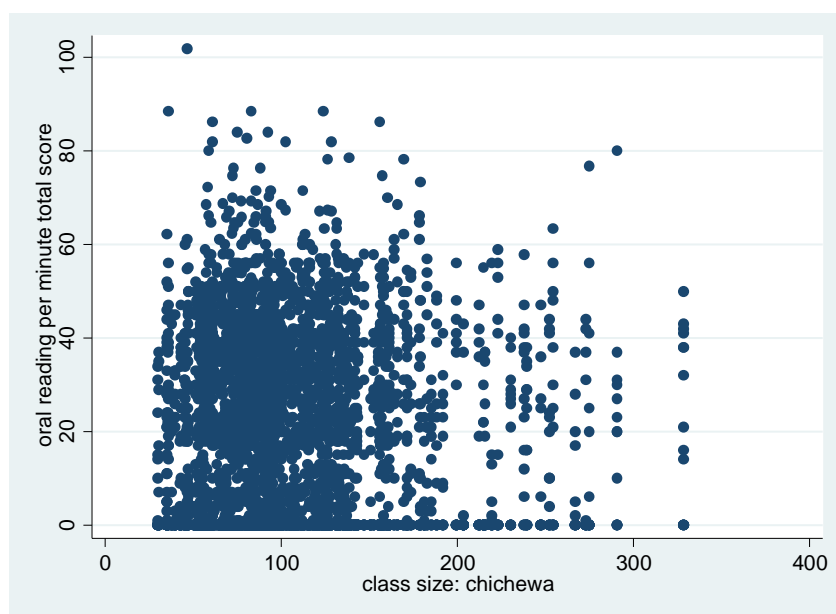
Data from NRP assessment in 2017 showed that class size was not a significant predictor of oral reading fluency performance in both languages and standards for both sex (Table below).

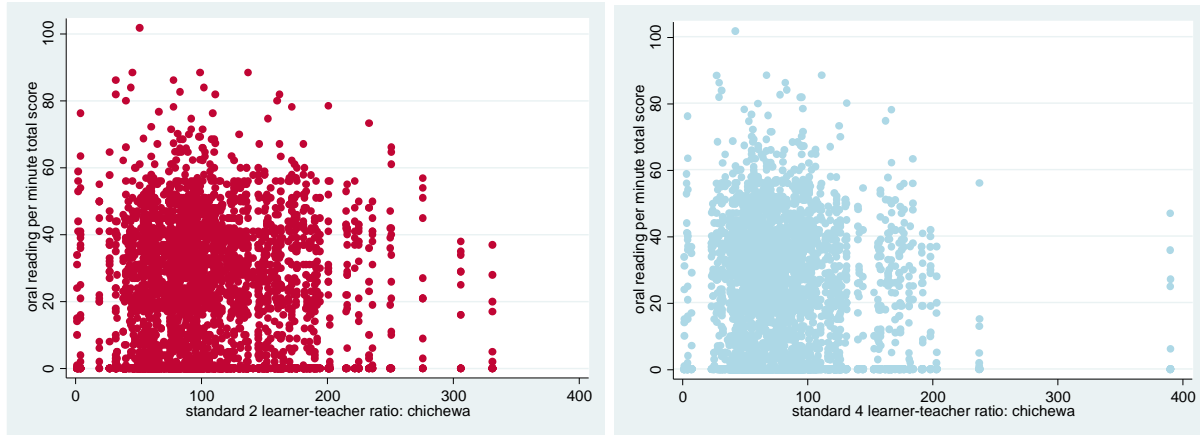
TABLE: TOBIT REGRESSIONS RESULTS FOR ORAL READING FLUENCY						
INDEPENDENT VARIABLE	(GIRLS + BOYS)		GIRLS		BOYS	
	MARGINAL COEFFICIENT	SE	MARGINAL COEFFICIENT	SE	MARGINAL COEFFICIENT	SE
Chichewa						
Std 2: Class size (number of learners)	0.00	0.01	0.00	0.01	0.00	0.01
Std 4: Class size (number of learners)	-0.01	0.01	-0.01	0.01	-0.00	0.01
English						
Std 2: Class size (number of learners)	-0.00	0.00	-0.00	0.01	-0.01	0.00
Std 4: Class size (number of learners)	-0.01	0.01	-0.01	0.01	-0.01	0.01

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

As shown in Figure 1 and Figure 25, there was no clear pattern in terms of learner reading fluency and class size, with both lower and higher performing children being spread across a wide range of class sizes. A similar lack of strong correlation between the number of children in a class and learner scores was also found in the 2016 NRA (Social Impact, 2016).

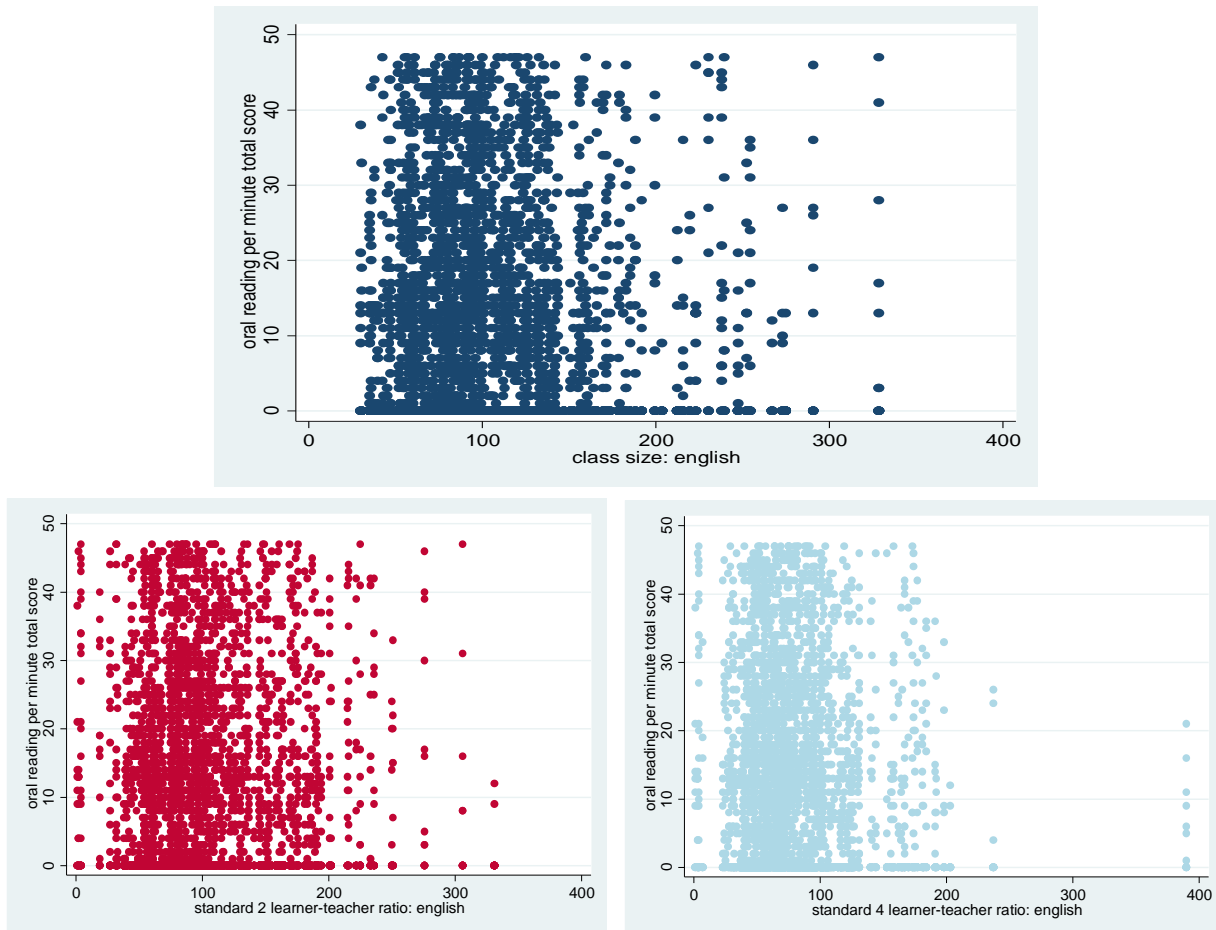
**FIGURE 1: SCATTERPLOTS OF ORAL READING FLUENCY AND CLASS SIZE, LEARNER-TEACHER RATIO – CHICHEWA**





Data Source: National Reading Performance Baseline Reading Assessment, 2017.

**FIGURE 25: SCATTERPLOTS OF ORAL READING FLUENCY AND CLASS SIZE, LEARNER-TEACHER RATIO – ENGLISH**



Data Source: National Reading Performance Reading Baseline Assessment, 2017.