Baseline Report

Lesotho Literacy for Young Visually Impaired Persons
Catholic Relief Services, Lesotho

Prepared by School-to-School International
For All Children Reading: A Grand Challenge for Development

December 2015

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Executive Summary

Recognizing that reading is fundamental to learning new knowledge, acquiring skills and succeeding in primary school and beyond, education stakeholders are increasingly focusing efforts on assessment of early grade literacy skills and interventions to address reading difficulties. The Early Grade Reading Assessment, known as EGRA, is an instrument designed to assess foundational reading skills that are crucial to children's successful reading and comprehension. The individual tasks within the EGRA were designed based on extensive research that identified the most critical skills required for reading fluently with comprehension, namely phonological awareness, alphabetic knowledge, vocabulary, fluency and comprehension.[1] All Children Reading (ACR): A Grand Challenge for Development adopted the standard EGRA tool to systematically assess reading skills across all Round 2 grantees and will adapt the tool according to each grantee's project context. All Children Reading is a joint partnership between the United States Agency for International Development (USAID), World Vision, and the Australian Government (DFAT).

School-to-School International (STS), in collaboration with Catholic Relief Services (CRS) and the Lesotho Ministry of Education and Training (MOET), facilitated the adaptation of a braille Sesotho Early Grade Reading Assessment (EGRA) for students with low vision/blindness in Lesotho from August 17 through September 3, 2015. This EGRA served as the baseline instrument for the Lesotho Literacy for Young Visually Impaired Persons project, implemented by CRS and funded by ACR. The endline EGRA instrument was also developed during the adaptation workshop. STS also trained the assessors to collect the baseline data using electronic data collection software and conducted the baseline analysis included in this report. In general, baseline scores indicated that:

1. Letter-sound correspondence for students with low vision/blindness does improve as they progress through the grades, but they are receiving minimal instruction in letter-sound correspondence in grades 1 and 2.
2. Students who are nearly blind and completely blind read much more slowly than their peers who are partially blind.
3. Students in Grades 1, 2 and 3 lack sufficient skills to decode unknown words and therefore read with fluency.
4. None of the students read at a pace required for comprehension.
5. Students with low vision/blindness are experiencing other difficulties in comprehending meaning – e.g., confusion related to language, pronunciation, story structure, or even learning disabilities.

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[1] RTI International and International Rescue Committee. (2011). *Guidance Notes for Planning and Implementing Early Grade Reading Assessments.*

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I. Purpose

The purpose of the Lesotho Literacy for Young Visually Impaired Persons project is to improve the reading skills of early grade students with low vision/blindness by providing innovative technologies for braille production/translation in the classroom, train teachers to use the technologies and pair this with individualized education plans. CRS will conduct this intervention at a residential, national school for the blind, located in Maseru, Lesotho. Key Research Questions to be answered are:

1. Does the use of the Montbatten Pro-Brailler and the Jot-A-Dot improve reading skills for students with low vision/blindness?
2. Does teacher training in pedagogy and reading, as implemented, improve reading skills for students with low vision/blindness?

II. EGRA instrument development

Sesotho, or Sotho, is one of the national languages of Lesotho in addition to English. The government of Lesotho promotes bilingualism. The braille Sesotho EGRA instrument was developed for students in grades 1-3 during a five-day instrument adaptation workshop, see Annex A. Agenda. The workshop was led by STS with representatives from CRS, the MOET, including representation from the National Curriculum Development Center and the Special Education Unit, the Lesotho College of Education, and local NGOs working with blind children)Lesotho National League of Visually Impaired Persons, and the Lesotho National Federation of the Disabled). The representatives included two reading experts, one curriculum specialist, two special education teachers and five specialists for students with low vision/blindness who can type and read braille. The final assessment tool included the following five tasks:

1. Letter-sound correspondence
2. Non-word reading
3. Oral reading fluency
4. Reading comprehension
5. Listening comprehension

These tasks were chosen for a variety of reasons. First, to ensure that the "core" reading skills are captured across all ACR projects, STS, in consultation with a literacy expert, determined that a minimum of four tasks should be included across projects: Letter Name, Non-Word Reading, Oral Reading Fluency and Reading Comprehension. ACR grantees are encouraged to include other EGRA subtasks as well, depending on the nature of their intervention. In the case of the braille Sesotho EGRA, stakeholders agreed that the Listening Comprehension Task might be able to provide additional information on students' ability to comprehend oral text, especially for those students with low literacy levels.

It is important to note that though some non-governmental organizations (NGOs) had

previously attempted to implement EGRA in Lesotho, no Sesotho tools were officially validated, so adapting an EGRA for this project became necessary. Moreover, to our knowledge, very few projects have adapted EGRA to be used with children with low vision/blindness. This effort, then, represents new territory for the MOET in Lesotho and education stakeholders worldwide. Such an adaptation raised numerous technical questions and required multiple rounds of instrument development and piloting to produce a reliable and valid instrument.

Validation process

During the EGRA Adaptation Workshop the team first developed a print version of the instruments to be pretested, then adapted them into a braille version in Sesotho. Having parallel versions made it possible to compare levels of difficulty and consider the extent to which difficulties in the braille version may be due to their format (being in braille) or level of difficulty (as tested with sighted students). The print version was then pretested with sighted children to establish a benchmark and, based on the results of this pretest, two parallel versions of the EGRA was adapted into braille by local experts from the Lesotho College of Education – one to be used at baseline and the other at end line. These two braille versions were then pretested with seven children who are blind/low vision, representing the target population for the intervention (this pretest group was small in number because the target population of children was only about 30 students). The results of the braille pretest showed a high percentage of zero scores for children with low-vision/blindness compared to their sighted peers in comparable grades. These results were taken into account, and the braille EGRA instruments were revised to better capture the target population's ability range. The revisions, recommended by early grade primary teachers from the target school, specialists from the MOET Special Needs department, and other workshop participants, included the following:

1. Changed two-syllable non-words to one-syllable non-words.
2. Added more familiar vocabulary.
3. Made comprehension questions more explicit.
4. Included more space between both the individual letters and each row on the braille stimuli.

The two versions of the revised braille EGRAs were piloted with the same children who had also taken the pretest, again because of the limited size of the target population. In this pilot, scores increased across all grades, indicating that these versions were more appropriate for the target students' levels. The two parallel versions were revised one final time to ensure comparability of difficulty between baseline and end line, and then submitted to all stakeholders for approval. Upon review, the adaptation workshop participants deemed the tools a valid measure of the range of reading skills present in grade 1-3 students with low-vision/blindness.

In addition to student reading assessments, a student questionnaire was developed and piloted for gathering data on contextual factors that may affect reading proficiency, such as availability of braille reading materials, absenteeism, and pre-school attendance.

Item quality

As presented in Annex C, overall EGRA reliability as measured by Cronbach alpha[2] was quite strong at 0.935. Normally a minimum Cronbach alpha score of 0.8 on assessments such as EGRA is considered an acceptable level of reliability. Item-test results were also quite high both at the task level (e.g., Oral Reading Fluency) and at the item level (e.g., one question within the ORF task); all were above 0.5 (results above 0.2 are generally considered acceptable with this measure). However, Cronbach alpha scores at the item (question) level on the Listening Comprehension task were low, indicating relatively low levels of reliability at the item level on this task. Results by question on this task should therefore be interpreted with caution.

For additional information on item and task results by group, grade and gender, see Annexes D, E, and F.

III. Assessor training

The EGRA Assessor Training took place from August 25-27, 2015. The assessors were recruited by CRS; all had previous survey experience and experience working with CRS. The assessors were trained to both administer the braille EGRA on paper and on tablets. As the assessors had been involved in the EGRA Adaptation Workshop and the pretest, they were familiar with the EGRA administration procedures. Special Needs experts from the MOET trained assessors on best practices for assessing children with low vision/blindness. As part of their training, inter-rater reliability tests were conducted in which the consistency of assessors' rating of children's performance in simulated exercises was calculated (high consistency in rating is a priority; 90% consistency is considered the gold standard, meaning that 90% of assessors' ratings are consistent). Inter-rater reliability scores met the EGRA recommended threshold of 90%, with two assessors achieving 100% on the final test.

The ACR baseline data collection was conducted on September 2 – 3, 2015 at the target intervention school. Three assessors administered the EGRA, one per grade. The session, averaging 40 minutes, consisted of the introduction, context interview, and the five EGRA tasks.

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[2]Cronbach's alpha is a measure of internal consistency, that is, how closely related a set of items are as a group. It is considered to be a measure of scale reliability. A "high" value for alpha does not imply that the measure is unidimensional. If, in addition to measuring internal consistency, you wish to provide evidence that the scale in question is unidimensional, additional analyses can be performed. Exploratory factor analysis is one method of checking dimensionality. Technically speaking, Cronbach's alpha is not a statistical test - it is a coefficient of reliability (or consistency).

IV. Sample

The sample for this intervention was drawn from one school.[3] This school is one of only three schools in Lesotho that caters specifically to learners with low vision/blindness, and the only one that has residential facilities. A total of 24 students participated in the EGRA baseline. Table 1 shows the breakdown of the sample by grade, age and gender:

Table 1: Total number of students assessed by age, grade and gender

Grade	No. boys	No. girls	Total	Ave Age.	Age Range	Total
1	6	5	11	10	7-15	11
2	3	1	4	14	11-17	4
3	4	5	9	12	10-15	9
Total	13	11	34		7-17 years	34

Table 2 highlights the degree of vision loss of the assessed students. The sample included all children with low-vision/blindness attending the target intervention school in Grades 1-3 who were present and willing to participate. The sample included students in three categories designated by the school: partially blind, nearly blind, or completely blind. Students who are partially blind are those who can read large print and braille; students who are nearly blind have very poor vision, which requires them to read braille (most have been diagnosed as destined to become blind in the near future); and students who are completely blind have no vision at all and therefore must read braille. Note that the majority of students who are completely blind are in grade 1, and half of the partially blind students are in grade 3. These proportions are likely to have a corresponding impact on EGRA results for those grades.

Table 2: Sample Size based on Degree of Vision Loss

Type	Grade 1	Grade 2	Grade 3	Total
Partially Blind	4	3	7	14
Nearly Blind	1	0	1	2
Completely Blind	6	1	1	8
Total	11	4	9	24

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[3] Following The Protection of Human Subjects in Research Supported by USAID, all ACR projects sought human subjects' approval through a local Internal Review Board (IRB) to ensure there was minimal risk to the students participating in the interventions and associated assessments. In the case of Lesotho, it was determined that there was no local IRB option and a U.S. based IRB was identified. Through guidance from World Vision and STS, CRS Lesotho submitted their EGRA instrument and assessment protocols to Solutions IRB and received approval to conduct the study with the identified student sample.

V. EGRA baseline findings

The findings from the EGRA are presented by sub-task. Three out of the four tasks were timed: letter sound, non-word reading, and oral reading fluency. For sighted children, the EGRA tasks are usually measured at the one-minute mark.[4] In the case of children with low vision/blindness, through consultation with special needs experts, it was determined that these children should be given additional time—for a total of three minutes—to complete the task. All students were measured at the 1 minute and 3 minute mark to provide comparability to sighted children while at the same time providing enough time for the braille readers to demonstrate their performance.

The reading comprehension and listening comprehension tasks are untimed, and are reported in terms of mean scores of questions answered correctly.

Letter-Sound Correspondence

This task measures students' understanding of the "alphabetic principle"—which states that each letter of the alphabet corresponds to a specific sound. For this task, each student was presented with a stimulus of 100 upper and lower case letters and asked to say the sound of each letter. The task was timed at one and three minutes.

As a baseline assessment, two things stand out in Table 3. First, students in grade 1 were able to read less than one sound in three minutes while students in grade 3 were able to read the sounds of more than 48 letters in three minutes. These scores indicate that though students are likely progressing as they move through the grades, they are probably receiving minimal instruction in letter-sound correspondence in grades 1 and 2. Second, the students who are nearly blind and completely blind read much more slowly than their peers who are partially blind. This could be due to their grade level distribution and not visual impairment alone. In terms of gender differences, girls performed slightly better than boys on the letter sound identification subtask. When comparing the mean scores, it is important to note the distribution of students in each grade by gender, which may have affected results. There girls are concentrated in grades 1 and 3 while the boys are more evenly distributed throughout all the grades.

Table 3: Letter Sound Fluency

Group of Students	N	1 minute fluency rate	3 minute fluency rate	Zero scores
Grade 1	11	0.09	0.82	9
Grade 2	4	2.75	12.25	1
Grade 3	9	15.88	48.11	0
Partially Blind	14	9.21	29.14	4
Nearly Blind	2	2	7	0

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[4] RTI International and International Rescue Committee. (2011). *Guidance Notes for Planning and Implementing Early Grade Reading Assessments.*

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Completely Blind	8	2.75	8.625	6
Boys	13	6.46	19.46	6
Girls	11	6.54	21.63	4

Non-word Reading

Unlike familiar words that students can read from memorization or sight recognition in addition to using their decoding skills, the non-word reading task requires students to decode unfamiliar invented words that follow the language structure but have no meaning in the local language. For this task, students were presented with 50 one- and two-syllable non-words and asked to read as many as possible within three minutes. As Table 4 shows, this task was difficult for all students, particularly those in grades 1 and 2. These scores indicate that students in Grades 1, 2 and 3 lack sufficient skills to decode unknown words and therefore read with fluency. Interestingly, students who are nearly blind scored lower than students who are completely blind. Overall, there was no difference in boys' and girls' performance. Both genders read an average of nine non-words with a slight variation in favor of boys.

Table 4: Non-word Fluency

Group of Students	N	1 minute fluency rate	3 minute fluency rate	Zero scores
Grade 1	11	0.18	0.18	9
Grade 2	4	1.00	4.50	3
Grade 3	9	8.88	22.55	1
Partially Blind	14	5.21	12.71	6
Nearly Blind	2	0.50	0.50	1
Completely Blind	8	1.50	5.38	6
Boys	13	4.00	9.38	7
Girls	11	3.09	9.18	6

Oral Reading Fluency

Reading fluency is the ability to read with speed, accuracy, and proper expression. The oral reading fluency (ORF) task measured students' ability to read a passage aloud of connected text of about 60 words within a prescribed time, in this case - three minutes. If students could read any words, they were given three minutes to finish the text, and the assessors marked where the student was in the text at the one minute and three minute points. Table 5 shows the results of both of these measures. Note that the higher scores at the 3-minute mark represent the number of words read correctly *in three minutes*, which reflect approximately the same rates as where the students were at the one-minute point. (In some countries, students' speed increased as they progressed in the task and were given a full three minutes to read the passage.)

Table 5: Oral Reading Fluency

Grade	N	1 minute fluency rate	3 minute fluency rate	Zero scores
Grade 1	11	0.27	0.27	10
Grade 2	4	6.00	15.5	2
Grade 3	9	16.55	50.44	0
Partially Blind	14	9.79	30.28	6
Nearly Blind	2	4.50	5.00	0
Completely Blind	8	3.75	10.63	6
Boys	13	9.46	28.31	6
Girls	11	4.81	13.72	6

Three students completed the task with time remaining and their assumed score is included in the rate calculations.

As Table 5 shows, only one of the eleven grade 1 students assessed could read any words correctly (ten had zero scores), and only two of the four grade 2 students assessed could read any words correctly (two had zero scores). None of the students read at a pace required for comprehension (though benchmarks have not been established for reading in Sesotho in Lesotho, literacy research suggests that in most languages there is a minimum threshold for the number of words per minute required before the student can begin to understand the text). The results suggest some progression of skill acquisition as children advance through the grades, as evidenced in increased reading speeds and decreased zero scores.

Reading Comprehension

Reading comprehension is the ability to read a text and derive meaning from it. To measure this skill, students were asked up to five questions based on the oral reading passage story in the previous task. Students were asked questions relative to the amount of text they were able to read in the time given. For example, if they only finished the first sentence, they were asked one question pertaining to that sentence. If they read the entire text, they were asked all five questions. Of these five, four were literal questions (ones for which the answer can be found explicitly in the text) and one was inferential (where the answer must be inferred using evidence from the text).

Table 6: Mean number of comprehension questions answered correctly (out of 5)

Grade	N	Mean Score
Grade 1	11	0.00
Grade 2	4	1.25
Grade 3	9	3.44
Partially Blind	14	1.92
Nearly Blind	2	1.00
Completely Blind	8	0.88
Boys	13	1.38

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	Girls	11	1.64	

As Table 6 shows, all grade 1 students received a zero score. This is because no students were able to read enough text to be asked any questions. Students in grades 2 and 3 show a progression of ability, with just over one question answered correctly in grade 2 and about three and a half questions on average answered correctly in grade 3. Girls performed slightly higher than boys on the Reading Comprehension task with a mean score of 1.64 compared to 1.38 for boys.

Table 7 shows the relationship between the number of words read correctly and the percentage of comprehension questions answered correctly by each child assessed in grade 3. A common comprehension benchmark is 80%—that is, students who understand 80% of what they are reading (e.g., 4 out of 5 comprehension questions answered correct) can be considered true "readers." As the table shows, children reading at least 47 words per minute correctly are achieving the 80% benchmark and thus are probably true "readers." There was one child who read 55 words but that child was only able to answer 2 of the 4 questions asked correctly. Six of the nine children in grade 3 met this benchmark; none of the grade 1 or 2 students did.

Table 7: Grade 3 Fluency Rate and Number of comprehension questions asked and answered correctly

Each Grade 3 Student	3 Minute Fluency Rate	Number of Comprehension Questions Asked	Number of Comprehension Questions Correct	Percentage Correct out of Total (5)
1	7	2	2	40%
2	9	2	0	0%
3	47	4	4	80%
4	52	4	4	80%
5	55	4	2	40%
6	58	4	4	80%
7	73*	5	5	100%
8	76*	5	5	100%
9	77*	5	5	100%
* These three students completed the task with time remaining.				

Listening Comprehension

For this task, the assessor read a passage of approximately 30 words in length to the student, then asked him/her to respond to four comprehension questions: three literal and one inferential. Again, results showed stronger results in grade 3, suggesting a progression of comprehension from grades 1 to 3. Nevertheless, since students were not required to read a text for this task, only listen to a story, their inability to answer all questions correctly suggests that they may be experiencing other difficulties in comprehending meaning—e.g., confusion related to language, pronunciation, story structure, or even learning disabilities. Boys and girls performed similarly in listening comprehension with girls producing a marginally higher score.

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Table 8: Listen Comprehension Task		
Group of Students	N	Mean
Grade 1	11	1.55
Grade 2	4	2.00
Grade 3	9	2.89
Partially Blind	14	2.21
Nearly Blind	2	2.50
Completely Blind	8	1.88
Boys	13	2.08
Girls	11	2.18

VI. Student Context Interview

The Student Context Interview provides information to determine which contextual factors may be associated with desired student reading outcomes. During the adaptation workshop, the team developed a student context interview questionnaire to include information on availability and number of reading materials in braille in Sesotho and English in the classroom, whether students had attended pre-school, the type of disability they had (partial, nearly blind, fully blind), and whether students had been absent for more than a week prior to the EGRA. No obvious patterns emerged from the results of these interviews; however, the results will be used as a baseline against which follow-up measures will be compared to track possible changes in contextual factors or results related to students reporting specific conditions of learning.

VII. Recommendations

Recommendations for future EGRA development and administration

1. Ensure the continued participation of the Ministry of Education in EGRA development to ensure approval of local officials of this type of research and to foster buy-in for the results to come out of this research. Experts from MOET also provided invaluable inputs into curricular contents and expectations, conditions of teaching and learning, and educational priorities of MOET and the country—all of which provided context for decisions being made about EGRA content selection.

Implications for the Lesotho Literacy for Young Visually Impaired Persons Project

2. **Focus on building braille skills in grades 1 and 2.** The intervention should support teachers in the lower grades to use the technology to build children's phonics foundational skills in braille including pre-reading skills (oral comprehension and phonemic awareness), the alphabetic principle (sound-letter correspondence), and decoding strategies.

3. **Build fluency and comprehension at all levels.** The intervention should reinforce teaching skills that build language skills that, in turn, increase fluency and

comprehension in braille. These include vocabulary, read-alouds with questioning guided by the teacher, and practice with independent reading and follow-up questioning and extension exercises.

4. **Build structures of support.** The intervention should provide guidance for teachers to help them provide different structures of support for all children, including diagnostic and formative assessment, peer reading, and if possible, support for reading during out-of-school time.

5. **Provide a sufficient number of braille books.** Classrooms should be supplied with a library of braille reading books for students to choose at their leisure. Students should be allotted sufficient time each day to read these materials and to create their own stories using the braille devices provided by the CRS project.

6. **Provide differentiated instruction for blind and nearly blind students.** Teachers should target learning for blind and nearly blind students—for example, focusing on non-word reading for students who are nearly blind in Grade 2.

7. **Provide the opportunities for professional development**. CRS will provide teachers with a Teacher Resource Guide and training on the braille devices. MOET Reading Specialists should participate in these trainings and help develop materials and appropriate activities to address reading deficiencies. The MOET may also choose to provide additional professional development consistent with best practices[5] such as in-service training, coaching in the classroom, and reflection sessions so as to foster a practice of experimentation and learning around good reading practices for students with low vision/blindness. These lessons should be shared with other schools and special education teachers.

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[5] Gulamhussein, A. (2013). *Teaching the teachers: Effective professional development in an era of high stakes accountability*. Alexandria, VA: Center for Public Education.

Annex A. EGRA Adaptation Workshop (Sesotho, Braille)

Date	Activity
Mon., Aug. 17	Overview of EGRA instrument and revision of Subtasks 1 and 2 (Letter Name and Letter Sound)
Tues., Aug. 18	Review and revision of Subtasks 3-6 (Non-word Reading, Oral Reading Fluency, Reading Comprehension)
Wed., Aug. 19	Listening Comprehension subtask; review and finalization of all subtasks; Administration Procedures, Pilot-Testing Prep; Tangerine training
Thurs., Aug. 20	Pilot-testing of Sesotho instruments with sighted children in Maseru school; debriefing session and instrument revision
Fri., Aug. 21	Presentation of Pre-Test results to MOET and CRS stakeholders Adaptation of Sesotho instruments to braille

Key Personnel Involved in the EGRA Adaptation Workshop	
Technical Lead: Dr. Brenda Sinclair, STS Consultant Technical Support: Kristina Solum, STS Program Manager	
Key Stakeholders:	

CRS - Catholic Relief Services.
RCB – Resource Center for the Blind.
MOET – Ministry of Education
 	
   • MOET - NCDC – National Curriculum Development Center
   • MOET - SEU – Ministry of Education and Training: Special Education Unit
	LNLVIP – Lesotho National league of Visually Impaired Persons
	NUL – National University of Lesotho
	CSS – Catholic School Secretariat
	LNFOD – Lesotho National Federation of the Disabled
	Lesotho College of Education – Special Education Unit

Annex B. EGRA Assessor Training and Pre-Testing

Date	Activity
Mon., Aug. 24	Pre-Test with student with low vision/blindness (unsuccessful attempt)
Tues., Aug. 25	Follow-up Pre-Test with students with low vision/blindness Debriefing meeting Instrument Revision of Subtasks Assessor Training Day 1
Wed., Aug. 26	Assessor Training (IRR) Story Revision Workshop with Braille Teachers Grades 1-3 Revised instruments converted to braille
Thurs., Aug. 27	Uploading revisions into Tangerine and tablets Finalizing braille instruments Assessor training on revised instruments and final IRR
Fri., Aug. 28	Informal re-testing with newly revised instruments Debriefing meeting and finalization of instruments

Annex C. Item statistics

	item-test	
Item	correlation	alpha
letter-sound	0.974	0.9028
non_word	0.9322	0.9116
orfstory	0.9704	0.9017
readcomp	0.9566	0.9024
listcomp	0.6538	0.9668

Cronbach's alpha   0.935

Variable- % correct	Mean	Std. Dev.	Min	Max
letter-sound	20.45833	27.66725	0	79
non_word	18.5	28.26736	0	98
orfstory	33.19209	42.84896	0	100
readcomp	30	39.56283	0	100
listcomp	53.125	27.89002	0	100

	item-test	
Item	correlation	alpha
Read comprehension 1	0.9008	0.8478
Read comprehension 2	0.9165	0.8441
Read comprehension 3	0.8947	0.8499
Read comprehension 4	0.8046	0.8919
Read comprehension 5	0.5298	0.931

Cronbach's alpha   0.9021

Variable	Mean	Std. Dev.	Min	Max
Read comprehension 1	2.125	0.9469631	1	3
Read comprehension 2	2.166667	0.9630868	1	3
Read comprehension 3	2.291667	0.9545847	1	3
Read comprehension 4	1.708333	0.4643056	1	2
Read comprehension 5	1.875	0.337832	1	2

Item	item-test correlation	alpha
Listen comprehension 1	0.0393	0.4654
Listen comprehension 2	0.3506	0.1579
Listen comprehension 3	0.1766	0.3724
Listen comprehension 4	0.3016	0.2253

Cronbach's alpha   0.3991

Variable	Mean	Std. Dev.	Min	Max
Listen comprehension 1	1.375	2.392243	0	9
Listen comprehension 2	2.958333	3.983435	0	9
Listen comprehension 3	2.25	3.096281	0	9
Listen comprehension 4	3.791667	4.138674	0	9

Annex D: Results by Grade

Average Score (average number of items answered correctly)

Letter Sound Identification

Grade	N	Mean	SD
Grade 1	11	0.82	1.94
Grade 2	4	12.25	12.12
Grade 3	9	48.11	26.77

Non-Word Reading

Grade	N	Mean	SD
Grade 1	11	0.19	0.41
Grade 2	4	4.50	9.00
Grade 3	9	22.55	14.95

ORF Story

Grade	N	Mean	SD
Grade 1	11	0.28	0.90
Grade 2	4	15.5	18.79
Grade 3	9	50.44	21.36

Reading Comprehension

Grade	N	Mean	SD
Grade 1	11	0.00	0.00
Grade 2	4	1.25	1.50
Grade 3	9	3.44	1.74

Listening Comprehension

Grade	N	Mean	SD
Grade 1	11	1.55	1.12
Grade 2	4	2.00	0.82
Grade 3	9	2.89	0.78

Annex E: Results by Group

Average Score (average number of items answered correctly)

Letter Sound Identification

Group	N	Mean	SD
Partially blind	14	29.14	31.45
Nearly blind	2	7.00	1.41
Completely blind	8	2.89	17.75

Non-Word Reading

Group	N	Mean	SD
Partially blind	14	12.71	16.25
Nearly blind	2	0.50	0.71
Completely blind	8	5.38	10.13

ORF Story

Group	N	Mean	SD
Partially blind	14	30.28	27.94
Nearly blind	2	5.00	2.83
Completely blind	8	10.63	19.82

Reading Comprehension

Group	N	Mean	SD
Partially blind	14	1.93	2.2
Nearly blind	2	1.00	1.41
Completely blind	8	0.88	1.64

Listening Comprehension

Group	N	Mean	SD
Partially blind	14	2.21	1.05
Nearly blind	2	2.50	0.71
Completely blind	8	1.88	1.36

Annex F: Results by Gender

Average Score (average number of items answered correctly)

Letter Sound Identification

Gender	N	Mean	SD
Male	13	19.46	27.07
Female	11	21.64	29.64

Non-Word Reading

Gender	N	Mean	SD
Male	13	9.38	12.57
Female	11	9.09	16.43

ORF Story

Gender	N	Mean	SD
Male	13	19.54	25.67
Female	11	19.64	26.05

Reading Comprehension

Gender	N	Mean	SD
Male	13	1.38	1.94
Female	11	1.64	2.11

Listening Comprehension

Gender	N	Mean	SD
Male	13	2.08	1.26
Female	11	2.18	0.98

Annex G: Baseline EGRA Instrument

Sesotho Baseline EGRA

Enumerator Name: _____

Date: _____

Time: _____

School: _____

ID: _____

General Instructions

- It is important to read aloud slowly and clearly ONLY the bold sections in the grey boxes.
- Always record the child's response before moving on to the next instruction/exercise.
- It is important to establish a playful and relaxed environment with the children to be assessed using simple initial conversation among topics of interest to the student (see example below). The student should perceive the following assessment almost as a game to be enjoyed rather than an exam or severe situation.
- Ho bohlokoa ho bala haholo, butle, ka lentsoe le hlakileng **FEELA likarolong tse ka mabokoseng a mathokoa.**
- Kamehla ngola likarabo tsa ngoana pele u fetela likarolong tse hlahlamang tsa litaelo/hlahlobo.
- Ho bohlokoa ho netefatsa sebaka see phomotseng, 'me se boemong ba papali ho ngoana atlang ho hlahlojoa, 'me u qale pele kaho sebelisa sehloho seo ngoana atlang hoba le thahasello ho sona (sheba mohlala u hlahlamang). Ngoana u tlameha a amohele hlahlobo e hlahlamang hore etle e mo natefele, eseng ele hlahlobo ea boemo boka mo sulafallang.

Lumela. Lebitso la ka ke _____'me ke lula_____. Ke rata ho u phetela hanyane ka ''na. (Lenane la litho tsa lelapa, u ratang; lenane la metsoalle, joalo-joalo)

1. Mpolelle lebitso la hau. [Morutoana u fana ka lebitso]. [lebitso la morutoana] mphetele/nqoqele hanyane ka uena le lelapa leno. [emela karabo, haeba morutoana a bonts'a hose arabe, bots a potsa ea bobeli, empa ha a bonts'a a lokolohileho tsoelapele ka tumello ea molomo]

U rata ho etsang ka nako eo u seng sekolong?

Verbal Consent

Bala polelo e hlahlamang haholo ho morutoana ho fumana tumello ea morutoana ka molomo.

Ere ke u phetele hobaneng ke le mona letsatsing lena. Re leka ho utloisisa hore na bana ba ithuta ho bala joang. Re kopa thuso ea hau mona. Feela u lokolohile hose nke karolo ha feela u sa batle. Re tlo bapala papali e balang. Ke tlo u kopa ho bala litlhaku, mantsoe le moqoqo o mokhuts'oane haholo. Ke u behetse nako, ke tlo bona na ho u nka nako e kae ho bala. Sena hase hlahlobo ebile haho moo se tlang ho ama mosebetsi oa hau oa sekolo. Ke pheta hape, hase setlamo hore u nke karolo ea hlahlobo ena ha u sena thahasello e joalo. Hang ha re qala, ha u sa batle ho araba potso, ho nepahetse. U na le lipotsa tseo u ka li botsang? Re ka qala

Has verbal consent been obtained?
☐ *YES*
☐ *NO (If verbal consent is not obtained, thank the child and move on to the next child, using this same form)*

Section 1. Letter Sound Identification

Bonts'a ngoana leqhephe la litlhaku ka bokeng ea ngoana. Ebe ore:

Leqhephe lena le tletse litlhaku tsa alefabete ea sesotho. Ke kopa u ntjoetse melumlo eo u e tsebang; eseng MABITSO a litlhaku, empa MELUMO.

For example, the sound of this letter:

Mohlal, molumo oa Litlhaku tsena ; [Supa 'ng'] ebe o re ke "ngoana, ngola, ngaka"

Hare ikoetlise, ntjoetse molumo oa ltlhaku [Supa S]

Haeba karabo ea ngoana e nepahetse, ere: U nepile, molumo oa tlhaku ena ke "Ss", as in "Sejana", "Sello".

> *Haeba karabo ea ngoana e fosahetse, ere:*molumo oa tlhaku ena ke "Ss", as in "Sejana", "Sello"
>
> *Hare leke ho hong: Ntjoetse molumo oa tlaku ena[supa Q]*
>
> *Haeba karabo ea ngoana e nepahetse ere*: u nepile, molumo oa tlhaku ke "Q" as in Quthing, Qopitsa.
>
> *Haeba karabo ea ngoana esa nepahala, ere*: molumo oa tlhaku ke "Q" as in Qhuthing, Qopitsa.
>
> **U utloisisa seo u lokelang hose etsa?**

Press "Start" to start the timer when the child reads the first letter. Follow along and mark any incorrect letters by touching them. Count self-corrections as correct.
Penya "Start" ho qala ho u beha ngoana nakong ha a bala tlhaoku ea pele. Latela u be u ts'oae tlhaku tse fosahetseng kaho li ts'oara. Bala ho inepisa ho nepahetse.

*Stay quiet except when providing answers as follows: if the child hesitates for 3 seconds, provide the sound of the letter, point to the next letter and say "**Please go on**." Mark the letter you provide to the child as incorrect. If the student gives you the letter name, rather than the sound, provide the letter sound and say: ["**Please tell me the SOUND of the letter**"]. This prompt may be given only once during the exercise.*
*Lula u khutsitse, ntle leha u fan aka likarabo ka tsela e latelang: haeba ngoana aka qeaqea nako ea metsotsoa e meraro, fan aka molumo oa tlaku, supa tlhaku e hlahlamang 'me u re "**ke kopa u tsoele pele**". Ts'oaea tlhakueo u faneng ka eona ho ngoana e fosahetse. Haeba morutoana a fana ka lebitso la tlhaku, thoko ho molumo, mo fe molumo oa tlhaku ebe u re ["**Njoetse molumo oa tlhaku ena**"]. Sena se ka etsoa ha 'ngoe feela nakong ea tlhahlobo.*

*When timer reaches 0, say "**stop.**" Mark the final letter attempted by touching it.*
*Ha nako e beiloeng e feela, ere "**stop**." Ts'oaea tlhaku ea ho qetela eo ngoana a e lekileng kaho e ts'oara.*

*AUTOSTOP RULE: If you have marked as incorrect all of the answers on the first line with no self-corrections, the test will automatically stop. Say "**Thank you,**" discontinue this exercise, and go on to the next exercise by pressing next.*
*AUTOSTOP RULE: Haeba u ts'oaile likarabo tsohle li fosahetse moleng oa pele, tlhotlhobo etla emisa. Ebe u re "**Kea leboha**," emisa tlhahlobo ,ebe u fetela ho e hlahlamang.*

Example :   ng   s   q

___

	1	2	3	4	5	6	7	8	9	10	
	i	o	Hl	e	L	Ny	e	Sh	i	n	*(10)*
	l	ts	m	Qh	l	Ph	L	K	p	ts	*(20)*
	hl	E	O	H	i	R	t	Ch	k	A	*(30)*
	Ts	kh	F	P	H	I	h	Ts	Tl	E	*(40)*
	K	Ng	Th	ng	u	l	Ng	ch	a	B	*(50)*
	E	N	s	f	tlh	Tl	A	B	tl	q	*(60)*
	A	U	t	M	o	r	L	T	i	m	*(70)*
	l	tl	ng	E	s	O	a	ts	a	k	*(80)*
	b	a	Q	ph	th	ny	k	b	u	e	*(90)*
	S	e	sh	Tlh	l	H	Kh	qh	S	h	*(100)*

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 2. Non-Word Decoding

Bonts'a ngoana pampiri ea matsoe a iketselitsoeng ka bukaneng ea morutoana. U re:

Hona ke mantsoe a iketselitsoeng. Ke batla u bale mantsoe a mangata ka moo u ka khonang. U seke ua peleta mantsoe, empa ua bale. Mohlala, lentsoe lena ke "laba'.

Joale leka: Bala lentsoe lena [supa lentsoe] nge

[Haeba morutoana are "nge", ere]: "u nepile haholo: "nge"

 [Haeba morutoana asa nepa hore "nge"]: lentsoe lena le iketselitsoeng ke "nge."

Joale leka le leng: ke kopa u bale lentsoe lena [supa lentsoe le hlahlamang]: "shoru"

[haeba morutoana are "shoru"]: U nepile haholo: "shoru"

[Haeba morutoana as bitse "shoru" kaho nepahala ere]: Lentsoe lena ke "shoru."

U utloisisa seo u tlamehang hose etsa? Ha kere "qala," bala mantsoe ka mokhoa oo ka khonang. Bala mantsoe a pampering, u qala moleng oa pele. Ke tla thola ke u mamela, ntle leha u hloka thusa. U mala-a-laotsoe? Qala.

*Press "Start" to start the timer when the child reads the first word. Follow along and mark any incorrect words by touching them. Count self-corrections as correct. Stay quiet, except when providing answers as follows: if the child hesitates for 3 seconds, provide the word, point to the next word and say, "**Please go on.**" Mark the word you provided to the child as incorrect.*
*Penya "start" ho qala ho beha ngoana nakokng ha a bala mantose. Latela ha antes a bala ebe u ts'oaea moo ho nepahesteng kaho ts'oara. Le moo ngoana a iphumanetseng se nepehetseng ts'oaha ho nepahetse. Lula u khutsitse, ntle leha u fan aka karabo joaloka: if ngoana a qeaqea ho areba nako e kabang metsotsoana e meraro, fan aka lentsoe, ebe u supa lentsoe le hlahlamang u re, "**Tsoela pele.**" Ts'oaea likarabo tseo u li fileng ngoana lisa nepahala.*
*When timer reaches 0, say **"Stop."** Mark the final word attempted.*
Ha nako e beiloeng e feela, ere "emisa." Ebe u ts'oaea lentsoeng leo ngoana a qetelletseng ho lona.

*AUTOSTOP RULE: If you have marked as incorrect all of the answers on the first line with no self-corrections, the test will automatically stop. Say "**Thank you,**" discontinue this exercise, and go on to the next exercise by pressing next.*
*AUTOSTOP RULE: Haeba u ts'oaile likarabo tsohle li fosahetse moleng oa pele, tlhotlhobo etla emisa. Ebe u re "**Kea leboha**," emisa tlhahlobo ,ebe u fetela ho e hlahlamang*

Example :   laba   nge   shoru

	1	*2*	*3*	*4*	*5*	
ku	uo	eje	foko	pate		*(5)*
taru	qhibi	jou	ie	uka		*(10)*
tobi	shiha	olo	tletla	rekhu		*(15)*
ibo	teme	tseni	hio	labu		*(20)*
opo	shutla	oapa	lopu	khaje		*(25)*
moale	jekhu	nge	tjeme	pui		*(30)*
qhe	koeu	uhloe	tlema	bira		*(35)*

boru	qui	hua	qheha	napi	*(40)*
lou	tsimi	ero	shiri	hlara	*(45)*
betu	hoele	pang	hluju	qaqi	*(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 3a. Oral Reading Fluency Story (Palesa Lost Transport Fare)

Bonts'a ngoana pale e hlahang bokaneng ea barutoana. Ere:

> **Hona ke pale e khuts'oane. Ke batla u e bale haholo. Ha u qetile, ke tla u botsa lipotso ka seo u se balileng. U utloisisa seo u lokelang hose etsa? Ha kere "qala," bala pale ka katleho eo u ka khonang. Ke tla thola ke u mamele, ntle leha u ka hloka thuso. U Malala-a-laotsoe? Qala.**

Press "Start" to start the timer when the child reads the first word. Follow along and mark any incorrect words by touching them. Count self-corrections as correct.
Penya "start" ho qala ho beha ngoana nakokng ha a bala mantose. Latela ha antse a bala ebe u ts'oaea moo ho nepahesteng kaho ts'oara. Le moo ngoana a iphumanetseng se nepehetseng ts'oaha ho nepahetse.

*Stay quiet, unless the child hesitates for 3 seconds, in which case provide the word, point to the next word and say "**Please go on**." Mark the word you provided to the child as incorrect.*
*Lula u khutsitse, ntle leha ngoana aka qeaqea nakoana ea metsotsoana e mashome a mararo, boemong bono fan aka karabo, supa lentsoe le hlahlamang ebe ore "**tsoelapele.**" Ts'oaea lentsoe leo u le fileng ngoana ale fositse.*

*When timer reaches 0, say "**stop.**" Mark the final word attempted by touching it.*
Ha nako e behiloeng e fihla ho 0, ere "emisa." Ts'oaea lentsoeng laho qetela kaho ts'oara.

*AUTOSTOP RULE: If the child reads no words correctly on the first line of the story, the test will automatically stop. Say "**Thank you,**" discontinue this exercise, and go on to the next exercise by pressing next.*

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Oral Reading Fluency Story: Palesa (Lost Transport Fare)

Palesa o kena sekolo Maseru. O palama likoloi tsa baeti ho ea sekolong. Sekolong o bapala liketo. Palesa o ile a lahla chelete ea ho palama. Tichere ea utloa Palesa ha a lla. A mo bitsa ho utloa na o llelang. Palesa a re o lahlile chelete. Tichere a fa Palesa chelete ea ho palama. Palesa a thaba haholo.

Section 3b. Reading Comprehension Story (Palesa Lost Transport Fare)

Tlosa seratsoana ka pela ngoana. *Balla morutoana litalo. Ebe u bala potso e 'ngoe le e 'ngoe butle ka mokhoa o hlakileng. Ka mora ho mo balla lipotso kaofela, fa ngoana metsotsoana e le leshome le metso e mehlano ho araba potso, ts'oaea likarabo ho latela ho nepa lehose nepe, ebe u fetela potsong e hlahlamang.*

Joale ke tlo u botsa lipotso tse fokolang ka pale eo u qetang ho ebala. Leka ho araba lipotso ka katleho eo u ka e khonang.

Lipotso

1. Palesa o kena sekolo kae? (Maseru)
2. Palesa o palama eng ha a ea sekolong? (Likoloi tsa baeti)
3. Palesa o bapala eng sekolong? (Liketo)
4. Palesa o ne a llelang? (o ne a llela chelete)
5. Palesa o ne a thabetse eng? (tichere o mo file chelet

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

Check this box if exercise stopped due to the child not reading any one of the words on the first line correctly.

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

Story: Palesa o lahla` chelete	QUESTIONS	CORRECT RESPONSE	INCORRECT RESPONSE	NO RESPONSE
Palesa o kena sekolo Maseru. (5)	Palesa o kena sekolo kae? (Maseru)			
O palama likoloi tsa baeti ho ea sekolong. (13)	Palesa o palama eng ha a ea sekolong? (Likoloi tsa baeti)			
Sekolong o bapala liketo. (17)	Palesa o bapala eng sekolong? (Liketo)			
Palesa o ile a lahla chelete ea ho palama. Tichere ea utloa Palesa ha a lla. A mo bitsa ho utloa na o llelang. Palesa a re o lahlile chelete. (47)	Palesa o ne a llelang? (o ne a llela chelete)			
Tichere a fa Palesa chelete ea ho palama. Palesa a thaba haholo. (59)	Palesa o ne a thabetse eng? (tichere o mo file chelete)			

Section 4. Listening Comprehension

Litaelo: joale, ke tlo bala pale e khts'oanyane. Ke tla u balla ha 'ngoe. Hake qetile, ke tla u botsa lipotso ka seo ke u balletseng sona. Mamela pale ka hloko hake bala. Hake qeta ho bala pale, leka ho araba lipotso ka katleho eo u ka e khonang. U Malala-a-laotsoe? Hare qale.

Story (Bees)

> **Ke Phato joale, limela li hlahisa lipalesa ka mefuta ea tsona. Tumelo a botsa nkhono, " lerata lee ke lang?" Nkhono a re, "ke linotsi nchanyana li thabetse lipalesa ho tla etsa makhea a monate."**

Lipotso:
1. Limela li hlahisa lipalesa neng? (ka Phato)
2. Ke mang ea botsang nkhono ka lerata? (Tumelo)
3. Linot'si li thabetse eng? (Lipalesa)
4. Linotsi li tl'o etsa eng ka lipalesa? (Makhea)

Section 5. Student Context Interview

Ask each question verbally to the child, as in an interview. Do not read the response options aloud. Wait for the child to respond, then write the response in the space provided, or circle the code of the option that corresponds to the child's response.

1	Student's gender	Male...1 Female 2		
2.	What is your full name?			
3.	What is your age?			
4.	What is your teacher's name?			
5.	What grade are you in?			
	VIS Context Interview	**Yes**	**No**	**Don't Know/No Response**
1	Did you go to a nursery or pre-school before Class 1?	1	0	9
2	Last year, were you absent from school for more than one week?	1	0	9
3	Do you have any Sesotho braille reading books in your classroom? *[If No or Don't Know Skip to Ques. 5]*	1	0	9
4	How many Sesotho braille reading books do you have in your classroom?	1	0	9
5	Do you have any English braille reading books in your classroom? *[If No or Don't Know Skip #6]*	1	0	9
6	How many English braille reading books do you have in your classroom?	1	0	9
OK we are done! You have done a good job. You can go back to your classroom, and please do not talk to other pupils about what we have done today until the team of visitors departs from the school.				

Time Ended: ____ : _____   AM / PM