January, 2014

USAID/Uganda School Health and Reading Program

Early Grade Reading Assessment Cluster 1 Follow Up Preliminary Results: P1 Local Language Reading Ability and Classroom Teaching of Reading

To what extent did the Uganda School Health and Reading Program interventions[1] improve early grade reading and the teaching of early grade reading in USAID/Uganda-supported primary schools over the course of the 2013 academic year? To answer this question, in October 2013, Early Grade Reading Assessment (EGRA) data were collected as a follow up to the February/March, 2013 Baseline data collection efforts. Basic oral reading skills were assessed in the local language (i.e., Ateso, Leblango, Luganda, or Runyankore-Rukiga) and English for 4,572 P1 learners in 175 government schools in 10 districts. The schools and the learners were randomly selected and data were collected from USAID/Uganda School Health and Reading Program-supported schools (treatment schools) and control schools that the program did not support.[2] Thirty-five P1 reading classes were also observed to see if any changes had taken place over the course of the year; and teachers were interviewed to assess changes in support for classroom teaching of reading.

Synopsis of findings:

- Emergent literacy skills (listening comprehension and segmenting words into syllables) have increased in both treatment and control schools.
- The ability to identify letter sounds has increased (the percent of learners identifying NO letters correctly decrease from between 27 to 45% in the various language groups) and the decrease was higher in treatment than control schools in Ateso, Leblango and Luganda, it was the same in Runyunkore Rukiga.
- Oral reading fluency has increased among Luganda and Runyunkore Rukiga speaking learners (from 3-4 to 12-15 words per minute), but there was no significant difference between treatment and control.
- Teachers are changing their behavior in the classroom: around half of the program teachers in P1 were teaching learners the difference between letter names and letter sounds (41% of treatment teachers compared to no control teachers) and to understand that words are made up of syllables

[1] See the last section in this report which outlines the school/teacher and school support intervention more specifically.

[2] Data were also collected from 1,105 learners and 42 schools that will join the program in 2014 to establish a baseline –these data are not included in the current analysis. P2 learners were also assessed and these data will also be used as a means of comparison in the future. Data were collected from in-district and out district control schools, for the student level analysis in this report, treatment schools were compared to in-district controls only (3,054 P1 learners from 118 schools).

(65% of treatment compared to 11% of control teachers). Program reading lessons lasted, on average, 36 minutes compared to 24 minutes for control schools meaning more time on task. Program teachers were more likely than control teachers to have evidence of regular lesson planning (41% compared to 11%) and learner assessment (65% compared to 39%).

- Support to teachers to improve reading is increasing: Program teachers were more likely than control teachers to be observed teaching a reading lesson by head teachers and CCTs. Thirty-eight percent of P1 teachers reported being observed in classroom at least once a week, compared to 28% of control teachers. Fifty-four percent of P1 teachers in program school reported that the CCT observed them teaching once a term or more compared to only 33% in control schools.
- Language of instruction: Of the 333 teachers interviewed, 87% were teaching in their first language – 95% of those not teaching in their first language were teaching either in the national official language (English) or *lingua franca* (Luganda).

Introduction

EGRA assesses basic skills necessary for later acquisition of reading with fluency and comprehension. These skills are linked to the 5 components of literacy: phonemic awareness, alphabetic principle, vocabulary, fluency and comprehension.

Baseline findings of Oral Reading Fluency (ORF or words read per minute) were found to be extremely low in all 4 local languages and English among P1 learners in their first weeks of primary school—in 3 of the 4 language groups, 30% of P1 learners did not know the sound of even 1 letter and only 1 or 2 learners out of 100 could read a single word (meaning that 98-99% could not read a single word). This was not unexpected given the learners' recent entry into formal schooling, but findings among beginning P3 learners were not much higher (where over half of the learners in all language groups could not read a single word in their local language). After approximately 7 months of program intervention, there is some evidence that learners' beginning reading skills have improved and that teachers have changed the way they are teaching reading in the classroom. **This briefer will focus on the P1 learners and changes in local language reading skills and abilities as well as their learning environment (classroom teaching) in the area of reading.**

In the USAID/Uganda School Health and Reading Program EGRA, the assessment tasks that are used to gauge these 5 components include:

Syllable or sound segmenting (phonemic awareness): "What are the sounds you hear in this word?"

Listening Comprehension (vocabulary and comprehension): After I read the story, "Answer these questions."

Letter Sound (alphabetic principle): "Tell me the sound of this letter"

Non-word decoding (alphabetic principle): "Read as many of these non-words as you can."

Oral Passage Reading and Questions (fluency and comprehension): "Read this story" and "Please answer these questions."

We would expect that before we see changes in reading fluency or comprehension, we would see improvements in these "building block" or foundational skills—before a learner can read words, they need to know the sounds of the letters, for example. The skills that the EGRA subtasks measure are acquired in phases and though the timing of these phases may vary, the phases themselves are predictable. Being able to identify sounds in words or segmenting as the task is called here (an aspect

of phonemic awareness) is a very early, emergent literacy skill as is listening comprehension. Letter name identification and non-word reading are considered the next stage of beginning reading. Oral reading fluency and comprehension are the final phase. This briefer will focus on emergent and beginning literacy skills where changes are more likely to be found given the time frame and the level of intervention.

Emergent Literacy: Sound/Syllable Segmentation and Listening Comprehension

For the sound/syllable segmenting task, assessors would say a word and the learner would be asked to say either the sounds (Leblango and English) or the syllables (Ateso, Luganda, and - Runyankore-Rukiga) that make up that word depending on the way the languages are written (whether they are syllabic languages or not).

For example, in Luganda, the word "lumu" would be segmented into the syllables "lu" and "mu":

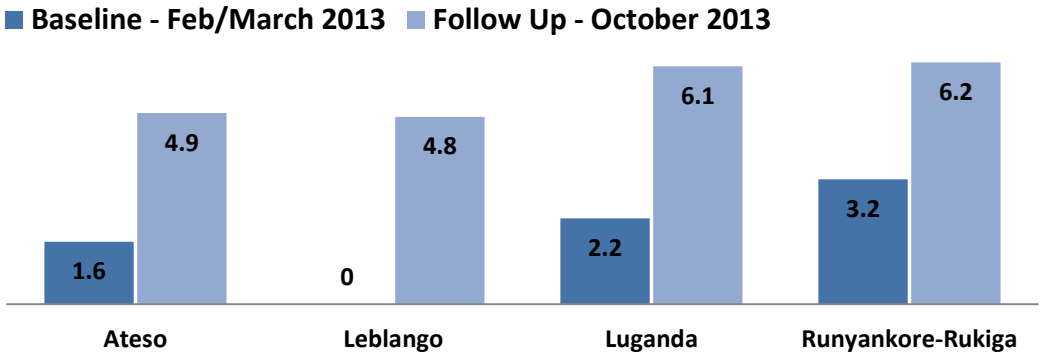
lumu	lu	mu

In Leblango, the word "dyel" would be segmented into sounds "d", "y", "e", "l":

dyel	/d/	/y/	/e/	/l/

In all language groups, the number of words that learners could break into its components sounds or syllables increased dramatically – from 0 to 3 correct words (out of a possible 10) to 5–6 words correctly segmented (**Figure 1**). In Ateso, P1 learners increased from 1.6 to almost 5 words correctly segmented, Leblango speakers went from 0 to almost 5, Luganda speakers increased from 2.2 to just over 6 and Runyankore--Rukiga speakers increased from 3.2 to 6.2. There were no significant differences in scores or increases by gender. It should be noted that though the effect size of all of these increases is considered to be medium to high (above 0.5), they are similar to increases found in control schools (only the difference in increase in Runyankore--Rukiga was statistically significant compared to the control schools). This means that though phonemic awareness has increased in treatment schools (learners are better able to break words into sounds or syllables) it has also increased in control schools, and this is not unexpected as this is an early pre-reading skill that can be acquired even before starting school.

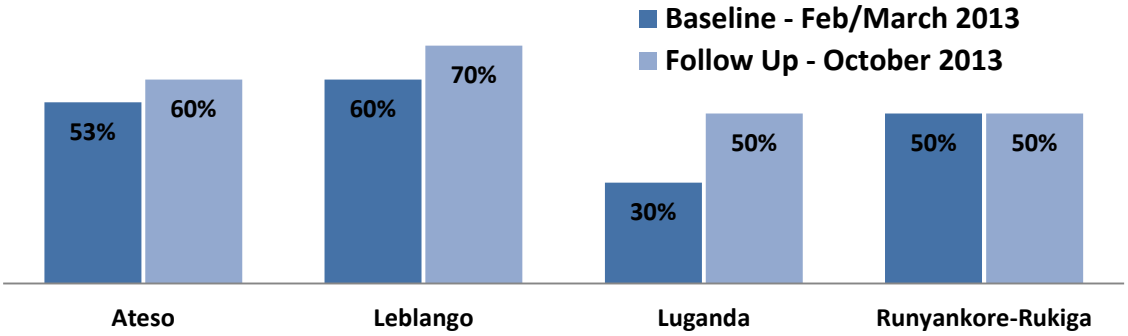
Figure 1: Average number of local language words* correctly segmented into sounds/syllables by P1 learners in SHRP schools



Listening comprehension is another pre-reading or emergent reading skill. The listening comprehension assessment involved the assessor reading a story to the learner in local language and then asking the learner questions (both factual and inferential) related to the story. Poor performance on the listening comprehension task suggests that the learner does not have the expected level of vocabulary and comprehension.

Figure 2 shows the percentage of local language listening comprehension questions answered correctly among P1 learners in SHRP schools. P1 learners were able to answer over half of the questions correctly: Ateso speakers answered over 60% and Leblango 70% correctly. There were no significant gender differences. Interesting findings here include the relatively higher performance among Ateso- and Leblango-speaking learners who generally performed worse than Luganda and Runyankore-Rukiga speaking learners at baseline and continue to lag behind in the higher level reading skills (such as non-word decoding and oral reading). This provides evidence that vocabulary levels may be higher for Ateso and Leblango speaking learners and that they possess other important reading supportive skills compared to the higher performing language groups.

Figure 2: Local Language listening comprehension: Percent of questions answered correctly by P1 learners in SHRP schools

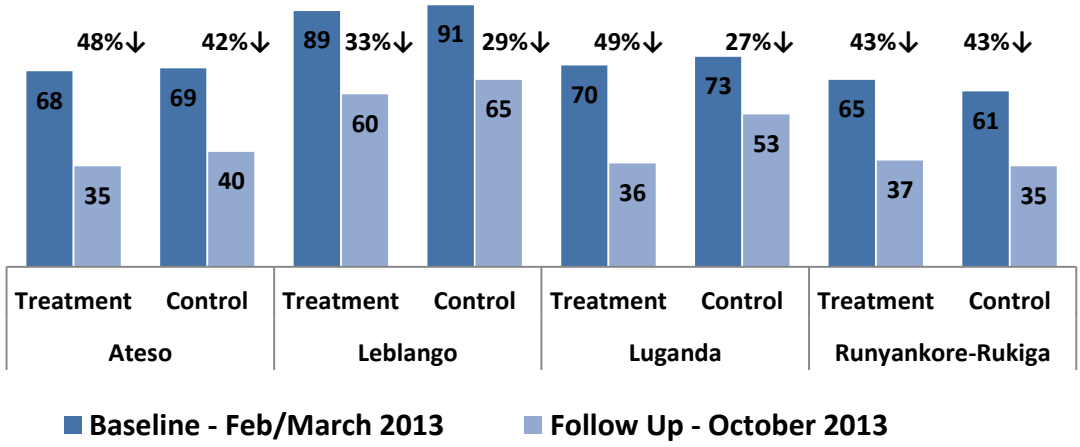


The fact that the scores were greater than zero in listening comprehension even at baseline in P1 (which was not the case for the other subtasks where we found predominantly zero scores) suggests that it is possible to assess P1 learners contrary to the notion that they are simply too young to undergo external evaluation.

Beginning Reader: Letter Sounds and Non-Word Decoding

At baseline, between 60 and 90% of learners (depending on language group) could not identify the correct sound for even one letter; at follow up, this percentage had decreased to between 35 and 60% depending on the language group. Figure 3 shows this in more detail for each language group

Figure 3: Percent of P1 learners who could not identify one letter sound (zero score) and percentage decrease from baseline to follow up

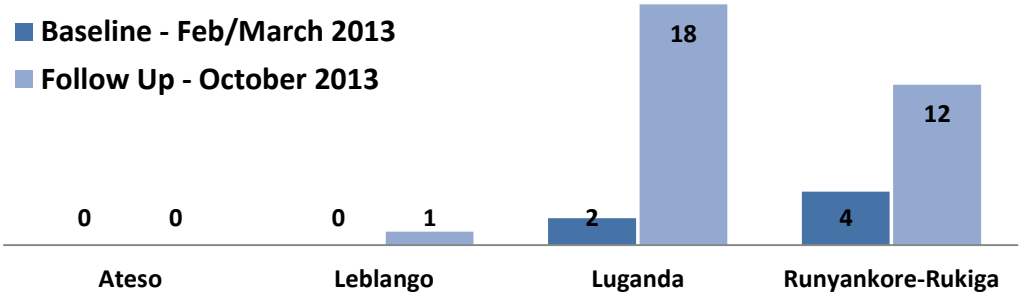


Though the percentage of learners scoring zero on this task fell in both treatment and control schools, the percentage decrease was higher in treatment schools in 3 of the 4 language groups. In treatment schools, the percentage of P1 learners who could not read a single letter sound (they scored zero on this task) decreased from 68% to 35% in Ateso (a decrease of 48% compared to a 42% decrease in the control schools); it decreased from 89% to 60% in Leblango (a 33% decrease compared to a 29% decrease in controls); and from 70% to 36% in Luganda (49% decrease compared to a 27% decrease in control schools and the difference between Luganda treatment and controls is statistically significant). There were no significantly gender differences in the scores.

Non-word decoding, though a beginning reading skill is more complicated than recognizing individual letters and their corresponding sounds and would take more time to understand and master. **Figure 4** shows the changes in the percentage of P1 learners who could read at least one non-word in the local language. The change is quite small, if there is any change at all – for those language groups that were found to be "higher" performers in P3 at baseline.

For example, Luganda and Runyankore--Rukiga speaking learners, there was improvement: with 2%–18% of learners reading at least one non-word in Luganda and 4%–12% of learners reading at least one non-word in Runyankore-Rukiga. These gains were not significantly different from control school gains in this area; and there were no significant differences by gender.

Figure 4: Percent of P1 learners reading at least one local language non-word correctly



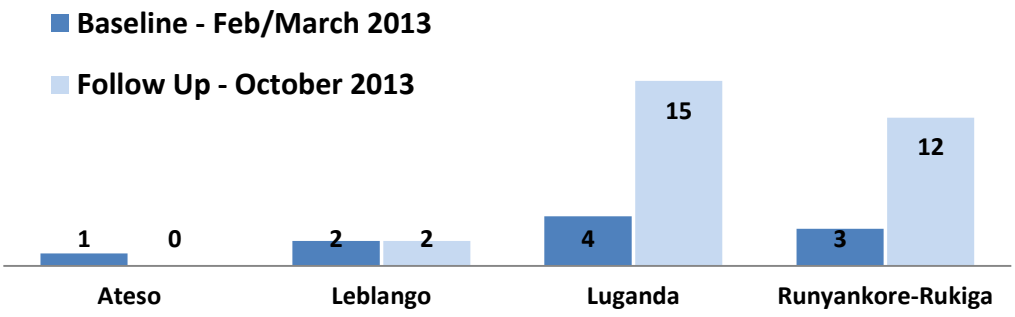
Transitional to Fluent Reader: Oral Passage Reading and Comprehension

Similar to non-word decoding, changes in Oral Reading Fluency (ORF or words per minute) in the local language were modest from baseline to follow-up and were not significantly different in treatment schools and control schools. **Where P1 learners could read zero or 1 word per minute in their local language at baseline, they can now read 1 to 2 words per minute on average; and the increases were similar for treatment and control schools.** A lower bound for an international benchmark for P1 is 20 words per minute so this result is still far below this international minimum.

Figure 5 shows the percentage of P1 learners in School Health and Reading Program Schools who could read at least one word of a local language story. The percent able to read at least one word changed very slightly among Ateso and Leblango speaking learners, but did increase among Luganda and Runyankore-Rukiga speakers – from 4% to 15% in Luganda and from 3% to 12% in Runyankore-Rukiga. These increases were not significantly different from the increases found among in control schools. This reflects the increases that would be expected among these learners (in the Luganda and Runyankore-Rukiga groups) to reach the higher level of performance found among P3 learners in these language groups at baseline (where learners could read around 10 words per minute compared to less than 5 in the lower performing language groups).

Some caution needs to be taken when comparing learning acquisition across language groups as some languages are more complicated and difficult to learn than others. This being said (and given the relatively low reading levels at baseline among P3 learners in these language groups) language groups do appear to be lagging in the development of higher-level basic reading skills (beyond letter sounds and oral comprehension).

Figure 5: Percent of P1 learners who could read at least one word of a local language story



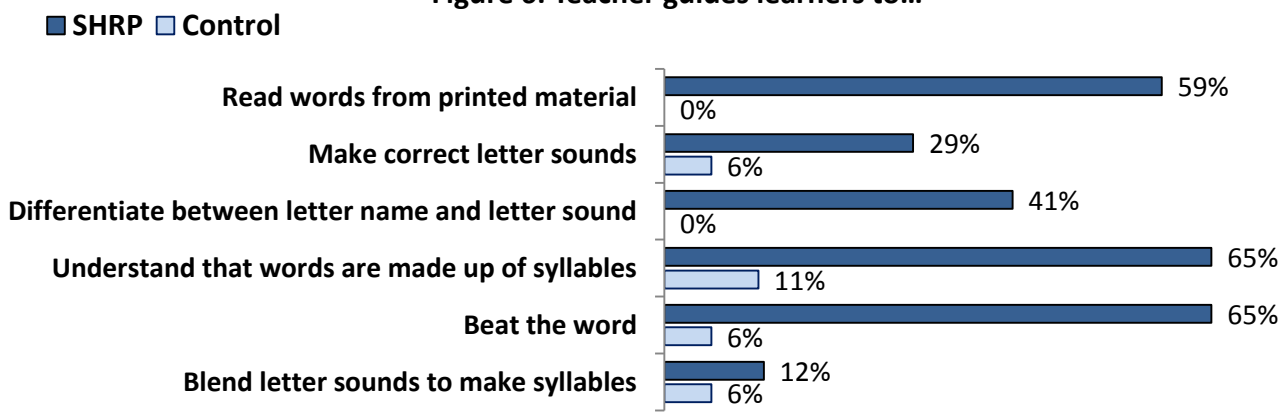
What Is Happening in the Classroom? Evidence from Classroom Observations

Teaching children how to read involves a deliberate and explicit focus on the acquisition of basic reading skills (the 5 components of literacy mentioned above). There must be time set aside on the timetable to teach reading. Fortunately, in the lower primary timetable, this time is there: the timetable includes a 60 minute "literacy hour" daily, as well as a news hour and oral literature hour that can be used to focus on reading skills. It is also necessary that teachers are specifically trained to teach reading, and, following the thematic curriculum in Uganda, this means being trained to teach reading in local languages. After the training, teachers must be given continual support in the classroom to be able to implement some of the new reading related skills. To what extent they are able to put these skills into practice was assessed by observing teachers in the classroom.

Classroom observations were undertaken in 35 P1 classrooms (17 treatment or SHRP classrooms and 18 control classrooms). A basic classroom observation tool was used that relied on observation of obvious/objective teaching behaviors ("beating the word" or segmenting a word into syllables) and evidence of other behaviors (looking through lesson plans, assessment records and pupil exercise books for example). This tool is based on the classroom observation tool currently being used by the program and MoES colleagues to undertake support supervision of teachers in the classroom.

Preliminary findings indicate that there are many reading supportive actions being undertaken by the teachers in the SHRP classrooms compared to the control classrooms. **Figure 6** shows the percentage of P1 classrooms where teachers were found guiding learners to undertake reading-promoting behaviors that are part of the SHRP reading methodology. In 65% of SHRP P1 classrooms observed, teachers were seen guiding learners to "beat the words" (clapping the syllables) and understand that words were made up of syllables (by, for example, writing the syllables that make up a word on the board) compared to only 6% and 11% in the control classrooms. In 59% of SHRP classrooms, learners were reading from printed materials, in no control classrooms were learners reading from printed materials —the same state found at baseline. Blending letter sounds to make syllables seems to be one area that could use some attention in the SHRP teacher training and follow up support.

Figure 6: Teacher guides learners to…

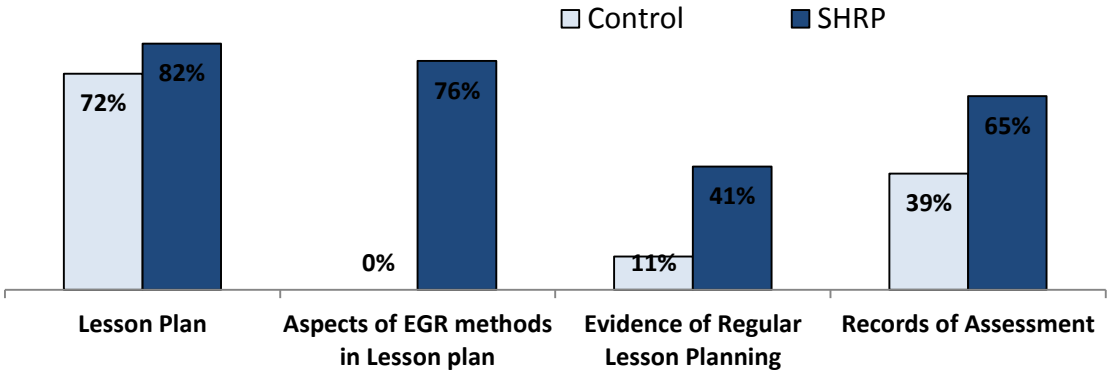


Time on task is very important in reading acquisition: how much classroom time is devoted to teaching reading? The thematic curriculum requires 30 minutes of reading (literacy 1) and 30 minutes of writing (literacy 2) making up the literacy hour every day. Of the P1 reading lessons observed, lessons observed in SHRP classes lasted on average 36 minutes (the shortest was 17 minutes); in control schools, the average was 24 minutes (the shortest lasting 9 minutes).

SHRP P1 reading lessons lasted 36 minutes on average, reading lessons in control classes lasted only 24 minutes

Another important aspect of the USAID/Uganda School Health and Reading Program Early Grade Reading (EGR) methodology is consistent lesson planning following the program reading guide. **Figure 7** shows that SHRP P1 teachers observed were more likely to have a lesson plan than control teachers (82% compared to 72%) though this figure is still too low—all teachers should have a prepared lesson plan and (in the program schools) this lesson plan should include EGR methods—76% of SHRP P1 lessons included some aspects of EGR methods. Moreover, only 41% of SHRP teachers had records that demonstrated regular lesson planning, much higher than the 11% for control schools but not high enough. Sixty-five percent of SHRP teachers observed produced records of assessment, compared to only 39% in control schools. Though the figure is not shown, only 60% of program P1 lesson plans followed the reading guide.

Figure 7: Lesson planning and learner assessment



How Is The Teaching of Reading Supported? Interviews with Teachers and Head Teachers

Providing support to teachers to teach reading in the classroom is the backbone of the program. Support starts with training and is followed up by support supervision which includes working with teachers at the school to ensure they are able to put into practice what they have learned. This support includes reviewing teacher lesson plans and also observing classroom teaching of a reading lesson (and then discussing areas of strength and weakness with the teacher).

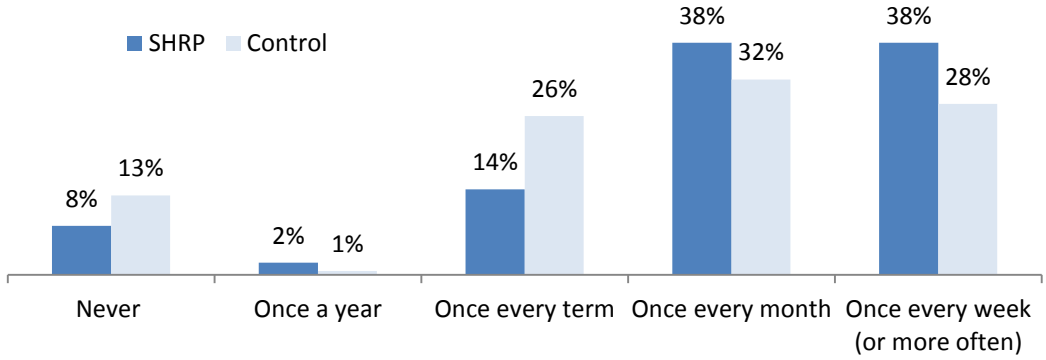
Teacher Training: As discussed earlier, the program supported 3 trainings for teachers (January, May, and September 2013). Ideally, all teachers in the relevant classes would have attended all 3 trainings. Among the teachers interviewed during EGRA data collection[3], 92% of P1 teachers in treatment schools attended the May training and only 75% of the P1 teachers attended the September training[4]. The findings also show that teachers in control schools were also trained in both May and September—although the number was far less in September. Clearly, the ideal is for all P1 teachers in treatment schools and none from control schools to be trained. The lower attendance among treatment teachers in May is likely due to the inclusion of only 1 P1 teacher from each school. This was done in an attempt to eliminate non-P1 teachers as many had attended previous trainings. The program has since adopted the policy to invite all teachers from the target grade after collecting lists of teachers by class and school prior to the training and sending out school invitations which include the name and

[3] These teacher training results are from interviews of 52 treatment and 104 control P1 teachers.
[4] In an effort to curb the number of teachers attending who were not from the targeted class (P1 in this case) the decision was made to invite only 1 P1 teacher from each school, P1 teachers in those schools with more than 1 P1 teachers missed out on this second training. In subsequent trainings, the program is able to track more closely who attends and all teachers in the targeted class will be invited by name.

class of teachers. The complexity in ensuring only targeted teachers are included in the training cannot be understated.

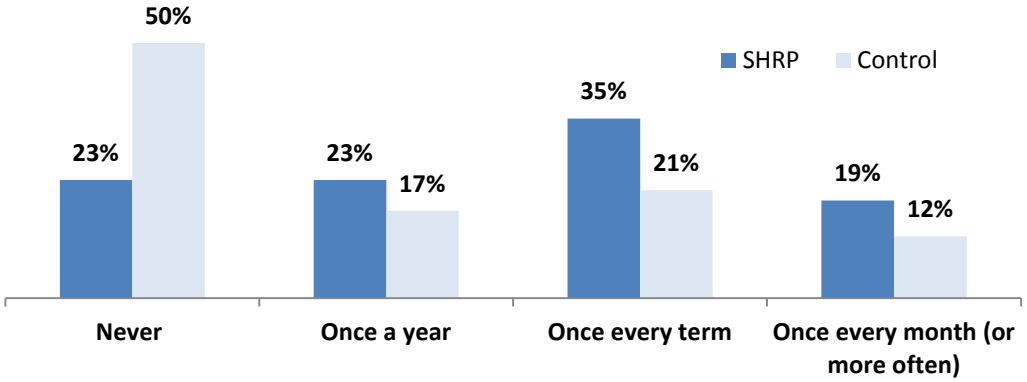
Observing teachers in the classroom: School-based staff (e.g., head teachers and deputy head teachers) are the first line of support for teachers in the classroom and should be available to regularly review teachers' lesson plans, observe their classroom teaching (and provide feedback), and provide other needed support to help them excel in the classroom. In the areas of lesson observation, teachers were asked how frequently the head teacher, deputy head teacher or other school based support staff (such as the director of studies) observed them teaching a lesson. **Figure 8** shows that the percentage of P1 teachers reporting that they were observed once a week (or more often) is 38% among SHRP teachers and 28% among control teachers. During the baseline in February 2013, 29% of all teachers reported that they were observed once a week or more. The percentage of teachers reporting that they were never observed was 8% among program teachers compared to 11% for control teachers (the figure at baseline for all teachers was 10%).

Figure 8: How often head teacher (or other school based staff) observed teaching in the classroom



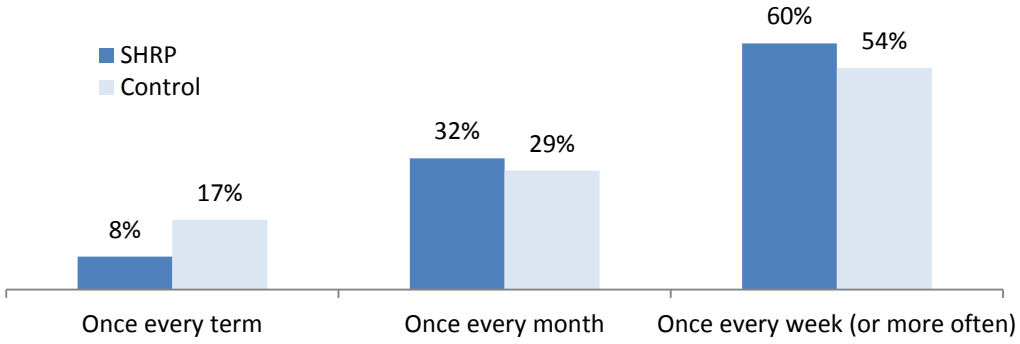
Coordinating Centre Tutors are another means of support for schools and teachers and are an integral part of the program. CCTs are trained as "trainers" and are responsible for facilitating the actual teacher training. They are also a part of the support supervision activities and have been trained to go to schools and support the teaching of reading in the classroom by carrying out "clinical supervision" of teachers, observing their lessons (and looking over lesson plans and records of assessment) and providing feedback. **Figure 9** compares CCT school visits to observe P1 classroom teaching in program and control schools. According to their terms of service, CCTs are expected to visit each school twice per term (a term is approximately 3 months). Though we can see that CCT classroom observations occurred more regularly in program schools – 54% of teachers in program school reported that the CCT observed them teaching once a term or more compared to only 33% in control schools. The percent of teachers who reported that CCTs did not observe them at all in the past year was 23% in program schools and 50% in control schools—lower in program schools but still too high.

Figure 9: How often did the CCT observe your classroom teaching in the past yea?r



Review of lesson plans: Teacher lesson planning is an integral part of providing quality teaching. Teachers should have daily lesson plans that are followed in the classroom. Another form of support that should be provided to teachers by head teachers and other school-based staff (as well as CCT but this will not occur as regularly) is the routine review of these plans. **Figure 10** shows how often teachers' lesson plans were reviewed according to the teachers themselves. Though lesson plans were reported to be reviewed more frequently in program schools compared to control schools, there is much room for improvement: 60% of SHRP P1 teachers reported that their lesson plans were reviewed once a week or more often compared to 54% of control P1 teachers. P1 teachers in control schools were twice as likely to have their lesson plans reviewed only once a term compared to SHRP teachers— 17% of control school teachers reported that their lesson plans were reviewed once per term compared to only 8% of program teachers.

Figure 10: How often are lesson plans reviewed



Teachers First Language and Language of Instruction

To what extent do primary school teachers in Uganda speak the languages they are teaching in? Teachers were asked their first language (mother tongue) and this was compared to the language of instruction in P1–P3 (lower primary) in the school in which they are teaching. Figure 11 shows that out of the 333 teachers interviewed, 87% (n = 290) were teaching in their first language. Sixty percent of the teachers who were not teaching in their first language (n = 26) were found in Wakiso—where only 56% of the teachers were teaching in their first language.

Figure 11: Percent of P1 and P2 teachers teaching in their first/maternal language

Region – Local Language	District	No. of teachers in sample	% of teachers teaching in first language
Central - Luganda	Buikwe	13	69
	Gomba	20	90
	Wakiso	59	56
North - Leblango	Apac	30	100
	Kole	14	100
	Lira	22	100
	Otuke	15	93
West Runyankore-Rukiga	Bushenyi	11	73
	Ibanda	14	86
	Kiruhura	21	81
	Kabale	38	100
	Serere	40	98
East - Ateso	Katakwi	13	100
	Kumi	11	100
	Ngora	12	100
		333	

Looking more closely at those cases where teachers are not teaching in their first language, we find that 26 out of these 43 are teaching in English; an additional 15 are teaching in Luganda. This means that 95% of those teachers who are not teaching in their first language are teaching either in the national official language (English) or *lingua franca* (Luganda)—and the assumption is that teachers can speak, understand, and, to a lesser extent, read in these languages. Five percent of teachers (n = 2) were teaching in a language that was not their first language, English, or Luganda.

This being the case, even though teachers may speak and understand the languages well, they may not be familiar with the orthographies (i.e., spelling and grammar rules, tonal markings, etc.) associated with these languages to be able to teach them effectively (including teaching writing) – and this is true of **all** languages in Uganda. The program will continue to incorporate language and orthography support into the ongoing training activities.

The School Health and Reading Program Intervention

Teacher Training: P1 and P2 teachers, head teachers and deputy head teachers were provided with the following training opportunities:

- 3 days general training (January, 2013) on Early Grade Reading

- 5 days more specific SHRP EGR methodology training (May, 2013) with draft materials
- 3 days refresher for P1 (one per school) and head teacher (September, 2013)

Teachers were in the classrooms with sections of the draft materials from May onwards. They received the teacher's guides in October 2013.

CCTs and Other Teacher Support Training: CCTs, DEOs, DIS's, CAOs, College Principals, and other MoES staff were also brought in for the 3-day general training in January. CCTs and DIS's attended the May and September training as well. CCTs and other Ministry and non-ministry facilitators provided the teacher training in teacher training colleges throughout the districts. Starting in August 2013, CCTs and other Ministry and district staff were also taken through a model of support supervision with SHRP staff. After that, CCTs and inspectors are expected to carry on this support supervision on their own (with transportation support from the program).

Materials: The program calls for all teachers to have local language and English teaching guides and for learners to have a local language and English textbook or primer. The plan for the materials to be in the hands of teachers and learners at the beginning of the school year in February was not realized; book distribution started in October and all program schools had books by November. The books were being distributed at the same time that the follow-up data collection was underway. CCTs, teachers, and head teachers have been given literacy journals to record support supervision discussions and any other activities/issues associated with reading. In September 2013, teachers were also given continuous assessment registers to help them operationalize the routine assessment part of the EGR methodology.