MINISTRY OF EDUCATION AND SPORTS

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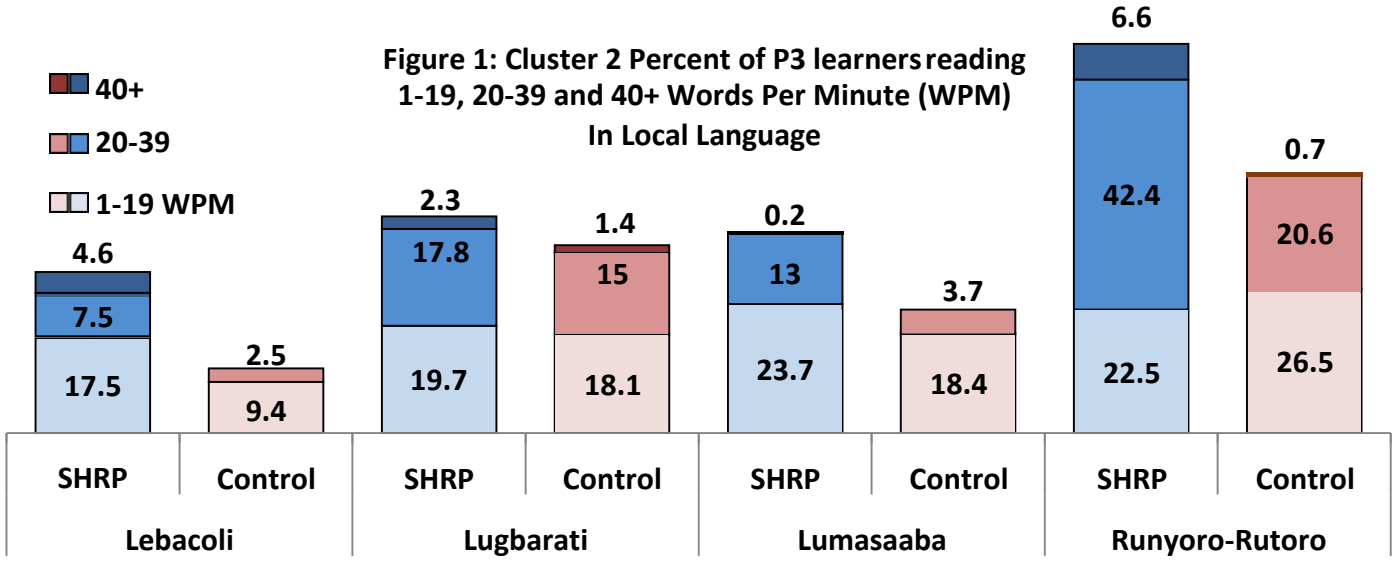
USAID/Uganda School Health and Reading Program: Cluster 2 Follow-Up 3 End of P3: Leb Acöli, Lugbarati, Lumasaaba, Runyoro-Rutooro

Has reading achievement increased as a result of the USAID/Uganda School Health and Reading Program? Early Grade Reading Assessment (EGRA) data collected for Cluster 2 at the end of P3 suggests improved progress towards reading proficiency in all 4 program languages.

The Early Grades Reading Assessment (EGRA) data presented here are from a randomized control trial that assessed 3,076 P3 learners (1,567 program and 1,509 control) from 112 randomly selected government primary schools in 10 program districts in Uganda[1] in October, 2016. These findings at the end of P3 were compared to baseline data collected from 3,893 program and 3,577 control learners at the beginning of P1 in February, 2014.

In all C2 languages, more learners in program schools are reading more words than learners in control schools in both English and Local Language

Local Language Oral Reading Fluency: At the end of P3 **(Figure 1)**, 12.1% of Leb Acöli learners in program schools could read 20 or more local language words per minute, compared to 2.5% in control schools. In Runyoro-Rutooro, 49% of P3 learners could read more than 20 wpm at follow up 3 (42.4% read 20-39 and 6.6% read 40 or more), compared to 21.3% in control schools. In Lugbarati and Lumasaaba, the percent of learners correctly reading 20 or more wpm was also higher for treatment (20.1% and 13%, respectively) than control (16.4% Lugbarati, 3.7% Lumasaaba), marking an important change in trajectory for these two languages, which had shown virtually no growth or difference between program and control at the end of P2.[2]

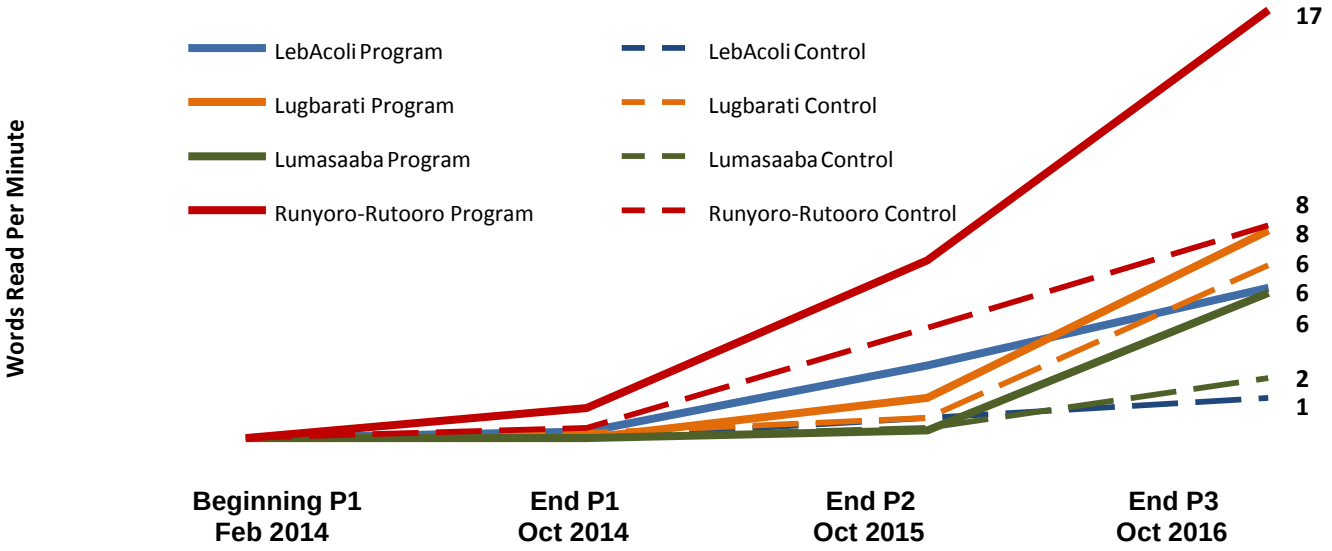


[1] Districts include: Gulu, Kitgum and Pader for Leb Acöli; Arua for Lugbarati; Mbale, Sironki, and Manafwa for Lumasaaba; and Kyenjojo, Masindi and Kabarole for Runyoro-Rutooro.

[2] Differences in LebAcoli are statistically significant for 0 wpm and 1-19 wpm (effect sizes -0.79, 0.42). In Lumasaaba, the differences in 0 wpm were significant (effect size -0.72). In Runyoro-Rutooro the difference in 0 wpm and 20-39 wpm were statistically significant (effect size -0.81 and 0.84).

Figure 2 shows the progression of oral reading fluency (ORF or words read per minute) from baseline through P3. Learners in program and control schools were reading zero words per minute in all Cluster 2 languages at baseline, with little change by the end of P1. As **Figure 2** shows, **the average number of local language words read per minute by program learners has sharply increased in P3 for all four languages**. Runyoro-Rutooro has seen the most dramatic change in reading trajectory, especially compared to control: P3 learners in program schools are reading on average 17.1 words per minute in Runyoro-Rutooro, while P3 learners in control schools read on average 8.5 wpm. In Lumasaaba schools, not only did the average number of words read per minute grow for the first time since baseline, but the gap between learners in program schools compared to control schools has widened significantly: Lumasaaba learners in program schools read on average 9.8 words per minute; learners in control schools read on average 2.4 words per minute[3]. It should be noted that when looking at average words read per minute, most learners who "crack the code" of reading will read many more words per minute than the average, and that these averages are weighed down by a large number of learners who continue to read zero words perminute.

Figure 5: Average Words Read Per Minute, Cluster 2 Languages
Beginning of P1 to end of P3

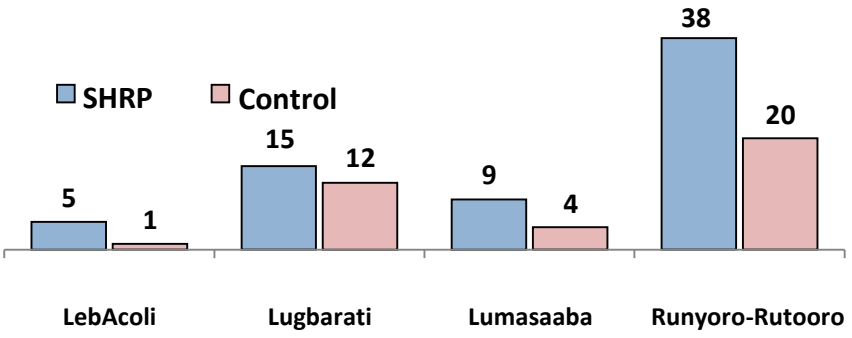


Local Language Reading Comprehension: Along with improvements in oral reading fluency, program learners in all four Cluster 2 languages demonstrated increased levels of local language reading comprehension **(Figure 3)**. At baseline, no P1 learner could correctly answer a comprehension question based on a short story they were asked to read. At the end of P3, Runyoro-Rutooro learners in program schools correctly answered 38% of local language reading comprehension questions, compared to 20% of control learners. Learners in program schools also correctly answered more comprehension questions than learners in control school in Leb Acoli (5% program, 1% control); Lugbarati (15% program, 12% control); and Lumasaaba (9% program, 4% control).[4] While these results are modest, they show noteworthy growth in learners' reading comprehension skills since the end of P2, especially in Lugbarati and Lumasaaba- at follow up 2, in October 2015, 96 to 99% of P2 learners in these languages could not answer a single reading comprehension question correctly.

[3] Differences in average Local Language words read per minute were statistically significant with a large effect size for Leb Acoli (effect size 0.74), Lumasaaba (0.71) and Runyoro-Rutooro (1.12). There were no significant differences between boys and girls.

[4] Differences in the percent of Local Language Reading Comprehension questions answered correctly were statistically significant with a large effect size for Leb Acoli (effect size 0.74), Lumasaaba (0.71) and Runyoro-Rutooro (1.02). There were no significant differences between boys and girls.

Figure 3: % of Reading Passage Questions Answered Correctly in Local Language -- Follow Up 2 (end of P3)



English Oral Reading Fluency: When learners are taught to read in a familiar language, research shows that they are more likely to understand and acquire foundational reading skills that can be transferred to other languages. Results from the English Oral Reading Fluency subtasks ***(Figure 4)*** show that, **similar to local language findings, program learners can read more words per minute than control learners in English.** In Lugbarati, 10.8% of learners in program schools read 20 or more English words per minute compared to 7.5% of learners in control schools. In Lumasaaba, 16.3% of program learners could read 20 or more wpm compared to 8.6% of control learners. In Leb Acoli and Runyoro-Rutooro, in addition to more learners in program schools reading 20 or more wpm in English, 6 times as many learners in program schools read above the 40 wpm threshold: 6.9% of program learners compared to 1% of control learners in Leb Acoli and 18.8% of program learners compared to just 3.8% of control learners in Runyoro-Rutooro.[5]

Figure 4: Cluster 2 Percent of P3 learners reading 20-39 Words Per Minute (WPM) and 20+ WPM in English

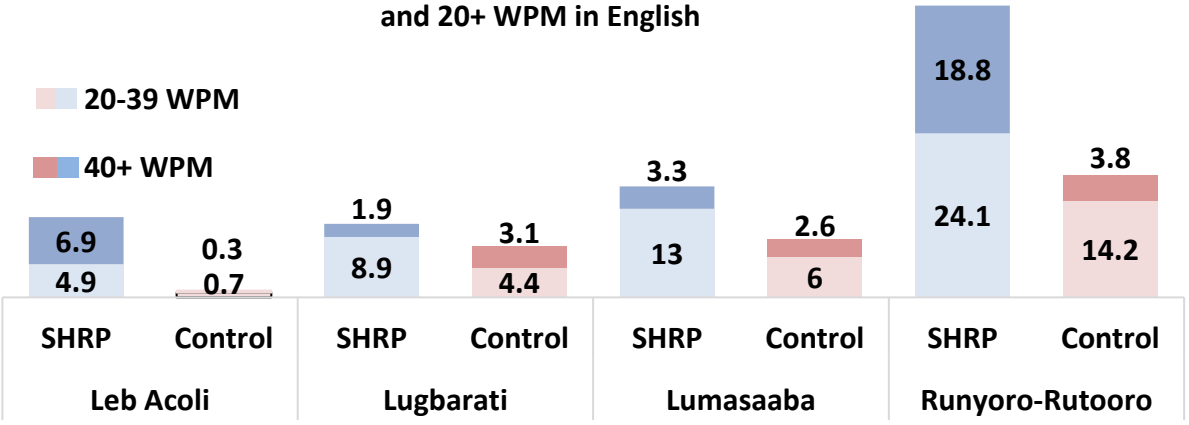
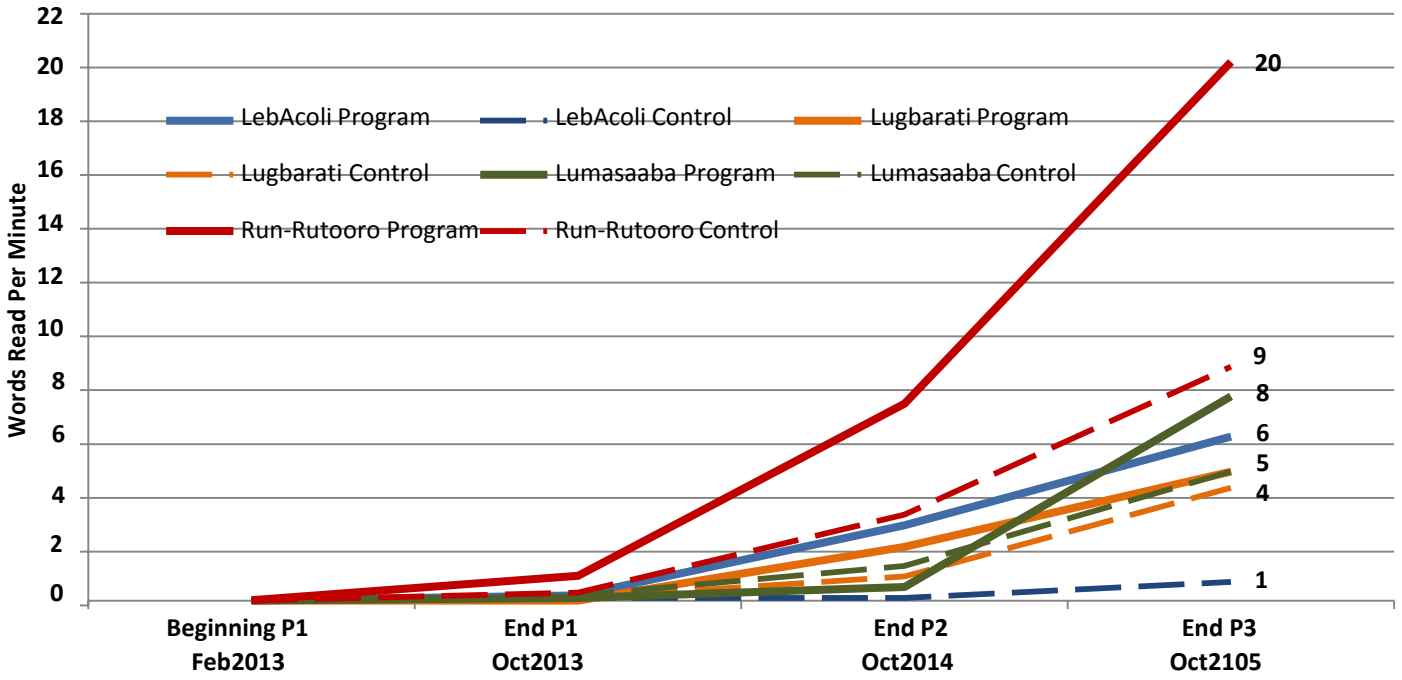


Figure 5 shows the progression of oral reading fluency in English from beginning of P1 to end of P3. No P1 learners in any language group could read a single word in English *at baseline*. At the end of P1, there was little improvement and at the end of P2, while learners in Leb Acoli and Runyoro-Rutooro began to read some words in English, there was virtually no progress in Lugbarati or Lumasaaba. **At the end of P3, program learners in Runyoro-Rutooro and Lumasaaba have made dramatic gains in the average number of English words read per minute**.

Learners read on average 20.2 English wpm in Runyoro-Rutooro program schools compared to 8.7 wpm in control schools and in Lumasaaba, learners in program schools read on average 7.6 English wpm compared to 4.8 wpm in control schools.

[5] Differences in Leb Acoli are statistically significant with medium to large effect sizes for 0 wpm and 1-19 wpm (effect sizes -0.79, 0.33). In Lumasaaba, the differences in 20-39 wpm were significant (effect size 0.52).

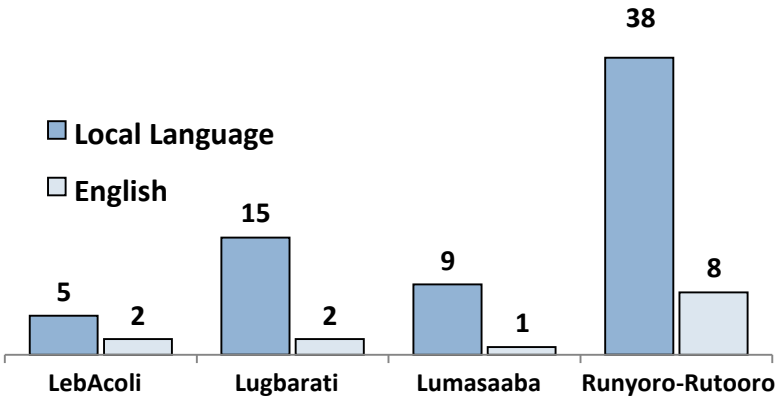
Figure 5: Average ENGLISH Words Read Per Minute (wpm), Cluster 2 Languages
Beginning of P1 to end of P3
Program (solid lines) and Control Schools (Dashed lines)



The average number of English words read per minute by Leb Acoli learners in program schools has continued to improve at a rate similar to the end of P2, but the gap between program and control schools has widened considerably, as the average number of English wpm in Leb Acoli control schools has been stagnant.[6]

Comprehension – Local Language and English: Although English oral reading fluency is increasing among P3 program learners in all four C2 languages, they still understand more of what they are reading in local language (**Figure 6**). In Leb Acoli, Lugbarati and Lumasaaba, program learners were able to answer 5%, 15% and 9%, respectively, of local language comprehension questions, compared to 2% (Leb Acoli and Lugbarati) and 1% (Lumasaaba) of comprehension questions by control learners. Even in Runyoro-Rutooro, where 42.9% of P3 program learners could read 20+ wpm, program learners answered just 8% of English comprehension questions correctly. These findings are consistent with results from Cluster 1 and Cluster 3 – that early grades learners across languages comprehend more in their local language.

Figure 6: % of Reading Passage Questions Answered Correctly in English and Local Language -- Follow Up 2 (end of P3)



[6] Differences in average words per minute read in English were statistically significant with large effect sizes in Leb Acoli (effect size 1.085) and Runyoro-Rutooro (effect size 1.15). No significant differences between boys and girls except for Leb Acoli, where girls read on average more words per minute.