



Technology in Enhancing Children Literacy: Effects of Alphabet King’s Leap Learning Lab Pilot in Somalia*

Background

Literacy is a first step in achieving higher levels of learning yet 15% to 20% of fourth graders in Puntland, Somalia are unable to recognise or read single words. Save the Children International (SCI) seeks to ensure all children can read and write by the time they leave primary school. To help improve literacy among Grades 1-4 students, SCI in collaboration with Innovation Norway piloted a Leap Learning Labs (3Ls) in Somalia. The lab consisted of 20 tablets loaded with Somali-translated literacy applications. Within the lab, the tablets were distributed across nine stations with every station, varied by difficulty level, having two station-locked tablets. A student spent time at a station until s/he completed the station’s learning activities, traced by App books, before moving to the higher-level tasks. Each student is allocated a 45-minute session in the lab at least thrice a week facilitated by a tutor. In addition to the tablets, the labs are equipped with “tactile” (such as postcards or posters) learning materials in tandem with apps in tablets.

Data and Methodology

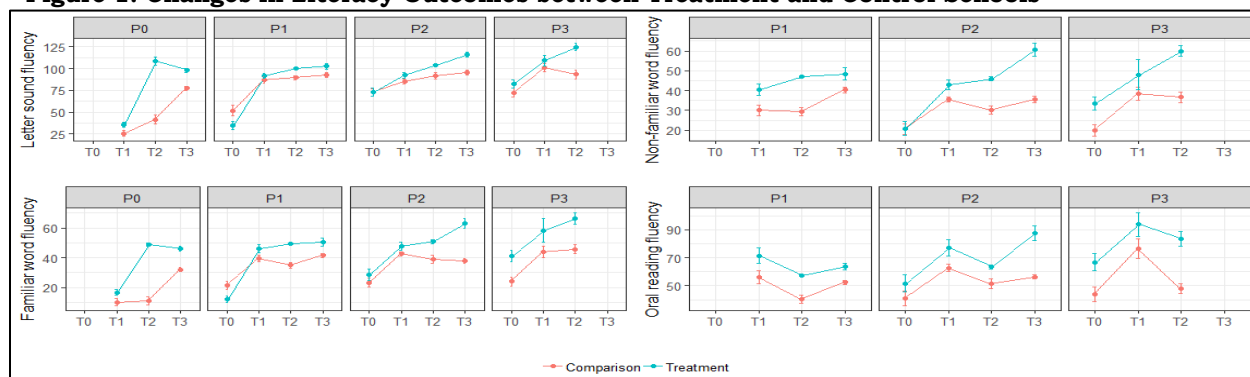
Two labs were setup in two schools while two other comparable schools acted as control schools. All four schools are supported by regular education programming. Therefore, this study measures the additional effect of having 3Ls in the two pilot schools. Four rounds of data collection were conducted in these four schools involving 529 students of Grade 1-4 using validated early grade reading assessment (EGRA) tool. The tool measures students’ ability to identify letter sounds, read familiar words, decode non-words and read a simple story fluently. Baseline data was collected in April 2017 (T0) and subsequent follow-ups in March (T1), May (T2) and October (T3) 2018. The labs were fully functional from October 2017 and were operational for cumulative eight months by the time of final follow up.

Findings

Changes in Student’s Literacy Outcomes

Results show generally similar performance between treatment and control schools at baseline for all grades in the dimensions of letter sounds and non-familiar word reading (Figure 1). There was consistent improvement in three out of the four of the literacy subtasks, and students in 3Ls schools performed better at subsequent follow-ups. Oral reading fluency slightly declined during the second follow-up mostly due to changes in passage involved. First graders registered the largest improvement in letter sound fluency and familiar word reading thus outperform their colleagues in control schools. Although second graders in control and treatment schools begun from a similar point, the gap between treatment and control school consistently widened in letter sound, familiar word fluency and unfamiliar non-word fluency. Among third graders, the study followed them up only twice as they had transited to higher grades in neighbouring schools at the last follow up.

Figure 1: Changes in Literacy Outcomes between Treatment and Control Schools

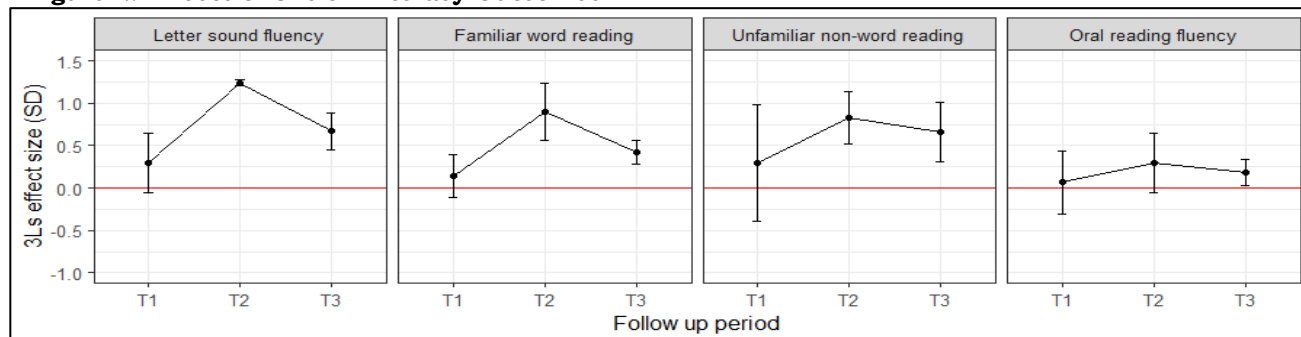


* This Fact Sheet, prepared by Judy Korir and Elijah Kipchumba, is based on an evaluation report available [here](#)

3Ls Average Effects on Literacy Outcomes

Effect estimates show there were no discernible benefit of 3Ls at midline (T₁), at subsequent follow-up, however, significant positive gains were registered. Among subtasks, the 3Ls effects were larger in letter sound fluency (0.67 standard deviation (SD)), familiar word fluency (0.66 SD) and unfamiliar word fluency (0.42 SD) at the final follow-up survey (T₃). The effects did not necessarily increase with time.

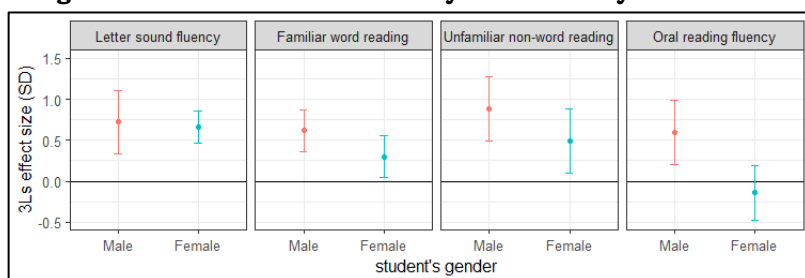
Figure 2: Effects of 3Ls on Literacy Outcomes



3Ls Effects on Literacy Outcomes by Gender

In addition to the 3Ls main effects, the study examined difference in impact **between boys and girls** at final follow-up (T₃). Results show the impacts are larger for boys than girls in all the subtasks. Though girls are at a disadvantage, there was significant overlap in gains on literacy outcomes subtasks except for oral reading fluency. In oral reading fluency, 3Ls benefited male students and not the female students.

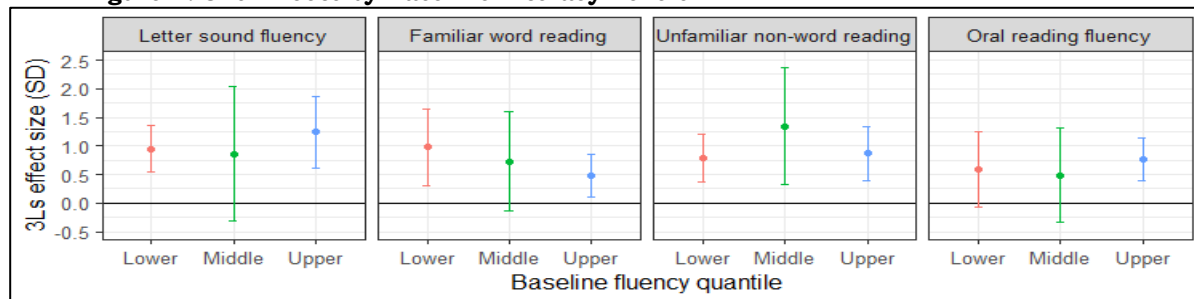
Figure 3: Effect of 3Ls on Literacy Outcomes by Gender



3Ls Effects on Literacy Outcomes by Baseline Literacy Levels

Boys performed poorer compared to girls at the onset, but they consistently realized slightly bigger benefits from the 3Ls as described above. Boys having more room for improvement or inherent gender difference could plausibly explain this. Examining effects by baseline literacy levels indicated that the gap between poor performing and high performing students neither narrowed nor widened. This means 3Ls maintained status quo in terms of baseline performance. The study further tested if any grade benefited more from 3Ls. We anticipated for lower grade (first grade) to benefit more from this intervention in simpler tasks relative to other grades and vice versa in tasks that are more difficult. Results revealed absence of systematic variation in 3Ls gains between grades 1 and 3 but second graders recorded consistent linear growth.

Figure 4: 3Ls Effects by Baseline Literacy Levels



3Ls is an effective intervention in advancing literacy among early graders, however with indicative difference among literacy subtasks and student subgroups. A further larger study to understand heterogeneous effects and establish a causal pathway is needed.