Technology in Enhancing Children Literacy: Short-term Effects of Alphabet King Learning Lab Pilot in Somalia

Background
Literacy is a first step in achieving higher levels of learning. Assessments estimate that 15% to 20% of fourth graders in Puntland are unable to recognise or read single words. To help improve literacy among Grades 1-4 students, Save the Children International (SCI) in collaboration with Innovation Norway is piloting electronic-Learning Labs (e-lab) in Somalia. This fact sheet documents the findings of the short-term effects of this pilot.

Description of e-labs
The lab consisted of 20 tablets loaded with Somali-translated literacy and numeracy 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 spends time at a station until s/he completes that station’s learning activities, which is 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 loaded with Alphabet King learning application, the labs are equipped with “tactile” (such as postcards or posters) learning materials.

Data
As part of documenting effectiveness, two labs were setup in two schools while two other comparable schools were selected as control schools. All four schools are supported by regular education programming. Therefore, we measure the additional effect of having e-labs in the two pilot schools. Three rounds of data collection was conducted in these four schools involving 449 students of Grade 1-4 using validated early grade reading assessment (EGRA) tool. The tool measures students’ ability to fluently identify letter sounds, decode non-words, segment parts of word, tell words’ meaning, read a story, and comprehend a simple story. Baseline data was collected in April 2017 followed by midline and endline in March and May of 2018 respectively. The labs were fully functional from October 2017.

Findings
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). We see consistent improvement in four of the literacy subtasks, and students in treatment school are performing better than their peers in control school at both midline and endline. Between grades, however, students in Grade 1 registered the largest improvement in letter sound fluency and familiar word reading. These first graders managed to outperform their colleagues in control schools. Oral reading fluency declined from values observed in midline mostly due to changes in passage involved, here third graders in treatment school had sharper decrease but in control school second graders sharper decline. Ability of students to segment parts of words did not change overtime as nearly all students in this study performed optimally at baseline hence no room for improvement (the so-called “ceiling effect”).

* This Fact Sheet, prepared by Elijah Kipchumba, is based on an evaluation report. For more information contact Elijah.kipkech@savethechildren.org
Students in e-lab schools registered consistent positive gains in three out of five-core literacy competence, except phoneme segmentation and oral reading. These positive effects are statistically significant at endline after about five months of active participation including an increase in the number lessons from 1-3 to 3-5 per week. The largest impact was with respect to letter sound fluency where students in e-labs could read 29 to 31 more letters per minute compared to control school students. Furthermore, the e-labs also led to an additional 6 to 18 familiar words per minute and 8 to 16 non-familiar words per minute gains among students in e-lab schools.

In addition to the average effects of e-labs, the study analysed the difference in impact between boys and girls, and between students performing well or poor at baseline. We find that the impacts are larger for boys than girls. However, girls in both treatment and control schools performed better than boys at baseline. When we compare the effects by baseline fluency, we find that the poor performing students gained more than the rest in both letter and familiar word reading. The findings are consistent with a number of other studies testing effectiveness of learning apps.

E-lab is an effective intervention in advancing literacy among early graders. These effects are more in favour of struggling students in simpler tasks. Technology can be used to help teachers to improve learning by their students.

These Fact Sheets are for sharing ideas, documenting key findings from programme data and disseminating research. All views expressed are those of the authors and do not necessarily reflect organizational policy on the issue.