

Literacy Boost—Numeracy Boost Results

Pakistan ICT Partnership with TeleTaleem

Literacy Boost and Numeracy Boost are Save the Children's innovative, evidence-based programs to support basic skills development in young children. Both holistically pursue the goals of literacy and numeracy by: using assessments to identify gaps and measure improvements in core skills, training teachers to teach national curriculum more effectively, and mobilizing communities to support children's learning.

Intervention Summary

This brief presents the results of an impact evaluation of the first year of a Save the Children partnership with TeleTaleem in 46 schools in Khyber Pakhtunkhwa province. The program provided experienced master trainers for each classroom via an internet-enabled School Garee (school van) which travelled to each school, once every two weeks. The School Garee provided multimedia (projector, laptop, speakers all connected by wireless to the internet-enabled van) to transform an ordinary



classroom into a digital classroom. Children utilized curriculum-specific educational videos and solved practice questions, interacting live with a remote tutor in a classroom setting. Teachers received online trainings on literacy and numeracy from master trainers and were encouraged to better diagnose and respond effectively to learner needs through automatically generated learner assessment reports. Community activities included parent workshops and reading and math camps for students, led by community learning workers.

Methodology

At the literacy baseline conducted in December 2013, around 246 students were assessed from 31 LB schools and 241 were reassessed in February 2014. An average of nine grade 2 students were randomly chosen and assessed from each school of 22 program schools and 9 comparison schools, aiming for 50% girls schools and 50% boys schools from each treatment and comparison group. All children were assessed in reading skills in Urdu, and asked simple questions about their possessions, reading materials and reading practices

in their homes. The numeracy sample included 201 learners from 36 additional schools (24 treatment, 12 control) who were assessed at both baseline and endline. Boys and girls were sampled randomly from the classroom. The children were assessed in number sense, operations, word problems and geometry. For both literacy and numeracy, learning, calculated as the difference in students' skills between the beginning and end of the intervention period, is compared for students in regular schools versus Literacy/Numeracy Boost schools.

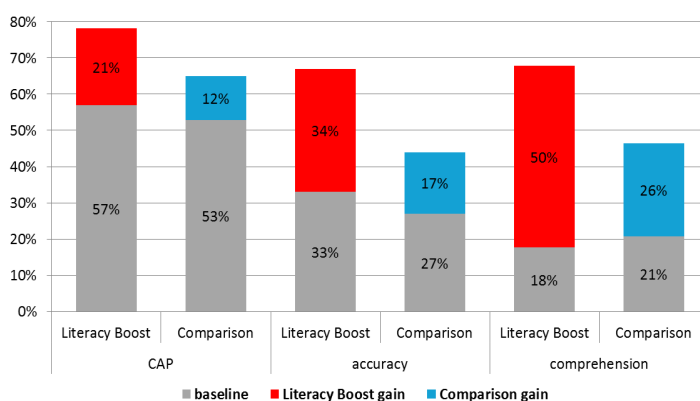
Learners

The literacy sample has 52 percent girls and 48 percent boys; while the numeracy sample has 56 percent girls and 44 percent boys. Among the children present at both the first and the second assessment in each sample, there are no significant differences in background between treatment and comparison schools. The children are just over eight years old on average and the majority speak Hindko, and not the language of instruction in schools (Urdu), at home.

Results

Among the weakest students — students who do not read with comprehension at baseline — Figure 1 shows those in Literacy Boost schools made significantly greater progress than comparison peers at endline.

Figure 1. Weakest students' average baseline and gains by group.

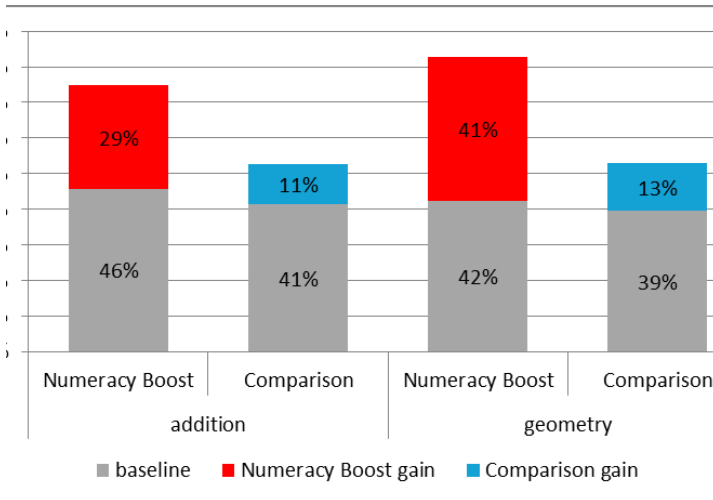


It is particularly encouraging to see those students struggling most at baseline have significantly greater learning than their

peers in comparison schools and are catching up with readers in their own schools. However, we find that on average students in Literacy Boost intervention schools did not make more progress in learning to read Urdu with fluency and accuracy and than students in comparison schools.

In math learning, Numeracy Boost students made significantly greater addition and geometry gains as compared to comparison students, as shown in Figure 2.

Figure 2. Average numeracy baseline and gains by group



It is hypothesized that due to the shorter time of intervention implementation, and a fairly high benchmark on literacy and other numeracy outcomes at baseline, it was not possible to detect any further large gains at endline.

Reading Camps and Teacher Training Observations

Positive changes were observed amongst teachers who had interacted with master trainers on Literacy Boost instructional techniques. Before the intervention, some teachers did not have the practice of building vocabulary amongst the children. In the classroom observations, it was seen that teachers read the story text first and then wrote any new/difficult words on the black board to explain them further. Teachers also summarized the concept of the story at the end and asked questions from the students, in order to gauge if students had understood the story well.

In the reading camps, it was observed that it was initially difficult for children to break away from their traditional manner of reading—which would be echoing the teacher without comprehending the words. After training the camp leader on story telling techniques that help children build rather than mimic skills, the children gradually started changing their habits and taking their time to read the words.

Moving forward

TeleTaleem’s “Ilm on Wheels” model was piloted in ten schools in Khyber Pakhtunkhwa province in Pakistan in 2012, targeting Grades 4 and 5 math teachers. The project was able to achieve statistical learning achievement effects of 0.86 – 3.15 which are in line with and better than most technology based learning and tutoring interventions worldwide. There is the desire for communities, even remote, rural communities like the ones that TeleTaleem and Save the Children work with, to have access to knowledge and opportunity for their children.

This new high tech model of Literacy Boost in partnership with TeleTaleem’s existing ICT model, has exciting possibilities for improving literacy outcomes for children on an even larger scale. Moving forward, SC and TeleTaleem will be replicating this model at scale in nearly 1000 government schools in KP province.



A student from a Numeracy Boost Camp at GGPS Hassari school fills in a bar graph. Photo credits: Intizar Ahmed, Save the Children

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