



Literacy Boost

Quetta, Pakistan Year 2

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Executive Summary

This report examines the results of a learner background survey and reading assessment conducted in Quetta District, Balochistan province, Pakistan prior to beginning the second phase Literacy Boost intervention and again after one year of implementation. The first phase focused on interventions using the mother tongue, while the second phase used Urdu to see what would be the improvement of the students' reading skills when taught in Urdu directly. The baseline survey and reading assessment covered 280 grade 2 learners throughout 28 schools in Quetta District in the Balochistan province and the follow up gathered data again from 228 of these children. The 28 schools are split into 20 primary schools designated to receive Literacy Boost and 8 comparison primary schools receiving no intervention. This report explores: the comparability of the learners in Literacy Boost and comparison schools at endline, the skills profiles at endline and gains from the baseline, equity in learning by gender, poverty, home literacy and other characteristics. These results will inform targeting of further intervention.

At endline, learners in Literacy Boost schools had higher gains than comparison students in all advanced literacy skills-fluency, accuracy, and reading and listening comprehension in Persian and Brahvi schools and less gains in the majority of the skills-CAP, letters in words, fluency, and accuracy- in Multilingual Schools. **However, the difference in gains between comparison and Literacy Boost schools is not statistically significant for any of the subtests and any of the language of study groups.** Three drivers for the lack of a statistical significant difference in gains can be the small sample size at endline of 228 students (out of which only 54 are part of the comparison sample), the fact that other government teacher development programs were running at the same time in comparison schools, as part of the larger BEP program, and that there were irregularities in the teacher training in 14 Literacy Boost Schools where the teacher was absent or another teacher attended the training.

Regarding benchmarks, there is a wide variability amongst students pertaining to different study languages. The study language with more benchmarks met was Persian where students met all benchmarks and that with the least benchmarks met was Brahvi where students met 3 out of 8 benchmarks. Literacy Boost should continue to pursue different activities as reading camps and buddies and activities and games that teach letters to continue to move towards meeting benchmarks.

In terms of Home Literacy Environment (HLE), Literacy Boost students presented gains from baseline to endline. In reading materials and reading habits, the increase is more pronounced for learners Persian and Multilingual schools where there is an increase of 9% if the number of children reporting having a reading material at home and more than a 40% increase in the children reporting that someone in their family has read to them. With the exception of Multilingual learners who saw someone reading in their home, for all other Home Literacy

indicators, Literacy Boost learners had bigger gains than those from comparison schools. However, the difference in gains is not statistically significant for any of the language groups. Further, the analysis shows that learners on the lowest Home Literacy Environment quintiles have lower gains, in particular CAP, fluency and accuracy. Literacy Boost should continue to encourage the provision of print materials and reading activities with family and community members.

The final section of the analysis deals with equity and struggling students. Taking only the students present at baseline and endline for the whole sample, and with the exception of the listening comprehension endline result, girls and boys do not score significantly different or have different gains. **However, girls have larger predicted endline scores and gains meaning that the program needs to continue to be attentive of boys who, contrary to expectations, have lower predicted scores than girls in advanced skills.** Students from disadvantaged Home Literacy Environments and repeaters have lower predicted scores than other students. Finally, struggling students are more likely to be younger, have repeated at least one grade, and speak Brahvi at home. Their gains are no different than their more skilled peers which suggests that LB should make further efforts so that this difference does not perpetuate in time.

Table of Contents

Executive Summary 2

I. Introduction 6

II. Context 7

III. Implementation History..... 8

IV. Methods 10

 IV.1. Sampling..... 10

 IV.2. Measurement..... 10

V. Student Descriptive Statistics 11

 V.1. Presence at Endline..... 11

 V.2. Student Background Characteristics..... 11

 V.3. Home Literacy Environment..... 12

VI. Endline Results 14

 VI.1. Program Impact of Literacy Boost 17

 VI.2. Individual Skill Analysis..... 19

 VI.2.A. Concepts about Print..... 19

 VI.2.B. Letter Awareness 19

 VI.2.C. Fluency and Accuracy 20

 VI.2.D. Comprehension 20

VII. Learning Equity and Struggling Students 21

 VII.1. Girls..... 21

 VII.2. Home Literacy Environment 22

 VII.3. Repetition Status 23

 VII.4. Struggling Students..... 23

VIII. Conclusion..... 23

Appendix A. Student Background Characteristics by Sample Group..... 25

Appendix B: Home Literacy Environment by Sample Group..... 26

Appendix C. Baseline, Endline, and Gains by Language of Instruction 27

Appendix D. Regression Models..... 29

D1A. Relation Between Pertaining to a Lower HLE Quintile, Being a Girl and Endline Results 29

D1B. Relation Between Pertaining to a Lower HLE Quintile, Being a Girl and Gains, LB students..... 30

Appendix D2A. Relation Between Repeater Status and Endline Scores, LB students 31

Appendix D2B. Relation Between Repeater Status and Gains, LB students 32

Appendix D3A. Characteristics of Struggling Students, LB 33

Appendix D3B. Struggling Students and Gains, LB Students 34

I. Introduction

This report examines the results of a learner background survey and reading assessment conducted in Quetta, Balochistan province in Pakistan prior to beginning Phase II of the Literacy Boost intervention and again after one year of implementation. The baseline survey and reading assessment conducted in May 2013 covered 280 grade 2 learners throughout 28 schools in Quetta District in Pakistan, and the follow up gathered data again from 228 of these children. The 28 schools are split into 20 primary schools designated to receive Literacy Boost and 8 comparison primary schools receiving no intervention. This report explores: the comparability of the learners in Literacy Boost and comparison schools, the skills profiles at baseline and endline, equity in learning by gender, poverty, home literacy and other characteristics. Children's learning results will inform the extent to which Phase II was successful in achieving its objectives.

The Literacy Boost program includes teacher training, community reading activities, and age-appropriate local language material creation to support emergent literacy skills among early-grade children. These skills include concepts about print, letter awareness, single word reading of most used words, reading fluency, reading accuracy, and reading comprehension. As part of Literacy Boost, learners are assessed once at baseline in each of these skills through an adaptable assessment tool to inform programming, and once at the end of the project to estimate program impact.

The key research questions to be explored in this report include:

- How has the sample of learners changed over time?
- Are the learners who were able to be found at endline different than those who were not able to be found? If so, how?
- Did the attrition rate differ between Literacy Boost and comparison learners?
- Of the students who were able to be found at endline, how comparable are baseline background characteristics and reading skills among Literacy Boost learners versus comparison learners?
- What can the endline of Phase II of the Literacy Boost program in Quetta tell us about students' LOI skills?
- Did the Literacy Boost program exhibit impact on learners' reading skills?
- For which types of learners was impact the greatest/least?
- Does this impact result in more equitable outcomes for traditionally disadvantaged groups?

- How does learners' development of reading skills over time vary by learner background and community literacy environment?

To investigate these questions, this report first describes the context and implementation history of Literacy Boost in Quetta. Next, this report gives an overview of the research methods used for Phase II; including sampling, measurement, and analysis. The report will then analyze the attrition of the sample over time and how intervention and comparison groups have or have not remained statistically similar. The report will then present results from impact analysis investigating the extent to which Literacy Boost appears to have improved learners' reading skills. After this, learners' endline scores for each of the reading skills will be analyzed to determine which skills learners have mastered and which require additional improvement. Finally, the report will investigate any correlations between baseline-endline reading skill development and student background or community literacy environment variables using multilevel regression analysis.

II. Context

Baluchistan is a culturally rich and diverse province in Pakistan, albeit lagging behind on several socio-economic indicators. Quetta, being the capital of Baluchistan, is populated with inhabitants belonging to a large variety of different ethnic groups that speak a variety of different languages. SC has been working in Quetta through the Balochistan Education Programme in 233 government schools, since 2010. BEP schools in Quetta span 4 different language belts. When the decision to implement a pilot multilingual Literacy Boost program was undertaken in 2012, Quetta was chosen as the most suitable city, compared to other districts (in terms of access and security).

Due to the prominence of the three languages of Pashtu, Brahvi and Persian in Quetta district, and the presence of a large multilingual belt; a sample of schools for the Literacy Boost program were taken from each part of the city, in order to be as close to the ground reality as possible. Hence the school sample for Quetta was taken from 4 different language schools i.e. Pashto, Brahvi, Persian and Multilingual. The schools in the sample are from a group of 28 schools identified by Save the Children program staff as potential sites for the pilot year of Literacy Boost activities. Each school (except for two¹) is already a project school of SC's Baluchistan Education Program (BEP) and was selected based on accessibility, location, stability of teaching staff, enrollment rate and the community response. These criteria were chosen because the new program would require close follow-up by SC staff to monitor the activities. SC staff is expected to visit each pilot school and surrounding communities 3 to 4 times a month².

¹ Due to the unavailability of schools meeting the required criteria, 1 control school from the Persian sample and 1 control school from the multilingual sample are each non-BEP project schools.

² Mother Tongue Quetta Baseline Report 2012

III. Implementation History

In March 2012, Save the Children initiated a pilot multilingual Literacy Boost program in Quetta District, Balochistan province. The objective of the Mother Tongue project in Quetta was to assess the reading levels and reading comprehension of children in their Mother Tongue and Language of Instruction (Urdu) in selected schools of Quetta District. The program was implemented for four different language groups: Pashtu, Brahvi, Persian and Multilingual. Schools were selected from Save the Children's Balochistan Education Programme, and constituted 5 intervention and 2 control schools respectively from each language group, for a total of 20 intervention and 8 control schools.

This was the first time that Literacy Boost was piloted in multiples languages (more than two) in Pakistan. The program resulted in substantial improvements in children's Urdu and Mother Tongue skills after the years' worth of interventions. Students in Literacy Boost schools outperformed their counterparts across all reading skills, with the exception of Letter Knowledge, Mother Tongue Comprehension and Urdu Accuracy scores **only in Pashto schools.**

While the first year of Literacy Boost in Quetta was implemented in the Mother Tongue, students' Urdu skills improved by a larger extent than their Mother Tongue skills. For the overall sample, LB schools could read **13.7** more words correctly in a minute in Urdu than students in comparison schools. For particular language groups, Persian Literacy Boost schools made the largest gain in this skill with Literacy Boost students reading on average **16.9** more words correctly in Urdu than students in comparison schools.

Given the success of the program, at the end of Phase I it was decided to continue Literacy Boost for another year in the same schools (20 intervention, 8 control). Phase II of Literacy Boost was carried out from May 2013-April 2014.

However, this time the interventions would be in **Urdu** and not the respective Mother Tongues of the different language groups.

The objective of Phase II was to see to what extent children's skills in the Urdu language would improve, if they are given interventions only in Urdu and not in their Mother Tongue. Since Literacy Boost gives a set of teaching methodologies for effective reading instruction, these practices can be contextualized for any language. In addition, it would also be useful to see if there were any significant differences between the language groups in learning Urdu.

Hence all the interventions and materials distributed to schools in Phase II were in Urdu.

Most of the interventions through the Balochistan project, which were additional to the Mother Tongue interventions, were maintained through Phase I and Phase 2. This included the provision of missing facilities in the schools, ECE materials in the Katchi classrooms, teaching and learning materials for primary grades, DRR kits, training of PTSMCs on roles and responsibilities, and School Health and Nutrition orientations to the teachers. A few of the Grade 2 teachers from

the Literacy Boost intervention schools received trainings on ECE and Child Focused Health Education.

However, there were also differences between Phase I and Phase II implementation which are summarized in Table I. Previously in Phase I, despite attending the trainings, the Grade 2 government teachers in the intervention schools were not very interested in conducting the extra Literacy Boost classes in their classrooms. At the beginning of the project, some of the teachers preferred to be background facilitators. The para-professional teaching staff hired by the project would inevitably, end up leading the LB classes rather than supporting them. The project team intervened by asking the head teachers of those schools to send notices to those teachers, and during the rest of their monitoring visits, ensured that this would not be repeated.

In Phase II, the para-teachers were only supporting the Government teachers, who were not teaching LB as a separate subject, but rather as part of the Urdu language classes in the school week. Since the Phase I 2012-2013 interventions, around 11 Grade 2 teachers were changed in the 28 schools during Phase II. Out of these, 9 were Intervention schools.

The Language Boards that were made in Phase I were no longer required for Phase II, as Urdu materials were more readily available than Mother Tongue materials.

Table.I. Comparison between implementation of LB Phase I and LB Phase II in Quetta

<i>Mother Tongue (MT) (2012-2013)</i>	<i>Literacy Boost (LB) (2013-2014)</i>
Learning material availability issue	Urdu learning material is available
Classes were held twice in a week	Daily classes where teacher himself applied LB (2013) activities
Separate primer developed for MT (2012) class	LB (2013) practiced on current syllabus of Grade 2 Urdu Language
Separate period or class in the lesson plan for MT (2012)	Applied during the regular lesson plan
Class teacher relied on Para Teacher to conduct MT (2012) class	In LB(2013) Para teacher only supported the class teacher, rather than taking over completely
Mother tongue stories were focused in communities classes	Urdu stories focused

IV. Methods

IV.1. Sampling

The sample for the Literacy Boost Phase II endline assessment encompassed 229 grade 3 learners, divided between 20 schools set to receive the Literacy Boost intervention (n of learners = 175) and 8 comparison schools (n of learners = 54). From the schools selected 50% of them are girls and 50% are boys (7 boys' schools, 7 girl's schools, and 1 mixed school) for each of the intervention and comparison areas.

At each of the 28 schools where data was collected, 10 children in the second grade were sampled at Baseline. This was done randomly if there were more than 10 children in the classroom. Otherwise all the students in the classroom were selected to participate in the Baseline. Due to time constraints and competing deadlines, the number of children assessed randomly per classroom was reduced from 20 in Phase I to 10 in Phase II which affects the power of the study.

IV.2. Measurement

For the student assessment, all learners in the sample were asked about their background (age, household possessions, household building and reading materials). Learners also were asked about their family members and reading habits in their home (who they had seen reading in the week prior to the assessment, who had read to them).

After collecting this background data, all learners were also given a literacy test composed of six components administered through four sub-tests: concepts about print, letter awareness, reading fluency & accuracy (words per minute read correctly and total percentage of passage read correctly; both within the same sub-test), and a set of comprehension questions linked to the fluency & accuracy passage. The same set of comprehension questions were administered for both those learners who could read independently (reading comprehension) and those who could not and thus had the assessor read to them (listening comprehension). All instructions were given in Urdu which is the same language used in the tools. Table 3 shows the assessment instruments used.

Table 2. Assessment Instruments

Student background	Examples
General	Sex, age, language spoken at home, work
School-related	Repetition history, total years in school
Socioeconomic status	Type of home, household size, household amenities/possessions
Home Literacy Environment	
Access to print	Materials present in home
Reading at home	Presence and percentage of family members who children see read
Reading Outcome	Description

Concepts about Print	Familiarity with books (e.g. cover, direction of text); 12 items at baseline and 12 items at endline
Alphabet knowledge	Number of letters/sounds known of 36
Letters in words	Number of letters in words known out of 5
Fluency	Number of words in a connected text read correctly in a minute
Accuracy	Percentage of words in a connected text read correctly
Comprehension	Four comprehension questions answered correctly after reading a text aloud

V. Student Descriptive Statistics

V.1. Presence at Endline

Out of the 280 students who were surveyed in the baseline assessment, 228 were present at endline. The 52 students missing belonged to 18 different schools and included:

All 10 students sampled at baseline missing from GBPS Killi Kateer School as they migrated to different areas. Transfer of children in the area that this school is located is common as they are traditionally Afghani refugee population that moves in reaping season.

6 students missing from GGMS Aminabad School

5 students missing from GGMS Killi Khali

1-4 students missing from other schools

After taking out the students not present at endline, the remaining database contains 174 students at literacy boost 54 students at comparison schools. A multilevel regression analysis controlling for socioeconomic and home literacy variables shows that attrition seems to be random and not significantly related to any of the variables collected.

V.2. Student Background Characteristics

At endline, students were 10 years old on average, 49% were female, and more than 80% spoke the language of instruction at their schools at home- for Multilingual Schools Brahvi is the most common language with 33% of students speaking it at home. Also, the vast majority of them (99%) lived in a house with electricity and appliances. In terms of livestock ownership, the highest ownership is of learners that go to Pashto schools (47%) and the lowest is amongst learners going to Persian ones (38%).

In terms of comparability between Literacy Boost and comparison students, statistically significant differences were found on Persian and Brahvi Schools. For Persian schools, home language and kindergarten repetition (20% for comparison vs 2.3% for LB students) were significantly different. For learners in Brahvi schools the number of household members (10.3 for comparison vs. 7.5 for LB students) was different. These differences were not found at baseline and can be attributed to attrition. *When conducting impact analysis it is important to take*

the variables in which the groups are different and control for them. All other characteristics were equal amongst groups for all languages.

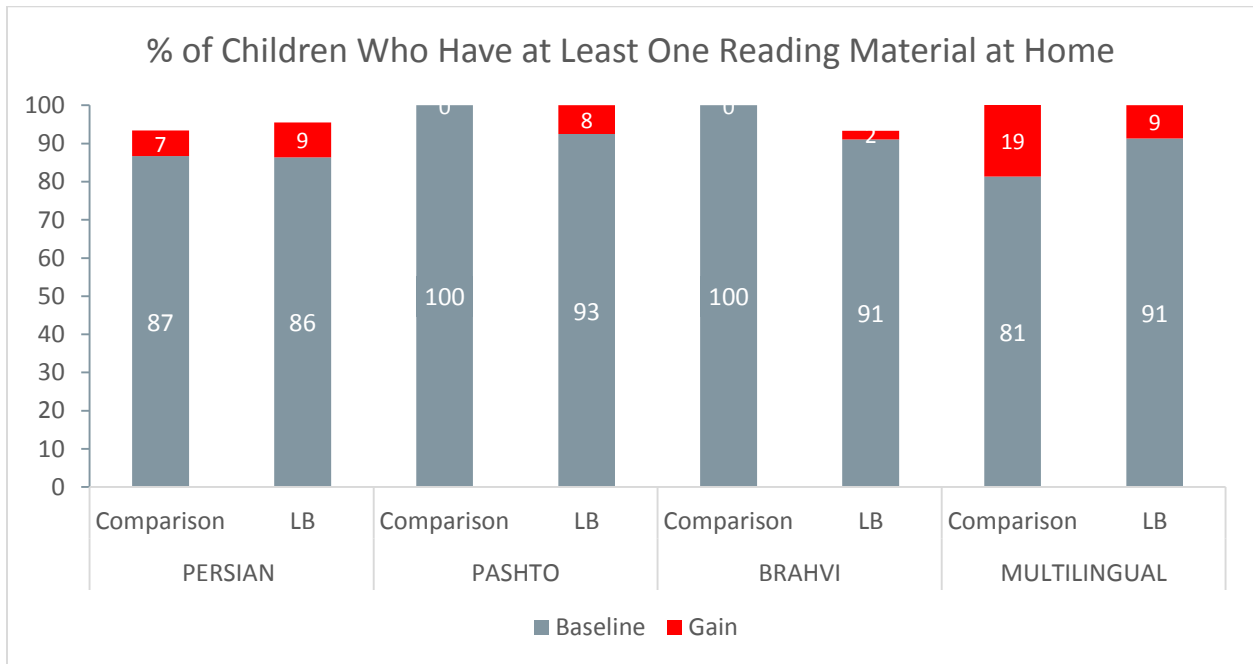
Further details and the comparability of all other variables between Literacy Boost and comparison students can be found on Appendix A.

V.3. Home Literacy Environment

An important aspect of reading development concerns the home literacy environment (HLE). How are children exposed to the printed word in the home? How much access do they have to books and print to practice their nascent reading skills? Many Literacy Boost activities are centered on helping parents and communities to enhance the HLE. As such, it is important to measure where learners' HLE begins and how it changes over time.

Figure 1a presents the gains of reading materials at home and Figure 1b the gains in reading habits. Both figures are for those students present at endline for Literacy Boost and Comparison students. Appendix B contains detailed information for each language of instruction school.

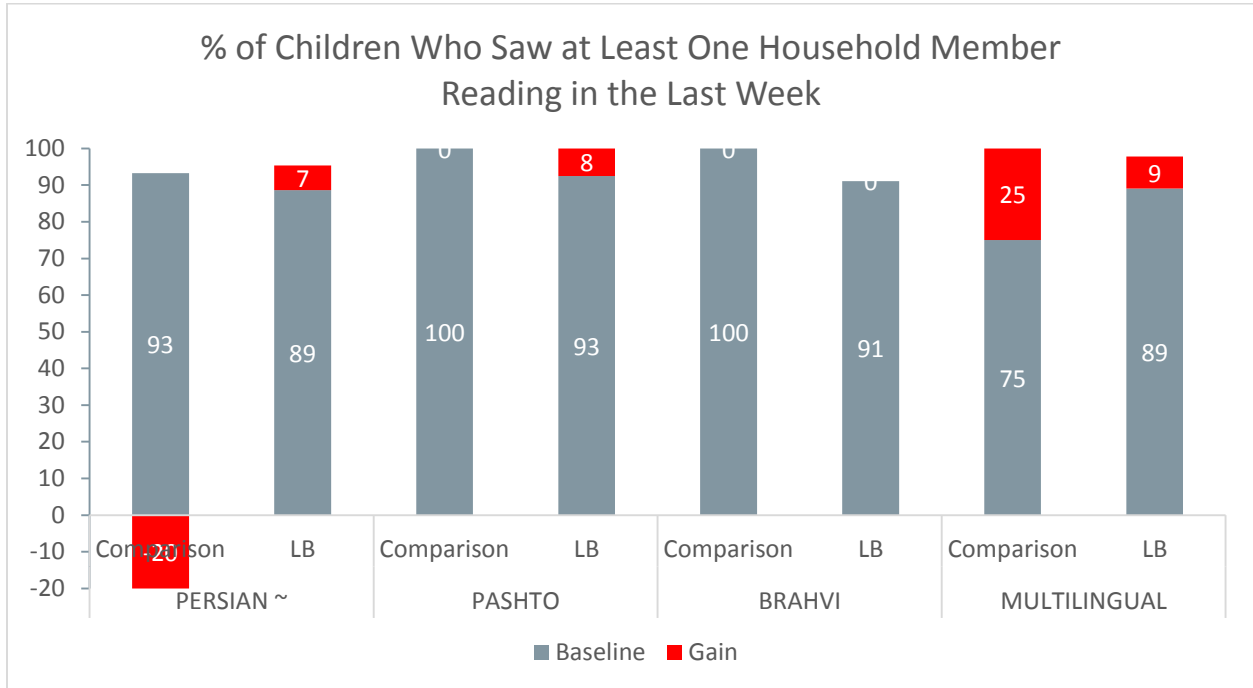
Figure 1a. Home Literacy Environment. Reading Materials



At endline, almost all students had some type of reading material at home, with 100% of comparison Pashto and Brahvi learners having some kind of reading material. From baseline to endline, reading materials and exposure increased somewhat more for comparison than for LB school students in Multilingual schools and somewhat more for LB students in the other types of schools but this difference is not statistically significant. **Literacy Boost should continue**

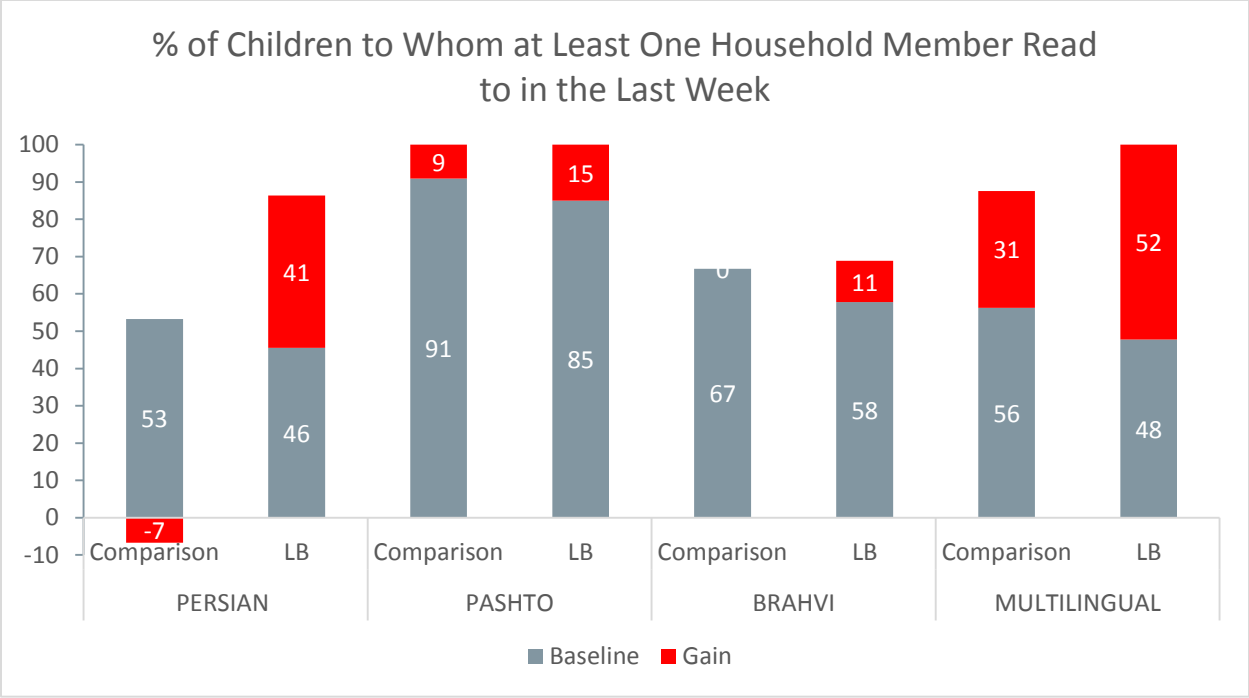
to focus on enhancing the amount of child-friendly reading materials in the home of earners.

Figures 1b & 1c. Home Literacy Environment. Reading Habits



Significance levels: ~ 10%, *5%, **1%, *** 0.1%. Endline result is significantly different for learners in Persian schools

In terms of reading habits, comparison and LB learners at Persian schools had significant differences in the percentage of people in their household seen reading. While comparison students presented losses of 20 percentage points, LB ones had gains of 7 percentage points. For the remaining schools differences in reading habits gains between comparison and LB students were not significant.



VI. Endline Results

In this section we examine average and gain scores in each literacy skill area to assess the impact of Literacy Boost on student learning outcomes. Table 4 provides a summary of baseline, endline and gain scores on each subtest for all students present both at baseline and endline for the whole sample and Appendix C for learners divided into schools by language of study. Significance tests use clustered standard errors to account for the grouping of students within schools. Using the sample as a whole, the difference between gains in comparison and Literacy Boost Schools is not significant.

Table 4. Baseline, Endline and Gains in Literacy Skill Scores by Intervention Groups

Variable	Sample Group	Baseline Score	Endline Score	Change from Baseline to Endline	Sig. Diff. in Change between Groups
Concepts about Print (%)	Comparison	67.7	85.6	17.9	-
	LB	76.9	88.8	11.9	
Letters (%)	Comparison	82.3	94.9	12.6	-
	LB	80.3	95.6	15.3	
Letters in Words (%)	Comparison	62.2	94.1	31.9	-
	LB	77.5	96.6	19.1	
Fluency (wcpm)	Comparison	17.5	47.5	33.5	-
	LB	7.7	49.7	41.9	
	LB - readers	37.2	60.3		
	LB - nonreaders ^a .		47.0		
Accuracy (%)	Comparison	27.4	61.5	34.1	-
	LB	13.6	62.2	48.5	
	LB- readers	65.9	74.9	-	
	LB - nonreaders ^a .		58.8	-	
Reading Comprehension (%) ^b .	Comparison	76.6	92.2	15.6	-
	LB	53.3	95.8	42.5	
Listening Comprehension (%) ^c .	Comparison	31.8	47.7	15.9	-
	LB	35.6	68.8	33.1	

a. Nonreaders are those learners who did not read the passage at baseline










b. For 46 students that read the passage at baseline and endline

c. For 51 students that did not read the passage at baseline nor at endline

Table 5 presents the endline scores with their corresponding benchmarks set at baseline for each language of instruction. It is worth noting that fluency and accuracy benchmarks that were set at the 95 percentile whenever the 75 percentile was equal to 0 at baseline were changed to 15 wcpm for fluency and 75% for accuracy, and those set at 100% were changed to 95% to reflect more realistic changes and for consistency with benchmarks set throughout Literacy Boost programs around the world. The study language with more benchmarks met was Persian where students met all benchmarks and that with the least benchmarks met was Brahvi where students met 3 out of 8 benchmarks.










Table 5. Endline Scores and Benchmarks set at Baseline by Language of Instruction

PERSIAN

Variable	Sample Group (within LB)	Endline Score	Baseline Benchmark	Met  Not Met 
Concepts about Print (%)	All	92.4	83.3	
Letters (%)	All	91.4	83.3	
Letters in Words (%)	All	94.5	95.0	
Fluency (wcpm)	All	48.3	15.0	
	Readers	-		
	Non-readers	-		
Accuracy (%)	All	71.7	75.0	
	Readers	-		
	Non-readers	-		
Reading Comprehension (%) ^a	All	95.0	60.0	
Listening Comprehension (%) ^a	All	93.8	60.0	











a. There was a single comprehension benchmark set at baseline. This table sets that benchmark for listening and reading comprehension

PASHTO

Variable	Sample Group (within LB)	Endline Score	Baseline Benchmark	Met  Not Met 
Concepts about Print (%)	All	86.5	91.7	
Letters (%)	All	89.7	95.0	
Letters in Words (%)	All	88.0	95.0	
Fluency (wcpm)	All	54.3	25.0	
	Readers	-		
	Non-readers	-		
Accuracy (%)	All	60.7	81.3	
	Readers	-		
	Non-readers	-		
Reading Comprehension (%) ^a	All	100.0	40.0	
Listening Comprehension (%) ^a	All	62.5	40.0	










a. There was a single comprehension benchmark set at baseline. This table sets that benchmark for listening and reading comprehension

BRAHVI

Variable	Sample Group (within LB)	Endline Score	Baseline Benchmark	Met  Not Met 
Concepts about Print (%)	All	88.8	91.7	
Letters (%)	All	90.7	97.2	
Letters in Words (%)	All	93.3	95.0	
Fluency (wcpm)	All	42.4	15.0	
	Readers	-		
	Non-readers	-		
Accuracy (%)	All	52.6	75.0	
	Readers	-		
	Non-readers	-		
Reading Comprehension (%) ^a	All	83.3	80.0	
Listening Comprehension (%) ^a	All	75.0	80.0	

a. There was a single comprehension benchmark set at baseline. This table sets that benchmark for listening and reading comprehension

MULTILINGUAL

Variable	Sample Group (within LB)	Endline Score	Baseline Benchmark	Met  Not Met 
Concepts about Print (%)	All	87.5	95.0	
Letters (%)	All	99.6	94.4	
Letters in Words (%)	All	98.7	95.0	
Fluency (wcpm)	All	54.0	15.0	
	Readers	-		
	Non-readers	-		
Accuracy (%)	All	62.3	75.0	
	Readers	-		
	Non-readers	-		
Reading Comprehension (%) ^a	All	97.2	40.0	
Listening Comprehension (%) ^a	All	60.7	40.0	

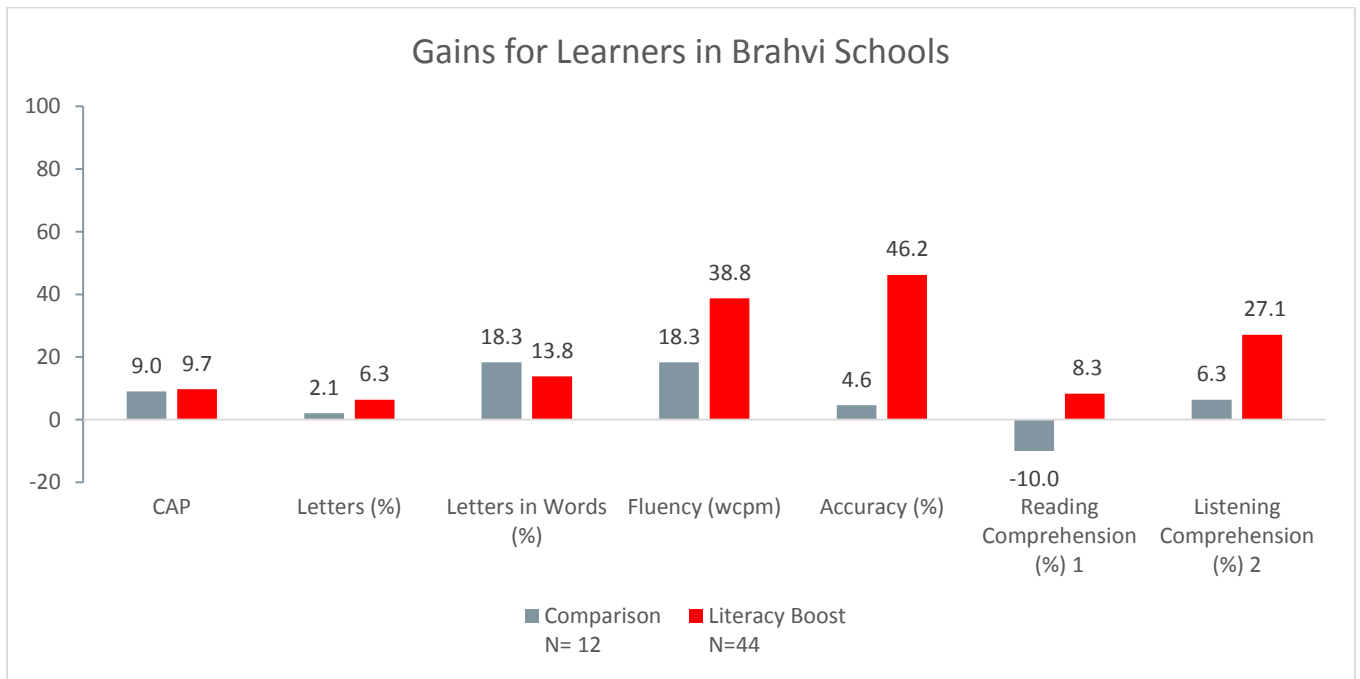
a. There was a single comprehension benchmark set at baseline. This table sets that benchmark for listening and reading comprehension

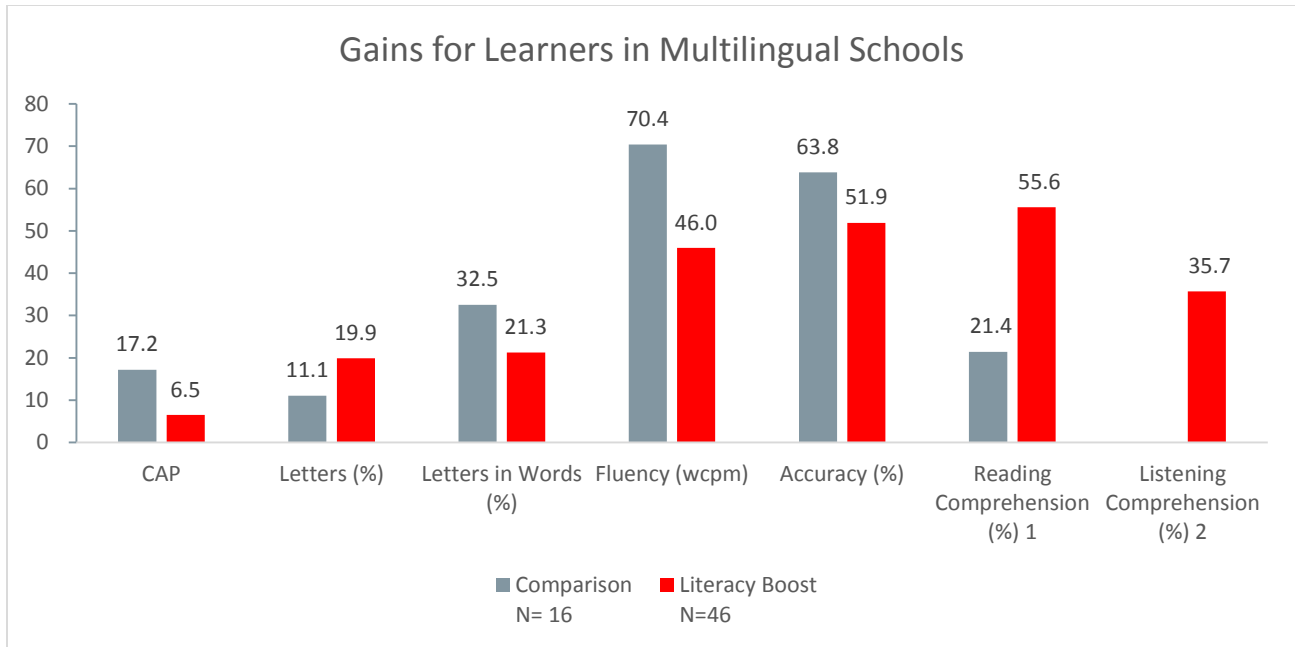
VI.1. Program Impact of Literacy Boost

At endline, learners in Literacy Boost schools had higher gains than comparison students in all advanced literacy skills-fluency, accuracy, and reading and listening comprehension in Persian and Brahvi schools and less gains in the majority of the skills-CAP, letters in words, fluency, and accuracy- in Multilingual Schools. As for Pashto schools, while comparison students had greater gains in basic literacy skills- CAP, letters, and letters in words-, Literacy Boost students presented greater gains in the majority of the advanced ones- fluency, accuracy and listening comprehension. For gains of the schools with the largest positive difference between gains in LB and comparison schools and that with the largest negative gain difference between them-Brahvi

and Multilingual Schools respectively- please refer to Figure 2. However, the difference in gains between LB and comparison schools is not statistically significant for any of the skills and any of the language groups. **Three drivers for the lack of a statistical significant difference in gains can be the small sample size at endline of 228 students (out of which only 54 are part of the comparison sample), the fact that other government teacher development programs were running at the same time in comparison schools and the change and absence of teachers in 14 out of the 20 schools in at least one of the teacher trainings.**

Figure 2. Gains for LB and Comparison Students in Brahvi and Multilingual Schools





1/ For those students that read the passage at baseline and endline.

2/ For those students that did not read the passage at baseline nor endline

VI.2. Individual Skill Analysis

This section analyses the endline results of students from Literacy Boost schools. There was no statistical significant difference between the average endline results between Literacy Boost and comparison school students.

VI.2.A. Concepts about Print

LB students made progress between baseline and endline results in CAP. At baseline students recognized 77% of the structural components of books and by endline students recognized 89% of these components. The greatest progress was seen in Persian schools with 92% of students recognizing the structural components of books by endline. **Continued exposure to printed materials will increase children's comfort with and knowledge about books. As most students are reaching mastery of this skill, programmatic efforts should begin to focus on more advanced skills.**

VI.2.B. Letter Awareness

Single letter identification was a skill that students were close to mastering at baseline for which their improvement in this skill was less than that in letters words. For the first skill LB students moved from identifying 80% of the letters at baseline (about 29 letters) to identifying 96% (about 35 letters). For the second, at baseline students identified correctly 78% (4 letters) and by endline they were identifying 97% (5 letters). **As most students are reaching mastery of this skill, programmatic efforts can begin to focus on more advanced skills.**

However, any students appearing to struggle with letter identification should be given additional attention as soon as possible so as not to fall behind their peers.

VI.2.C. Fluency and Accuracy

Fluency is measured by the number of words students read correctly in one minute from the reading passage presented to students. At baseline LB students could read 18 words on average per minute. By endline, this result had increased to 48 words per minute, increasing almost three times from baseline. LB nonreaders at baseline were reading at a pace of 47 words per minute at endline showing a great progress on those students that were not even able to read a passage the year before.

Accuracy is measured by the percent of words read correctly out of the total reading passage. At baseline, LB students' accuracy was 14% and by endline it had increased to more than three times, 62%.

Taken together, fluency and accuracy show that students are making strong gains in advanced skills. However, there is still a big road ahead for students to master these skills, especially in Brahvi and Pashto schools where accuracy is 53% and 61% accordingly. Techniques that help doing so is practice reading aloud in small and large groups.

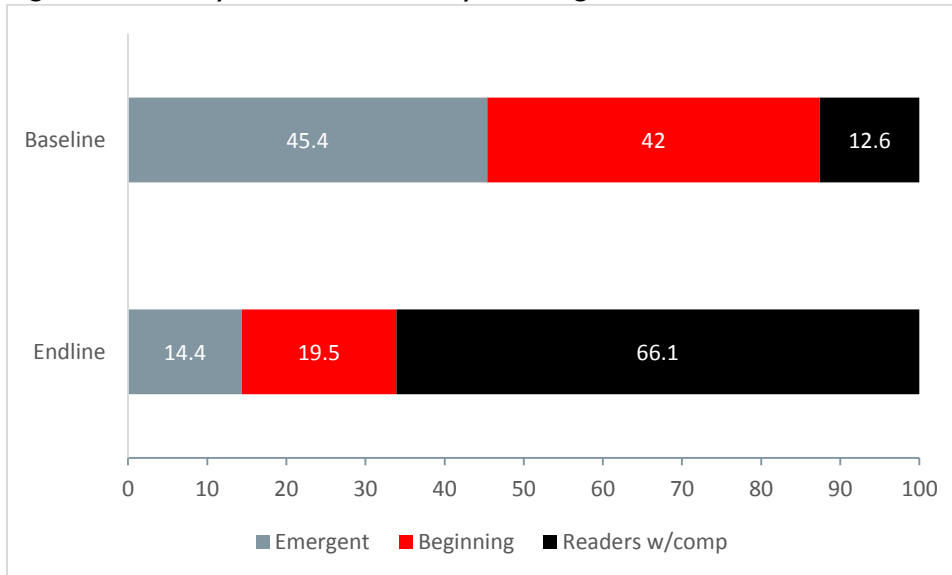
VI.2.D. Comprehension

Students were given a passage in Urdu followed by four comprehension questions. Students were asked to read aloud, and those who could not read more than a few words after at least three prompts and encouragement attempts by the assessor, were **read the passage to** by the assessor. Within LB students, those who read the passage by themselves at baseline and endline (46) - were stronger in comprehension skills answering 96% of questions correct by endline. In contrast, those read the passage by the assessor at baseline and endline (51) answered correctly only 68% of comprehension questions by endline, highlighting the importance of getting children to a level where read by themselves. This idea is reinforced by the fact that those students that could not read the passage at baseline but who read it by endline (123 students) improved from answering 38% to answering 83% of the comprehension questions correct. **Enabling children to read with comprehension is the ultimate goal of the Literacy Boost program and should be the main focus of in and out of school activities going forward. As the program continues, one of its main goals should be to move those 51 children that could not read the passage by themselves to active readers.**

A further measure of children's reading skills is to classify them into emergent, beginning, and reading with comprehension tiers. Quetta has made significant progress in this respect. At baseline, 45.4% of LB learners were emergent readers and 12.6% were readers with comprehension. By endline 14.4% of learners were classified as emergent readers and 66.1%

were readers with comprehension (see Figure 3). In contrast, in comparison schools, at endline 20% of students were emergent readers and 61% were readers with comprehension.

Figure 3. Literacy Boost Learners by Reading Tiers. Baseline and Endline (%)



Note: Emergent Readers correctly answer less than 40 percent of the comprehension questions; Beginning readers correctly answer between 40 and 80 percent of the questions correctly; Readers with Comprehension correctly answer more that 80 percent of the comprehension questions.

VII. Learning Equity and Struggling Students

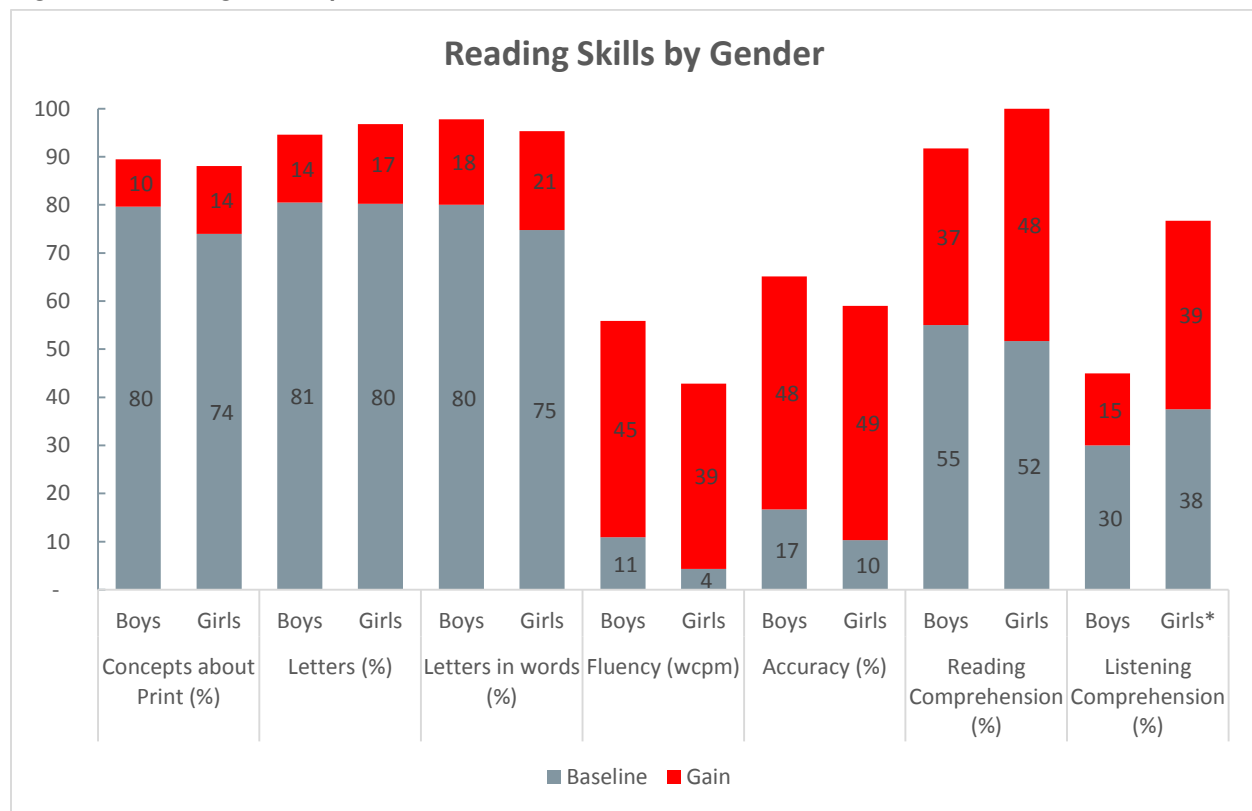
This section analyzes the factors that relate to higher endline reading skills and gains in reading skills for the group of Literacy Boost students. Specifically, we investigate whether baseline reading skills and reading skill gains differ for traditionally disadvantaged groups, such as girls, the poorest of the poor, the HLE-deprived, and children without previous ECD experience. We also investigate whether students who struggled at baseline improved their test scores differently than other students, and whether struggling students share certain demographic characteristics. To conduct this analysis, baseline and endline data were used to construct indices to place children into quintiles of socio-economic status (SES) and HLE. Multivariate regression models were used to estimate the correlation between reading skills outcomes and these measures of equity.

VII.1. Girls

Taking the whole sample, endline results and gains between girls and boys in Literacy Boost schools that were present at baseline and endline are not statistically different for concepts about print, letters, fluency, accuracy, and reading comprehension. For listening comprehension, endline results are larger for girls. Divided by language of study, all gains but CAP for boys in Brahvi and Multilingual schools are the same.

Looking at predicted scores, however, girls have larger predicted gains and endline scores for reading and listening comprehension when we control for socioeconomic characteristics and baseline scores (see Appendix D1 for the corresponding regression). **Literacy Boost should focus on the advanced skills of boys, whom contrary to expectations, have lower predicted gains and endline scores in some of the advanced reading skills.** Figure 3 presents results disaggregated by gender with the corresponding gain for each set of students.

Figure 4. Reading Skills by Gender for LB Students



*Significant difference in endline results at a 5% confidence level

VII.2. Home Literacy Environment

Pertaining to a lower Home Literacy Environment Index quintile is related to lower gains and endline scores in CAP, fluency and accuracy. The Home Literacy Environment Index was constructed taking into account the presence of reading materials at home and the home reading habits. The multivariate regression controlled for background characteristics and baseline score (see Appendix D1 for details). **Literacy Boost should continue to encourage the provision of print materials in the home and reading activities with family and community members.**

VII.3. Repetition Status

Repetition status predicts lower gains for LB students in accuracy and fluency and a lower endline score in fluency (see Appendix D2 for the corresponding multivariate regressions) when considering children that have repeated at least one grade (kachi or first grade). **Literacy Boost should make a special effort with students that are repeaters as they will need more help in making gains and improving their scores relative to their peers.**

VII.4. Struggling Students

Finally, we investigate the characteristics and gains of struggling students, defined as those students who scored in the bottom two quintiles on the letter in words identification component of the assessment at baseline (see Appendix D3 for the corresponding multivariate regressions). Learners that are younger, repeaters, and those speaking Brahvi at home are more likely to be amongst these struggling learners.

However, these students do not have lower (or larger) gains in any of the reading subcomponents of the test suggesting that the gap with their more advantaged peers is remaining constant. **Literacy Boost should continue to provide enough support to struggling students so that they can make larger gains and catch up with their more advantaged peers in all the reading skills that will bring them to be readers with comprehension.**

VIII. Conclusion

After one year of Phase II Literacy Boost programming in Quetta District in Balochistan Province in Pakistan, Literacy Boost learners have shown gains in their Home Literacy Environment, and all basic and advanced skills. However, these gains are no different to those of comparison schools, probably because the sample size was small enough at baseline (280 students with 80 of those being comparison ones) and by endline there were 228 of those students present and because the government was implementing teacher development programs at the same time at comparison schools. This would explain the fact that gains are large for both types of schools.

The largest gains for Literacy Boost students are seen in advanced skills- fluency, accuracy, reading comprehension and listening comprehension. Out of these dimensions, benchmarks were met for fluency and reading comprehension in all language groups, and were not met for accuracy in 3 out of 4 language of study schools-Multilingual, Brahvi and Pashto. Listening comprehension benchmarks were met for all but Brahvi schools.

Despite gains being no different between Literacy Boost and Comparison students the results continue to highlight the importance of an appropriate Home Literacy Environment for

learners. Those students in the lowest Home Literacy Environment quintiles have lower gains, in CAP, fluency and accuracy. Literacy Boost should continue to encourage the provision of print materials and reading activities with family and community members.

Appendix A. Student Background Characteristics by Sample Group

	PERSIAN			PASHTO			BRAHVI			MULTILINGUAL		
	Comparison N= 15	Literacy Boost N=44	Sig. Diff.	Comparison N= 11	Literacy Boost N=40	Sig. Diff.	Comparison N= 12	Literacy Boost N=45	Sig. Diff.	Comparison N= 16	Literacy Boost N=46	Sig. Diff.
General												
<i>Home Language (%)</i>												
Pashto	6.7	-					-	4.4		6.3	26.1	
Urdu	6.7	2.3		100.0	97.5		8.3	-		31.3	30.4	
Brahvi		13.3	-	~	-	2.5		91.7	80.0		50.0	28.3
Farsi		73.3	93.2	~				-	15.6		12.5	15.2
Others		-	4.5									
Female (%)		60.0	56.8		63.6	50.0		41.7	33.3		43.8	52.2
Age (yrs)		10.0	9.1		9.6	10.0		9.0	9.8		10.9	8.8
Total years in school		4.3	4.2		4.2	3.8		4.1	3.8		4.3	4.3
Repeated kindergarten (%)		20.0	2.3	~	36.4	12.5		16.7	6.7		12.5	15.2
Repeated grade I (%)		6.7	15.9		36.4	5.0		-	20.0		6.3	23.9
Works outside (%)		-	6.8		18.2	15.0		16.7	22.2		37.5	37.0
SES (%)												
Livestock		13.3	47.7		72.7	40.0		41.7	24.4		50.0	58.7
Appliances		100.0	100.0		100.0	100.0		100.0	100.0		100.0	100.0
Electricity		100.0	97.7		100.0	100.0		100.0	100.0		100.0	97.8
Number of rooms		2.9	3.0		5.0	3.8		3.5	3.2		3.3	3.9
Number of household members		8.7	7.3		10.1	7.9		10.3	7.5	*	8.0	10.0

Significance levels: ~ 10%, *5%,

1%, * 0.1%

Appendix B: Home Literacy Environment by Sample Group
PASHTO

	Baseline			Endline			Gain		
	Comparison N= 11	Literacy Boost N=40	Sig. Diff.	Comparison N= 11	Literacy Boost N=40	Sig. Diff.	Comparison N= 11	Literacy Boost N=40	Sig. Diff.
Home Literacy Environment (%)									
<i>Reading Materials Literacy Exposure</i>	100	92.5		100	100		0	7.5	
Seen reading	100	92.5		100.0	100		0.0	7.5	
Read to you	90.9	85		100	100		9.1	15.0	

Significance levels: ~ 10%, *5%,
1%, * 0.1%

BRAHVI

	Baseline			Endline			Gain		
	Comparison N= 12	Literacy Boost N=45	Sig. Diff.	Comparison N= 12	Literacy Boost N=45	Sig. Diff.	Comparison N= 12	Literacy Boost N=45	Sig. Diff.
Home Literacy Environment (%)									
<i>Reading Materials Literacy Exposure</i>	100	91.1		100	93.3		0	2.2	
Seen reading	100	91.1		100.0	91.1		0.0	0.0	
Read to you	66.7	57.8		66.7	68.9		0.0	11.1	

Significance levels: ~ 10%, *5%,
1%, * 0.1%

MULTILINGUAL

	Baseline			Endline			Gain		
	Comparison N= 16	Literacy Boost N=46	Sig. Diff.	Comparison N= 16	Literacy Boost N=46	Sig. Diff.	Comparison N= 16	Literacy Boost N=46	Sig. Diff.
Home Literacy Environment (%)									
<i>Reading Materials Literacy Exposure</i>	81.3	91.3		100	100		18.8	8.7	
Seen reading	75	89.1		100.0	97.8		25.0	8.7	
Read to you	56.3	47.8		87.5	100		31.3	52.2	

Significance levels: ~ 10%, *5%,
1%, * 0.1%

Appendix C. Baseline, Endline, and Gains by Language of Instruction

PERSIAN

SKILL	BASELINE			ENDLINE			GAINS		
	Comparison N= 15	Literacy Boost N=44	Sig. Diff.	Comparison N= 15	Literacy Boost N=44	Sig. Diff.	Comparison N= 15	Literacy Boost N=44	Sig. Diff.
Basic reading skills									
CAP	59.4	63.3		88.9	92.4		29.4	29.2	
Letters (%)	63.3	68.8		88.1	91.4		24.8	22.6	
Letters in Words (%)	42.7	66.4		90.7	94.5		48	28.2	
Advanced Literacy Skills									
Fluency (wcpm)	5.6	4.9		41.0	48.3		35.4	43.3	
Accuracy (%)	12.6	13.4		61.3	71.7		48.7	58.4	
Reading Comprehension (%) ¹	87.5	62.5		100.0	95.0		12.5	32.5	
Listening Comprehension (%) ²	75.0	25.0		100.0	93.8		25.0	68.8	

PASHTO

SKILL	BASELINE			ENDLINE			GAINS		
	Comparison N= 11	Literacy Boost N=40	Sig. Diff.	Comparison N= 11	Literacy Boost N=40	Sig. Diff.	Comparison N= 11	Literacy Boost N=40	Sig. Diff.
Basic reading skills									
CAP	64.4	84.8		77.3	86.5		12.9	1.7	
Letters (%)	90.2	89.7		99.7	99		9.6	9.3	
Letters in Words (%)	76.4	88.0		100	97.5		23.6	9.5	
Advanced Literacy Skills									
Fluency (wcpm)	18.7	15.2		19.5	54.3		0.7	39.2	
Accuracy (%)	31.3	25.5		34.5	60.7		3.2	35.2	
Reading Comprehension (%) ¹	25.0	46.9		87.5	100.0		62.5	53.1	
Listening Comprehension (%) ²	5.0	40.0		25.0	62.5		20.0	22.5	

BRAHVI

SKILL	BASELINE			ENDLINE			GAINS		
	Comparison N= 12	Literacy Boost N=44	Sig. Diff.	Comparison N= 12	Literacy Boost N=44	Sig. Diff.	Comparison N= 12	Literacy Boost N=44	Sig. Diff.
Basic reading skills									
CAP	74.3	79.4		83.3	88.8		9	9.7	
Letters (%)	91.4	84.4		93.5	90.7		2.1	6.3	
Letters in Words (%)	73.3	79.6		91.7	93.3		18.3	13.8	
Advanced Literacy Skills									
Fluency (wcpm)	18.8	3.5		37.1	42.4		18.3	38.8	
Accuracy (%)	38.2	6.4		42.8	52.6		4.6	46.2	
Reading Comprehension (%) ¹	90.0	75.0		80.0	83.3		(10.0)	8.3	
Listening Comprehension (%) ²	43.8	47.9		50.0	75.0		6.3	27.1	

MULTILINGUAL

SKILL	BASELINE			ENDLINE			GAINS		
	Comparison N= 16	Literacy Boost N=46	Sig. Diff.	Comparison N= 16	Literacy Boost N=46	Sig. Diff.	Comparison N= 16	Literacy Boost N=46	Sig. Diff.
Basic reading skills									
CAP	72.9	81		90.1	87.5		17.2	6.5	
Letters (%)	87.8	79.7		99	99.6		11.1	19.9	
Letters in Words (%)	62.5	77.4		95	98.7		32.5	21.3	
Advanced Literacy Skills									
Fluency (wcpm)	26.9	7.9		85.3	54.0		70.4	46.0	
Accuracy (%)	30.5	10.4		94.3	62.3	~	63.8	51.9	
Reading Comprehension (%) ¹	78.6	41.7		100.0	97.2		21.4	55.6	
Listening Comprehension (%) ²	-	25.0	3/	-	60.7	3/	-	35.7	3/

1/ For those students that read the passage at baseline and endline.

2/ For those students that did not read the passage at baseline and endline

3/ Does not Apply

Appendix D. Regression Models

DIA. Relation Between Pertaining to a Lower HLE Quintile, Being a Girl and Endline Results

VARIABLES	% CAP at endline	% Total letters at endline	% Total letters in words at endline	Wcpm at endline	Accuracy at endline	% Read comp at endline	% Listening comp at endline
% CAP at baseline	0.0311 (0.0477)						
Low Home Literacy Environment at endline	-0.0432~ (0.0242)	-0.0343 (0.0273)	-0.0237 (0.0154)	-40.70*** (7.849)	-0.314*** (0.0774)	-0.0624 (0.0441)	0.0889 (0.161)
Female	-0.0109 (0.0239)	0.0205 (0.0257)	-0.0290~ (0.0164)	-9.394 (9.767)	-0.0319 (0.0565)	0.0840~ (0.0415)	0.387** (0.121)
Age at endline	-0.00103 (0.00575)	-0.00218 (0.00374)	-0.00718 (0.00520)	0.956 (2.058)	0.00609 (0.0203)	-0.000585 (0.0101)	0.0799* (0.0342)
Household members at endline	-0.00515~ (0.00289)	0.00461~ (0.00241)	0.000615 (0.00265)	-2.857* (1.353)	-0.0334** (0.00979)	-0.0112 (0.00775)	0.00645 (0.0224)
% Total letters at baseline		0.137~ (0.0704)					
% Total letters in words at baseline			0.0357 (0.0358)				
Total words correct per minute at baseline				0.158 (0.196)			
% Read at baseline					0.0851 (0.124)		
% Read comp at baseline						-0.00971 (0.0595)	
% Listening comp at baseline							-0.162 (0.177)
Constant	0.940*** (0.0664)	0.834*** (0.0714)	1.036*** (0.0518)	84.43** (29.02)	0.975*** (0.211)	1.035*** (0.108)	-0.377 (0.528)
Observations	174	174	174	173	174	30	40
R-squared	0.033	0.121	0.037	0.209	0.141	0.296	0.226

Robust standard errors in
parentheses

*** p<0.001, ** p<0.01, * p<0.05, ~
p<0.1

DIB. Relation Between Pertaining to a Lower HLE Quintile, Being a Girl and Gains, LB students

VARIABLES	CAP gain	Letters gain	Letters in Words gain	Wcpm gain	Accuracy gain	Reading Comp gain	List. Comp. gain
% CAP at baseline	-0.969*** (0.0477)						
Low Home Literacy Environment at endline	-0.0432~ (0.0242)	-0.0343 (0.0273)	-0.0237 (0.0154)	-40.70*** (7.849)	-0.314*** (0.0774)	-0.0624 (0.0441)	0.0889 (0.161)
Female	-0.0109 (0.0239)	0.0205 (0.0257)	-0.0290~ (0.0164)	-9.394 (9.767)	-0.0319 (0.0565)	0.0840~ (0.0415)	0.387** (0.121)
Age at endline	-0.00103 (0.00575)	-0.00218 (0.00374)	-0.00718 (0.00520)	0.956 (2.058)	0.00609 (0.0203)	-0.000585 (0.0101)	0.0799* (0.0342)
Household members at endline	0.00515~ (0.00289)	0.00461~ (0.00241)	-0.000615 (0.00265)	-2.857* (1.353)	-0.0334** (0.00979)	-0.0112 (0.00775)	0.00645 (0.0224)
% Total letters at baseline		-0.863*** (0.0704)					
% Total letters in words at baseline			-0.964*** (0.0358)				
Wcpm at baseline				-0.842*** (0.196)			
Accuracy at baseline					-0.915*** (0.124)		
% Read comp at baseline						-1.010*** (0.0595)	
% Listening comp at baseline							-1.162*** (0.177)
Constant	0.940*** (0.0664)	0.834*** (0.0714)	1.036*** (0.0518)	84.43** (29.02)	0.975*** (0.211)	1.035*** (0.108)	-0.377 (0.528)
Observations	174	174	174	173	174	30	40
R-squared	0.763	0.752	0.870	0.289	0.399	0.954	0.568

Robust standard errors in parentheses
 *** p<0.001, ** p<0.01, * p<0.05, ~ p<0.1

Appendix D2A. Relation Between Repeater Status and Endline Scores, LB students

VARIABLES	% CAP at endline	% Total letters at endline	% Total letters in words at endline	Wcpm at endline	% Read at endline	% Read comp at endline	% Listening comp at endline
% CAP at baseline	0.0238 (0.0478)						
Child repeated at least one grade	-0.0472 (0.0343)	-0.00880 (0.0215)	-0.0370 (0.0229)	-20.12** (5.816)	-0.183* (0.0694)	-0.0588 (0.0519)	-0.0484 (0.216)
Female	-0.0198 (0.0250)	0.0180 (0.0278)	-0.0359~ (0.0190)	-13.84 (13.52)	-0.0709 (0.0897)	0.0910* (0.0406)	0.386* (0.167)
Age at endline	-0.00107 (0.00591)	-0.00193 (0.00357)	-0.00715 (0.00516)	1.129 (2.167)	0.00728 (0.0194)	0.00190 (0.0113)	0.0819~ (0.0401)
Household members at endline	-0.00182 (0.00336)	0.00657** (0.00180)	0.00144 (0.00233)	-0.308 (1.549)	-0.0131 (0.0134)	-0.00718 (0.00580)	0.00457 (0.0201)
% Total letters at baseline		0.133~ (0.0711)					
% Total letters in words at baseline			0.0229 (0.0345)				
Total words correct per minute at baseline				0.101 (0.251)			
% Read at baseline					0.0680 (0.168)		
% Read comp at baseline						0.00387 (0.0529)	
% Listening comp at baseline							-0.145 (0.188)
Constant	0.916*** (0.0770)	0.807*** (0.0861)	1.030*** (0.0532)	52.01 (33.09)	0.727** (0.222)	0.959*** (0.0989)	-0.320 (0.496)
Observations	174	174	174	173	174	30	40
R-squared	0.031	0.101	0.045	0.064	0.055	0.278	0.216

Robust standard errors in
parentheses

*** p<0.001, ** p<0.01, *
p<0.05, ~ p<0.1

Appendix D2B. Relation Between Repeater Status and Gains, LB students

VARIABLES	CAP gain	Letters gain	Letters in Words gain	Wcpm gain	Accuracy gain	Reading Comp gain	List. Comp. gain
% CAP at baseline	-0.976*** (0.0478)						
Child repeated at least one grade	-0.0472 (0.0343)	-0.00880 (0.0215)	-0.0370 (0.0229)	-20.12** (5.816)	-0.183* (0.0694)	-0.0588 (0.0519)	-0.0484 (0.216)
Female	-0.0198 (0.0250)	0.0180 (0.0278)	-0.0359~ (0.0190)	-13.84 (13.52)	-0.0709 (0.0897)	0.0910* (0.0406)	0.386* (0.167)
Age at endline	-0.00107 (0.00591)	-0.00193 (0.00357)	-0.00715 (0.00516)	1.129 (2.167)	0.00728 (0.0194)	0.00190 (0.0113)	0.0819~ (0.0401)
Household members at endline	-0.00182 (0.00336)	0.00657** (0.00180)	0.00144 (0.00233)	-0.308 (1.549)	-0.0131 (0.0134)	-0.00718 (0.00580)	0.00457 (0.0201)
% Total letters at baseline		-0.867*** (0.0711)					
% Total letters in words at baseline			-0.977*** (0.0345)				
Total words correct per minute at baseline				-0.899** (0.251)			
Accuracy at baseline					-0.932*** (0.168)		
% Read comp at baseline						-0.996*** (0.0529)	
% Listening comp at baseline							-1.145*** (0.188)
Constant	0.916*** (0.0770)	0.807*** (0.0861)	1.030*** (0.0532)	52.01 (33.09)	0.727** (0.222)	0.959*** (0.0989)	-0.320 (0.496)
Observations	174	174	174	173	174	30	40
R-squared	0.763	0.746	0.871	0.158	0.339	0.953	0.563
Robust standard errors in parentheses							
*** p<0.001, ** p<0.01, * p<0.05, ~ p<0.1							

Appendix D3A. Characteristics of Struggling Students, LB

VARIABLES	Letters in Words Lowest Quintiles
Female	0.0799 (0.0941)
Age at endline	-0.0610** (0.0212)
Household members at endline	-0.00585 (0.0147)
Child repeated at least one grade	0.191* (0.0834)
HLE quintiles at endline	0.00810 (0.0289)
Home Language Brahvi	0.215** (0.0747)
Works outside home	0.111 (0.133)
Constant	0.946*** (0.239)
Observations	174
R-squared	0.124

Robust standard errors in parentheses

*** p<0.001, ** p<0.01, * p<0.05, ~ p<0.1

Appendix D3B. Struggling Students and Gains, LB Students

VARIABLES	CAP gain	Letters gain	Letters in Words gain	Wcpm gain	% Read gain	Reading Comp gain	List. Comp. gain
Letters in words lowest quintiles	0.0159 (0.0146)	-0.0200 (0.0116)	-0.0331 (0.0301)	-1.314 (5.897)	-0.0783 (0.0502)	-0.0695 (0.0607)	-0.113 (0.123)
% CAP at baseline	-0.932*** (0.0589)						
Female	-0.0446~ (0.0256)	0.0338 (0.0267)	-0.0288 (0.0182)	-8.608 (10.84)	-0.0890 (0.0678)	0.101* (0.0338)	0.370* (0.149)
Child repeated at least one grade	-0.0441 (0.0319)	-0.0136 (0.0204)	-0.0405~ (0.0225)	-23.40* (8.630)	-0.180~ (0.100)	-0.0865* (0.0368)	-0.101 (0.206)
Age at endline	-0.00332 (0.00604)	-0.00175 (0.00347)	-0.00791 (0.00515)	1.212 (2.012)	0.000396 (0.0190)	-0.000604 (0.00862)	0.0807* (0.0353)
Household members at endline	-0.00187 (0.00416)	0.00259 (0.00281)	-0.00110 (0.00327)	-2.958* (1.134)	-0.0311*** (0.00787)	-0.0224** (0.00690)	0.0231 (0.0210)
HLE quintiles at endline	0.0130 (0.00870)	0.0125 (0.00991)	0.00778 (0.00524)	12.52*** (2.881)	0.110*** (0.0267)	0.0447* (0.0193)	-0.0650 (0.0629)
Home Language Brahvi	0.0509~ (0.0277)	-0.0271 (0.0300)	-0.0272 (0.0228)	1.111 (12.03)	0.107 (0.0649)	-0.00983 (0.0324)	0.308~ (0.142)
Works outside home	-0.0544* (0.0226)	0.0420* (0.0153)	0.0218 (0.0154)	19.56 (11.92)	0.0130 (0.117)	0.00979 (0.0404)	0.0683 (0.162)
% Total letters at baseline		-0.912*** (0.0569)					
% Total letters in words at baseline			-1.028*** (0.0525)				
Total words correct per minute at baseline				-0.809** (0.207)			
Accuracy at baseline					-0.939*** (0.148)		
% Read comp at baseline						-1.019*** (0.0519)	
% Listening comp at baseline							-1.120*** (0.204)
Constant	0.871*** (0.0980)	0.841*** (0.0558)	1.092*** (0.0686)	32.48 (27.97)	0.659** (0.227)	1.009*** (0.0842)	-0.265 (0.368)
Observations	174	174	174	173	174	30	40
R-squared	0.778	0.764	0.875	0.305	0.418	0.971	0.614

Robust standard errors in parentheses

*** p<0.001, ** p<0.01, * p<0.05, ~ p<0.1