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**Save the Children**

# **Literacy Boost Rwanda**

**Home Literacy Environment Survey  
Baseline Report**

**April 2014**

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## **Acknowledgements**

Many people played critical roles in the creation of the home literacy environment survey and the collection of data. Most importantly, we would like to thank all the students and their families in the Burera district for their assistance in the piloting of instruments, and those in Gicumbi for their generous participation in the survey study.

None of this would have been possible without the oversight of the Rwanda National Ethics Committee, the Directorate of Science, Technology, and Research at the Rwanda Ministry of Education, and the Rwanda Education Board.

Our special thanks go to our team of data collectors, all staff of Save the Children or Umuhuza: Innocent Bisangwa, Joshua Byaruhanga, Charles Gashaija, Jean de Dieu Hategekimana, Esperence Iyamuremye, Molly K. Uwamahoro, Joseph Kabaranrira, Pauline Kwitonda, Samuel Mazimpaka, Josiane Mukanziga, Dorothee Mukarusagara, Liberee Nyirabizimana, Diane Nyiramahoro, Jean Marie Vianey Sinamenye, Denis Tuyishime, Bonaventure Twagirumugabe, Felicite Uwimbabazi

Additional thanks are owed to Save the Children and Umuhuza supporting staff, especially: Mathilde Kayitesi, Flavian Minishimwe, Bethany Ericson, David Rugaju, and Avrielle Pacifique Niyibizi.

The late Dr. Karen Weiner also contributed to a previous iteration of the survey tool used in this assessment. She is deserving of our gratitude as well.

Lastly, none of this research would have been possible without the generous support of Comic Relief.

## **Executive Summary**

### **Introduction**

In the autumn of 2013, researchers from Stanford University led a survey of the Home Literacy Environment (HLE) in parts of the Gicumbi district in the Northern Province on Rwanda. Coordinated by Umuhuza and Save the Children staff, with approval from both the Rwanda National Ethics Committee (RNEC) and the Stanford University Ethics Review Board (referred to as the Stanford IRB), and in partnership with the Rwanda Education Board (REB), the Stanford team and its partners designed, piloted, and conducted a survey of HLE habits, attitudes, and beliefs in 14 of 21 sectors in Gicumbi.

The purpose of this survey was to establish a baseline for the Literacy Boost randomized control trial, which began implementation in January 2014. This survey happened in addition to reading assessments of Primary 1 students and a teacher study, as well as an ethnography of village literacy practices. Literacy Boost is a holistic early grades reading program designed to help children learn to read better, both in-school through teacher training and support, and out-of-school through community and home activities.

In the original proposal for this project, one of the key research questions was, “What culture exists around reading in Rwanda? In regards to parents...and other community members, what are average beliefs, expectations, and practices around reading and literacy?” This report provides baseline data that examines the HLE. In subsequent years, these data will be compared to data collected later to measure to what degree changes occurred in both the physical environment of the home as well as beliefs, expectations, and practices of parents and community members.

The key research questions that this report explores are:

1. What can the baseline tell us about learners’ Home Literacy Environment? What does this mean for Literacy Boost programming?
2. Are the HLEs of the two groups significantly different from each other? If so, in what ways are they different?

### **Data and Methods**

#### *Sample Selection*

During the reading assessment, roughly 25 Primary 1 students were randomly sampled in each of 85 schools. Schools were selected from each sector, with an average of 4 schools per sector and a total of 85 schools overall. Schools assessed were randomly selected by sector by assigning each school within a sector a number between 1 and N (N being the number of schools within that sector) and then randomly drawing a number from a hat to select the individual schools within the sector. If two or more schools existed within one cell (a cell being the administrative unit just below the sector), then the other school(s) were excluded from the drawing during the second round of school selection to ensure maximum coverage of the sector.

Following the completion of the reading assessment data collection and the assignment of sectors to treatment or control, focus villages were selected for the HLE data collection. This was done according to the following steps. First, sectors assigned to the Teacher Training only group were set aside, leaving 14 target sectors from which to collect data. Following this, two schools from each sector were randomly chosen for HLE data collection, for a total of 14 schools. As our data collection capacity allowed for 2 additional schools, one more school from each group (LB and Control) were randomly selected. Therefore, within this

report, we have 14 sectors and 30 schools represented, with 2 schools each from 12 sectors, and 3 schools each from 2 sectors.

Once the schools were selected, we turned to the roster of student names for whom baseline reading assessment data had already been collected. Due to the topography of Gicumbi, it was not possible to randomly sample students from within the sample of 25 students in the 30 schools identified for data collection. As such, an alternative sampling method was used. The student roster was examined, and students were grouped by the village in which they lived. The village with the most students was included in the sample. If the number of students was still under 16, the village with the second greatest number of students was also included in the sample. If the number of selected students for that particular school remained under 16, then the village with the third greatest number of students was included in the sample, and so on.

### *Sample*

The data collection covered 467 homes in 14 out of 21 sectors of the Gicumbi district in the Northern Province of Rwanda. The 14 sectors make up the control group (7 sectors) and full Literacy Boost treatment group (7 sectors). In these sectors, the Literacy Boost program will be implemented in schools and communities as part of a randomized control trial of Save the Children's Literacy Boost program. Whenever possible, the parent of the child was interviewed. When both parents were available, data collectors were instructed to ask to speak to the parent who spends the most time with the study child. No children were interviewed for this study. Of the respondents, 87 percent were either a mother or a father, five percent was a grandparent, and 6 percent were siblings. The remaining two percent were either aunts, uncles, or a cousin in one circumstance. All survey respondents received an information sheet on the study and contact telephone numbers to call in case of questions or concerns about the research. All respondents also signed an informed consent form or had the form read to them and gave oral consent in the event they could not read the form, as per RNEC and Stanford IRB approved protocols.

### *Personnel*

Data collectors were newly hired employees to Umuhuza, Save the Children's partner NGO for the Literacy Boost project that will focus on the community action implementation within the Literacy Boost sectors. Data collectors, who had just started the prior month to data collection in their roles at Umuhuza, were unaware of the assignment status of each sector. They were kept intentionally ignorant of assignment to prevent as much as possible any biases from creeping into the data. In addition to the Umuhuza staff, four Save the Children Literacy Boost program officers also collected data, and were also unaware of assignment to treatment status.

### *Data Collection*

Each team of data collectors visited one to two school catchment areas per day over the course of three weeks in October and November 2013. Each team was composed of one team leader, and a team of approximately 9 assessors. Teams would set off early in the morning to reach the village for that day.

### *Analysis*

To answer question #1, above, we use basic descriptive statistics. To answer questions #2, we use t-tests to explore any statistically significant differences between the control and LB treatment group.

## Findings

### *Significant differences between groups*

A handful of significant differences were found between groups. However, given the number of variables tested, the number of significant differences do not exceed the amount one would expect to appear by chance. We therefore conclude that the two groups do not differ meaningfully on the items surveyed.

### *Materials in the Home*

The most common printed materials in the home were religious materials, with 60.2 percent of families reporting that they had some religious materials in the home. Following this were learners' books (textbooks), found in 37.3 percent of households. Adult books were found in less than one out of every five homes, and children's books were found in less than one out of every ten homes. While writing instruments (i.e. pens and pencils) were found in over four out of every five houses, paper to write with was seen in only 41 percent of homes. There is a clear dearth of appropriate reading material for children in the homes surveyed. Given the ample sample size, this is likely true for all of Gicumbi.

### *Reading Habits of the Family*

Respondents were asked to list the members of the household and answer whether each could read and write, whether each had read to the study child in the past week, whether each family member had had a discussion or conversed with the child in the past week, and whether that person helped the study child with his/her homework. All these questions focused on Kinyarwanda. These questions are meant to tap into the 5 dimensions of HLE as identified by Hess and Holloway (1984).

In over 90 percent of households, respondents reported that at least one family member could read, write, and had discussion with the study child. In nearly 75 percent of household, someone at home was reported to read to the child and help the child study during the school term. Diving deeper into these numbers, we see that reading and writing, while common in every household, is not a skill every person has. Just over 50 percent of all family members could read and write, on average. While some of these individuals are children who are younger than the study child, many are not. Refer to the full report for detailed statistics on this.

We collected another measure of reading abilities during the survey. As stated above, respondents were either given a consent form to read, or if they could not read, they had the consent form read to them. Just focusing in on the respondents who were parents, we find that approximately 59 percent of parents who responded to the survey could read the survey alone, while 39 percent had the consent form read to them (the remaining 2 percent is missing data). This loosely corresponds to the data showing that approximately 50 percent of family members can read, providing a limited verification of these statistics.

### *Reading Habits and History of Respondents*

Respondents to the HLE survey who could read were asked who taught them to read and write. The vast majority of respondents (64 percent) reported that their teacher taught them to read and write. Only 12 percent said that their own parents taught them to read, and 8 percent said that their parents taught them to write. This indicates a clear history of reading associated predominantly with school and teachers. Respondents were also asked what they read, and why they read. Nearly a quarter of respondents replied that they read for religious

reasons. Not surprisingly, the most common material that they reported reading was religious materials. This also correlates to the high frequency of religious materials in the home when compared with all other types of materials. Only 10 percent of respondents replied that they read to relax, for entertainment, or to alleviate boredom, indicating that reading is not seen as a pleasure or leisure activity.

#### *Attitudes and Beliefs about Reading and Learning*

Despite the seemingly limited scope for reading in the home, respondents to the survey had overwhelmingly positive beliefs about reading and learning. Table 1 details some of these positive attitudes:

Table 1: Percent of respondents who agree with the following statements

It is important for a child to be exposed to books and other writing from a young age.	99.8%
Every child should learn how to read.	99.8%
There are many benefits to knowing how to read.	99.8%
Parents and teachers should work together to teach reading.	98.9%
Children should learn to read from their older siblings or friends.	98.7%
Knowing how to read is necessary for getting a good job one day.	98.3%
Parents should be involved in teaching their children how to read.	98.1%
Reading is an activity that is valued in my community.	96.4%
I feel confident I can help my child learn to read.	93.1%
People who can read have higher standing/status in my community.	92.0%

It is impossible to determine whether these are truly the beliefs of the respondents, or whether they were trying to answer questions ‘correctly’ to the data collector. Indeed, when we asked the reverse of the penultimate item above (i.e. I feel confident I can help my child to read), we received a slightly different response. When asked whether they agree with the statement “It is difficult for someone like me to help my child to learn to read”, 38 percent of respondents agreed with the statement. This indicates there is still a need to address parental agency in children’s learning. Moreover, the results of the literacy suggest that many parents might not see reading, or literacy more generally, as particularly important for children’s growth, development, and future success.

This issue of parental agency in children’s learning also was evident in responses to the question, “How do you help your child to learn?” The most common response by parents (59 percent) was that they purchased school materials to help their child learn. The next most common response (25 percent of respondents) was that they read to the child to help them learn. 9 percent of respondents replied that they do not help their child learn. There is a clear need for parental and community empowerment in supporting early grade learners to read better and earlier.

Results from questions concerning hopes and expectations were also interesting to note. When asked how far do you *expect* children to go in school versus how far do you *want* them to go in school, nearly half of respondents said they both wanted and expected children to finish university. The same was not true in the other half of respondents. Expectations for education were, on average, one tier lower than hopes for children’s education for this group. In this case, respondents hoped that children would continue on to complete university, but

only had expectations that they complete secondary school, on average. Also, fathers expected girls to achieve statistically significantly higher in school than did mothers.

### Conclusion

The HLE survey was a useful tool to get a broad sense of the culture of reading in Gicumbi, and the general beliefs, habits, attitudes and expectations of parents and other family members. Literacy Boost will be implemented in communities where there is a clear, articulated understanding of the importance of education. Even though limited resources, particularly reading materials geared for children, are an obstacle towards children learning to read, there are other intangible resources that can be tapped to help all children learn to read better. The fact that nearly every home has a reader in it is one of these intangible resources. Parents' understanding of the importance of education is another. Parental responses to different questions concerning their own confidence in supporting children to read were somewhat contradictory; given the ambiguity, it is important to emphasize the role that all parents, both those who can and those who cannot read, can play in supporting their children.

From the view of the Stanford research team, one of the major challenges that emerge from this data is the motivation for reading. Given that most respondents learned to read in school, that a small minority report reading for pleasure, and the scarcity of reading materials, it is critical that during Literacy Boost implementation the impetus to learn to read is not driven only by the promise of school success. Children who are motivated to read through enjoyment will become lifelong readers.

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## **1 Introduction**

This report examines the results of a Home Literacy Environment (HLE) survey conducted from October to November 2013 as part of the baseline data collection for the randomized control trial of Literacy Boost in Rwanda. The purpose of this survey was to establish a baseline for the Literacy Boost randomized control trial, which began implementation in January 2014. Literacy Boost is a holistic early grade reading program designed to help children learn to read better, both in-school through teacher training and support, and out-of-school through community and home activities.

### **1.1 Overview**

The data collection covered 467 homes in 14 out of 21 sectors of the Gicumbi district in the Northern Province of Rwanda. The 14 sectors make up the control group (7 sectors) and full Literacy Boost treatment group (7 sectors). In these sectors, the Literacy Boost program will be implemented in schools and communities as part of a randomized control trial of Save the Children's Literacy Boost program. Following collection of the baseline reading assessment data in 85 schools across all sectors of Gicumbi, each sector in Gicumbi was assigned to either participate in the full Literacy Boost program, the teacher training part of Literacy Boost, or to receive no program support from Save for the initial phase of the project<sup>1</sup>. The full 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 phonological awareness, letter awareness, writing, decoding, encoding, reading fluency, reading accuracy, and reading comprehension. As part of Literacy Boost, learners are periodically assessed in each of these skills through an adaptable assessment tool to inform programming and estimate program impact.

Using information collected from grade 1 students during the reading assessment baseline in September to October 2013, data collectors located a subset of the students' homes and family members to interview them about the students' Home Literacy Environments (HLE). The data gathered from the homes and family members are analyzed to present a snapshot of HLE of grade 1 learners in these schools and to inform the adaptation of SC's Literacy Boost program to this context.

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

1. What can the baseline tell us about learners' Home Literacy Environment? What does this mean for Literacy Boost programming?
2. Are the HLEs of the two groups significantly different from each other? If so, in what ways are they significantly different?

To investigate the questions above, this report will first describe the research methods used; including sampling, measurement, and analysis. The report will then examine what are the features of the HLE upon which to capitalize, and what areas might need more support to develop. The report will then investigate whether significant differences exist between the two groups (Control and LB) using t-tests. Finally, the report will investigate whether any relationship exists between student reading skills and the HLE as measured in the HLE survey and observation.

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<sup>1</sup> Following the initial phase of the project, lasting 2 calendar years, assignment to treatment or control will be reversed to ensure that all sectors have the opportunity to benefit from the full Literacy Boost program, assuming that the program does help children to learn to read better.

## 1.2 Context



Picture 1.2: Map of Rwandan Provinces with Northern Province in pink and Gicumbi District in Red

Gicumbi is one of five districts that make up the Northern Province of Rwanda. The district is subdivided into 21 sectors, with the district headquarters located in the town of Byumba. It is a mountainous district, characterized by steep hills and valleys, with a population of around 360,000 people spread of 867 km-squared. Gicumbi is generally a rural district, with an ‘almost non-existent’ industrial sector.<sup>2</sup>

## 2 Methods

### 2.1 Sector Assignment to Treatment Group

Sectors (with an average of 4 to 5 schools per sector) were assigned to one of three treatment groups for the first 2 years of the project implementation. The treatment groups were as follows:

- 1) Literacy Boost Group (LB Group): Schools and communities in this group receive the entire LB programs, including teacher training and community activities around reading and literacy.
- 2) Teacher Training Only Group (TT Group): Schools in this group receive teacher training support, identical to the support schools receive in the LB group. However, communities do not receive community activities.
- 3) Control Group (C Group): Schools and communities do not receive any support from Save the Children in this group for the first two years.

All 21 sectors in Gicumbi were assigned to one of the three groups. Assignment was done on October 11, 2013, in the presence of 17 of the 21 Sector Education Officers assigned to the 21 sectors of Gicumbi from the Rwanda Education Board. For the sake of transparency, a video recording of the randomization process is available upon request.

### 2.2 Sector, School, and Community Selection

During the reading assessment, roughly 25 grade 1 students were randomly sampled in each of 85 schools. Schools were selected from each sector, with an average of 4 schools per sector and a total of 85 schools overall. Schools assessed were randomly selected by sector by

<sup>2</sup> Information available from the District of Gicumbi website, available at: <http://www.gicumbi.gov.rw/index.php?id=316>

assigning each school within a sector a number between 1 and N (N being the number of schools within that sector) and then randomly drawing a number from a hat to select the individual schools within the sector. If two or more schools existed within one cell (a cell being the administrative unit just below the sector), then the other school(s) were excluded from the drawing during the second round of school selection to ensure maximum coverage of the sector.

Following the completion of the reading assessment data collection and the assignment of sectors to treatment or control (see 2.1, above), focus villages were selected for the HLE data collection. This was done according to the following steps. First, schools and student names within the Teacher Training only group were set aside, leaving 14 target sectors from which to collect data. Following this, two schools from each sector were randomly chosen for HLE data collection, for a total of 14 schools. As our data collection capacity allowed for 2 additional schools, one more school from each group (LB and Control) were randomly selected. Therefore, within this report, we have 14 sectors and 30 schools represented, with 2 schools each from 12 sectors, and 3 schools each from 2 sectors.

### **2.3 Student Selection**

*Selection for the Reading Assessment (as reported in the Reading Assessment Baseline report)*

A random sample of students from Grade 1 was assessed in each of the 85 schools. To select the students, first the grade 1 classroom was identified. If only one stream of grade 1 existed, students were sampled from that classroom. If more than one stream existed, one of the streams was randomly selected, and students from that one stream were randomly sampled. In the event that less than the target number of students (n=25) were present that day in one particular stream, additional students from another stream (where one existed) were sampled.

The selection was designed to equally sample boys and girls. To sample students, assessors first asked girls to stand up and randomly sampled 13 students. They then asked that group to sit down, and then asked the boys to stand up and sampled 12 names. At the next school, they would reverse the process and have the boys stand up first and then the girls and note down their names.

Given that students alternate between attending school in the morning shift one week and attending in the afternoon shift the following week, students were selected during both morning and afternoon shifts in school.

*Selection for the HLE Data Collection (as reported by this report)*

Once the schools were selected, we turned to the roster of student names for whom baseline reading assessment data had already been collected. Due to the topography of Gicumbi, it was not possible to randomly sample students from within the sample of 25 students in the 30 schools identified for data collection. Doing so would have severely stretched resources as it would require data collection teams to cover areas several kilometers-squared, which was not feasible given our time and resources. As such, an alternative sampling method was used. The student roster was examined, and students were grouped by the village in which they lived. The village with the most students was included in the sample. If the number of students was still under 16, the village with the second greatest number of students was also included in the sample. If the number of selected students for that particular school remained under 16, then the village with the third greatest number of students was included in the sample, and so on.

## 2.4 Instruments

The survey and observation tool were originally created and used as part of a Master's monograph by Elliott Friedlander<sup>3</sup>. It was later adapted by an SCUS SUPER fellow, Karen Wiener, in conjunction with Amy Jo Dowd and Elliott Friedlander, for use in the Literacy Boost project in Southern Malawi<sup>4</sup>. The Stanford research team made further additions and adaptations for use in Rwanda.

The tool includes a survey portion, in which the data collector interviews a parent or close relative on the home literacy practices, beliefs, habits, and expectations of the parent and the family in general. It also includes an observation section, in which the data collector observes the print environment around the house. The specific data map onto and extend beyond the five dimensions of the home literacy environment as identified by Hess and Holloway (1984).<sup>5</sup> Those five dimensions are the value placed on literacy, the press for achievement, the availability of reading and print material, reading with children, and opportunities for verbal interaction.

### 2.4.1 Instrument Reliability

The survey instrument contained several different questions to assess each of the five dimensions of the home literacy environment, as explained above. Table 2.3.1a displays the calculated Cronbach's alpha<sup>6</sup> for each of the dimension.

Table 2.4.1a: Reliability Estimates

<u>Dimension</u>	<u>Description (Number of Separate Survey Items)</u>	<u>Cronbach's <math>\alpha</math></u>
1	Value placed on literacy (55 items)	0.80
2	Press for achievement (38 items)	0.64
3	Availability of reading and print material (80 items)	0.85
4	Reading with children (25 items)	0.83
5	Opportunities for verbal interaction. (13 items)	0.79

### 2.4.2 Instrument Validity

There are many types of validity that can be assessed. It is clear that this instrument has high *face validity*. That is, it purports to measure the home literacy environment and apparently does: the instrument asks respondents about the types and number of print materials, the interactions that parents and other family members have with the child around reading and writing, and the importance of reading and writing.

Other types of validity are more complicated to measure, and will be done in later analysis during 2014. This will be done by assessing a) whether what children report as happening at home is similar to what parents or caretakers report as happening at home, and b) the degree to which the home literacy environment, as reported by parents and/or children, predicts children's reading outcomes.

<sup>3</sup> Friedlander, E. (2008). *Reading to Bana: A Home Reading Intervention for First Graders in Print-impooverished Rural Lesotho* (Master's Monograph, Stanford University).

<sup>4</sup> Wiener, K. (2009). *Literacy Boost Malawi: Household Literacy Environment Baseline Report*. Save the Children: Washington D.C.

<sup>5</sup> Hess, R. D., & Holloway, S. (1984). Family and school as educational institution. In Parke, R. D. (Ed.). *Review of child development research. The family, Vol. 7*. Chicago: University of Chicago Press. pp. 179–222.

<sup>6</sup> Cronbach's alpha is a measure of internal consistency or coherence. It is measured on a scale from 0 to 1.

## 2.5 Data Collectors

Data collectors were newly hired employees to Umuhuza, Save the Children's partner NGO for the Literacy Boost project that will focus on the community action implementation within the Literacy Boost sectors. Data collectors, who had just started the prior month to data collection in their roles at Umuhuza, were unaware of the assignment status of each sector. They were kept intentionally ignorant of assignment to prevent as much as possible any biases from creeping into the data. In addition to the Umuhuza staff, four Save the Children Literacy Boost program officers also collected data, and were also unaware of assignment to treatment status.

## 2.6 Data Collection

Each team of data collectors visited one to two school catchment areas per day over the course of three weeks in October and November 2013. Each team was composed of one team leader (a representative of Save the Children Rwanda), and a team of approximately 9 assessors. The process began by sending letters seeking permission from sector authorities for the data collection activities. Once permission was obtained, teams of assessors would visit a specific sector. On the day of assessment:

- Team leaders met with sector authorities to remind them of the research activities and introduce the team of data collectors.
- The sector authorities helped by informing cell leaders about the research activities
- The cell leaders then helped to inform village leaders as well as providing the data collection team with village leaders' contact information.

After meeting with sector level authorities, team leaders met with cell and village leaders and data collectors spread out through the villages to locate the target respondents for the Home Literacy Environment survey.

Team leaders also visited different areas of the village as indicated by a community literacy environment questionnaire at the same time the team members were collecting data within the households. The team leaders coordinated the data collection activity and at the end of the day they compiled the data collected by the team and reported on the progress of the data collection activities.

## 2.7 Analysis

The central purpose of this report and analysis is

- 1) To determine the current HLE of learners in Gicumbi and discover what currently exists upon which to build a program, and
- 2) To determine whether the two sub groups for the HLE sample are statistically similar

While the randomized control trial portion of this project lasts only 2 years (through December 2015, the project is designed to reach all students via teacher training and community activities in Gicumbi by the end of the project in 2017. As such, we report on the baseline descriptive statistics of the group as a whole.

To answer purpose #1, above, we use simple descriptive statistics and, where appropriate, correlations to understand the skills students possess. To answer purpose #2, we use two-tailed t-tests to look for significant differences between groups.

### **3 Findings**

#### **3.1 Significant differences between groups**

A handful of significant differences were found between groups. However, given the number of variables tested, the number of significant differences do not exceed the amount one would expect to appear by chance. That is, in less than 5% of all variables, we found significant differences. As the likelihood of a type-I error (discovering a statistically significant difference when in fact one does not exist) is 1 in 20, or 5%, and as the significant differences do not uniformly indicate one privileged group over another, we conclude that the two groups do not differ meaningfully on the items surveyed. For a complete list of items collected, and means, standard deviations, and significant differences by group, please refer to Appendix A.

#### **3.2 Materials in the Home**

Table 3.2a, below, shows the types of materials shown in the home. Also in this table are the percent of families who reported having this type of material, as well as the average of these materials across all homes surveyed.

Tables 3.2a: Presence of Print and Writing Materials Inside the Home\*

		Total (includes English, Kinyarwanda, and 'other')	
		<i>Mean Number Owned</i>	<i>Percentage who own</i>
Materials with print	Religious Materials	1.5	60.2%
	Learner's (Text) books	1.2	37.3%
	Posters/wall-hangings/calendars	1.2	32.9%
	Adult books	1.3	19.3%
	Magazines	0.5	9.2%
	Children's books	0.3	9.2%
	Newspapers	0.2	4.3%
Materials for writing	Pens & Pencils	2.7	81.6%
	Writing Materials (paper)	Not counted	41%
	Chalk	Not counted	11%

\*For averages disaggregated by language, please refer to the appendix

The most common printed materials in the home were religious materials, with 60.2 percent of families reporting that they had some religious materials in the home. Following this were learners' books (textbooks), found in 37.3 percent of households. Adult books were found in less than one out of every five homes, and children's books were found in less than one out of every ten homes. While writing instruments (i.e. pens and pencils) were found in over four out of every five houses, paper to write with was seen in only 41 percent of homes. There is a clear dearth of appropriate reading material for children in the homes surveyed. Given the ample sample size, this is likely true for all of Gicumbi.

### 3.3 Reading Habits of the Family

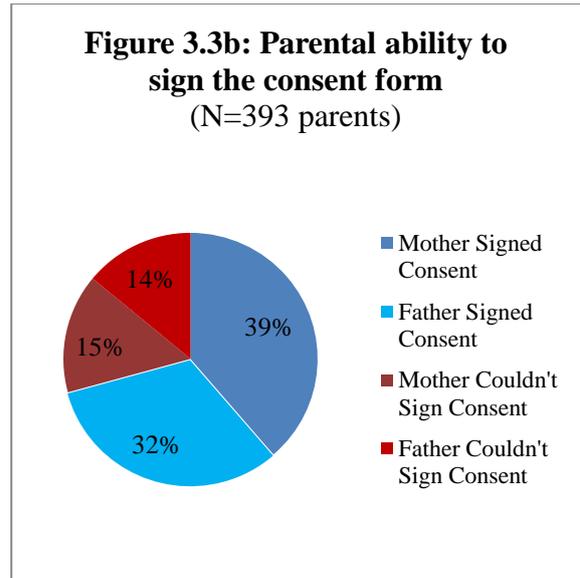
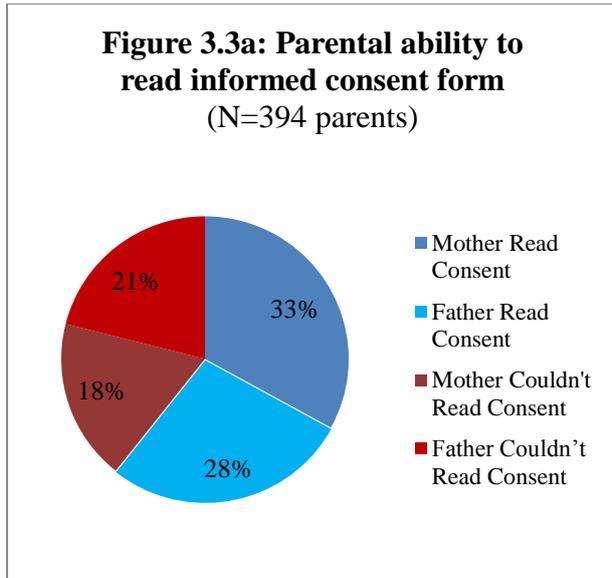
Respondents were asked to list the members of the household and answer whether each could read and write, whether each had read to the study child in the past week, whether each family member had had a discussion with the child in the past week, and whether that person helped the study child with his/her homework. These questions are meant to tap into the 5 dimensions of HLE as identified by Hess and Holloway (1984).

In over 90 percent of households, respondents reported that at least one family member could read, write, and had discussion with the study child. In nearly 75 percent of household, someone at home was reported to read to the child and help the child study during the school term. Diving deeper into these numbers, we see that reading and writing, while common in every household, are not skills every person has. Just over 50 percent of all family members could read and write, on average. While some of these individuals are children who are younger than the study child, many are not. Refer to the full report for detailed statistics on this.

Table 3.3a: Reported Home Literacy Environment habits within families and across the sample

Specific HLE action	Average % of each family that performs the action specified	% of all homes that have at least 1 person who performs the action
Converses with 'study child'	66.0%	97.2%
Reads	52.9%	94.2%
Writes	51.9%	93.4%
Reads to 'study child'	31.1%	74.7%
Help 'study child' study	30.3%	73.7%

We collected another measure of reading abilities during the survey. As stated above, respondents were either given a consent form to read, or if they could not read, they had the consent form read to them. Figures 3.3a and 3.3b display the percentage of mothers and fathers interviewed who could or could not read and sign the informed consent form. Note that sample sizes are different due to missing data, where the interviewer did not fill in the information despite having had the individual sign the consent form or give oral consent. Just focusing in on the respondents who were parents, we find that approximately 61 percent of parents who responded to the survey could read the survey alone, while 39 percent had the consent form read to them. This loosely corresponds to the data showing that approximately 50 percent of family members can read, providing a limited verification of these statistics. A much larger percentage of parents (71 percent) were able to sign the form.



**3.4 Reading Habits and History of Respondents**

Respondents to the HLE survey who could read were asked who taught them to read and write. The full response rates are displayed in Table 3.4a. The vast majority of respondents (64 percent) reported that their teacher taught them to read and write. Only 12 percent said that their own parents taught them to read, and 8 percent said that their parents taught them to write. This indicates a clear history of reading associated predominantly with school and teachers.

**Table 3.4a: Who taught survey respondents to read and write**

<i>Who taught you to read?</i>		<i>Who taught you to write?</i>	
Teacher	63.6%	Teacher	63.8%
Parent/Guardian	11.8%	Parent/Guardian	8.4%
Sibling	1.5%	Friend	1.3%
Friend	0.9%	Sibling	0.9%
Pastor/Religious figure	0.9%	Pastor/Religious figure	0.6%
Myself	0.6%	Myself	0.9%
Spouse	0.0%	Spouse	0.4%
Other	1.1%	Other	0.9%

Respondents were also asked what they read, and why they read. Nearly a quarter of respondents replied that they read for religious reasons. Not surprisingly, the most common material that they reported reading was religious materials. This also correlates to the high frequency of religious materials in the home when compared with all other types of materials. Only 10 percent of respondents replied that they read to relax, for entertainment, or to alleviate boredom, indicating that reading is not seen as a pleasure or leisure activity.

Respondents were also asked how much money they spent on reading materials in the last month. Out of 467 respondents, 87.6 percent replied that they had not spent any money on reading materials. Of the 58 people who replied they had spent some amount on reading materials in the past month, the average was 4,362 Rwandan Francs (RWF).

### 3.5 Attitudes, Beliefs, and Expectations about Reading and Learning

Despite the seemingly limited scope for reading in the home, respondents to the survey had overwhelmingly positive beliefs about reading and learning, regardless of the sex of the respondent. Table 3.5a details some of these positive attitudes:

Table 3.5a: Percent of Respondents who Agree with the Following Statements

1. It is important for a child to be exposed to books and other writing from a young age.	99.8%
2. Every child should learn how to read.	99.8%
3. There are many benefits to knowing how to read.	99.8%
4. Parents and teachers should work together to teach reading.	98.9%
5. Children should learn to read from their older siblings or friends.	98.7%
6. Knowing how to read is necessary for getting a good job one day.	98.3%
7. Parents should be involved in teaching their children how to read.	98.1%
8. Reading is an activity that is valued in my community.	96.4%
9. I feel confident I can help my child learn to read.	93.1%
10. People who can read have higher standing/status in my community.	92.0%
11. I know how to help my child learn to read.	87.1%
12. I am aware of the things that were happening in my child's classroom.	62.7%
13. People in my community share the reading materials that they have.	51.1%
14. It is difficult for someone like me to help my child learn to read.	38.4%
15. I know where to access reading materials in my community.	31.9%
16. It is not worth teaching some children to learn how to read.	22.2%
17. The teacher is the only person responsible for teaching my child to read.	21.0%

It is interesting to note that despite the fact that under two thirds of the respondents could read and write, 93.1% of all respondents reported feeling confident that they could help their children to learn. One explanation for this is how the word “help” is interpreted. There is evidence to suggest that help in this case means actions like sending the child to school, providing the child books, a school uniform, and other things that assist in a child's education.

It is impossible to determine whether the beliefs stated in this table are truly the beliefs of the respondents, or whether they were trying to answer questions ‘correctly’ for the benefit of the data collector. Indeed, when we compare two items that are actually the opposite of each other (i.e. items 9 and 14 in the table above), we received a slightly different response. When asked whether they agree with the statement, “It is difficult for someone like me to help my child to learn to read”, 38 percent of respondents agreed with the statement. This indicates there is still a need to address parental agency in children's learning. A similar contradiction is seen between items 2 and 16. Nearly all respondents agreed that everyone should learn to read, but 22.2 percent of individuals reported that it is not worth teaching some children to read. The results of the literacy ethnography (see “Ethnography-Exec Summary for Annual Report”) suggest that many parents might not see reading, or literacy more generally, as particularly important for children's growth, development, and future success, and hence may have been giving their ‘socially acceptable answer in item 2, but their real opinion in item 16. Further research is required to understand the differences in these statements and the opinions of the respondents.

This issue of parental agency in children's learning also was evident in responses to the question, "How do you help your child to learn?" This question was general, not time-bound. The most common response by parents (59 percent) was that they purchased school materials to help their child learn. While this seems to conflict with the earlier finding that 87.6 percent of parents had not spent any money on reading materials in the last month, the fact that school was out of session and that notebooks, pens, and pencils are not technically 'reading materials' may explain this contradiction. The next most common response (25 percent of respondents) was that they read to the child to help them learn. 9 percent of respondents replied that they do not help their child learn. There is a clear need for parental and community empowerment in supporting early grade learners to read better and earlier.

Also important to note from Table 3.4a is the reading resources available to community members. Over half of respondents indicated that other community members would share reading materials, but less than a third of respondents knew where to access reading materials in their community. Coupled with the information concerning the amount of materials in the home from Section 3.2, above, it is clear that reading resources (or knowledge of them) are a rare commodity in the village, but it is encouraging to know that 50% of people believe their neighbors and community members will share this material.

Results from questions concerning hopes and expectations were also interesting to note. When asked how far do you *expect* children to go in school versus how far do you *want* them to go in school, nearly half of respondents said they both wanted and expected children to finish university. The same was not true in the other half of respondents. Expectations for education were, on average, one tier lower than hopes for children's education for this group. In this case, respondents hoped that children would continue on to complete university, but only had expectations that they complete secondary school, on average. Two interesting significant differences arose when we compared whether mothers or fathers had difference desires and expectations regarding their children's education. First, when we compared mothers' and fathers' expectations in general, we saw that mothers in general expect their children to achieve significantly lower than do fathers. When we break this out by the sex of the student, we see that actually there is no difference in the expectations for boys between mothers and fathers, but that mothers expect girls to achieve significantly lower than boys in terms of their education level when compared to fathers. There was no significant difference between mothers and fathers in their aspirations for girls.

One last expectation that this survey measured raises a key issue in regards to parental expectations. All respondents were asked, "At what age do you think a child should read and write by him or herself?". The average age that respondents cited was around ten years old (9.8 years old to read independently and 10.0 years old to write independently. This age is rather late in a child's development. While no standards exist in Kinyarwanda regarding a child's reading growth, other countries have published childhood development milestones and the ages with which they generally correspond. In the United States, by "age 6, most first graders [Primary 1 students] can: ...read some things aloud with ease, ...[i]dentify new words by using letter-sound matches...[and] [w]rite about topics that mean a lot to them"<sup>7</sup>. Given that the writing of Kinyarwanda follows a more regular pattern in pronunciation than in

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<sup>7</sup> Quotation taken from United States Department of Education. (2014). "Typical Language Accomplishments for Children, Birth to Age 6". Available at: <http://www2.ed.gov/parents/academic/help/reader/part9.html>

English<sup>8</sup>, it is reasonable to expect that children should learn to read at an earlier age than in English.

#### **4 Recommendations**

The findings from this study offer several insights into the reading culture and the HLE of Gicumbi. From these insights we make the following recommendations

##### **4.1 Reading Materials**

In the homes and communities visited in Gicumbi there is an extreme need for reading materials geared for children. Children cannot learn to read unless they have *something* to read. And given the scarcity of materials, anything at this point will aid children on their road to becoming proficient readers with comprehension. Literacy Boost should aim to provide simple materials such as primers and other simple books in Kinyarwanda. Literacy Boost should also supplement these simple primers with more complicated books, that both tap into children's culture and language and that expose children to the world beyond Gicumbi and that encourage them to use their imagination. This can be achieved through creating original stories from Rwandan history and folklore as well as translating appropriate books from other languages. One of these techniques should not be prioritized over another. That is, exposure to a variety of materials will be the best chance to engage the widest array of early readers whose interests may differ. What should be prioritized is getting these materials into the hands of children and their families.

##### **4.2 Habits related to the Home Literacy Environment**

The data in this report reveal that there are readers widely spread throughout the communities in Gicumbi. However, these readers need help to understand the importance of actively engaging students in reading and reading-related activities. Workshops that help family and community members to understand both the 'why' and the 'how' of reading to children should be held to spread this information into the communities.

##### **4.3 Attitudes, Beliefs, and Expectations**

In Table 3.5a above, we see that generally parents agree with statements that indicate they believe in the importance and benefit of reading and writing, as well as the family and community's role in helping a child to learn to read. However, the children who just completed Primary 1 and whose family members participated in this survey are not reading Primary 1 level text proficiently or independently, as can be seen in the Literacy Boost Rwanda Reading Assessment Report. While appropriate beliefs do seem to exist, a catalyzing agent is needed to turn these beliefs into actions. It is recommended that the workshops mentioned in the paragraph above be actively pursued to help parents and family members understand their role as not only the ones who provide for the physical needs of the child (e.g. food, shelter, school uniforms) but also for the cognitive and learning needs of the child.

This survey also uncovered expectations that, from the point of view of reading researchers, may inhibit the development of young readers. Much research in the developed world exists that students tend to achieve more when expectations of them are greater<sup>9</sup>. Educating family

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<sup>8</sup> This assertion is not based on linguistic or other scientific study. Rather, it is based on the knowledge of English's very deep orthographic structure and the relative regularity of Rwanda's orthographic structure.

<sup>9</sup> Boonen, T., Pinxten, M., Van Damme, J., & Onghena, P. (2014). Should schools be optimistic? An investigation of the association between academic optimism of schools and student achievement in primary education. *Educational Research and Evaluation*, 20(1), 3-24.

and community members around these expectations, such as the age at which a child should read independently, will likely help change these expectations to ones that better support a child's reading development. Sharing research about reading, such as ages when children are expected to read elsewhere, may inspire more parents and community members to more actively engage younger children in reading and reading-related games and activities. Finally, helping parents and community members to encourage reading as a pleasure or leisure activity may have impact on student attitudes and dispositions towards learning to read.

## **5 Conclusion**

The HLE survey was a useful tool to get a broad sense of the culture of reading in Gicumbi, and the general beliefs, habits, attitudes and expectations of parents and other family members. Literacy Boost will be implemented in communities where there is a clear, articulated understanding of the importance of education. Even though limited resources, particularly reading materials geared for children, are an obstacle towards children learning to read, there are other intangible resources that can be tapped to help all children learn to read better. The fact that nearly every home has a reader in it is one of these intangible resources. Parents' understanding of the importance of education is another. Parental responses to different questions concerning their own confidence in supporting children to read were somewhat contradictory; given the ambiguity, it is important to emphasize the role that all parents, both those who can and those who cannot read, can play in supporting their children.

From the view of the Stanford research team, one of the major challenges that emerge from this data is the motivation for reading. Given that most respondents learned to read in school, that a small minority report reading for pleasure, and the scarcity of reading materials, it is critical that during Literacy Boost implementation the impetus to learn to read is not driven only by the promise of school success. Children who are motivated to read through enjoyment will become lifelong readers.

## Appendix A. Group Averages and Significant Differences

	Control N	Control Mean	Control SD	LB N	LB Mean	LB SD	Sig diffs
Treatment Group (Control = 0, LB = 2)	243	0.00	0.0	224	2.00	0.0	-
Interview at child's home?	242	0.75	0.4	222	0.71	0.5	-
Responder read consent without help	238	0.58	0.5	220	0.62	0.5	-
Responder signed the consent fluently	238	0.70	0.5	219	0.69	0.5	-
Home Language (0 = Kinya, 1 = Other)	243	0.21	0.4	224	0.05	0.2	***
Child Attend ECD? (0 = No, 1 = Yes)	236	0.66	0.5	217	0.79	0.4	**
Bedrooms at home	237	2.62	0.9	223	2.59	0.8	-
Roof is made of local tiles	243	0.17	0.4	224	0.06	0.2	-
Roof is made of Iron Sheets	243	0.82	0.4	224	0.93	0.3	-
Roof is made of industrial tiles	243	0.01	0.1	224	0.01	0.1	-
Wall is made of mud/wood	243	0.37	0.5	224	0.40	0.5	-
Wall is made of mud bricks	243	0.61	0.5	224	0.59	0.5	-
Wall is made of baked bricks	243	0.01	0.1	224	0.01	0.1	-
Wall is made of stones	243	0.00	0.1	224	0.00	0.0	-
Wall is made of concrete bricks	243	0.01	0.1	224	0.00	0.0	-
Total N of adult books	243	0.91	2.8	224	1.66	7.9	-
Number of adult books in English	238	0.27	1.6	220	0.55	3.8	-
Number of adult books in Kinya	242	0.60	1.6	221	1.05	4.3	-
Number of adult books other language	226	0.05	0.4	205	0.10	0.7	-
Total N of Textbooks	243	1.14	2.3	224	1.25	2.7	-
Number of text books in English	242	0.53	1.4	221	0.56	1.8	-
Number of text books in Kinya	240	0.59	1.1	222	0.68	1.5	-
Number of text books other language	223	0.02	0.2	204	0.02	0.1	-
Total N of children's books	243	0.26	1.0	224	0.36	2.8	-
Number of children's books in English	238	0.12	0.6	219	0.02	0.2	*
Number of children's books in Kinya	237	0.13	0.6	219	0.34	2.8	-
Number of children's books other language	224	0.01	0.1	206	0.02	0.2	-
Total N of Newspapers	243	0.23	1.6	224	0.14	0.9	-
Number of newspaper in English	241	0.03	0.3	221	0.02	0.3	-
Number of newspaper in Kinya	242	0.20	1.6	220	0.12	0.9	-
Number of newspaper other language	231	0.00	0.1	205	0.00	0.0	-
Total N of magazines	243	0.40	2.5	224	0.61	3.9	-
Number of magazine in English	241	0.01	0.1	221	0.05	0.7	-
Number of magazine in Kinya	242	0.39	2.4	222	0.57	3.7	-
Number of magazine other language	230	0.00	0.1	206	0.01	0.1	-
Total N of Posters, etc.	243	1.51	3.7	224	0.93	2.8	-
Number of posters etc. in English	236	0.50	2.2	223	0.15	0.7	*
Number of posters etc. in Kinya	240	0.90	2.4	224	0.77	2.6	-
Number of posters etc. other language	224	0.14	1.2	208	0.01	0.1	-
Total N of Religious Materials	243	1.36	1.8	224	1.66	4.6	-
Number of Religious books in English	222	0.04	0.3	212	0.06	0.3	-
Number of Religious Books in Kinya	241	1.32	1.7	222	1.56	4.5	-
Number of Religious Books other language	212	0.01	0.1	197	0.06	0.4	-
Number of pens and pencils	225	2.82	2.7	220	2.64	2.7	-
Writing Materials (0 = No, 1 = Yes)	238	0.42	0.5	222	0.40	0.5	-
Chalk/Slate (0 = No, 1 = Yes)	239	0.13	0.3	218	0.10	0.4	-
Radio	240	0.65	0.5	219	0.67	0.5	-
Bicycle	241	0.22	0.4	218	0.18	0.4	-
Type of Outdoor Latrine	243	2.29	0.8	224	2.09	0.8	-

	Control N	Control Mean	Control SD	LB N	LB Mean	LB SD	Sig diffs
Outdoor latrine has no walls and no roof	243	0.08	0.3	224	0.13	0.3	-
Outdoor latrine has no walls or no roof	243	0.44	0.5	224	0.53	0.5	-
Outdoor latrine has roof and walls	243	0.44	0.5	224	0.30	0.5	-
Cell Phone	243	0.59	0.5	224	0.55	0.5	-
Computer	241	0.00	0.1	224	0.01	0.1	-
Motorcycle	242	0.03	0.2	224	0.02	0.1	-
Livestock	239	0.77	0.4	223	0.72	0.5	-
Cows	238	0.66	0.5	213	0.65	0.5	-
Goats	235	0.28	0.5	217	0.32	0.5	-
Pigs	235	0.09	0.3	214	0.07	0.3	-
Sheep	235	0.20	0.4	211	0.16	0.4	-
Parents in Cooperative	241	0.65	0.5	224	0.54	0.5	-
Electricity	217	0.07	0.3	199	0.07	0.3	-
Number of Kerosene Lamps/Dry Cell Lamps	230	1.16	0.9	215	1.25	0.9	-
Number of Elec Lights	227	0.23	1.0	219	0.28	1.2	-
How often did family members use reading materials?	238	2.29	1.5	223	2.45	1.5	-
# of children under 18	243	3.79	1.5	224	3.61	1.3	-
# of adults	243	2.54	1.0	224	2.37	0.9	*
N of Household members (up to 10)	243	6.29	1.8	224	5.96	1.5	*
What age read by himself	243	9.86	2.6	221	9.68	2.5	-
What age write by himself	243	10.06	2.5	221	9.98	2.7	-
The teacher only person responsible for teaching read.	243	0.21	0.4	223	0.21	0.4	-
You know how to help your child learn to read.	243	0.92	0.3	223	0.82	0.4	**
It is important for a child to be exposed to books and other writing from a young age	242	1.00	0.1	223	1.00	0.0	-
Every child should learn how to read.	243	1.00	0.0	223	1.00	0.1	-
Parents and teachers should work together to teach reading.	243	0.99	0.1	223	0.99	0.1	-
Is it difficult for someone like you to help your child learn to read?	243	0.32	0.5	221	0.46	0.5	**
It is not worth teaching some children to learn how to read.	243	0.22	0.4	221	0.22	0.4	-
Parents should be involved in teaching their children how to read.	243	0.98	0.1	222	0.98	0.1	-
There are many benefits to knowing how to read.	243	1.00	0.0	223	1.00	0.1	-
You feel confident you can help your child learn to read.	243	0.91	0.3	222	0.96	0.2	*
Children should learn to read from their older siblings or friends.	243	0.99	0.1	223	0.98	0.1	-
(Study child) likes to read.	242	0.90	0.3	222	0.93	0.3	-
Knowing how to read is necessary for getting a good job one day.	243	0.98	0.1	223	0.99	0.1	-
Reading is an activity that is valued in your community	243	0.96	0.2	223	0.97	0.2	-
You know where to access reading materials in your community	241	0.30	0.5	223	0.34	0.5	-
People who can read have higher standing/status in your community	242	0.90	0.3	222	0.95	0.2	-
People in your community share the reading materials that they have	243	0.47	0.5	223	0.56	0.5	-

	Control N	Control Mean	Control SD	LB N	LB Mean	LB SD	Sig diffs
Aware of the things that were happening in your child's classroom?	239	0.64	0.5	219	0.61	0.5	-
Has (study child's) learner's book or school textbook at home?	241	0.31	0.5	221	0.33	0.5	-
Did (study child) ever bring his/her learner's book home from school?	243	0.68	6.3	221	1.68	11.5	-
if yes, on average, how many days a week did (study child) bring it home?	74	2.11	1.8	84	2.50	2.1	-
if yes, did(study child) typically bring it home on weekends	73	0.43	0.5	81	0.51	0.5	-
What is the highest level you want your child to achieve?	242	2.86	0.5	223	2.87	0.5	-
What is the highest level you expect your child to reach in school?	243	2.16	1.0	223	2.02	1.0	-
Money spent on reading materials in the last month	243	264 RWF	1396 RWF	224	842 RWF	5783 RWF	-
Taught your to read: Parent/ Guardian	243	0.14	0.3	224	0.10	0.3	-
Taught your to read: Teacher	243	0.64	0.5	224	0.63	0.5	-
Taught your to read: Myself	243	0.00	0.1	224	0.01	0.1	-
Taught your to read: Friend	243	0.00	0.1	224	0.01	0.1	-
Taught your to read: Sibling	243	0.01	0.1	224	0.02	0.1	-
Taught your to read: Spouse	243	0.00	0.0	224	0.00	0.0	-
Taught your to read: Religious Figure	243	0.02	0.1	224	0.00	0.0	-
Taught your to read: Boss	243	0.00	0.0	224	0.00	0.0	-
Taught your to read: Own Child	243	0.00	0.0	224	0.00	0.0	-
Taught you to read: Other	243	0.01	0.1	224	0.01	0.1	-
What do you read? – Non religious Books/ Booklets	243	0.13	0.3	224	0.10	0.3	-
What do you read? -- Religious Books/Booklets	243	0.40	0.5	224	0.43	0.5	-
What do you read? --Newspapers	243	0.13	0.3	224	0.17	0.4	-
What do you read? --Magazines	243	0.03	0.2	224	0.02	0.1	-
What do you read? --Pamphlets/Brochures	243	0.05	0.2	224	0.04	0.2	-
What do you read? --Textbooks	243	0.11	0.3	224	0.08	0.3	-
What do you read? -- poems	243	0.00	0.1	224	0.00	0.1	-
What do you read? --Text messages/SMS	243	0.04	0.2	224	0.04	0.2	-
What do you read? -- Other	243	0.08	0.3	224	0.07	0.3	-
What do you read? -- I Do NOT read anything	243	0.06	0.2	224	0.03	0.2	-
Why do you read -- For fun	243	0.01	0.1	224	0.03	0.2	-
Why do you read -- Religious Education	243	0.26	0.4	224	0.23	0.4	-
Why do you read -- Learn/gain knowledge	243	0.19	0.4	224	0.15	0.4	-
Why do you read -- To relax	243	0.05	0.2	224	0.07	0.3	-
Why do you read -- Because I am bored	243	0.03	0.2	224	0.01	0.1	-
Why do you read -- To help my child with school	243	0.05	0.2	224	0.04	0.2	-
Why do you read -- Other	243	0.20	0.4	224	0.30	0.5	*
How many days last week did you read?	243	1.38	1.9	224	1.49	2.0	-
Taught your to write: Parent/ Guardian	243	0.07	0.3	224	0.09	0.3	-
Taught your to write: Teacher	243	0.64	0.5	224	0.64	0.5	-
Taught your to write: Myself	243	0.01	0.1	224	0.00	0.1	-
Taught your to write: Friend	243	0.01	0.1	224	0.01	0.1	-
Taught your to write: Sibling	243	0.01	0.1	224	0.00	0.1	-
Taught your to write: Spouse	243	0.00	0.0	224	0.01	0.1	-

	Control N	Control Mean	Control SD	LB N	LB Mean	LB SD	Sig diffs
Taught your to write: Pastor or Religious Figure	243	0.01	0.1	224	0.00	0.0	-
Taught your to write: Boss	243	0.00	0.0	224	0.00	0.0	-
Taught your to write: Own Child	243	0.00	0.0	224	0.00	0.0	-
Taught you to write: Other	243	0.01	0.1	224	0.01	0.1	-
What do you write? -- Letters	243	0.12	0.3	224	0.10	0.3	-
What do you write? -- Personal thoughts	243	0.04	0.2	224	0.05	0.2	-
What do you write? -- Religious passages	243	0.12	0.3	224	0.10	0.3	-
What do you write? -- Poetry/Songs	243	0.05	0.2	224	0.06	0.2	-
What do you write? -- Shopping Lists	243	0.03	0.2	224	0.05	0.2	-
What do you write? -- Things for my Job	243	0.21	0.4	224	0.21	0.4	-
What do you write? -- Text messages on the cell phone	243	0.05	0.2	224	0.07	0.3	-
What do you write? -- Other	243	0.14	0.3	224	0.13	0.3	-
What do you write? -- I do not write anything	243	0.10	0.3	224	0.09	0.3	-
How many days last week did you write?	243	1.36	2.1	224	1.22	1.9	-
Do you read to the study child?	243	0.49	0.5	224	0.46	0.5	-
if yes, how many days last week did you read to study child?	243	0.89	1.4	224	1.04	1.6	-
if yes, how long do you read to study child?	243	15.42	25.6	224	13.21	20.3	-
if yes, what do you read: Newspapers	243	0.01	0.1	224	0.02	0.1	-
if yes, what do you read: Magazines	243	0.01	0.1	224	0.00	0.0	-
if yes, what do you read: Books	243	0.02	0.1	224	0.03	0.2	-
if yes, what do you read: Bible or Quran or other religious	243	0.15	0.4	224	0.17	0.4	-
if yes, what do you read: Advertisements	243	0.00	0.0	224	0.00	0.0	-
if yes, what do you read: Pamphlets Brochures	243	0.01	0.1	224	0.01	0.1	-
if yes, what do you read: Textbook or school work	243	0.26	0.4	224	0.24	0.4	-
if yes, what do you read: Other children's books	243	0.05	0.2	224	0.04	0.2	-
if yes, what do you read: letters/emails	243	0.00	0.0	224	0.00	0.0	-
if yes, what do you read: Text messages on the phone	243	0.00	0.0	224	0.00	0.0	-
if yes, what do you read: Other	243	0.11	0.3	224	0.11	0.3	-
Does study child ever see writing and ask what it says?	238	0.66	0.5	219	0.66	0.5	-
if yes, how many times last week?	175	1.99	1.8	160	2.00	1.6	-
Does the study child ever ask you to read a book to him/her?	230	0.53	0.5	215	0.56	0.5	-
if yes, how many times last week?	136	2.01	1.7	143	2.05	1.8	-
Help child to learn: Alphabet charts	243	0.01	0.1	224	0.00	0.1	-
Help child to learn: Flash Cards	243	0.00	0.1	224	0.01	0.1	-
Help child to learn: Create learning materials	243	0.02	0.1	224	0.00	0.0	-
Help child to learn: play learning games	243	0.00	0.1	224	0.00	0.1	-
Help child to learn: read to him/her	243	0.23	0.4	224	0.28	0.4	-
Help child to learn: Help child with his/her homework	243	0.16	0.4	224	0.14	0.3	-
Help child to learn:Purchase school materials	243	0.60	0.5	224	0.58	0.5	-
Help child to learn:Other 1	243	0.26	0.4	224	0.25	0.4	-
Help child to learn:Other 2	243	0.08	0.3	224	0.05	0.2	-
Help child to learn: I do not do anything to help my child	243	0.08	0.3	224	0.10	0.3	-
can study child read?	240	0.30	0.5	222	0.32	0.5	-

	Control N	Control Mean	Control SD	LB N	LB Mean	LB SD	Sig diffs
have you ever seen the child pretend to read?	238	0.88	0.3	222	0.90	0.3	-
why do you think the child does this?	0	0.00	0.0	0	0.00	0.0	-
Do you think this is a good use or bad use of the child's time? Why/why not?	0	0.00	0.0	0	0.00	0.0	-
Section skipped	61	0.92	0.3	60	0.90	0.3	-
Comm. Lit. Environ: Adult reading	185	0.02	0.1	156	0.01	0.1	-
Comm. Lit. Environ: Adult writing	185	0.01	0.1	156	0.01	0.1	-
Comm. Lit. Environ: child reading	184	0.02	0.1	156	0.02	0.1	-
Comm. Lit. Environ: child writing	181	0.02	0.1	155	0.01	0.1	-
Comm. Lit. Environ: Total N of Store/Business names	187	0.16	0.8	170	0.19	1.4	-
Comm. Lit. Environ: Store/ Business names English	184	0.01	0.1	155	0.04	0.3	-
Comm. Lit. Environ: Store/ Business names Kinya	184	0.15	0.8	156	0.17	1.3	-
Comm. Lit. Environ: Store/ Business names Other	183	0.01	0.1	148	0.00	0.0	-
Comm. Lit. Environ: Total N of Buildings w/ words written on Walls	187	0.20	0.8	170	0.17	1.2	-
Comm. Lit. Environ: Buildings w/ words written on walls: English	184	0.02	0.2	155	0.06	0.5	-
Comm. Lit. Environ: Buildings w/ words written on walls: Kinyarwanda	184	0.19	0.8	156	0.13	0.8	-
Comm. Lit. Environ: Buildings w/ words written on walls: Other	183	0.00	0.0	147	0.00	0.0	-
Comm. Lit. Environ: Total N of Billboards, Posters, etc	187	0.06	0.3	170	0.28	3.2	-
Comm. Lit. Environ: Billboards, posters, calendars: English	184	0.00	0.0	156	0.13	1.4	-
Comm. Lit. Environ: Billboards, posters, calendars: Kinyarwanda	183	0.06	0.4	157	0.17	1.9	-
Comm. Lit. Environ: Billboards, posters, calendars: Other	183	0.00	0.0	147	0.00	0.0	-
Comm. Lit. Environ: Total N of Books	187	0.04	0.3	170	0.02	0.2	-
Comm. Lit. Environ: Books: English	184	0.00	0.0	157	0.01	0.1	-
Comm. Lit. Environ: Books: Kinya	184	0.04	0.3	156	0.01	0.2	-
Comm. Lit. Environ: Books: Other	183	0.00	0.0	147	0.00	0.0	-
Comm. Lit. Environ: Total N of Newspapers	187	0.00	0.0	170	0.00	0.0	-
Comm. Lit. Environ: Newspapers: English	184	0.00	0.0	156	0.00	0.0	-
Comm. Lit. Environ: Newspapers: Kinya	184	0.00	0.0	157	0.00	0.0	-
Comm. Lit. Environ: Newspapers: Other	183	0.00	0.0	147	0.00	0.0	-
Comm. Lit. Environ: Total N of Magazines	187	0.01	0.1	170	0.01	0.2	-
Comm. Lit. Environ: Magazines: English	184	0.00	0.0	157	0.00	0.0	-
Comm. Lit. Environ: Magazines: Kinya	184	0.01	0.1	157	0.01	0.2	-
Comm. Lit. Environ: Magazines: Other	183	0.00	0.0	148	0.00	0.0	-
Comm. Lit. Environ: Total N of Pamphlets/Flyers	187	0.04	0.3	170	0.02	0.1	-
Comm. Lit. Environ: Pamphlets/flyers: English	184	0.01	0.1	157	0.01	0.1	-
Comm. Lit. Environ: Pamphlets/flyers: Kinya	182	0.03	0.2	157	0.01	0.1	-
Comm. Lit. Environ: Pamphlets/flyers: Other	180	0.02	0.1	148	0.01	0.1	-
Comm. Lit. Environ: Items with print (cans, bottles, bags, cartons, etc.)	184	0.11	0.3	156	0.10	0.3	-

	Control N	Control Mean	Control SD	LB N	LB Mean	LB SD	Sig diffs
Comm. Lit. Environ: Rubbish, Garage with print	184	0.17	0.4	157	0.18	0.4	-
Comm. Lit. Environ: Boards or signs	178	0.03	0.2	154	0.04	0.2	-
Comm. Lit. Environ: Other Printed material 1	100	0.10	0.3	96	0.07	0.3	-
Comm. Lit. Environ: Other Printed Material 2	90	0.01	0.1	89	0.02	0.1	-
Total Time in Minutes	239	33.09	17.2	221	32.37	15.9	-
Would you be willing to have a researcher come to your village and house for an ethnography	242	0.98	0.1	224	0.98	0.1	-
N of family members who can write	243	3.26	2.0	224	3.30	2.0	-
% of family that writes	243	0.50	0.3	224	0.54	0.3	-
Someone at home writes	243	0.94	0.2	224	0.92	0.3	-
N of family members who read to child	243	1.98	1.7	224	1.96	1.8	-
% of family that reads to child	243	0.31	0.2	224	0.32	0.3	-
Someone at home reads to student	243	0.79	0.4	224	0.71	0.5	*
N of family members who read	243	3.35	2.0	224	3.34	2.0	-
% of family that reads	243	0.52	0.3	224	0.54	0.3	-
Someone at home reads	243	0.95	0.2	224	0.93	0.3	-
N of family members who talk to child	243	4.12	1.9	224	3.97	1.7	-
% of family that discuss with child	243	0.66	0.2	224	0.67	0.2	-
Someone at home talks to student	243	0.97	0.2	224	0.97	0.2	-
N of family members who help child study	243	1.95	1.8	224	1.88	1.7	-
% of family that helps child study	243	0.30	0.2	224	0.31	0.3	-
Someone at home helps child study	243	0.75	0.4	224	0.72	0.5	-