USDA Funded McGovern-Dole International Food for Education Liberia Empowerment through Attendance, Reading, and Nutrition (LEARN)

2018 – 2022

Baseline Impact and Project Evaluation Report

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ACKNOWLEDGMENTS

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ACRONYM LIST

CART	Center for Action Research and Training
DEO	District Education Officer
EGRA	Early Grade Reading Assessment
EMIS	Educational Management Information System
ICC	Intra-cluster correlation
IRB	Institutional Review Board
IRR	Inter-rater Reliability
LB	Literacy Boost
LBRA	Literacy Boost Reading Assessment
LD	Liberian Dollars
LEARN	Liberia Empowerment through Attendance, Reading, and Nutrition
MDE	Minimum detectable effect
MOE	Ministry of Education
NGO	Non-governmental Organization
PMP	Performance Monitoring Plan
PTA	Parent-teacher association
SC	Save the Children
SD	Standard deviation
SF	School Feeding Base Package
SGBV	Sexual and gender-based violence
SHN	School health and nutrition
TOR	Terms of reference
UNICEF	United Nations International Children's Emergency Fund
UL-PIRE	University of Liberia Pacific Institute for Research and Evaluation
USDA	U.S. Department of Agriculture
WFP	World Food Programme

EXECUTIVE SUMMARY

Overview

The U.S. Department of Agriculture (USDA), through the McGovern-Dole International Food for Education and Child Nutrition Program, has funded Save the Children SC to implement the Liberia Empowerment through Attendance and Reading (LEARN) project. SC in Liberia is implementing the LEARN program in partnership with Mercy Corps and with the Liberian Ministry of Education, Ministry of Agriculture, and Ministry of Health. This five-year project (1 October 2017 – 30 September 2022) aims to improve literacy outcomes for school age children and children's attentiveness and attendance by decreasing short-term hunger (Strategic Objective 1) and improving health and dietary practices (Strategic Objective 2) with various activities such as school feeding, take-home rations, teacher training, provision of school supplies and reading materials, establishment of school gardens, and distribution of deworming medications, vitamins and minerals.

SC has selected IMPAQ International to design and conduct impact and project evaluations of the LEARN program in four Liberian counties (Grand Bassa, Grand Gedeh, Rivercess, and River Gee) at baseline (2018), midline (2020), and endline (2022). This report describes baseline findings of the impact and project evaluations of LEARN and discusses the validity of project targets and assumptions.

To benchmark pre-implementation values and to confirm indicator targets in literacy and in hygiene, health, and nutrition practices and knowledge, we responded to the following evaluation research questions:

1. What are the baseline levels in letter identification and phonemic awareness among Grade 2 students?
2. What are the baseline levels in Grade 2 students' reading and understanding of second-grade-level text?
3. What are the baseline levels in student knowledge and practices toward SGBV?
4. What are the baseline levels in Grade 6 student perceptions of gender norms?
5. What are the baseline levels in student handwashing knowledge and practices?
6. What are the baseline levels in student nutrition knowledge?

In addition, to gain a better understanding of children's home learning environment and culture of reading, we also assessed the following key qualitative questions:

1. What is the culture of literacy in typical families? Do parents value education for their children? Do they promote literacy at home?
2. What is the culture of literacy in typical schools? How are teachers invested in student literacy? Will the incentives offered to teachers motivate attendance and performance?
3. What are the challenges that schools and families face in sending children to school?
4. What are potential threats to program implementation and success?

To answer the evaluation questions and establish baseline values for key outcomes, IMPAQ conducted student surveys that included the Literacy Boost Reading Assessment (LBRA) as well as questions about water, sanitation, and hygiene (WASH), nutrition, gender norms, and sexual and gender-based violence (SGBV) knowledge and practices. We also conducted key informant interviews with school principals and focus groups discussions with parents and teachers.

IMPAQ also developed a school assessment with SC to assess the pre-implementation characteristics, enrollment, and attendance in all the 182 LEARN schools that were accessible for data collection. This checklist was developed to help the program establish pre-implementation targets and indicators based on school characteristics and to verify and update previously existing school data.

Key Baseline Findings

We highlight below the baseline data most pertinent to the key research questions. Please refer to **Section 4. Project Evaluation Baseline Values** and **Section 5. Impact Evaluation Baseline Results** for details on the quantitative data and **Section 6. Qualitative Findings** for the qualitative analysis.

<u>**Quantitative Findings**</u>

Project Evaluation Key Outcomes

For the project evaluation, we collected data from students in Grade 2 and 6 in 85 schools of Grand Bassa, Grand Gedeh, Rivercess, and River Gee. In summary:

- **Literacy.** The evaluation team found that 89 percent of Grade 2 students could identify 21–26 letters, with an average of 23. However, students struggled with reading proficiency and comprehension, regardless of county or gender. Only 18 percent of surveyed second-graders were identified as readers, i.e. read at least five words correctly in 30 seconds, and 32 percent of them were able to answer at least 80 percent of the comprehension questions correctly (reading with comprehension). These results confirmed the low proficiency of Grade 2 students at grade level at the end of the school year, before the intervention was implemented.
- **Home environment.** The majority of students (66 percent) said that someone in their household helped them study; 54 percent stated that someone read to them; and 52 percent that they saw someone reading.
- **Nutrition.** Students lacked sufficient knowledge of a healthy diet; less than one percent of them could correctly identify the three types of foods defined as constituting a healthy diet, defined by the project as *go, glow,* and *grow* foods.[1]
- **Handwashing.** A high proportion of sampled students (94 percent) said that they had washed their hands during the day prior to the survey. The survey also gathered information on student knowledge and practice of handwashing at three critical moments: after using the toilet to defecate, after using the toilet to urinate, and before consuming food. Although 25 percent of students said they should wash their hands at these moments, only 11 percent responded that they actually did.
- **Sexual and gender-based violence.** To gauge students' understanding of SGBV, as well as their willingness and ability to report such incidents, we examined the proportion of students who reported that they understood school rules and codes of appropriate conduct; said that they would report any cases of inappropriate teasing or touching; and listed any type of corporal or psychological teacher discipline. Our data showed that 72 percent of students responded that rules exist for how teachers should treat students at school. Furthermore, students in all grades stated that they would willingly report inappropriate teasing or touching. Lastly, in our overall project sample, 88 percent of students listed teacher discipline that involved extra work, dismissing students from class, physical violence, humiliating language, and manual labor – categories that we considered as corporal or psychological discipline.
- **Gender norms.** We established a benchmark that considered students to be aware of gender norms if they disagreed with at least four of five statements related to stereotypical gender perceptions. About half of students (51 percent) disagreed with at least four statements, and this percentage was the same for girls and boys. A regional analysis of the data revealed slight county variations. A smaller proportion of students in Grand Bassa and Grand Gedeh disagreed with the gender statements regarding stereotypes that were read to them, compared to the other two counties (Rivercess and River Gee).

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[1] *Go* foods refers to those foods that energize the body (grains); *glow* foods are vegetables and fruits that supply vitamins and minerals; and *grow* foods help develop strong bones and muscles (often milk, meat, and beans).

Impact Evaluation Key Outcomes

For the impact evaluation, we surveyed second grade students in 55 schools in Grand Gedeh. We examined the similarity of average characteristics and outcomes at baseline between each treatment arms (schools with only school feeding base package (SF) as one treatment arm, and schools with other activities in addition to SF (SF+LB+SHN) as the second arm) and control group (schools with no program interventions). Assessing the baseline equivalences help us control for any observed differences in the final regression analysis to improve the precision of the estimated program impact on students' literacy outcome. In summary:

- **Literacy.** Overall, students had limited literacy skills across different treatment and control groups. Baseline equivalency has been mostly attained across treatment arm and control groups for key literacy outcomes (letter recognition and reading proficiency), with the exception of listening comprehension. 14 percentage points differences between each of treatment arms and control group in listening comprehension stem from very low scores in the control group; the differences were significant at the 10 percent level for SF and at the 5 percent level for SF+LB+SHN.
- **Home environment.** In general, students' home literacy activities were equivalent at baseline between the treatment and control groups.
- **School environment.** The control group had a much higher access to story books (other than textbooks) at school compared to each treatment arm, 24 and 26 percentage points compared to SF+LB+SHN and SF arms, respectively. However, the imbalance was only significant at the 5 percent level between SF and control groups. Additionally, there was imbalance between both treatment arms and the control group with the control group reporting 21 and 19 percentage points lower than the SF and SF+LB+SHN arms.
- **Student composition.** Students' demographic information were more or less the same between treatment and control groups in terms of main language spoken at home, household size, and their socioeconomic status.

Qualitative Findings

- **Culture of literacy at home.** Parents value education and have high aspirations for their children's educational attainment. While parents say they value education for their daughters, domestic work at home prevents many girls from attending school regularly. Parents encourage their children to study at home, but many are unable to assist with school work due to lack of literacy or education. The majority of households do not have any books, with the exception of some having a Bible. No households had storybooks, or books for children to read for fun. Only a few parents tell stories at home, but this is generally limited to the youngest children.
- **Culture of literacy at school.** Teachers and principals reported several challenges to teaching reading and writing, including: lack of school supplies and materials; overcrowded classrooms; overage students; and students in grades above their competency levels. Teacher absenteeism is high, mainly because teachers are unmotivated due to low or irregular pay. Teachers and principals support the idea of school or community libraries/book banks. Food and/or financial assistance would motivate teacher attendance and performance.
- **Challenges to school attendance.** Financial reasons, including school fees and the cost of supplies, are the primary barriers to school attendance. Parents, teachers, and principals blame girls for not going to school, citing pregnancy and marriage. Further, domestic duties and child labor prevent many children from attending school, particularly girls and adopted children. Some parents understand that their children are required to attend school, and so will beat their children who resist going.
- **Potential threats to program implementation.** Many school communities have previously participated in school feeding programs which were not sustainable. PTAs do not currently have the training or capacity to carry out planned program activities. Teachers and principals understand that corporal

punishment is prohibited in school, but some admit to still hitting students, especially as parents continue to encourage this at home and at school as a way to discipline their children.

Recommendations

Based on our experience in the field and analysis of the baseline data, we developed the following recommendations for SC.

- **Challenge the perception among adults that girls are deciding to become pregnant, initiate relationships with male teachers, or engage in early marriage.** Training and community mobilizing activities should address the fact that parents and teachers blame girls, rather than teachers or older students, for SGBV. Though our findings did not include reports of sex for grades, it should be assumed that this practice is occurring or at least is at risk of occurring; therefore, the program should create or advocate for a reporting mechanism supported by the community, such as trusted administrators, the PTA, or local protection committees. In addition to educating teachers and students of the Ministry of Education's Code of Conduct, program activities should also focus on prevention – that is, challenging current attitudes and perceptions of why SGBV happens and who is responsible.
- **Consider the varying functionalities of individual PTAs when providing training/capacity building support.** Our qualitative data show that the capacity of individual PTAs varies greatly by school, with some PTAs existing in name only. We suggest that in addition to completing a needs assessment in Year 1, SC work with PTA members first to learn their existing ideas and strategies and then to help them to devise formal PTA charters or agreements that dictate roles and responsibilities (including items on gender parity, elections/rotation of members and leadership, reporting mechanisms for complaints, and so on). SC will need to tailor their training and capacity building activities, particularly to provide additional support for new or low-functioning PTAs.
- **Educate parents as well as teachers on positive discipline**. Our qualitative data indicate that most parents do not understand or appreciate the need to stop corporal punishment. They continue to beat their children at home and encourage teachers to beat their children at school. We suggest that training activities for parents and PTAs address this, as the current planned activity of using parents or PTAs to monitor teacher corporal punishment will not be effective if parent attitudes do not change.
- **Ensure continuity of school feeding.** Lack of sustainability or continuity from the previous school feeding program has upset parents and teachers. With no transition, schools just stopped serving food, and student attendance dropped. Of the schools we visited for qualitative data collection, only one had a sustainability plan (a school cassava garden), but this wasn't enough to replace the food previously provided.

SECTION 1. INTRODUCTION

The U.S. Department of Agriculture (USDA), through the McGovern-Dole International Food for Education and Child Nutrition Program, has funded Save the Children (SC) to implement the Liberia Empowerment through Attendance and Reading (LEARN) project. This five-year project (1 October 2017 – 30 September 2022) aims to improve literacy outcomes of school-age children and to enhance children's attentiveness and attendance by decreasing short-term hunger and increasing the use of health and dietary practices. Our report describes baseline findings of the impact and project evaluation for the LEARN project and discusses the validity of the project targets and assumptions.

This report consists of seven sections. **Section 1. Introduction** provides a brief overview of the program context for the baseline impact and project evaluations, including background on LEARN and an overview of the goals of the evaluation. **Section 2. Evaluation Approach** outlines the mixed-methods evaluation approach, including research questions, the sampling design and its modification, data tools, and baseline data analysis. **Section 3. Fieldwork** describes the data collection fieldwork. **Section 4. Project Evaluation Baseline Values** describes the key characteristics of the project evaluation sample, as well as performance indicator values. **Section 5. Impact Evaluation Baseline Results** outlines the baseline equivalence between treatment and control groups for the impact evaluation in Grand Gedeh. **Section 6. Qualitative Findings** presents the qualitative outcomes. **Section 7. Conclusion** closes out the report with lessons learned, study limitations, and recommendations.

1.1 LEARN Program Background

SC is leading the implementation of LEARN in partnership with SC Liberia, Mercy Corps, and government partners, including the Ministry of Education (MOE), the Ministry of Agriculture, and the Ministry of Health. LEARN program activities fall into three intervention packages designed to achieve USDA's two strategic objectives: (1) to improve the literacy of school-age children by enhancing the quality of instruction and increasing student attentiveness and attendance; and (2) improving health and dietary outcomes by enhancing knowledge of health and hygiene best practices, upgrading sanitation facilities, and improving food safety and storage systems. (See **Appendix A: LEARN Results Framework** for a snapshot of the results framework.)

To achieve these objectives, LEARN will implement project activities in four counties: Grand Bassa, Grand Gedeh, Rivercess, and River Gee. **Exhibit 1** lists the three intervention packages and their activities.

Exhibit 1. Program Activity Packages

School Feeding Base Package (SF)	Literacy Boost (LB)	School Health & Nutrition (SHN)
▪ Provide school meals ▪ Provide take-home rations ▪ Distribute deworming medications, vitamins, and minerals ▪ Institute teacher recognition ▪ Build/rehabilitate storerooms, kitchens, stoves, latrines ▪ Establish PTAs ▪ Provide training on PTAs, food preparation & storage, good health & nutrition, commodity management	▪ Establish activities to promote literacy ▪ Train teachers ▪ Establish libraries ▪ Produce books & reading materials ▪ Promote increase community awareness on SGBV	▪ Establish school gardens ▪ Improve health and nutrition practices

Source: SC Terms of Reference (TOR).

Not all targeted counties will receive the same LEARN interventions. In Grand Gedeh, which is the focus of the impact evaluation, 20 schools will receive school feeding (SF), Literacy Boost (LB), and school health and nutrition (SHN) activities, while a different set of 22 schools will receive only the SF base package. The

distribution of the intervention packages in the other three counties (Grand Bassa, Rivercess, and River Gee) will vary in a manner to be finalized with SC.[2]

1.2 Evaluation Background

SC selected IMPAQ International, LLC (IMPAQ) to design the impact and project evaluations of the LEARN project. IMPAQ designed the impact and project evaluations by using qualitative and quantitative methods in tandem in order to maximize comparability in the outcome indicators and findings. The project evaluation measures changes over the life of the project in all LEARN-targeted counties. The impact evaluation allows for estimation of the effect of LEARN activities on literacy outcomes and on health and nutrition knowledge, attitudes, and practices among school-aged children in Grand Gedeh.

For the baseline evaluation, which is the focus of this report, we collected qualitative and quantitative data with the following objectives:

1. Benchmark pre-implementation values and confirm indicator targets in literacy and in hygiene, health, and nutrition practice and knowledge
2. Establish baseline equivalence for the treatment and control schools and students
3. Confirm project design assumptions
4. Identify potential threats to project implementation

In the quantitative data collection, we surveyed students in Grade 2 and 6 and administered a reading assessment to second graders. The instruments contain questions on literacy, hygiene, health, nutrition and SGBV knowledge and practices of students to address objectives 1 and 2 above. The same quantitative indicators will be collected and reported at midline (2020) and endline (2022). For the qualitative component, we conducted key informant interviews with principals and focus group discussions with parents and teachers, addressing Objectives 3 and 4. At midline and endline, we will add to the qualitative project evaluation questions about lessons learned and sustainability.

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[2] There have been some changes in the program design due to challenges in the field. Section 2. Evaluation Approach explains the implication of these changes for the evaluation sample.

SECTION 2. EVALUATION APPROACH

This section provides a brief overview of the quantitative and qualitative designs for the LEARN project and impact evaluations, including research questions, sampling design, data sources, and data analysis.

2.1 Research Questions

To benchmark pre-implementation values and to confirm indicator targets in literacy and in practice and knowledge of hygiene, health, and nutrition, we responded to the following evaluation research questions:

1. What are the baseline levels in letter identification and phonemic awareness among Grade 2 students?
2. What are the baseline levels in Grade 2 students' reading and understanding of second-grade-level text?
3. What are the baseline levels in student knowledge and practices toward SGBV?
4. What are the baseline levels in Grade 6 student perceptions of gender norms?
5. What are the baseline levels in student handwashing knowledge and practices?
6. What are the baseline levels in student nutrition knowledge?

In addition, to gain a better understanding of children's home learning environment and culture of reading, we also assessed the following key qualitative questions:

1. What is the culture of literacy in typical families? Do parents value education for their children? Do they promote literacy at home?
2. What is the culture of literacy in typical schools? How are teachers invested in student literacy? Will the incentives offered to teachers motivate attendance and performance?
3. What are the challenges that schools and families face in sending children to school?
4. What are potential threats to program implementation and success?

2.2 Project Evaluation Methodology

The project evaluation is designed to measure performance indicators in outcomes related to core LEARN activities at three points in time: baseline, midline, and endline. To accurately reflect changes in program performance over time, we will measure the same program indicators at all three data collection points. This section describes the quantitative and qualitative designs.

2.2.1 Quantitative Design

IMPAQ implemented a project evaluation to track key indicators of literacy and of health knowledge, attitudes, and practices over time with cross-sections of Grade 2 and Grade 6 students. Literacy and health indicators were measured for Grade 2 students. For Grade 6 students, indicators of health and nutrition knowledge and practices, SGBV, and perceived gender norms were measured. IMPAQ and our data collection partner, the Center for Action Research and Training (CART), initially considered six counties where LEARN activities were to be implemented. After challenges to implementation were encountered in the field,[3] SC received approval from USDA to sample schools in four counties: Grand Bassa, Grand Gedeh, Rivercess, and River Gee. The number of sampled schools and students, however, remained the same as in the original design.

In determining the optimal samples, we followed the recommendations from the USAID Early Grade Reading Assessment Toolkit[4] to confirm the sample size of 830 second graders for the literacy outcomes. We used a

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[3] Originally, IMPAQ and CART intended to collect data from six counties. With the redesign of the LEARN activity after SC received USDA's approval on their updated design, we received a new list of program schools to re-select in four counties (River Gee, Grand Bassa, Rivercess, and Grand Gedeh) for the evaluation.

[4] RTI International. 2015. *Early Grade Reading Assessment (EGRA) Toolkit, Second Edition*. Washington, DC: United States Agency for International Development.

standard formula to confirm the sample size of 498 sixth graders for the health knowledge, attitude, and practice outcomes.

The literacy sample size was calculated using the following formula:

$$n = 4\left(\frac{t_{\frac{\alpha}{2},n-1}\sqrt{1+(k-1)\rho}\sigma}{CIwidth}\right)^2$$

In this formula, $t_{\frac{\alpha}{2},n-1}$ is the critical value corresponding to a 95 percent confidence level (set to 1.96), k is the cluster size (set to 10 students per school), ρ is the inter-cluster correlation (set to 0.45 based on previous Early Grade Reading Assessment studies),[5] σ is the estimated standard deviation (set to 26 based on previous studies), and $CIwidth$ is the width of the confidence interval (set to 8). The formula yields a desired sample size of 820, which has been adjusted upward to 830 to allow the school sample size in each county to be proportionate to the number of project schools in the county.

The health knowledge and practice sample size was calculated using the following formula:

$$n = \frac{(Z_{\alpha/2})^2 p(1-p)}{E^2}$$

In this equation, $Z_{\alpha/2}$ is the critical value corresponding to a 95 percent confidence level (set to 1.96), p is the assumed estimate of the proportion of students with health knowledge outcomes (set to 50 percent), and E is the acceptable margin of error (set to 5 percent). The formula yields a desired sample size of 384, which has been adjusted upward to 498 to allow the school sample size in each county to be proportionate to the number of project schools in the county. **Exhibit 2** shows the representative sample of schools selected from each county, proportional to that county's number of LEARN schools, based on the final LEARN program implementation plans.

Exhibit 2. Project Evaluation Sample Sizes in Each County

County	LEARN Schools	Schools Selected for Evaluation	Second Graders Sampled (10 per school)	Sixth Graders Sampled (6 per school)
Grand Bassa	69	28	280	168
Grand Gedeh	45	19*	190**	114
Rivercess	42	17	170	102
River Gee	45	19	190	114
Total	**201**	**83**	**830**	**498**

The 19 schools needed for the project evaluation in Grand Gedeh are a subset of the impact evaluation sample in that county. These 19 schools were selected prior to data collection in order to inform enumerator teams where to survey sixth graders before we had assigned schools in Grand Gedeh to different treatment arms. The random assignment of schools to treatment and control groups in Grand Gedeh was not feasible until data collection was completed because we needed GPS coordinates of all schools to form geographical clusters of schools. Therefore, the 19 schools in Grand Gedeh are a random subset of the 67 schools provided to us, not the 45 schools set to receive LEARN.

**All Grand Gedeh schools were included in the impact evaluation sample, and in all schools we aimed to sample 20 second graders. We therefore planned to randomly select 10 students in each of the 19 schools out of the 20 students already selected for the impact evaluation.*

The sampling scheme followed a two-stage cluster sampling approach. In the first stage, within each county, IMPAQ selected the desired number of schools using probability-proportional-to-size clustered sampling and used the total number of primary students per school as a school size measure. This procedure gave all students the same chance to be included in the study and gave larger schools a greater probability of being selected than smaller schools. In the second stage, within each sampled school, enumerators planned to select students by physically lining up the boys and girls separately in their classrooms. A total of 10 students

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[5] These calculations hold even for a more conservative inter-class correlation of 0.25, the assumption used in the power calculations for the impact evaluation sample.

(five boys and five girls) were to be selected from second grade and six students (three boys and three girls) from sixth grade. To identify the nth student for random selection, we used the following rule:

$$n^{th} girl\ or\ boy\ to\ sample\ = \frac{Total\ number\ of\ girls\ or\ boys\ in\ each\ grade}{Total\ number\ of\ girls\ or\ boys\ to\ be\ selected}$$

For example, if there were 20 female second graders and we required 10 for the study, we selected every other girl from the line (20 ÷ 10 = 2). The same rule was used to select students systematically from all sampled schools and both genders. In the absence of electronic class lists, this approach ensured sampling consistency across schools and achieved a random sample of students who were present on the day of data collection.

2.2.2 Qualitative Design

The qualitative component of the baseline project evaluation aimed to confirm program design assumptions and identify potential threats to implementation. In addition, it focused on evaluating reading attitudes, behaviors, and resources available in home and community settings. Across 12 schools in four counties, 205 participants took part in 12 principal interviews and 24 parent or teacher focus group discussions. Local facilitators selected three schools in each county: one urban (in a main town), one rural (very remote and not easily accessible), and one peri-urban (within an hour of a main town, but still not easily accessible). Schools were divided by size according to second-grade enrollment: fewer than 20 students, 20 to 40 students, or more than 40 students in second grade. **Exhibit 3** describes the 12 sites visited.

Exhibit 3. Characteristics of Schools in the Qualitative Sample

School	Locale	School Type	Second-Grade Student Enrollment	Food Preparation at School
Grand Bassa				
A	Rural	Public	20–40	Yes
B	Peri-urban	Public	20–40	Yes
C	Urban	Community/religious	< 20	Yes
Grand Gedeh				
D	Rural	Public	20–40	Yes
E	Peri-urban	Public	> 40	No
F	Urban	Public	20–40	Yes
Rivercess				
G	Rural	Public	< 20	Yes
H	Peri-urban	Community/religious	< 20	Yes
I	Urban	Public	20–40	Yes
River Gee				
J	Rural	Public	20–40	Yes
K	Peri-urban	Public	no enrollment records	No
L	Urban	Public	> 40	Yes

Source: Locale is based on enumerator description, school type is based on MOE's Education Management Information System (EMIS) data, and second-grade student enrollment and food preparation are from the IMPAQ school observation checklist.

In each sampled school, the team held one focus group discussion with teachers and another with parents. Key informant interviews were conducted with all 12 principals. As seen in **Exhibit 4**, the vast majority of teachers and principals were male. The team targeted parents who were members of parent-teacher associations (PTA)s, which resulted in a slight overrepresentation of men among the parent sample.

Exhibit 4. Participants in the Qualitative Sample

County	School	Parents (Focus Groups)		Principals (Interviews)		Teachers (Focus Groups)		Total
		Male	Female	Male	Female	Male	Female	Total
Grand Bassa	A	2	6	1	0	15*	3	27
	B	4	4	1	0	5	1	7
	C	3	8	1	0	7	1	20

County	School	Parents (Focus Groups)		Principals (Interviews)		Teachers (Focus Groups)		Total
Grand Gedeh	D	4	2	0	1	7	2	16
	E	6	2	1	0	8	1	18
	F	5	3	1	0	6	1	16
Rivercess	G	5	3	1	0	6	1	16
	H	6	2	1	0	3	4	16
	I	5	3	1	0	5	2	16
River Gee	J	4	4	0	1	7	2	18
	K	5	2	1	0	5	1	14
	L	6	1	1	0	5	1	14
Total		55	40	10	2	79	20	205
		95		12		99		206

*Including one Peace Corps member

The IMPAQ team also held a key informant interview during the evaluation design phase with the international program specialist, and a member of the team. The purpose of this interview was to seek input on both the impact evaluation and the qualitative component, and to gather contextual information for tool development.

2.3 Impact Evaluation Methodology

The impact evaluation is designed to estimate causal program effects on selected outcomes. This section describes the randomized controlled trial design with its sampling, power analysis, and modifications. For the impact evaluation, schools were assigned to two treatment arms (full package of program activities or only school feeding base package activities) and a control group (not receiving any program activities).

2.3.1 Sampling Design

Our initial power analysis confirmed that a sample size of 1,320 students, equally divided into 22 schools each for the two treatment arms and the control group (66 schools in total), is sufficient to detect the minimum detectable effect size (MDE) of 0.42 standard deviations (SD) with a 95 percent level of confidence. We are assuming the following parameters in our MDE calculation: power (β) of 0.80, intra-cluster correlation (ICC) of 0.25, and a correlation of other covariates with the measured outcomes of 0.50. These parameters are consistent with those of related rigorous impact studies of reading interventions in India, Kenya, and Madagascar; therefore, we consider the sample size as adequate for a moderate MDE of 0.42 SD. [6,7] In reality, given the timing of data collection during rainy season as well as some unexpected school closures, we were able to reach only 55 schools and fewer than 20 students per school. This limitation resulted in loss of power and ability to confidently estimate higher MDEs. With averages of 19 schools per treatment or control group and 12 students per school, the MDEs increased to 0.45 SD.

Based on the geographic location of each school, mapped using GPS coordinates, we created 18 clusters of schools not more than 10 kilometers apart. In two towns in Grand Gedeh, it was not feasible to create small clusters of three or four schools without running into contamination and spillover concerns. Most clusters consisted of an average of three schools, but the two biggest clusters included 10 and eight schools. These two large clusters were assigned to different treatment arms. Keeping the two large clusters apart, we

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[6] Power calculations determine how large a sample is required to estimate certain level of program effect and relies on a set of parameters. Because students are nested within schools and their reading outcomes are correlated, assuming a reasonable ICC is essential. Given that there is no prior information on ICC in Liberian schools, we have consulted the research literature on similar rigorous studies measuring reading impact to determine the level of acceptable ICC.

[7] Duflo, E., Glennerster, R. & Kremer, M. (2008). Using randomization in development economics research: A toolkit. In T. Schultz & J. Strauss, Eds., *Handbook of development economics, Vol. 4.* Amsterdam: North Holland. https://economics.mit.edu/files/806. French, R. J., & Kingdon, G. (2010). *The relative effectiveness of private and government schools in Rural India: Evidence from ASER data.* London: Institute of Education.

randomly assigned all 18 clusters into three groups: two treatment groups and one control group. Furthermore, to ensure that SC reaches its target number of beneficiaries, we designated one group of schools, including the largest cluster, to receive the combined package of all program activities. A second group of schools, including the second largest cluster, was selected to receive the basic school feeding package. The third group of clusters, the control group with the smaller clusters, did not receive any program activities.

In each of the sampled schools, we intended to select 10 boys and 10 girls from second grade at random. This sampling was determined to be sufficient based on enrollment data from the Educational Management Information System (EMIS), provided by the MOE. However, we found that the EMIS data was inflated and actual enrollment numbers were lower. Additionally, during the rainy season, often fewer students were present in each school. We therefore included all second graders in each school in the data collection.

2.4 Modifications to the Sampling Design

Primarily, we revised both the impact and project evaluation sampling frames because of changes to SC's implementation design and a more limited than expected number of available schools and students as a result of inflated EMIS enrollment numbers and rainy season conditions. The following paragraphs describe in further detail the modifications made for the impact and project evaluations.

2.4.1 Impact Evaluation

We received a sampling frame of schools targeted for program activities in February based on government provided EMIS data and then a revised list of schools in April 2018. The inflated enrollment numbers misled our determination of necessary number of schools and number of student per school.[8] Although revising the sampling frame in response to the challenges as stated above has no direct influence on the impact design, the timeline for field activities was delayed to the rainy season. As a result, some schools were inaccessible during data collection, and we ended up with a smaller sample of 55 schools rather than 66. Furthermore, our initial understanding of the school enrollment was inflated by the EMIS data which had listed greater number of students in schools and we ended up with an average of 12 students per school rather than 20.

This sample size reduction affected the power to estimate program impacts (e.g. increased the MDEs from 0.42 SD to 0.45 SD) while the study at hand is still rigorous and will enable us to make causal inferences about the program effects. The sample reduction may also have affected which types of schools remained in the impact sample; the most remote (and perhaps most in-need) schools became inaccessible and we could not visit them. Similarly, the students who were in school to be surveyed during the rainy season may not be representative of all students; for example, they may live closer to the school or be more motivated to attend.

2.4.2 Project Evaluation

The sampling design for the project evaluation also was affected by the same challenges listed above. However, we were able to mitigate these challenges by finding replacement schools and students. Therefore, we were able to reach the desired project evaluation samples of schools and students, which provides us sufficient power to produce baseline indicators. On the other hand, the project sample may also be affected by which types of schools and students remained in the sample as described above.

2.5 Data Sources

IMPAQ drew upon two sources of data to answer the quantitative and qualitative research questions: (1) a student survey that integrates the LBRA and (2) focus group discussions with parents and teachers and key informant interviews with school principals. We also conducted a school assessment to provide SC with the pre-implementation characteristics, enrollment, and attendance of all the LEARN schools.

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[8] Should we have known that it is unlikely to find 10 boys and 10 girls in each school, we could have opted for a smaller number of students at each school but a higher number of schools.

2.5.1 Student Survey and Literacy Boost Reading Assessment

The student survey collected data on five key topics from Grade 2 and Grade 6 students to set benchmark values for the project evaluation. Survey data also established the baseline equivalence of the treatment and control groups. **Exhibit 5** presents an overview of the key survey topics.

Exhibit 5. Overview of Student Survey Key Topics

Topic	Types of Questions
Background information	▪ Demographic information (e.g., students' age, main language spoken at home, etc.)
Hygiene and health knowledge and practices	▪ Handwashing knowledge (when one should wash hands) ▪ Handwashing practices (when students actually wash their hands)
Nutrition knowledge	▪ Knowledge of a healthy diet (what a balanced diet is)
Sexual and gender-based violence	▪ Knowledge of SGBV ▪ Perceived gender norms (Grade 6 only)
School environment	▪ Attitudes toward their school ▪ Teacher attendance
Home environment	▪ Home literacy activities (e.g., if anyone reads to students or tells a story) ▪ Reading culture at home
Disability	▪ Difficulty in seeing, hearing, walking, etc.

To develop this survey, we included questions that have already been field-tested and approved by USDA in other Food for Education evaluations; we also added new items specifically designed for the Liberian context. Along with the student survey, IMPAQ fielded the LBRA with Grade 2 students to measure their literacy skills. In developing this assessment, IMPAQ adapted the LBRA to the local context using Liberian Grade 2 textbooks. In keeping with the literature on reading assessments in Liberia,[9] IMPAQ added four subtests, including letter recognition, reading familiar words, reading unfamiliar words, and reading or listening with comprehension. To further refine and validate the assessment for the Liberian context, IMPAQ held a half-day workshop with literacy experts and curriculum specialists from the Ministry of Education Technical Working Group to ensure that the assessment and accompanying administration instructions were culturally appropriate and consistent with Liberian learning standards for Grade 2 students.

Section 3.2.1 Preparation explains how we further calibrated the student survey, including the LBRA, in the field to ensure that the instrument was appropriate for local conditions, and would be understandable to children in the sample.

2.5.2 Key Informant Interviews and Focus Group Discussions

The IMPAQ team developed semi-structured interview protocols for principals and focus group protocols for teachers and parents. The baseline protocols are exploratory; they gather contextual information about community attitudes, behaviors, and resources to inform SC about the culture of literacy in target communities. Interview protocols were designed for 30–45 minute conversations, and focus group protocols were designed for 60-90 minutes. **Exhibit 6** presents an overview of the protocols.

Exhibit 6. Overview of Interview and Focus Group Protocols

Teachers and Principals	
Topic	Types of Questions
Background information	▪ Tenure at the school

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[9] RTI International. 2010. EGRA Plus: Liberia Program Evaluation Report.
https://www.rti.org/sites/default/files/resources/egrafinalassessmentreportliberia18nov2010.pdf
RTI International. 2008. EGRA Liberia: Baseline Assessment of Reading Levels and Associated Factors.
https://www.rti.org/sites/default/files/resources/report2008liberiaegra.pdf
RTI International. 2015. Liberia teacher training program: Endline assessment of the impact of early grade reading and mathematics interventions. https://ierc-publicfiles.s3.amazonaws.com/public/resources/Report_LPPT2%20Impact%20Report_Liberia_08_2015.pdf

Teachers and Principals	
Topic	**Types of Questions**
Value of education	▪ Access to education in the community ▪ Gender equity of access ▪ Parental involvement
School literacy environment	▪ Extent to which students are exposed to literacy activities in school (e.g., presence of library, teacher reading exercises)
Program assumptions	▪ Validity of planned program activities: value added by teacher incentives, installation of kitchens, PTA monitoring, etc.
Teacher code of conduct/SGBV	▪ Discipline practices ▪ Teacher behavior (including asking children to do housework, sex for grades)
Parents	
Topic	**Types of Questions**
Background information	▪ Children's background
Value of education	▪ Access to education in the community ▪ Gender equity of access ▪ Parental involvement
Home literacy environment	▪ Extent to which students are exposed to literacy activities in the home (e.g., presence of books or other reading materials) ▪ Whether literacy is valued (e.g., whether reading and doing homework are encouraged)
Teacher code of conduct/SGBV	▪ What children dislike about school, what parents like and dislike about the teachers ▪ Teacher behavior and discipline practices
Program assumptions	▪ Validity of planned program activities, such as developing PTAs

2.5.3 School Assessment

IMPAQ also developed a school assessment for SC to assess the pre-implementation characteristics, enrollment, and attendance in all 182 LEARN schools that were accessible for data collection. This school assessment included:

- GPS coordinates
- Student enrollment, based on school registers
- Student attendance, based on teacher attendance logs
- School structure (permanent or temporary) and building materials (mud, concrete, etc.)
- Water, sanitation, and hygiene resources (availability of latrines, drinking water, handwashing stations)
- Canteen and food storage status
- Libraries

This checklist was developed to help the program establish pre-implementation targets and indicators based on school characteristics and to verify and update previously existing school data. Before each visit, CART (our data collection partner) and IMPAQ consultants coordinated with the school district office and principals. In collaboration with CART, we cleaned the collected data, identified the active selected schools (i.e., open and operating schools), and used geospatial information measures to locate them on maps of the four counties along with data on their relevant characteristics. The clean data were shared with SC for their analysis and use.

2.6 Data Analysis

2.6.1 Quantitative Analysis

After completing field activities we conducted a final review of the survey data, including:
- Check for data completeness
- Check for duplicate entries

- Skip pattern logic of tablet survey programming
- Data cleaning

We then compiled the survey responses into a master file for the analysis.

Project Evaluation Analysis

This baseline report provides summary statistics, as well as constructed outcomes (percentages and averages) using individual or multiple survey items through the statistical software package, Stata. When possible, we also conducted subgroup analyses by grade, student gender, and county, highlighting emerging patterns. The project evaluation results are explained in **Section 4. Project Evaluation Baseline Values**.

Impact Evaluation Analysis

Although randomization, on average, balances treatment and control groups on observed and unobserved characteristics, there may still be some differences across the groups. The evaluation team derived descriptive statistics separately for the two treatment arms—the one receiving all three packages of activities (LB + SF + SHN) and the one receiving only the school feeding base package (SF)—and the control group (C). We conducted t-tests to investigate differences in means between each treatment arm and the control group. These baseline equivalences help the evaluation team assess the similarity of average characteristics and outcomes between the treatment and control groups at baseline. **Section 5. Impact Evaluation Baseline Results** presents the baseline differences between each of the treatment arms and the control group for demographic, school, and household characteristics reported by students, as well as their literacy outcomes. Based on the analysis of the baseline data, the evaluation team will control for pre-implementation covariates in the regression analysis at endline to improve the precision of the estimated program impacts.

2.6.2 Qualitative Analysis

To analyze the interview and focus group notes, we used audio recordings and summary forms whose structure followed the data collection protocols to identify patterns. We created a summary matrix in Excel to identify patterns, and confirmed using NVivo, a qualitative software. Our summary synthesizes the major themes from the interview and focus group sessions to address the key evaluation questions.

SECTION 3. FIELDWORK

This section describes the activities that the evaluation team conducted before, during, and after data collection in the field. It also discusses challenges the team faced during data collection.

3.1 Human Subjects Protection

Prior to collecting data, IMPAQ submitted protocol documents to Chesapeake Institutional Review Board (IRB), now merged with Schulman IRB as Advarra, on February 16, 2018 (Pro00024481) and to the University of Liberia Pacific Institute for Research and Evaluation IRB (UL-PIRE IRB, Protocol # 18-02-092) on February 15, 2018. IRB approval is necessary to ensure that proposed evaluations comply with local and international rules and procedures. We also submitted our research protocol to the SC Ethics Review Committee to confirm that our research is ethically sound and safeguards the rights, safety, and well-being of children. We received approval from Chesapeake (February 16, 2018), UL-PIRE IRB (February 22, 2018) and SC (March 12, 2018). The approved documentation for this evaluation includes:

- Student survey and the LBRA
- Research protocol
- Informed consent and assent forms
- Qualitative protocols for key informant interviews and focus group discussions

We used the IRB-approved instruments to collect data. Prior to administering the survey, enumerators were trained on procedures for interviewing respondents, protecting respondent privacy and confidentiality, and securing the data. They also received training from SC on safeguarding children at school. During the baseline data collection, the survey team first obtained teachers' and principals' consent to survey their students. Then they asked for students' assent, assuring children that their participation was voluntary and that they could terminate the survey at any point. After data collection, the evaluation team protected the privacy and confidentiality of respondents by storing the data on secure servers and separating personally identifiable information from the survey data.

3.2 Field Data Collection

3.2.1 Preparation

Cognitive Testing

To further calibrate the student survey and reading assessment for the Liberian context, IMPAQ conducted cognitive interviews prior to data collection. A cognitive interview is an individual, face-to-face, in-depth interview that aims to understand how respondents comprehend and respond to questions. In collaboration with CART, IMPAQ carried out the cognitive interviews to identify which survey constructs and questions worked, which did not work, and why. The team conducted the interviews with nine boys and girls in Grades 2 and 6 in a rural non-LEARN school in Grand Bassa county that had characteristics similar to those of the program schools.

Respondents were selected using purposive sampling based on their willingness to participate. The goal was to test the survey content, ensure that the survey instructions and wording of the questions were clear and understandable, and that the response options were adequate. During the cognitive testing, the interviewer discussed the meaning of each item with each student to assess the clarity of the question and the appropriateness of the proposed categories. The cognitive interviews identified several issues in the survey. The following are a few examples of the issues uncovered by the cognitive testing and the resulting resolutions:

- The Liberian terminology to describe certain items differed from other settings. For that reason, some of the answers to questions were reworded, e.g. changing "refrigerator" to "icebox" or "electricity" to "light/current" when asking students about objects they may have in their homes.
- Variations in local culture, especially in regard to nutrition and SGBV, necessitated that we customize questions and answer options so as to more accurately reflect customary practices. For example,

when we asked students about teachers' discipline practices at school, the cognitive testing made it clear that in the Liberian context, beating students remains a common discipline tactic in primary schools. Therefore, we distinguished between "beating" and "beating too much" as two different options in the question regarding rules at schools to better capture this attitude.

- Clarity and phrasing of questions, especially when inquiring about SGBV, matters. Consequently, significant changes were made to the opinion statements about gender norms, which interviewers would ask sixth graders to either agree or disagree. After the cognitive testing, the wording in each statement was simplified to clarify the intention of the question. For example, we rephrased the following statement "Sometimes girls have to do things for their male teachers to get good grades" to "For girls to get good grades, they sometimes have to let their teachers touch them or love them."

Each day after the interview, the interviewers updated the instrument by adjusting the language and structure of the questions, and ran it by an IMPAQ senior survey expert in preparation for the following day. On the fourth day, IMPAQ staff finalized the survey instrument and programmed the tablets so as to collect reliable and valid data.

Training and Pilot Testing

In February 2017, the IMPAQ team trained 20 enumerators and two supervisors, recruited by our data collection partner CART, to conduct quantitative data collection. We conducted three days of classroom training to explain: (1) what each survey question intends to ask, (2) how to ask those questions of vulnerable respondents (students in Grade 2 and 6), (3) how to measure students' literacy, and (4) how to use tablets to implement the in-person surveys offline without an internet connection.

After the initial training, the IMPAQ team provided an opportunity for enumerators to practice with real respondents for two days in two schools in Montserrado county – one a poor urban school, and the other a more remote school in a slum community off the main road. Like the school selected for cognitive testing, these schools were not part of the LEARN evaluation, but their characteristics were similar to those of the evaluation sample. After this pilot, all enumerators regrouped with the IMPAQ team to debrief and discusses any issues they encountered. The tools were updated to ensure smooth and consistent survey implementation. The evaluation team also conducted "passage equating": They assessed the difficulty of the four passages developed for the reading assessment. To do so, they piloted all four passages with the strongest readers in Grade 3—the best benchmark for the reading proficiency of students at the end of Grade 2—in the Montserrado schools. After analyzing the pilot data, together with SC, the evaluation team selected the most appropriate passage to assess second-grade students' literacy.

In addition, prior to data collection, the IMPAQ team held an in-country training and discussion with the local qualitative data collectors. The team (including IMPAQ staff, the country expert consultant, and the local qualitative consultants) pilot tested the protocols in two non-program schools. IMPAQ staff worked with local consultants to ensure cultural appropriateness. After pilot testing, the team met to discuss challenges, such as questions that confused respondents or not having time to cover all the questions. This meeting allowed us to adjust our instruments and strengthened team members' interviewing and summarizing skills.

3.2.2 Data Collection

On April 16, 2018, CART organized the enumerators into two teams of 10 individuals and one supervisor. One team was sent to Grand Gedeh, which had the largest sample, while the other team visited schools in the other three counties (Grand Bassa, Rivercess, and River Gee). The data collection supervisors, in collaboration with the MOE and school district offices, coordinated their school visits with school principals. All enumerators regrouped with their supervisors several times during the data collection to debrief, submit daily paper-based data collection logs, submit electronic surveys, and review and plan for the next days of data collection. The CART fieldwork manager also worked closely with the survey teams to oversee data quality and provided enumerators with technical support. This manager updated the IMPAQ project director every other day. The team completed fieldwork in 29 working days.

The two qualitative data collectors visited the schools on the same day as the enumerators in order to minimize disruption in the schools and to prevent information about the study or program activities from biasing responses. One facilitator led the interview or focus group while the other took notes. This approach ensured that one interviewer was actively engaged with the respondents while the second team member captured the content in detailed notes. With the respondents' permission, the facilitators took pictures and recorded the interviews and focus groups.

After each session, the facilitators summarized the main points using a summary form whose structure parallels the focus group or interview protocol (see the qualitative protocols in **Appendix H. Evaluation Instruments**). These summaries synthesized the major points and salient themes; they also included verbatim quotations addressing the evaluation questions. After completing data collection in each county, the facilitators emailed the summary notes to the IMPAQ team for review. We provided feedback to facilitators to ensure the quality of the data collected. We also questioned the facilitators regarding any summary notes that needed additional explanation or clarification.

3.2.3 Logistical Challenges

While SC was awaiting USDA's approval on changes to implementation, data collection was put on hold for a month. To refresh enumerators when data collection resumed in mid-April 2018, IMPAQ provided the survey team with training manuals, especially on the reading assessment; and walked CART's fieldwork manager and supervisors through all the materials in a half-day meeting. The CART manager and supervisors then held a half-day workshop with the 20 trained enumerators to review those training materials.

Due to the rainy season and the inflated EMIS data, CART's team leaders worked closely with the school district offices and principals to get updates on the accessibility of the targeted schools and the availability of students. Where possible, CART, under the supervision of IMPAQ, oversampled students in larger schools. Inaccessible program schools were replaced by accessible schools in all counties except Grand Gedeh, so as to not interfere with the impact evaluation design.

SECTION 4. PROJECT EVALUATION BASELINE VALUES

This section presents summary statistics from the student survey, including the LBRA. It also examines the baseline data for variations in outcomes by gender, grade, and county, highlighting differences of more than 10 percent.[10] **Appendix C: Additional Tables and Complementary Outcomes** and **Appendix D: Other Subtests of Reading Assessment** provide additional detail. Note that self-reported data on culturally and socially sensitive topics such as handwashing and hygiene, gender norms, and SGBV may be subject to social desirability bias. Social desirability bias refers to tendency of research subjects to give socially desirable responses instead of choosing responses that reflect their true feelings on socially sensitive issues. Therefore, these results should be interpreted with caution.

Exhibit 7 presents a summary of indicators and, where applicable, disaggregates by grade, gender, and county of key project evaluation outcomes required by the performance monitoring plan. For a complete table of baseline levels for key McGovern-Dole performance indicators, please refer to **Appendix B: McGovern-Dole Performance Indicators**.

Exhibit 7. Baseline Levels for Key Project Indicators Required by PMP per County

Gender	Baseline Aggregate	Grand Bassa	Grand Gedeh	Rivercess	River Gee
Percentage of students who, by the end of two grades of primary schooling, demonstrate that they can read and understand grade level text[a]					
Girls	**1%**	2%	0%	2%	0%
Boys	**1%**	1%	0%	0%	1%
Percentage of students who, by the end of two grades of primary schooling, demonstrate proficiency in identifying letters[a]					
Girls	**57%**	72%	44%	67%	43%
Boys	**66%**	68%	60%	77%	56%
Percentage of children in target schools who demonstrate improved knowledge and practices toward SGBV prevention and response[a]					
Girls	**63%**	70%	50%	72%	61%
Boys	**65%**	76%	50%	72%	62%
Percentage of Grades 2 and 6 students in target schools who can identify the components of a healthy diet					
Grade 2					
Girls	**0%**	0%	0%	0%	0%
Boys	**0%**	0%	0%	0%	0%
Grade 6					
Girls	**0%**	3%	0%	0%	0%
Boys	**0%**	0%	0%	0%	2%

Source: Student survey, LBRA IMPAQ calculation. Note: The survey included 836 second graders and 411 sixth graders. [a]Only includes Grade 2 students per requirements of the PMP.

Details on these results are reported in this section, which first considers the characteristics of schools and students sampled for the project evaluation. We then discuss student reading outcomes, including factors such as home and school literacy environment in addition to LBRA results. The section concludes with a review of baseline values in handwashing and hygiene, nutrition, SGBV, and disability. Data on these topics may affect programming decisions.

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[10] All the percentages in **Section 4. Project Evaluation Baseline Values** and **Section 5. Impact Evaluation Baseline Results** are rounded to the nearest whole number.

4.1 Project Evaluation Sample

4.1.1 Composition and Characteristics of School Sample

To set benchmark values for performance indicators and to measure progress toward desired outcomes over time, the team selected 836 Grade 2 students and 411 Grade 6 students across 85 schools in four counties of Liberia: Grand Bassa, Grand Gedeh, Rivercess, and River Gee. Although we aimed to survey 10 students in Grade 2 and six students in Grade 6 in each selected school in Grand Bassa, Rivercess, and River Gee, low enrollment and attendance rates and other challenges in the field required the survey team to oversample students in larger schools and to replace selected schools that were inaccessible because of rain with accessible nearby program schools.[11] See **2.4 Modifications to the Sampling Design** for more detail.

Exhibit 8 summarizes the number of schools per county in the project sample, and **Exhibit 9** provides a map of these locations.

Exhibit 8. Numbers of Sampled Schools by County

	Grand Bassa	Grand Gedeh	Rivercess	River Gee	Total
Number of schools	27	16	20	22	85

Exhibit 9. Locations of Sampled Schools
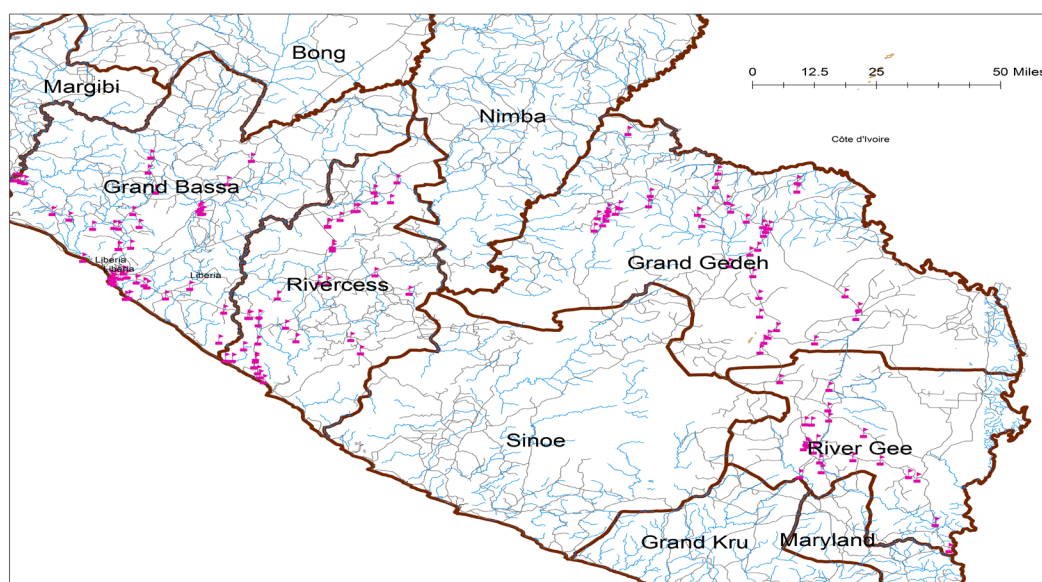
Source: IMPAQ calculation.

4.1.2 Composition and Characteristics of Student Sample

Composition of Student Sample
As explained in **Section 2.2 Project Evaluation Methodology**, the number of students surveyed per school varied from the intended 10 students in Grade 2 and six students in Grade 6 because of unexpected school closures, accessibility issues, and low attendance at target schools. **Exhibit 10** shows the total numbers of students who participated in the student survey by county.

Exhibit 10. Number of Students Surveyed by County

	Grand Bassa	Grand Gedeh	Rivercess	River Gee	Total
Number of students	386	276	272	313	1,247

Source: IMPAQ calculation.

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[11] We did not replace any schools in Grand Gedeh so as not to interfere with the impact evaluation.

Further disaggregating this information by grade and gender, we see that the project sample has a relatively balanced gender ratio, as shown in **Exhibit 11**. Among the 836 Grade 2 students, 51 percent were male while 55 percent of the 411 Grade 6 students were male.

Exhibit 11. Gender and Grade Distribution of Students Surveyed

Grade	Male		Female		Total
	Percent	Number	Percent	Number	
Grade 2	51%	430	48%	406	836
Grade 6	55%	227	45%	184	411
Total	**53%**	**657**	**47%**	**590**	**1,247**

Source: Student survey, IMPAQ calculation.

Exhibit 12 shows the age distribution of surveyed students by grade. Grade 2 students averaged 12 years of age (both median and mean), with a range of 5 to 19 years. The large age gap and high average could be the result of a government policy in 2001 that mandated primary education for children and eliminated fees.[12] Before the enactment of this law, the high price of education and 14 years of civil conflict deterred parents from sending their children to school.[13] After the new law was passed, many parents enrolled their children in school regardless of age. The age spread for Grade 6 is slightly larger than for Grade 2.

Exhibit 12. Age and Grade Distribution of Students Surveyed

Grade	Age			
	Median	Mean	Youngest	Oldest
Grade 2	12	12	5	19
Grade 6	16	16	8[a]	24

Source: Student survey, IMPAQ calculation. [a]There are three sixth graders age 10 or younger, which may be the result of measurement error.

These age distributions do not vary considerably by county, although Rivercess students were 0.5 to 1 year older than average. An examination of the data by gender also reveals no large difference.

The survey asked students whether they had ever repeated a grade. Only 37 percent of students said they had, with no sizeable differences by grade, gender, or county. This statistic suggests that the high average age of students is due not to having repeated grades but to starting school late. Additionally, a high percentage of students (83 percent) said they had attended school for five days in the past week. This rate also remained fairly constant across grade, gender, and county.

Student Characteristics

To obtain a better understanding of children's backgrounds, the survey asked about students' household size, their primary caregiver, their socioeconomic status, and the language spoken at home.

The average household size, reported by second graders across counties was 8.2; Grand Gedeh and River Gee had slightly lower averages of about 7.[14] The spread between minimum and maximum household sizes was quite large, between 1 and 30 people. However, this finding should be interpreted with caution. Large household sizes may be explained by the fact that, in rural areas, different families often live together as one community and students might have different definitions for household.

On average, 72 percent of students said that their mother was their caregiver. Female students were slightly more likely to report their mother as caregiver (78 percent) than male students (67 percent); meanwhile, 22 percent of males reported their father as caregiver, compared to 11 percent of females. Interestingly, among students who reported their mother as the caregiver, 60 percent said their caregiver went to school as a

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[12] Panapress. Liberia enforces free, compulsory primary education. 2004. Accessed July 2018.

[13] UNICEF Liberia. Primary school years. Accessed July 2018.

[14] This question was asked only to second grade students as a mechanism to transition their mindset into thinking about their household literacy activities.

child; however, this rate rose to 83 percent when students cited their father as the caregiver. Taken together, 64 percent of students said their caregiver had attended school when younger; there were no large differences by grade, gender, or county.

To get a sense of household socioeconomic status, we asked students to report on whether certain durable goods were available at home. As shown in **Exhibit 13**, 82 percent of students said there was a cell phone at home, and just under half said they had a generator. Cell phones were at the top of the list in all counties, but the prevalence of some other goods varied by county. In Grand Gedeh, 40 percent of students stated that their household owned a motorbike; however, this county had the lowest proportion of students who reported having a generator (23 percent) compared to the other three counties (53–58 percent). The prevalence of televisions in homes was slightly higher in Grand Bassa, at 26 percent, than in the other counties. The prevalence of other durable goods showed no large differences by county.

Exhibit 13. Household Possession of Durable Goods by County

Does your home have a ….	Grand Bassa	Grand Gedeh	Rivercess	River Gee	Overall
Cell phone	88%	79%	83%	75%	**82%**
Current/light/generator	53%	23%	58%	54%	**48%**
Icebox	8%	7%	4%	5%	**6%**
Bicycle	14%	9%	6%	4%	**8%**
TV	26%	13%	14%	10%	**16%**
Motorbike	30%	40%	27%	28%	**31%**
Car	8%	4%	2%	2%	**4%**
Keh keh (a three-wheeled vehicle)	1%	0%	0%	0%	**0%**
None of the above	5%	12%	9%	13%	**10%**

Source: Student survey, IMPAQ calculation. Note: Students were told to select all that apply and therefore the total of the percentages do not add to 100 percent. N = 386 for Grand Bassa, 276 for Grand Gedeh, 272 for Rivercess, and 313 for River Gee

The survey asked children about their primary language and any other languages they spoke at home. Among the whole sample, 81 percent of students reported that English was their primary language at home; 87 percent said they spoke another language as well, with Bassa the most prevalent second language at 33 percent. This pattern did not differ considerably by gender, grade, or region. However, a few points regarding language usage in each county are worth highlighting (see **Exhibit 45** in **Appendix C: Additional Tables and Complementary Outcomes** for more detail):
- A slightly higher proportion of students in River Gee (92 percent) said they most often speak English at home, compared to 73–81 percent in the other three counties.
- Only students in Grand Gedeh (23 percent) reported speaking Krahn as their primary language.
- The percentages of students who reported Bassa as their home language varied by county, with low percentages (0–2 percent) in River Gee and Grand Gedeh and higher rates (18–24 percent) in Grand Bassa and Rivercess.

4.2 Student Reading Outcomes

To add depth to the analysis of second-grade students' LBRA literacy outcomes, we examined second-graders' responses to survey questions about the literacy environment at school and at home. The questions focused on four key areas: (1) the availability of reading materials in and out of school, (2) students' home literacy environment, (3) students' attitudes toward schooling, and (4) the presence of teachers in schools. After reporting on the results of these survey questions, we outline findings from the LBRA.

4.2.1 Availability of Reading Materials

Second-grade students were asked about the availability of reading materials at school, home, and, outside of these spheres, in their community at large. The survey also asked how often students borrowed books from school, if available.

At School

As **Exhibit 14** shows, despite some regional variations, almost half of Grade 2 students reported that their school had books other than textbooks. The proportion of students who reported being able to take these books home to read for free was slightly higher in Grand Gedeh (40 percent) than in other counties, especially Rivercess (19 percent). Grand Bassa had a higher proportion of students who said that they could not take non-textbook reading materials off campus. Across all counties, fewer than 5 percent of students reported having to pay to bring reading materials home.

Exhibit 14. Access to Non-Textbook Reading Materials in School
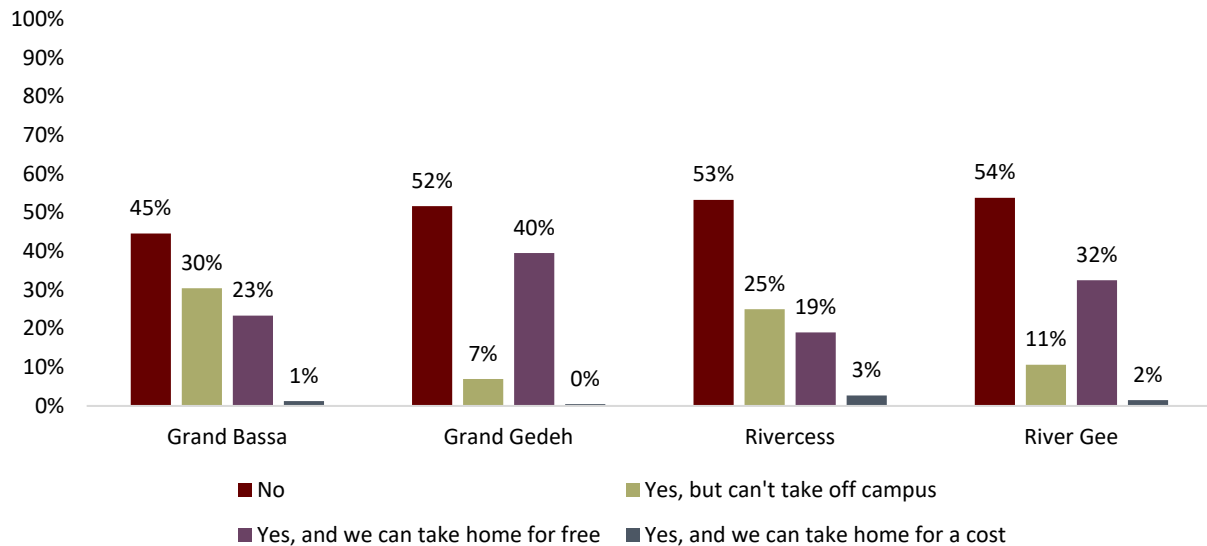
Source: Student survey, IMPAQ calculation. N = 240 for Grand Bassa, 215 for Grand Gedeh, 184 for Rivercess, and 197 for River Gee

Exhibit 15 below shows the frequency with which students borrowed books from school in each county. This question was asked of the 252 students who said that their school allowed them to take books home either for free or at a cost. As the table highlights, a higher proportion in Grand Gedeh (69 percent) than in other counties (20–32 percent) reported that they never borrowed books from school. On average, about 60 percent of students said they had borrowed non-textbooks in the past week (adding up the overall percentages for those students responding "every day" (9 percent), "a few times" (17 percent), and "once during the week" (33 percent). Noticeably, Grand Gedeh falls below this average as the summation of these responses in that county equates to just 30 percent.

Exhibit 15. Frequency with Which Students Borrowed Non-Textbook Reading Materials to Take Home

Response	Grand Bassa	Grand Gedeh	Rivercess	River Gee	Overall
Every day (5 days)	11%	5%	15%	9%	**9%**
A few times during the week (2–4 days)	22%	8%	20%	22%	**17%**
Once during the week	34%	17%	45%	46%	**33%**
Never	32%	69%	20%	21%	**40%**
Don't know/No response	0%	1%	0%	1%	**1%**

Source: Student survey, IMPAQ calculation. N = 59 for Grand Bassa, 86 for Grand Gedeh, 40 for Rivercess, and 67 for River Gee

At Home

A majority of students (69 percent) said they had a holy book at home (see **Exhibit 16**). Thereafter, storybooks and comics represented the more often cited non-textbook reading material at home. Fewer students reported having newspapers (7 percent) or coloring books (24 percent).

Exhibit 16. Availability of Reading Materials in the Home by County

Does your home have…	Grand Bassa	Grand Gedeh	Rivercess	River Gee	Overall
Holy book	76%	68%	64%	66%	**69%**

Does your home have...	Grand Bassa	Grand Gedeh	Rivercess	River Gee	Overall
Textbooks/schoolbooks	58%	51%	42%	47%	**51%**
Storybooks/comics	47%	39%	33%	32%	**39%**
Coloring and drawing books	33%	28%	16%	17%	**24%**
Newspapers	12%	8%	3%	4%	**7%**
None of the above	11%	11%	15%	13%	**12%**

Source: Student survey, IMPAQ calculation. Note: Students were told to select all that apply and therefore the total of the percentages do not add to 100 percent. N = 386 for Grand Bassa, 276 for Grand Gedeh, 272 for Rivercess, 313 for River Gee

Outside of School or Home

When we asked second-grade students whether they had read storybooks outside of school or home in the past week, only 29 percent stated they had done so. However, Grand Bassa exceeded this average as it had the highest proportion of students involved in extracurricular reading, at almost 40 percent. (See **Exhibit 46** in **Appendix C: Additional Tables and Complementary Outcomes**.) There were no notable differences by gender. Of the students who reported they read storybooks outside of school or home, 35 percent said they went to their friends or relatives for reading materials, followed by 14 percent who responded "other"; 1 percent or fewer reported using each of the following: reading clubs, religious buildings, or community libraries.

Interestingly, 50 percent of respondents said they did not know where to go to read or borrow books, which could possibly explain the low average proportion of students reporting to be involved in extracurricular reading. Presumably, if students are unaware of how or where to obtain reading materials, then they would be less engaged in this activity. However, we cannot state with confidence that lack of understanding on how to obtain books accounts for the low proportion of Grade 2 students who responded that they read storybooks outside of school or home.

4.2.2 Home Literacy Environment

Study of household literacy practices can illuminate the level of children's exposure to learning outside of school. Students exposed to literacy activities at home have better opportunities for literacy acquisition.[15] Numerous studies point to the role of the home literacy environment in influencing early reading skills – in particular, children's exposure to print materials at home and opportunities to engage in reading with other household members.[16]

As such, the assessment includes questions to measure the home literacy environment, which we have conceptualized as the presence of print materials at home and reading habits of family members, as reported by students. Specifically, we asked students whether they saw anyone reading at home and whether anyone in their household had encouraged them to study, read to them, or told them a story.

Exhibit 17 shows how students reported their household literacy activities. The majority of students (66 percent) said that someone in their household helped them study; 54 percent stated that someone read to them and 52 percent that they saw someone reading. There were slight differences by county: A smaller proportion of students in Rivercess (29 percent) and River Gee (35 percent) reported that someone told them a story than in Grand Gedeh (47 percent) and Grand Bassa (50 percent). There were no major gender differences.

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[15] Kim, Y. S. (2009). The relationship between home literacy practices and developmental trajectories of emergent literacy and conventional literacy skills for Korean children. Reading and Writing, 22(1), 57-84.

[16] Hess, R. D. & Holloway, S. D. (1984). Family and school as educational institutions. Review of Child Development Research, 7, 179-222. Dowd, A.J., Pisani, L. & Borisava, I. (2016). "Evaluating Early Learning from Age 3 to Grade 3" in Understanding What Works in Oral Reading Assessments. Montreal: UNESCO Institute for Statistics (UIS).

Exhibit 17. Household Literacy Activities in the Past Week
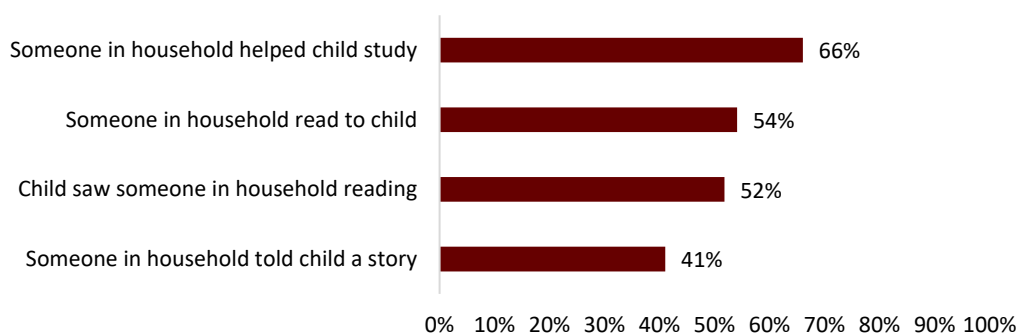
Activity	Percentage
Someone in household helped child study	66%
Someone in household read to child	54%
Child saw someone in household reading	52%
Someone in household told child a story	41%

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Source: Student survey, IMPAQ calculation. Students were told to select all that apply and therefore the total of the percentages do not add to 100 percent. N = 836

To further understand the household learning environment, the survey asked students to report on the specific family member involved in the four activities in Exhibit 17**.** Students tended to state that it was an older brother who engaged in these activities. Slightly more students identified their mother as a storyteller than their father. (See **Exhibit 47** in **Appendix C: Additional Tables and Complementary Outcomes**.) No major differences were found by gender or county.

4.2.3 Student Attitudes Toward Schooling

To assess student perceptions of their education, we asked Grade 2 students the reasons they liked and disliked school. (The details are shown in **Exhibit 48** and **Exhibit 49** in **Appendix C: Additional Tables and Complementary Outcomes**.) A large majority of second-grade students (71 percent) said they enjoyed their lessons and liked learning. This finding held across counties and gender. There were a few areas of slight divergence by county for other, less commonly selected reasons for liking school. In Grand Gedeh, only 16 percent of students reported that they liked their teacher, compared to 31–36 percent of students in other counties. Grand Gedeh also had a smaller proportion of students (3 percent, compared to 12–14 percent in other counties) who reported being with friends as a reason for liking school.

No clear patterns emerged in the reasons students disliked school. A fairly large proportion of students (35 percent) did not respond or did not know the answer, while 25 percent mentioned "other" options. The survey did not record these other options. Field notes suggest that the most frequent reasons children did not like their school were inequitable distribution of food (teachers and school authorities receiving more than the students), overcrowded classrooms, and unsanitary school environments.

4.2.4 Presence of Teachers in School

A large body of literature suggests a positive association between teachers' attendance and students' achievement.[17] Thus, we asked second-graders about the consistent presence of teachers in school as teacher attendance is important when considering reading outcomes.

Overall, 79 percent of students stated that teachers came to class every day. The frequency of student-reported daily teacher attendance by county is shown in **Exhibit** 18**.** The proportion is lowest in Grand Gedeh, at 67 percent, followed by 78 percent in Grand Bassa, 85 percent in River Gee, and 88 percent in Rivercess. Further, a higher proportion of students in Grand Gedeh, 21 percent, reported that their teachers come to class just a few times during the week, compared to 7–9 percent of respondents in the other three counties.

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[17] Ahn, T., & Vigdor, J. (2010). The impact of incentives on effort: Teacher bonuses in North Carolina. PEPG 10-06. Miller, Raegen. (2012). Teacher Absence as a Leading Indicator of Student Achievement: New National Data Offer Opportunity to Examine Cost of Teacher Absence Relative to Learning Loss. Center for American Progress. Woods, Robert. (1990). The effect of teacher attendance on student achievement in two selected school districts.

Exhibit 18. Teacher Attendance by County
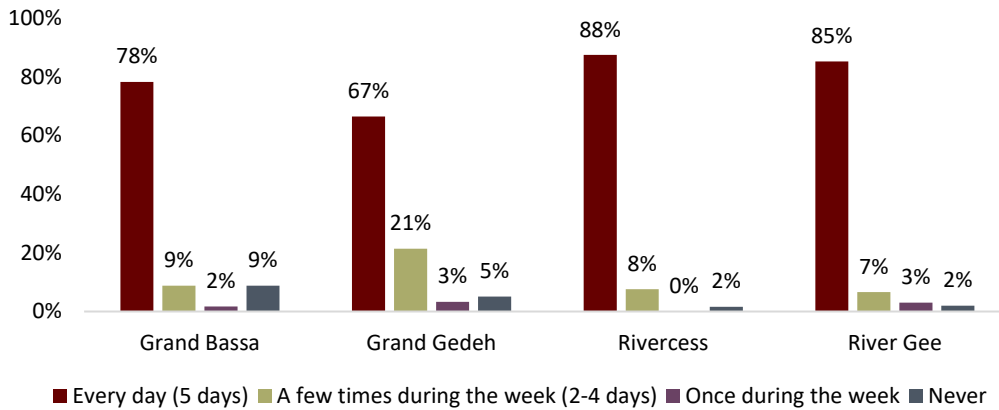
Grouped bar chart showing teacher attendance by county. Categories: Every day (5 days), A few times during the week (2-4 days), Once during the week, Never.

- Grand Bassa: 78%, 9%, 2%, 9%
- Grand Gedeh: 67%, 21%, 3%, 5%
- Rivercess: 88%, 8%, 0%, 2%
- River Gee: 85%, 7%, 3%, 2%

Legend: ■ Every day (5 days) ■ A few times during the week (2-4 days) ■ Once during the week ■ Never

Source: Student survey, IMPAQ calculation. N = 240 for Grand Bassa, 215 for Grand Gedeh, 184 for Rivercess, and 197 for River Gee

Even if teachers come to class every day, they may arrive late or leave earlier than they should, and this behavior could affect student education outcomes. For that reason, we asked students who said their teacher did attend class at least once a week how often their teacher was tardy. **Exhibit 19** shows the results by county. Across counties, 67 percent of students said their teacher never arrived late to class. Teacher tardiness was reported slightly more frequently in Grand Gedeh than in the other three counties: 57 percent of students reported that teachers never arrived late compared to 68 percent of students in Grand Bassa, 72 percent in Rivercess, and 73 percent in River Gee.

However, the results for both attendance and tardiness should be interpreted with caution for two main reasons. First, these outcomes were measured based on self-reported responses of young children in Grade 2. Also, the data were collected during rainy season when road conditions could have influenced teachers' attendance and tardiness.

Exhibit 19. Teacher Tardiness by County

Grouped bar chart showing teacher tardiness by county. Categories: Every day (5 days), A few times during the week (2-4 days), Once during the week, Never.

- Grand Bassa: 5%, 12%, 12%, 68%
- Grand Gedeh: 2%, 23%, 14%, 57%
- Rivercess: 1%, 6%, 15%, 72%
- River Gee: 1%, 9%, 15%, 73%

Legend: ■ Every day (5 days) ■ A few times during the week (2-4 days) ■ Once during the week ■ Never

Source: Student survey, IMPAQ calculation. Note: The percentages do not add up to 100 percent because students who reported that their teacher never came to class did not answer this question. N = 240 for Grand Bassa, 215 for Grand Gedeh, 184 for Rivercess, and 197 for River Gee

4.2.5 Reading Outcomes

The LBRA is a modified version of the Early Grade Reading Assessment, modified by SC. As mentioned in **Section 2.5.1 Student Survey and Literacy Boost Reading Assessment**, the evaluation team developed the LBRA using Liberia's second-grade textbook and tested it for appropriateness to the Liberian context. Since the official language of instruction in Liberia is English, the LBRA was administered in English. The version of LBRA used for this baseline study consists of four subtests:

1. **Letter knowledge:** The number of letter sounds the student could identify, out of 26

2. **Word recognition:** The number of words, out of 20 most-used words from leveled textbooks, that the student could read correctly. Recognition is defined as the students ability to read the word.

3. **Decoding (Invented word recognition):** The number of invented words, out of 20, that students could decode correctly.

4. **Reading comprehension**
   - **Reading aloud:** Using a short story of 155 words, we assessed:
     - Fluency: The number of words read correctly in a minute
     - Accuracy: The percentage of words read correctly (untimed)
   - **Comprehension:** Ten comprehension questions related to the short story were asked orally in one of three conditions:
     - Reading comprehension, which applied to children who could read at least five words in the story correctly in 30 seconds. These children were identified as "readers."
     - Listening comprehension, which applied to children who could not read five words in the story correctly in 30 seconds. The enumerator read the story aloud to these children, identified as "non-readers."
     - Listening comprehension for "readers," which applied to students who read at least five words correctly but gave up before attempting a significant portion of the passage or could not finish the passage. The enumerator read the rest of the story to them.

Before examining each of the four LBRA subtests in depth, **Exhibit 20** shows a summary of second-grade students' literacy skills by county. The key reading outcomes were fairly inconsistent among the counties. In particular, Grand Gedeh appears to have a relatively larger group of readers, who also outperformed students in other counties in reading comprehension. In general, children were successful at recognizing the letters of the alphabet but struggled to recognize full words. On average, the students were able to identify only 38 percent of words; only 2 percent of students were able to read all 20 words. Only 18 percent of the sample were identified as readers. These few students performed better in reading comprehension than non-readers did in listening comprehension.

Exhibit 20. Second-Grade Students' Literacy Skills by County

Outcomes	Grand Bassa	Grand Gedeh	Rivercess	River Gee	Overall
Foundational Literacy Skills					
Letter knowledge (# correct out of 26)	24	22	24	22	**23**
Letter knowledge (% correct)	91%	86%	93%	86%	**89%**
Word recognition (# correct out of 20)	9	7	9	6	**8**
Word recognition (% correct)	46%	33%	45%	28%	**38%**
Invented word recognition (# out of 20)	1	1	1	1	**1**
Invented word recognition (% correct)	6%	3%	5%	3%	**4%**
Reading Skills					
Students classified as readers (5+ words correct in 30 seconds)	14%	24%	17%	17%	**18%**
Accuracy (% words correct in passage), readers only	6%	3%	5%	3%	**4%**
Fluency (words correct per minute), readers only	4	5	5	4	**5**
Comprehension Skills					
Reading comprehension questions correct, readers only	46%	0%	50%	14%	**32%**
Listening comprehension questions correct, non-readers only	18%	22%	19%	17%	**19%**
Listening comprehension questions correct, readers only	35%	23%	19%	12%	**22%**

Source: Student survey, IMPAQ calculation. Note: Only 28 students were eligible for reading comprehension. N = 240 for Grand Bassa, 215 for Grand Gedeh, 184 for Rivercess, and 197 for River Gee

The next sections document the benchmark values of the key outcomes in detail. A brief overview of other subtests and their desired outcomes are provided in **Appendix D: Other Subtests of Reading Assessment**.

Letter Knowledge

To assess students' letter knowledge, enumerators showed them a chart of 26 letters in English and asked them to name each letter. Most students (89 percent) could identify 21–26 letters, with an average of 23. Similarly, 91 percent of the sample were able to identify at least 75 percent of the letters. Only 16 percent were able to identify all 26 letters, but there was no student who could not identify a single letter. The letter "L" was the most challenging for students to identify, while "O" was the easiest. **Exhibit 21** shows the distribution of letter recognition scores for the sample of second-grade students by county. There were no major differences in the outcomes by gender, primary language at home, or county.
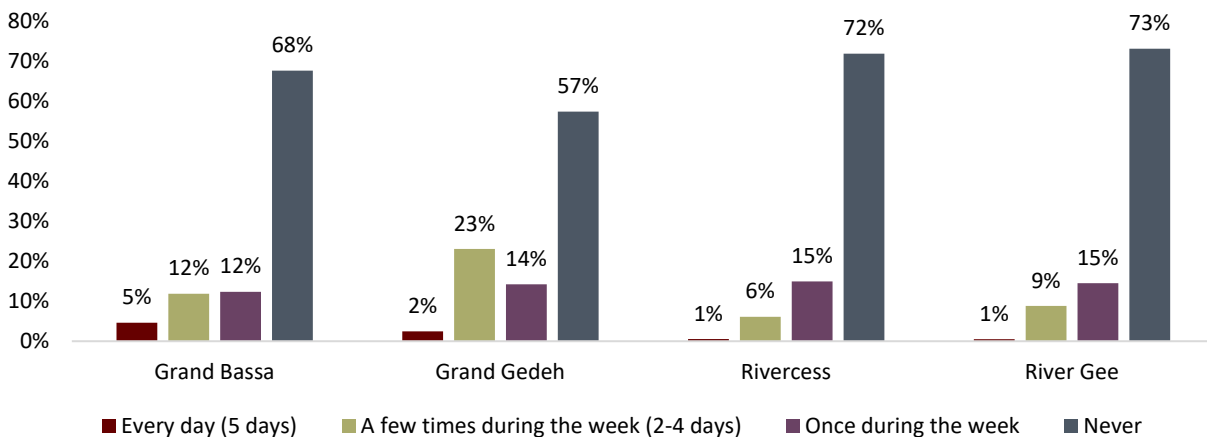
Exhibit 21. Distribution of Letter Recognition Scores
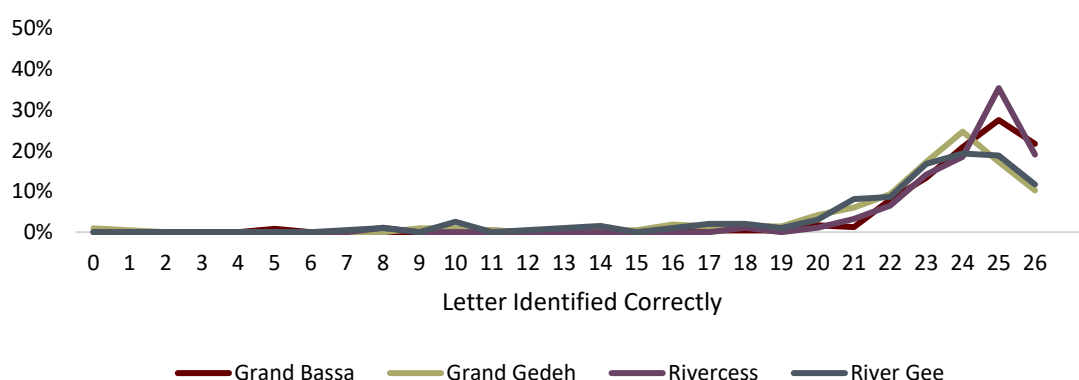
Source: Student survey, IMPAQ calculation. N = 240 for Grand Bassa, 215 for Grand Gedeh, 184 for Rivercess, 197 for River Gee

Reading Skills and Reading Comprehension

Only 18 percent of sampled second-graders were identified as readers; that is, they read at least five words correctly in 30 seconds. There was a higher proportion of such students in Grand Gedeh (24 percent) than in Grand Bassa (14 percent), Rivercess (17 percent) and River Gee (17 percent). Only minor inconsistencies emerged when the data were disaggregated by gender and language. Notably, out of the 148 readers, 14 percent did not consider English their first language compared to 19 percent of the overall sample.

Among the 148 readers, 81 percent (120 students) either gave up before attempting to read a significant portion of the passage or could not read the rest of the passage. These students had the rest of the passage read aloud to them and so were assessed on listening comprehension. Only 28 students qualified for assessment on reading comprehension. Most of the students (688) were identified as non-readers.

We also looked at the fluency and accuracy for which students could read. Readers were able to read an average of five words per minute. The accuracy of readers was low, at an average of only 40 percent of the words they attempted. Readers could only read 4 percent of the entire passage accurately; however, this result should be considered with caution as many of the readers stopped part way through the passage without even attempting to read the entire passage.

After almost all students had listened to the whole passage, they were asked ten comprehension questions:

- Summary: 1 question that tests students' ability to identify the main ideas of a reading passage.
- Literal: 5 questions in which the answer is clearly and explicitly stated in the passage.
- Inferential: 3 questions in which the answers are usually implied, rather than clearly stated in the passage.
- Evaluative: 1 questions that requires some level of cognitive and/or emotional judgment. To answer such a question, a child needs to use his/her personal opinion.

We then defined competency on the comprehension assessment as the ability to answer at least 80 percent of the questions correctly. In general, readers were more successful on the comprehension questions than listeners (both non-readers and readers who did not finish the passage). Fully 32 percent of readers and just

19 percent of listeners answered at least 80 percent of the comprehension questions correctly. Among the listeners, 19 percent of non-readers and 22 percent of readers met the 80 percent competency standard.

We also examined the reading outcomes based on students' primary language at home. **Exhibit 22** shows a disaggregation of comprehension and reading ability by English and non-English speakers. Those who reported English as their main language at home scored significantly higher on the comprehension test than non-English speakers, with gaps of 3 percentage points on reading comprehension and 12 percentage points on listening comprehension.[18] There were no major differences in the results by county or gender.

Exhibit 22. Comprehension and Reading Skills by Language

Indicator	English	Non-English	Overall
Reading comprehension (overall % of students who passed)	1%	1%	**1%**
Listening comprehension (overall % of students who passed)	22%	10%	**19%**
Accuracy (% words correct in passage out of attempted words), readers only	39%	43%	**39%**
Accuracy (% words correct in passage out of total words), readers only	5%	4%	**4%**
Fluency (words correct per minute), readers only	5	5	**5**

Source: Student survey, IMPAQ calculation. N = 676 for English and 160 for Non-English

Associations between School Characteristics and Students' Literacy Skills

As the literature suggests that school quality may matter in improving children's learning or their willingness to attend school,[19] the evaluation team used multivariate regression analyses to examine the relationship between students' literacy skills and schools' characteristics, collected from the school assessment. We looked at the following selected variables:[20]

- Students' enrollment (by gender)
- Number of latrines available in the school
- Presence of handwashing stations
- Availability of drinking water resources at the school
- Presence of school meals
- Availability of libraries and book banks

Overall, the regression analysis showed a strong relationship between school enrollment and second grade students' literacy skills. However, the association was negative for male and positive for female students. Although this information could be helpful for implementation purposes, they should be interpreted with caution as enrollment data were not available for all the schools.

Appendix F: Regression Analyses presents the regression results, taking into consideration performance by county, gender, and grade across the program schools.

4.3 Other Key Student Outcomes

This section describes key project evaluation outcome indicators pertaining to hygiene and handwashing, nutrition, SGBV and gender norms, and disability. Questions about these topics were asked of both Grade 2 and Grade 6 students, except for questions about gender norms, from which Grade 2 students were excluded because of limited cognitive ability to handle such questions.

4.3.1 Hygiene and Handwashing Practices

To capture information on hygiene practices, enumerators first asked students whether they had washed their hands at all in the day prior to the survey, and with what. Almost all students (94 percent) reported that

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[18] Reading comprehension numbers for non-English speakers should be analyzed with caution because only four non-English-speaking students qualified for the reading comprehension assessment. The listening comprehension results can be considered more robust.

[19] Glewwe, P. (2002). Schools and Skills in Developing Countries: Education Policies and Socioeconomic Outcomes. Journal of Economic Literature, XL, 436-482.

[20] Only variables that had enough variations in their responses were selected for the regression analysis.

they had washed their hands, and 88 percent said they washed with water and soap. There were no gender, grade, or county differences in those outcomes.

For a deeper understanding of students' knowledge and handwashing practices, we developed questions to compare student knowledge of appropriate handwashing behavior to their actual conduct. Survey questions focused on handwashing at critical moments, defined as: (1) after using the toilet to defecate, (2) after using the toilet to urinate, and (3) before consuming food.

The data show that, although 25 percent of students knew that they should wash their hands at these moments, only 11 percent responded that they actually did so. While the actual reported handwashing practices is low possibly due to lack of proper infrastructure and facilities in the school, the low hygiene knowledge and its gap with students' practices are worth considering when implementing the WASH related activities of the LEARN program.

Handwashing knowledge and practice varied considerably by county, as shown in **Exhibit 23**. Students in Grand Gedeh exhibited the lowest levels of both knowledge and practice. The disparity between knowledge and practice was greatest in Rivercess, where 33 percent of students reported understanding when to wash their hands, but only 10 percent actually did so.

Exhibit 23. Student Knowledge vs. Practice of Critical Handwashing Moments by County

Indicator	Grand Bassa	Grand Gedeh	Rivercess	River Gee	Overall
Handwashing knowledge	28%	2%	33%	33%	**25%**
Handwashing self-reported behavior	16%	1%	10%	14%	**11%**

Source: Student survey, IMPAQ calculation. N = 386 for Grand Bassa, 276 for Grand Gedeh, 272 for Rivercess, and 313 for River Gee

When looking at each of the three critical moments separately by county, only 6 percent of students in Grand Gedeh washed their hands after urinating, and just 8 percent said that they knew they should do so. In other counties, the percentages of students who reported knowing and practicing handwashing after urination were much higher. However, Grand Gedeh and other counties were about the same in student responses regarding the practice of washing hands after defecating, even though Grand Gedeh students fell considerably behind students in the other three counties in knowledge in this area. (See **Exhibit 50** and **Exhibit 51** in **Appendix C: Additional Tables and Complementary Outcomes** for details.) Boys and girls in Grades 2 and 6 showed similar patterns in their responses to questions about when they should wash their hands.

4.3.2 Nutrition Practices and Knowledge

Practices

To determine whether schools had canteens and provided meals before LEARN implementation, the survey inquired whether students had eaten a free meal prepared at school yesterday. We gave the students the option of responding 'no' to never having eaten a meal, 'yes' if they have eaten a meal, and 'no food was prepared' if they have previously eaten a meal at school but the canteen is currently inactive.

Though, overall, 49 percent said that no food was prepared, the results varied by county, as

Exhibit 24 shows. In Grand Gedeh, 80 percent of students reported to have never eaten a meal at school in the previous day while in Rivercess only 11 percent stated that they have never consumed a free school meal. Instead, in Rivercess, 88 percent of students said no food was prepared, indicating that perhaps their canteen is currently inactive. Across all counties, less than 25 percent of students reported that their schools provided them with a free meal that they had recently eaten. A negligible difference (less than 5 percent) was found between Grade 2 and Grade 6 students, and only a slight difference (less than 10 percent) between males and females, in their responses to whether they consumed a free meal at school. This finding confirms that most schools in our sample currently do not appear to have active school-feeding programs.

Exhibit 24. Availability of Free School Meals by County
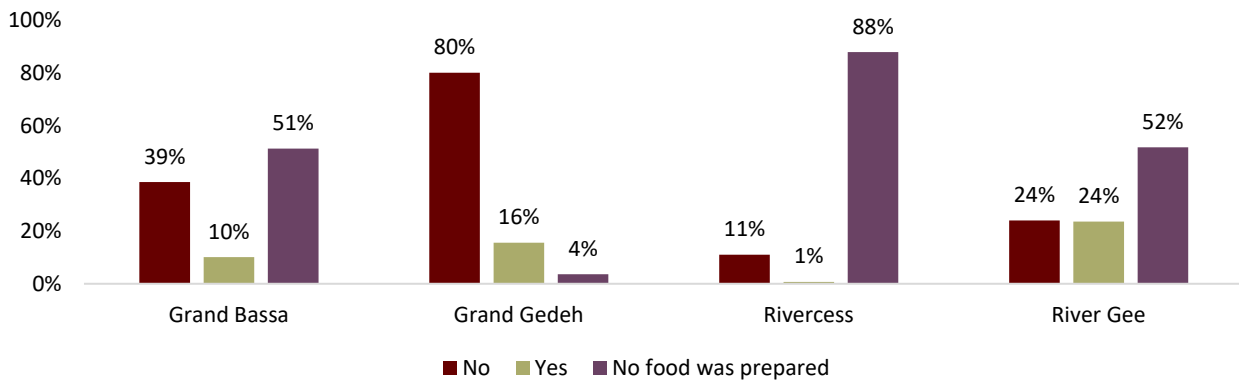
Source: Student survey, IMPAQ calculation. N = 386 for Grand Bassa, 276 for Grand Gedeh, 272 for Rivercess, and 313 for River Gee

To obtain a better understanding of students' eating habits, we asked Grade 2 and Grade 6 students how frequently they ate each day. As shown in **Exhibit 25**, 58 percent said they ate twice per day and 26 percent reported eating three times daily. Negligible differences emerge when the data are disaggregated by grade, gender, or county.

Exhibit 25. Number of Times Students Ate per Day
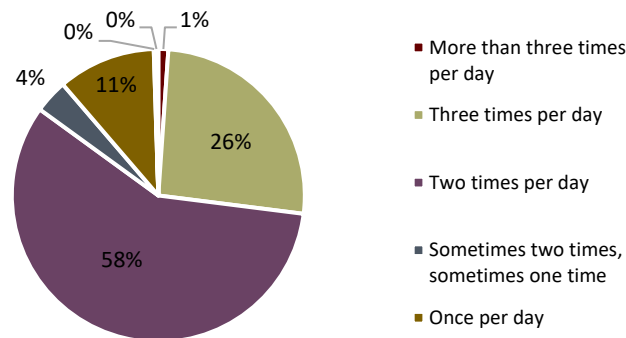
Source: Student survey, IMPAQ calculation. N = 1,247

When asked how food should be divided by gender in the household, 42 percent of students said boys and girls should receive equal amounts, and 32 percent said boys deserve more. This pattern was generally repeated across counties, although, as **Exhibit 26** shows, a higher proportion of students (42 percent) stated that boys should get more food in Rivercess than in the other counties (24-32 percent). No notable difference was found when comparing the responses of boys and girls, and the difference between grades was just slightly higher than 10 percent. A lower percentage of Grade 6 students (18 percent) stated that girls should receive more food compared to 27 percent among Grade 2 students. In response to whether food should be distributed equitably by gender, a higher portion of Grade 6 students (49 percent) responded affirmatively and 38 percent of Grade 2 students disagreed.

Exhibit 26. Students' Perceptions of How Food Should Be Allocated to Boys and Girls
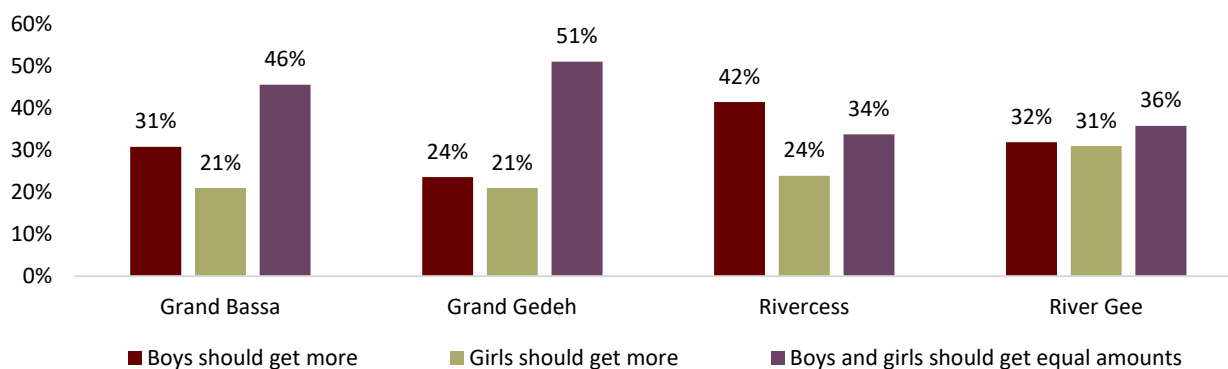
Source: Student survey, IMPAQ calculation. N = 386 for Grand Bassa, 276 for Grand Gedeh, 272 for Rivercess, and 313 for River Gee

Knowledge

To determine whether students could identify the components of a healthy diet, the survey asked students to identify the three components of a balanced diet, defined as *go, glow,* and *grow* foods. Only 2 percent of students (26 students out of 1,247) stated that they knew the definition of a balanced diet, and of those 26 just three students could successfully identify all three components of a healthy diet.

4.3.3 Sexual and Gender-Based Violence and Gender Norms

As noted at the beginning of this section, we surveyed both grades regarding SGBV, but directed gender norm questions only to Grade 6 students. To assess students' willingness and ability to report incidents of violence, the survey inquired whether rules existed to guide teacher behavior in school and, if so, to specify those rules. Specifically, it asked how teachers disciplined students and whether students knew to whom they could go if they were being harassed. Regarding gender norms, we asked Grade 6 students only whether they agree or disagree with a series of statements about relationships between males and females.

Knowledge of Rules for Teachers

A large majority, 72 percent of students, said that rules existed for how teachers should treat students at school. An examination of the data by county shows no major difference, although the proportion of students noting rules on teacher behavior was slightly higher in Grand Bassa (78 percent) and Rivercess (77 percent) than in Grand Gedeh (61 percent). Differences by grade were more pronounced. Fully 82 percent of Grade 6 students, but only 67 percent of Grade 2 students, reported that teachers must follow rules for behavior toward students. A greater level of knowledge among Grade 6 students shows they have a more complete understanding of school operations and rules in place that teachers ought to follow compared to second grade students, which could be due to their enrollment at school for longer compared to Grade 2 students.

Students tended to know that rules prevented teachers from physically harming students. Differences by gender and region are negligible. As **Exhibit 27** shows, 44 percent of students stated that teachers were not allowed to beat students, while 38 percent said that teachers were not allowed to beat students "too much." We made the distinction between beating students and doing so "too much" because the cognitive testing showed that in the Liberian context beating students remains a common discipline tactic in primary schools. Therefore, we distinguish between the severity of beating so as to better capture information on this front.

Exhibit 27. Student Identification of Rules to Guide Teacher Behavior
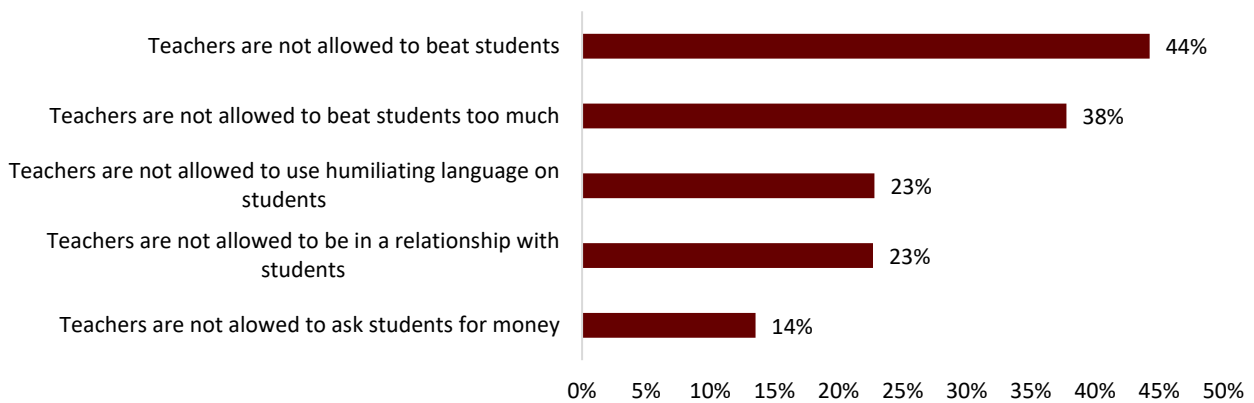
Teachers are not allowed to beat students	44%
Teachers are not allowed to beat students too much	38%
Teachers are not allowed to use humiliating language on students	23%
Teachers are not allowed to be in a relationship with students	23%
Teachers are not alowed to ask students for money	14%

Source: Student survey, IMPAQ calculation. Students were told to select all that apply and therefore the total of the percentages do not add to 100 percent. 15 students responded that they did not know the answer even though they said rules exist for how teachers should treat students in school. N = 895

Reports of Disciplinary Practices

When asked about discipline at school, 60 percent of students said teachers forced them to clean or work at school if they behaved poorly, and 42 percent reported physical violence. **Exhibit 28** shows high variability among counties in reports of teachers' disciplinary practices, particularly physical violence and work at school. Across all counties, less than 2 percent of students cited humiliating language as a form of discipline.

An analysis of the data by grade also revealed some differences in student experience of discipline. (See **Exhibit 52** in **Appendix C: Additional Tables and Complementary Outcomes**.) Grade 2 students were more likely to mention physical violence (55 percent) as a school discipline practice than Grade 6 students (16 percent). Meanwhile, 80 percent of Grade 6 students more so stated cleaning or working at school as a type of punishment, but only 50 percent of Grade 2 students mentioned this tactic as a discipline strategy. These results suggest that teachers' discipline varied with students' grade.

Exhibit 28. Types of School Discipline by County
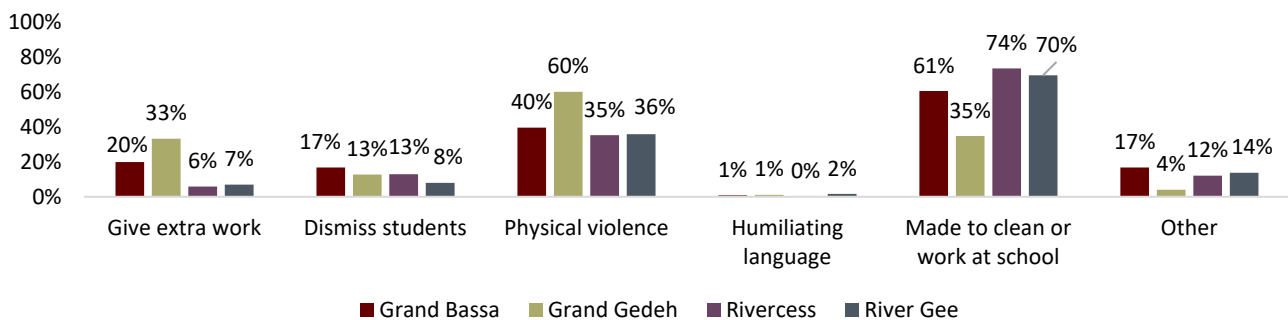
Source: Student survey, IMPAQ calculation. Students were told to select all that apply and therefore the total of the percentages do not add to 100 percent. N = 386 for Grand Bassa, 276 for Grand Gedeh, 272 for Rivercess, and 313 for River Gee

The incidence of physical violence varied by grade across counties. For instance, the disparity between Grade 2 and Grade 6 students was far greater in River Gee than in other counties: 52 percent of Grade 2 students cited physical violence compared to 9 percent of Grade 6 students. No large differences emerged in an examination of the data by gender.

Willingness to Report

Finally, the survey asked students about their knowledge of actions to take if they are teased or touched at school in a way they do not like, which left open ended the actor involved in such action (a teacher, another child, an administrator, etc.). A large majority of students (89 percent) reported that they would speak to their teacher, followed by 34 percent who said they would go to the principal or registrar. Only 2 percent of students reported they would do nothing in such situations.

Synthesizing all this information to create an index for SGBV knowledge and practice, we developed three measurements to gauge students' willingness and ability to report SGBV incidents: (1) proportion of students who understand school rules and codes of conduct; (2) proportion of students who indicated they would report cases of bad behavior; and (3) proportion of students who reported any type of corporal or psychological teacher discipline.

We considered students to be knowledgeable on codes of conduct if they reported that rules exist to guide teacher behavior and could relate to enumerators some of the guidelines. Across the sample, 71 percent of students stated that their schools had a code of conduct regulating teacher behavior. This proportion generally remained above 50 percent when data were disaggregated by county, grade, and gender. Grand Gedeh had a slightly lower percentage of students who indicated knowledge of school rules, at 58 percent, compared to 70–77 percent in the other counties. Further, 81 percent of Grade 6 students understood the code of conduct compared to 65 percent of Grade 2 students. There was little to no difference between male and female respondents.

We considered students to be willing to report SGBV incidents, defined in the survey as they being teased or touched in an uncomfortable way, to see if they could identify the person they would speak to in such cases. Though simply knowing whom to contact does not guarantee that the student would actually reach out, the survey could not ask students directly if they would report an incident because of the sensitivity of the topic. We therefore hypothesize that students who could readily name a contact person would be inclined to report SGBV incidents. In this context, a vast majority of students (98 percent) in our sample were willing to report inappropriate situations at school that they witnessed or in which they were personally involved. No differences were found by county, grade, or gender.

For the third measurement in our index of willingness to report, we analyzed student responses to questions regarding teacher discipline. We considered teachers as having engaged in corporal or psychological punishment if students reported them as having taken part in any of the discipline tactics shown in Exhibit 28. By this definition, across the board, regardless of gender, grade, or county, close to 100 percent of students stated that their teachers used some form of corporal or psychological punishment. Specifically, in the overall project sample, 88 percent of students confirmed teacher discipline that involved extra work, dismissing students from class, physical violence, humiliating language, and manual labor.

In summary, our index suggests that students in all grades would willingly report inappropriate teasing or touching in school. Although teachers regularly discipline students through corporal or psychological discipline, students largely understand that their teachers are subject to a code of conduct. However, such knowledge of a code of conduct would not guarantee students reporting on their teachers should violations of the code occur. But this level of knowledge regarding guidelines could influence student perceptions of the school climate and permitted behavior. Studies have shown that students feel more encouraged to share their thoughts if they hold positive perceptions of relationships with their teachers in the classroom, and such sentiments may depend on whether their teachers abide by a code of conduct.[21] Overall, Grade 2 students seemed to have a more limited awareness of school rules than Grade 6 students.

Gender Norms
To obtain information on perceptions of gender norms, we asked Grade 6 students only whether they agreed or disagreed with a series of five statements. **Exhibit 29** presents the results.

Exhibit 29. Student Perceptions of Gender Norms

Statement	Disagreed
If a boy touches a girl at school, it's because the girl did something to attract him.	78%
There are times when a boy needs to beat his girlfriend.	69%
Girls like to be teased by boys.	55%

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[21] Wentzel KR. (1997). Student motivation in middle school: The role of perceived pedagogical caring. *Journal of Educational Psychology*, 411–419.

Statement	Disagreed
When girls wear short skirts, they are telling boys or men to touch them.	50%
For girls to get good grades, they sometimes have to let their teachers touch them or love them.	75%

Source: Student survey, IMPAQ calculation. N = 411

A high percentage of Grade 6 students (78 percent) disagreed with the statement that, if a boy touches a girl, he has done so because the girl did something to attract him. Similarly, a large proportion of students (75 percent) disagreed with the statement that girls must allow teachers to touch them or love them to earn good grades. As for physical abuse, 69 percent of students disagreed with the statement that sometimes a boy needs to beat his girlfriend. However, respondents were divided regarding whether girls like to be teased by boys and whether wearing short skirts invites boys to touch girls. When examining the answers to these statements by gender, we found no large differences in male and female perceptions of these norms. On the other hand, disaggregating by county, Grand Bassa showed slightly lower proportions of students disagreeing with the statement that there are times when a boy needs to beat his girlfriend (58 percent) and a higher percentage of students agreeing that girls like to be teased by boys (59 percent). (See **Exhibit 53** in **Appendix C: Additional Tables and Complementary Outcomes**.)

Next, we defined a threshold for students holding appropriate views of gender norms as disagreement with at least four of the five statements on gender stereotypes. About half of the students (51 percent) reached the threshold, with no large difference by gender. As **Exhibit 30** shows, there were slight variations by county: smaller proportions of students in Grand Bassa and Grand Gedeh disagreed with at least four out of five gender norms statements. However, these results should be interpreted with caution due to social desirability of self-reported responses to such questions (especially in Liberia where this subject is one of the known issues in the country).[22]

Exhibit 30. Students who Disagreed with 4 of 5 Gender Norms by County
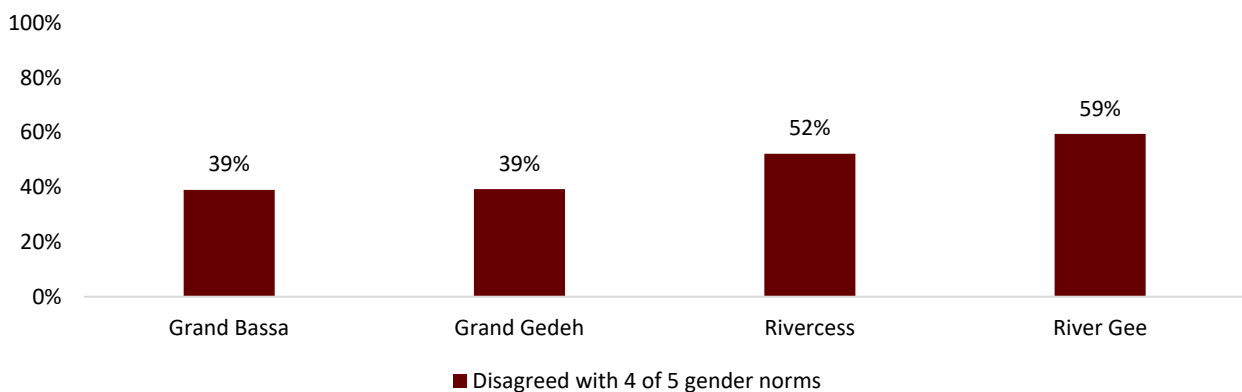
Source: Student survey, IMPAQ calculation. N = 57 for Grand Bassa, 37 for Grand Gedeh, 46 for Rivercess, and 69 for River Gee

4.3.4 Disability

We also considered visual, auditory, or physical impairments that may affect students' ability to learn in the classroom by taking and adopting a set of questions from the Washington Group to reflect current thinking and measurement of child functioning.[23] Although this leading conceptual framework assesses a multitude of areas in which children may experience functional difficulties, our survey only asked students questions related to difficulties seeing, hearing, or walking. We directed these questions to students in both Grade 2 and Grade 6. Our results showed that across grades, gender, and counties, the vast majority of children (more

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[22] Parkes, J. (2016). The Evolution of Policy Enactment on Gender-based Violence in School. *Prospects*, 93-107.

[23] The Washington Group/UNICEF Module on Child Functioning, finalized in 2016, covers children between 2 and 17 years of age and assesses functional difficulties in different domains including hearing, vision, communication/comprehension, learning, mobility and emotions. See: https://data.unicef.org/topic/child-disability/module-on-child-functioning/ for more information.

than 90 percent) reported that they did not have any kinds of disability in these three domains. We did not find any notable differences by gender, grade, or county.

Exhibit 31. Proportion of Students Reporting No Visual, Oratory, or Physical Difficulties

Category	Percentage
No difficulty walking or climbing steps	94%
No difficulty hearing	98%
No difficulty seeing	97%
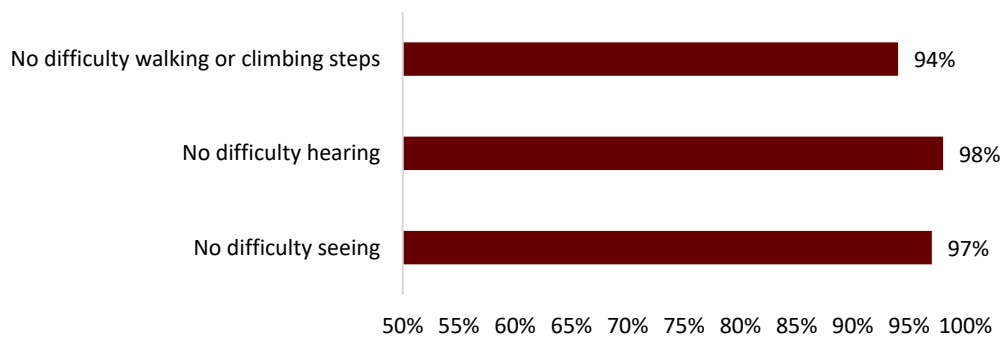
Source: Student survey; IMPAQ calculation. N = 1,247

SECTION 5. IMPACT EVALUATION BASELINE RESULTS

This section describes the sample of second grade students in all active schools in Grand Gedeh who completed the student survey and the LBRA. The results presented in this section show the similarity of average characteristics and outcomes between each of the treatment arms and the control group at baseline.

We first discuss the baseline differences between the treatment and control groups for the impact evaluation sample of schools, students, and household characteristics in Grand Gedeh. Then, we examine the differences between treatment and control groups on some of the key literacy-related outcomes, such as students' household and school environment, as well as their literacy skills. When appropriate, the data are also analyzed by language and gender to highlight any major differences. Measuring these baseline equivalences helps us (1) assess the validity of the random assignment and (2) control for any observed differences in the final regression analysis to improve the precision of the estimated program impacts.

After a careful analysis of the data, the evaluation team concludes that:

- Students' demographic information were more or less the same between treatment and control groups in terms of main language spoken at home, household size, and their socioeconomic status.
- Students were similarly exposed to reading materials and literacy activities at home.
- The control group had greater access to story books (other than textbooks) at school.
- Students had similarly limited literacy skills across different treatment and control groups.
- Baseline equivalency has been mostly attained across treatment arms and control groups for letter recognition and reading proficiency, with the exception of listening comprehension.

5.1 Impact Evaluation Samples

5.1.1 School Compositions

The project evaluation sample includes schools in four counties, but the impact evaluation sample includes only schools in Grand Gedeh. As explained in **Section 2.3 Impact Evaluation Methodology**, based on the geographic location of each schools in Grand Gedeh, we created 18 clusters with the 55 schools. Then, we randomly assigned all 18 clusters into three groups – two treatment and one control group. As also outlined in **Section 1.1 LEARN Program Background**, schools in each treatment group will receive different LEARN interventions:

Exhibit 32. Treatment Interventions

Treatment 1 SF only	Treatment 2 Combination of SF + LB + SHN	Control Group
LEARN will provide hot meals for all students at the school kitchen, as well as take home rations for girls in Grades 4-6 when they attend school more than 85 percent of days in a given month during the school year. Additional activities include: ▪ Distribute deworming medications, vitamins, and minerals ▪ Institute teacher recognition ▪ Build/rehabilitate storerooms, kitchens, stoves, latrines ▪ Establish PTAs ▪ Provide training on PTAs, food preparation & storage, good health & nutrition, commodity management	Additional to the SF package as described in the column to the left, schools in this group will receive LB and SHN interventions. The LB intervention will provide teacher training; distribute school supplies and reading materials; establish community book banks and reading camps; promote codes of conduct and address SGBV; and organize other activities to promote literacy. Meanwhile, the SHN component will provide parents, teachers, and school principals with training on health and nutrition knowledge alongside provision of school gardens.	Schools in this group will not receive either of the packages, but act as a comparison group for the project's impact evaluation.

Source: SC TOR.

As shown in **Exhibit 33**, 22 schools were randomly assigned to the SF treatment group, 20 schools to the SF+LB+SHN group, and 13 to the control group with no intervention. In an attempt to address the smaller-than-anticipated number of schools and the fact that not all schools had 20 available students to survey, the evaluation team oversampled some of the larger schools in the sample. In total, we surveyed 681 students in all three groups in Grand Gedeh. **Exhibit 33** also shows total number of surveyed students in each group. Students were asked for their oral assent; none of the students refused to participate in the survey.

Exhibit 33. Numbers of Schools and Students in Impact Sample

	SF	LB+SF+SHN	Control	Total
Number of schools sampled	22	20	13	**55**
Number of students surveyed	213	280	188	**681**

5.1.2 Student Compositions and Characteristics

Sample Compositions. In keeping with the evaluation design, we collected data from second-grade students in all accessible schools in Grand Gedeh. Though the average age of the students was 12 in both treatment arms and the control group, the range of ages varied slightly. (More detail on the ages of students is provided in **Exhibit 61** in **Appendix E: Additional Tables for Baseline Equivalency**.)

Despite the sample falling short of its target of 10 boys and 10 girls in each school, gender balance was maintained with an average of six girls and six boys surveyed in each school. The final sample of 681 students consisted of 52 percent girls and 48 percent boys. **Exhibit 32** looks at the gender breakdown for the treatment and control groups.

Exhibit 34. Gender of Students in Impact Sample

Treatment/Control Condition	Male		Female		
	Percent	Number	Percent	Number	
SF	53%	113	47%	100	**213**
LB+SF+SHN	51%	144	49%	136	**280**
Control	53%	100	47%	88	**188**
Overall	**52%**	**357**	**48%**	**324**	**681**

Source: Student survey, IMPAQ calculation.

Main Language Spoken at Home. When we compared the main language spoken at home across the treatment and control groups, the data revealed no significant differences, with the majority of households in each group speaking English at home. (More details can be seen in **Exhibit 62** in **Appendix E: Additional Tables for Baseline Equivalency**.)

Household Size. Each treatment group was similar in household size with on average seven people, which was not significantly different compared to the control group.

Socioeconomic Status. To obtain a better understanding of students' socioeconomic status across each group, we examined the differences between each treatment arm and the control group on household's possession of eight durable goods, including cell phone, electricity, icebox, bicycle, TV, motorbike, car, or keh keh. Students reported owning an average of one or two of these goods. The most commonly owned item by far was a cellphone, with 74 percent of the sample possessing one. The LB+SF+SHN treatment group was the most prosperous based on this measure. **Exhibit 63** in **Appendix E: Additional Tables for Baseline Equivalency** indicates a fair balance among treatment and control groups. However, compared to the control group, the LB+SF+SHN group had a marginally higher prevalence of bicycles and keh kehs (significant at the 10 percent level) while the SF group had a significantly lower proportion of icebox (significant at the 5 percent level).

5.2 Baseline Equivalence of Student Outcomes

In this section, we focus on the baseline equivalences for students' outcomes between each treatment arm and the control group using the student survey and the LBRA. To compare the treatment and control groups at baseline, the first three columns in the exhibit show the means for each treatment arm and the control

group. The next two columns compare each treatment arm to the control group, including the p-value resulting from the t-test for statistical significance. The final column reports the means for the entire sample in Grand Gedeh.

5.2.1 Household Environment Outcome

Home Literacy Environment. Exhibit 35 shows information about home literacy activities for students in the treatment and control groups. In general, about half of sampled students had engaged in each of the four activities: receiving help with schoolwork, witnessing another adult reading, being read to, or hearing a story in the past week. Across all the groups, however, a lower proportion of students reported reading books other than textbooks in the past week. **Exhibit 35** also shows no notable differences among treatment and control groups, with the exception of the LB+SF+SHN treatment arm having a higher percentage of students reporting that they had been read to at home in the past week. This difference was significant at the 5 percent level. This difference is likely related to the fact that LB+SF+SHN schools were closer to the biggest county town and perhaps more urban in nature, compared to control school clusters.

Exhibit 35. Baseline Equivalence in Home Literacy Activities

Indicator	SF	LB+SF+SHN	Control	Difference SF-Control (p-value)	Difference LB+SF+SHN-Control (p-value)	Overall
Proportion of students who saw somebody reading at home in the past week	40%	55%	45%	-5 (0.4412)	11 (0.1414)	47%
Proportion of students who received help at home with schoolwork in the past week	59%	72%	60%	-1 (0.9318)	13 (0.1242)	65%
Proportion of students who were read to at home in the past week	45%	58%	37%	8 (0.3978)	21** (0.0238)	48%
Proportion of students who were told a story by an adult at home in the past week	43%	53%	37%	6 (0.5309)	16 (0.1337)	45%
Proportion of students who read books other than textbooks/school books in the past week	22%	34%	27%	-5 (0.2261)	7 (0.2572)	28%

*Source: Student survey, IMPAQ calculation. *p-value <0.1, ** p-value < 0.05, *** p-value < 0.01 N = 213 for SF, 280 for LB+SF+SHN, 188 for control*

Availability of Reading Materials. We also looked at the differences on availability of reading materials in the households between treatment and control groups (**Exhibit 36**). The most common was a holy book and the least common was a newspaper. There was some imbalance in the sample, with the LB+SF+SHN treatment group having access to more reading materials than the control group, a finding that is significant at the 10 percent level. However, the differences between SF and control groups were minimal and not statistically significant.

Exhibit 36. Baseline Equivalence in Availability of Reading Materials

At home do you have:	SF	LB+SF+SHN	Control	Difference SF-Control (p-value)	Difference LB+SF+SHN-Control (p-value)	Overall
Textbooks/school books	40%	56%	42%	−2 (0.7289)	14* (0.0604)	47%
Newspapers	7%	14%	10%	−3 (0.5892)	4 (0.4779)	10%

At home do you have:	SF	LB+SF+SHN	Control	Difference SF-Control (p-value)	Difference LB+SF+SHN-Control (p-value)	Overall
Storybooks/comics	24%	43%	27%	−2 (0.7057)	17* (0.0669)	**33%**
Coloring and drawing books	28%	38%	26%	2 (0.8547)	11 (0.1023)	**31%**
Holy book	65%	76%	62%	4 (0.5947)	14* (0.0543)	**69%**
None	21%	9%	18%	3 (0.7174)	−9* (0.0913)	**15%**

*Source: Student survey, IMPAQ calculation. *p-value < 0.1, ** p-value < 0.05, *** p-value < 0.01 Note: Students were told to select all that apply and therefore the total of the percentages do not add to 100 percent. N = 213 for SF, 280 for LB+SF+SHN, 188 for control*

5.2.2 School Environment Outcome

There is substantial evidence in the literature that shows access to books at school (e.g., presence of school libraries) and regular teacher's attendance are important school environments factors, which may have a direct effect on students' literacy outcomes; for that reason, our data also examined these factors.[24] Overall, **Exhibit 37** shows that 41 percent of students reported that they had books other than textbooks at their school to borrow (either for free or at a cost or to read on-campus). A significantly higher proportion of control group students than SF students reported that they had access to such books.

Exhibit 37. Baseline Equivalence in Access to Books at School

Indicator	SF	LB+SF+SHN	Control	Difference SF-Control (p-value)	Difference LB+SF+SHN-Control (p-value)	Overall
Student reported they can borrow books other than textbooks from school	34%	39%	50%	−16** (0.0412)	−11 (0.2357)	**41%**

*Source: Student survey, IMPAQ calculation. *p-value <0.1, ** p-value < 0.05, *** p-value < 0.01 N = 213 for SF, 280 for LB+SF+SHN, 188 for control*

In addition, although we did not collect teachers' attendance from school logs, we asked students about the frequency of their teachers' attendance. Based on students' responses, we defined regular teacher attendance as teachers being at school all five days in the past week. As shown in **Exhibit 38**, teachers' attendance, reported by students, is significantly higher in the SF and LB+SF+SHN treatment groups than the control group, by 21 and 19 percentage points, respectively. Although these results are based on self-reported responses of young children and should be interpreted with caution, students' responses at the school level were more or less consistent within each school across the treatment and control groups.

Exhibit 38. Baseline Equivalence in Teachers' Attendance Reported by Students

Indicator	SF	LB+SF+SHN	Control	Difference SF-Control (p-value)	Difference LB+SF+SHN -Control (p-value)	Overall
Student reported teachers attended school five days in the past week	78%	76%	57%	21** (0.0320)	19*** (0.0041)	**71%**

*Source: Student survey, IMPAQ calculation. *p-value <0.1, ** p-value < 0.05, *** p-value < 0.01 N = 205 for SF, 266 for LB+SF+SHN, 183 for control*

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[24] Duflo, E., Hanna, R., and Ryan, S. P. (2012). Incentives Work: Getting Teachers to Come to School. American Economic Review, Vol. 102, NO.4. Lonsdale, M. (2003). Impact of School Libraries on Student Achievement: A Review of the Research (ISBN-0-86431-6976)

5.2.3 Literacy Outcomes

To benchmark pre-implementation values of students' literacy outcomes for the impact evaluation, the evaluation team administered the LBRA on students in Grade 2. This section presents baseline levels of students' reading outcomes and their baseline equivalence across treatment and control groups (**Exhibit 39**).

Foundational literacy skills and reading skills were mostly evenly distributed across treatment and control groups, with one exception: students in LB+SF+SHN schools performed more poorly than control students in reading accuracy (significant at the 10 percent level). In the comprehension assessment, there was some imbalance between treatment and control groups. The control group scored significantly lower than the SF group in reading comprehension and lower than both groups in listening comprehension. As discussed in **5.2.1 Household Environment Outcome**, the households in treatment arms had higher literacy activities compared to control schools. Being more exposed to literacy activities at home may also explain better listening comprehension of students in those groups. These observable baseline differences could be controlled for in the regression analysis later at endline.

We will discuss each of the results in more detail in the remainder of this section and in **Appendix D: Other Subtests of Reading Assessment**.

Exhibit 39. Summary of Baseline Equivalence in Literacy Outcomes

Outcome	SF	LB+SF+SHN	Control	Difference SF-Control (p-value)	Difference LB+SF+SHN-Control (p-value)	Overall
Foundational Literacy Skills						
Letter knowledge (# correct out of 26)	23	23	22	1 (0.6674)	1 (0.5242)	**23**
Letter knowledge (% letters recognized)	87%	88%	85%	1 (0.6674)	2 (0.5242)	**87%**
Word recognition (# correct out of 20)	5	7	6	1 (0.6451)	1 (0.7054)	**6**
Word recognition (% correct)	27%	34%	31%	−4 (0.6451)	3 (0.7054)	**31%**
Invented word recognition (# out of 20)	1	1	0	1 (0.1229)	1 (0.1472)	**1**
Invented word recognition (% correct)	4%	3%	2%	2 (0.1229)	1 (0.1472)	**3%**
Reading Skills						
Students classified as readers (5+ words correct in 30 seconds)	25%	24%	29%	−5 (0.6432)	−4 (0.5932)	**25%**
Accuracy (% words correct in passage out of attempted words), readers only	53%	47%	53%	0 (0.9644)	−6* (0.0809)	**51%**
Accuracy (% words correct in passage out of total words), readers only	2%	3%	4%	−1 (0.9644)	−1* (0.0830)	**3%**
Fluency (words correct per minute), readers only	5	5	5	0 (0.8929)	0 (0.5653)	**5**
Comprehension Skills						
Reading comprehension[1]	n/a[2]	25%	0%	n/a	-25 (0.3632)	**9%**
Listening comprehension (total)	28%	27%	13%	14* (0.0849)	14** (0.0286)	**24%**
Listening comprehension for readers	16%	36%	6%	10* (0.0849)	30*** (0.0001)	**21%**

Outcome	SF	LB+SF+SHN	Control	Difference SF-Control (p-value)	Difference LB+SF+SHN-Control (p-value)	Overall
Listening comprehension for non-readers	31%	25%	16%	15* (0.0831)	9 (0.1817)	**25%**

*Source: Student survey, IMPAQ calculation. *p-value < 0.1, ** p-value < 0.05, *** p-value < 0.01 N = 213 for SF, 280 for LB+SF+SHN, 188 for control*
[1] *Proportions of students designated as readers who finished reading the passage and passed the assessment*
[2] *No students were eligible for reading comprehension in the SF group*

Letter Knowledge

As explained in **4.2.5 Reading Outcomes**, students who could name at least 90 percent of the 26 letters of the English alphabet were considered to be "letter knowledgeable." **Exhibit 40** compares letter knowledge among treatment and control groups. On average, 50 percent of the sample was letter knowledgeable. Letter knowledge was consistent across groups, with no statistically significant differences between treatment and control groups in terms of total letters identified, letter knowledge, or percentage of students who could not identify a single letter.

Exhibit 40. Baseline Equivalence in Letter Knowledge

Indicator	SF	LB+SF+SHN	Control	Difference SF-Control (p-value)	Difference LB+SF+SHN-Control (p-value)	Overall
Total number of letters identified	23	23	22	1 (0.6674)	1 (0.5242)	**23**
Letter knowledge, defined as identifying 90% of the letters	48%	54%	48%	0 (0.9628)	6 (0.6153)	**50%**
% of students who identified zero letters	1%	1%	1%	0 (0.7130)	0 (0.8156)	**1%**

Source: Student survey, IMPAQ calculation. N = 213 for SF, 280 for SF+LB+SHN, 188 for control

Reading Outcomes

"Readers" were identified by their ability to read five words from a short story correctly in 30 seconds. Unsurprisingly, a fairly low proportion of students (25 percent) qualified as readers, with no significant differences between treatment and control groups, as shown in **Exhibit 41**.

Due to the low number of proficient readers, fluency and accuracy measures should be interpreted with caution, as they are influenced heavily by non-readers. With that said, significant differences at the 10 percent level in accuracy emerged between the LB+SF+SHN treatment arm and the control group, as the exhibit shows. To examine the data more carefully, we also calculated the accuracy by measuring total number of correct words out of total number of attempted words read by the child. The result was consistent across the groups, except for a marginal difference between LB+SF+SHN and the control group. Fluency was consistent across treatment and control groups, with all groups averaging a reading speed of five words per minute.

Exhibit 41. Baseline Equivalence in Reading Outcomes

Indicator	SF	LB+SF+SHN	Control	Difference SF-Control (p-value)	Difference LB+SF+SHN-Control (p-value)	Overall
Identified as "reader" (read 5 words correctly in 30 seconds)	23%	24%	28%	−5 (0.6432)	−4 (0.5932)	**25%**
Fluency (correct words per minute)	5	5	5	0 (0.8929)	0 (0.5653)	**5**

Indicator	SF	LB+SF+SHN	Control	Difference SF-Control (p-value)	Difference LB+SF+SHN-Control (p-value)	Overall
Accuracy (attempted)	53%	47%	53%	0 (0.9644)	−6* (0.0809)	**51%**
Accuracy (total)	2%	3%	4%	−1 (0.9644)	−1* (0.0830)	**3%**

Source: Student survey, IMPAQ calculation. p-value < 0.1, ** p-value < 0.05, *** p-value < 0.01*

Comprehension

As explained in **4.2.5 Reading Outcomes**, students were considered to have comprehended the passage if they could answer 80 percent of the 10 comprehension questions correctly. The questions were broken down into four types: one summary, five literal, three inferential, and one evaluative.

Inconsistencies between treatment and control groups were evident in the comprehension outcomes. As shown in **Exhibit 42**, reading comprehension among readers is difficult to compare due to the very low sample size of readers who completed the passage (11 students). Out of those 11 students only one passed the reading comprehension test. Large differences between treatment and control groups in listening comprehension stem from very low scores in the control group; the differences are significant at the 10 percent level for SF and at the 5 percent level for SF+LB+SHN. When listening comprehension is disaggregated by readers and non-readers, the differences mostly persist. Most notably, the SF+LB+SHN group scored much higher than the control group in listening comprehension among readers, a difference that is significant at the 1 percent level.

Exhibit 42. Baseline Equivalence in Comprehension Outcomes

Indicator	SF	LB+SF+SHN	Control	Difference SF-Control (p-value)	Difference LB+SF+SHN-Control (p-value)	Overall
Reading comprehension	n/a[1]	0%	25%	n/a	-25 (0.3632)	**9%**
Listening comprehension (total)	28%	27%	13%	14* (0.0849)	14** (0.0286)	**24%**
Listening comprehension for readers	16%	36%	6%	10* (0.0849)	30*** (0.0001)	**21%**
Listening comprehension for non-readers	31%	25%	16%	15* (0.0831)	9 (0.1817)	**25%**

*Source: Student survey, IMPAQ calculation. * p-value < 0.1, ** p-value < 0.05, *** p-value < 0.01*
[1] *No students were eligible for reading comprehension in the SF group*

Exhibit 43 shows the variations between treatment and control groups in the types of comprehension questions. Students did very poorly on the question asking them to summarize the passage but performed fairly well on the inferential and evaluative questions. Notably, the control group did significantly worse on the summary, literal, and evaluative questions than the LB+SF+SHN group and significantly worse than the SF group on the evaluative question only. These trends persist when the data are disaggregated by readers and non-readers, with non-readers generally having slightly higher scores.

Exhibit 43. Baseline Equivalence in Types of Comprehension Questions
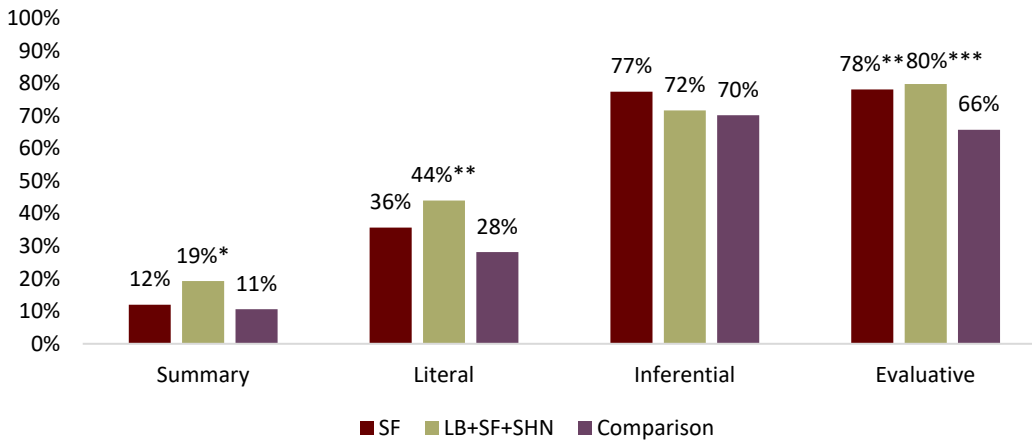
Source: Student survey, IMPAQ calculation. Note: Asterisks indicate a statistically significant difference between that bar and the control group as follows: *p-value < 0.1, ** p-value < 0.05, *** p-value < 0.01. N=213 (SF) N=280 (LB+SF+SHN) N=180 (Control). For evaluative questions, N=183 (SF) N=218 (LB+SF+SHN) N=143 (Control).

5.3 Associations with Literacy Skills

To shed light on the potential predictors of students' literacy outcomes before implementation of the interventions, the evaluation team used multivariate regression analyses to examine the relationship between students' literacy skills and students', as well as schools' characteristics.

5.3.1 Equity Analysis

We examined the relationship between students' literacy skills and the following dimensions of equity: age, sex, English as the main language spoken at home, caregiver attendance at school as a child, grade repetition, home reading materials, home literacy interactions with students, and socioeconomic status. The characteristics are defined as follows:

- **Age** – Students' age measured in years
- **Female** – Students' gender (1=female)
- **English** – English is the primary language spoken at home
- **Repeated a grade** – Student has ever repeated any grade
- **Caregiver attended school** – Caregiver went to school as a child
- **Reading materials** – Sum of all reading materials (textbooks, newspapers, storybooks/comics, and coloring/drawing books) at home[25]
- **Home literacy index** – Sum of all home literacy interactions with students, including whether:
  - o the student has seen someone reading, or
  - o someone helped the student to study, or
  - o anyone told the student a story, or
  - o anyone read to the student[26]
- **Socio-economic status (SES) index** – Sum of all household durable possessions, including mobile phone, electricity, fridge (icebox), bicycle, television, motorbike, car, and keh keh.

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[25] Child-friendly materials, such as storybooks/comics and coloring/drawing books were weighted double in the regression analysis.
[26] Reading to the student was weighted double in the regression analysis.

Overall, the regression analysis shows that among these factors, gender, home literacy interactions and socio-economic status (and, to a lesser extent, home language, grade repetition and reading materials) are associated with literacy skills. The key findings are as follows:

- Boys outperform girls in letter knowledge, word recognition, while girls are more likely to perform better on listening comprehension.
- Home literacy interaction is the main predictor of word recognition and decoding skills. However, the association between home literacy and being identified as a reader was counterintuitively negative.
- The SES status also only seems to be correlated with readers and accuracy (attempted words) but negatively.

These counterintuitive results should be interpreted with caution as they could be due to data index measurement in the absence of factor analysis.

5.3.2 School Assessment Analysis

As explained in **4.2.5 Reading Outcomes,** to assess the pre-implementation characteristics of schools and examine their associations with students' literacy skills, we looked at select variables. Among those factors, enrollment and availability of books at school for students to borrow showed a strong associations with students' literacy skills.

Similar to the project evaluation sample, in the impact sample, the regression analysis showed positive associations between the total number of enrolled female students and most of the literacy skills, including letter knowledge and word recognition. However, the relationship was reversed for second grade male students. Intuitively, availability of books for students to borrow in the schools were positively associated with their literacy skills. **Appendix F: Regression Analyses** presents this information more in detail.

SECTION 6. QUALITATIVE FINDINGS

Through interviews with principals and focus groups with parents and teachers, the research team sought to verify project design assumptions; identify potential threats to implementation; provide formative feedback on planned activities; and examine reading attitudes, behaviors, and available resources in home and community settings. In this manner, the qualitative research at baseline serves as documentation of the culture of reading prior to LEARN implementation and provides information on the alignment of the program design with stakeholders' needs and capacities. **Exhibit 44** is a summary of the main findings; it is followed by a detailed narrative.

Exhibit 44. Summary of Findings Related to Qualitative Evaluation Questions

What is the culture of literacy in typical families? Do parents value education for their children? Do they promote literacy at home?
▪ Parents value education and have high aspirations for their children's educational attainment ▪ While parents say they value education for their daughters, domestic work at home prevents many girls from attending school regularly ▪ Parents encourage their children to study at home, but many are unable to assist with school work due to lack of literacy or education ▪ With the exception of the Bible, most households do not have books ▪ Only a few parents tell stories at home, but this is generally limited to the youngest children
What is the culture of literacy in typical schools? How are teachers invested in student literacy? Will the incentives offered to teachers motivate attendance and performance?

▪ Teachers and principals report several challenges to teaching reading and writing:
   ○ Lack of school supplies and materials
   ○ Overcrowded classrooms
   ○ Overage students
   ○ Students in grades above their competency levels
▪ Teacher absenteeism is high, mainly because teachers are unmotivated due to low or irregular pay
▪ Teachers and principals support the idea of school or community libraries/book banks
▪ Food and/or financial assistance would motivate teacher attendance and performance

What are the challenges that schools and families face in sending children to school?
▪ Financial reasons, including school fees and the cost of supplies, are the primary barriers to school attendance ▪ Parents, teachers, and principals blame girls for not going to school, citing pregnancy and marriage ▪ Domestic duties and child labor prevent many children from attending school, particularly girls and adopted children ▪ Some parents understand that their children are required to attend school, so will beat their children who resist going
What are potential threats to program implementation and success?
▪ Many school communities have previously participated in school feeding programs which were not sustainable ▪ PTAs do not currently have the training or capacity to carry out planned program activities ▪ Teachers and principals understand that corporal punishment is prohibited in school, but parents continue to encourage this as a way to discipline their children

6.1 Value of Education and Culture of Literacy

6.1.1 Parent and Community Attitudes

Research Question: What is the culture of literacy in typical families? Do parents value education for their children? Do they promote literacy at home?

In all 12 principal interviews and 24 parent and teacher focus group discussions, education was considered to be a positive input that would help children succeed in life by getting better jobs and helping to reduce poverty in their families. In general, parents, teachers, and principals valued education for both boys and girls. All parents claimed high educational aspirations for their children, saying that they wanted both their sons and daughters to go to university to get a master's degree

> *"If you educate a girl, you educate the entire nation."*
>
> *—Parent, rural area*

or even a doctorate. All parents spoke of the benefits of education for their children, particularly in terms of accessing better jobs (that is, not farming), improving society, helping their parents, and enhancing their moral conduct.

Parents were very vocal about the importance of education for their girls, with almost all saying that girls had equal access to school in their communities and that they wanted all girls to be educated. When asked why, about half said that educated female children could improve their family status and take care of their families. As one parent commented, "We benefit from girl children more because her focus will be on her parents and families." However, teachers and principals, while acknowledging that parents wanted their daughters to be educated, said that domestic duties at home, including cooking, prevented girls from getting the same level of

> *"When it comes to responsibilities at home, girls have more work, which can lead them to coming to school late and even contribute to their dropping from school."*
>
> *–Teacher, peri-urban area*

education as boys . Almost every teacher said that girls at their schools were often late or missed school because of chores at home, with one teacher saying that, even when girls made it to school, they were so tired from work that they slept through class. However, most educators seemed to think that girls should be able to handle both their school work and their domestic duties, with one principal from an urban school saying, "Most girls have more responsibilities at home, but it does not prevent them from going to school—because others girls did similar [domestic] work and succeeded based on their commitment to learning." A teacher said, "Our girl children most often abuse the opportunity they have to achieve education." This attitude was widespread and not limited to a particular county or geographic area.[27]

> *"Girls are still doing domestic at home, but that is not preventing them from schooling because even the educated women of this nation went through the same process, and since they had focus of what they wanted to achieve in life, they did."*
>
> *–Principal, rural area*

Although parents valued education, and most said they encouraged their children to study at home, many said that they were unable to help their children because they themselves lacked literacy or sufficient education. In addition, few parents expressed full appreciation for the importance of storytelling,[28] and parents did not describe ways in which they promoted a culture of reading in the household. Some blamed their own illiteracy; others said they did not have enough time because of obligations in the household and the family business. As one parent in a rural community explained, "Some parents don't tell their children stories because of busy schedules on farm, and after work they feel tired of sitting with the children."

> *"No, we don't tell our children stories – they feel uncomfortable listening to old-days stories with the thinking that this is modern time and old thing should be done with."*
>
> *–Parent, urban area*

Those parents who did report telling stories at home did not rely on books, as they did not have any (with the exception of the Bible). Most reported that their stories were cautionary tales about their personal lives. As explained by one parent in a peri-urban area, "I sometimes tell them stories showing example of myself on how uneducated I am, which led to my farming today. Some of my friends who learn at the time are living good life because their parents focus on their education."

Even parents who understood the value of storytelling and tried to engage their children found that their children lacked interest in stories once they became older.

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[27] It should also be noted that the vast majority of respondents (around 80%) were male – see **Exhibit 4** for the gender breakdown of principals and teachers at the schools.

[28] Collins, F. (1999) The Use of Traditional Storytelling in Education to the Learning of Literacy Skills.

6.1.2 Teacher Motivation

Research Question: *What is the culture of literacy in typical schools? How are teachers invested in student literacy? Will the incentives offered to teachers motivate attendance and performance?*

When it comes to the culture of literacy and investing in student literacy in schools, teachers and principals were most concerned about the lack of school supplies and textbooks. Almost every teacher reported feeling good about imparting knowledge to students. However, teachers said that it was difficult to teach students to read without books or with inadequate teaching materials. In addition, some teachers said their classrooms were overcrowded and that many students had been inappropriately placed in a grade above their competency level.

> *"The availability of books will benefit teachers and students in the growth and development of the community educationally."*
>
> *–Principal, rural school*

In almost every school we visited, teachers and principals said that there was no place in their communities for children to read or take home books unrelated to school work. Several principals and focus groups of teachers said that a book bank or school library would be beneficial for their students, as it would not only help them with reading, but also keep them busy after school. Several also said that they, too, would benefit from having such a resource, as it would give them a place to conduct research outside of class time.

Parents across all schools generally liked the teachers at their children's schools. Teachers were only sometimes reported to have poor performance; this limitation was generally attributed to lack of motivation due to low and/or irregular salaries and limited opportunities for advancement.

The most common complaint from parents was that teachers were absent or left early more often than they should. Principals and teachers agreed that teachers tended to miss school for reasons other than illness or family needs, though why they missed varied by school. The schools in our sample had both salaried and volunteer teachers.[29] It seems as though salaried teachers generally attended school regularly but might miss class on market days. By contrast, parents reported that volunteer teachers often left for weeks at a time to do farm work in order to make a living. Teachers also reportedly came late to school or missed multiple days because they were traveling to pick up their pay, a task that can take an entire day in rural communities.

The main reasons teachers reported feeling unmotivated were that they were not being paid on time or that collecting their pay was far too difficult. Even when they could easily collect their pay on time, teachers still felt that they deserved more. Many were simply unable to make ends meet on the low salary, often reported as US$30 per month.

> *"It is because of underpayment of teachers, which is leading them into engagement in farming activities. Yes, if there is a salary increase, teachers will attend more frequently."*
>
> *–Teacher, peri-urban school*

Principals and teachers generally agreed that providing teachers with financial or food incentives would encourage attendance. Teachers also mentioned that compensation for overtime, along with a travel stipend, accommodations near the school, or both, would help encourage them to attend more frequently. These responses indicate that SC's current plan to include teachers in the daily school feeding should motivate teacher attendance, and potentially their performance as well.

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[29] While we did not document the number of paid versus volunteer teachers at each school, in 8 of the 12 schools parents and teachers mentioned having volunteer teachers. There were no geographic differences, and at least one school in each county mentioned volunteer teachers (Grand Bassa – 3 schools; Grand Gedeh – 2 schools; Rivercess – 2 schools; River Gee – 1 school).

6.2 Challenges to Education Access and Completion

Research Question: What are the challenges that schools and families face in sending children to school?

> *"Sometimes when some are over grown and sitting in class with little ones, the little kids can provoke them until they drop from school."*
>
> *–Teacher, peri-urban school*

The most common reason parents gave for their child not completing school was financial barriers directly related to school, such as school fees, paying for prepared lunch at school, or the cost of books, supplies, and uniforms. Similarly, many families reported that students dropped out because they had to help the family earn income, typically on a farm or in other small business enterprises. In a handful of cases, respondents reported a lack of motivation on the part of students themselves, even if opportunities were provided to them. A principal in an urban school said that students did not attend school because of "children involvement worldly passion" which included, "video club, night club, child labor, teenage pregnancy, motorbike riding, gold mining." In seven schools, teachers and principals mentioned that overage children were likely to drop out, mainly because they were ashamed and embarrassed by their illiteracy, especially with younger students who were further ahead academically in their class. Several mentioned that younger students ostracized or bullied the older students, "calling them either the grandfather or grandmother of the class." These reasons were mentioned in all four counties.

6.2.1 Equity

As mentioned earlier, respondents widely considered access to education to be gender-equitable, in terms both of legal access and of community perceptions. However, they also mentioned that girls were given more domestic duties, which interfered with their education.

Pregnancy was frequently mentioned as a reason that girls did not finish school. However, it is unclear to what extent girls were actually becoming pregnant; no concrete examples were given in any of the interviews or discussions. Still, the perception that pregnancy was something to worry about with girls was widespread, occurring in nearly all of the interviews and focus groups. In general, teenage pregnancy and early marriage were listed as main challenges to education. Some respondents made a point of putting the blame on girls and their decisions, such as this teacher: "Yes, they have equal access, but girls are not taking the advantage of achieving education due to their involvement in early marriages, interest in pleasure (prostitution, night club visitation)."

> *"There is nothing like gender difference because NGOs have sensitized people on the importance of sending both boys and girls to school even though some are still focusing boys as their cornerstone for families."*
>
> *–Principal, urban school*

Adopted children were frequently reported to be disadvantaged because parents put them to work on the farm or in the home before putting their biological children to work. A parent in an urban school said:

> *"Yes, both boys and girls have equal access to education but most girls abuse their rights by becoming single parents."*
>
> *–Principal, rural school*

> *"In this community, children go to school regularly, except children who were adopted from relatives from rural areas in negotiation with the biological parents… Majority of those foster parents engage those children at home with domestic work, street selling for income. But their biological children are regularly schooling.*

6.2.2 Student Attendance

Respondents in all schools mentioned that attendance was an issue for some students — and that most of the time the problem was that parents were keeping their children at home to help on the farm or with household enterprises. Though parents generally did say they understood how important it was for their children to go to school, they were not always able to see the long-term benefit in light of the need to keep

them home to help with daily tasks. Some communities have set up mechanisms to incentivize parents to send their kids to school regardless of the day's needs. In rural Grand Gedeh, for example, one parent said:

> "Children in this community regularly go to school, and it is both boys and girls because there are rules that citizens placed on community that if any one refuses to send his or her children to school, he or she will be charged with setting amount (1,500) for refusing to send children to school, and it's accepted by all citizens. There is a committee set up by citizens of the community for visitation, and if a child was going and stop, they are responsible to visit the parents and investigate what is unfolding that stop the child or children from going."

> "As for me, I don't see the need of sending children to school, because those who claim to be educated are here doing the same farming work we the uneducated people are engaged with."
>
> –Parent, rural area

In rural Rivercess, the consequences were even harsher, according to one parent:

> "Some parents were not involved with educating children on the importance of education but since teachers, principal, and DEO visited community and threaten parents that, if they don't send children to school, police will get involve and arrest them, they are now sending them."

In other cases, though less frequently, students chose not to go to school opting instead for sports or other recreation, and their parents did not pressure them adequately. Some parents said that they fully understood the importance of school but were unable to encourage their children to go; a number of parents admitted to having beaten their children to convince them to go (and thus to avoid the consequences outlined above).

6.3 Threats to Program Implementation

Research Question: *What are potential threats to program implementation and success?*

6.3.1 School Feeding

As school feeding and take-home rations are the primary activities of LEARN, we can confirm that participants in every interview and focus group were enthusiastic about school meals. Principals, teachers, and parents said that school feeding would encourage parents to send their children to school instead of keeping them at home and would encourage students themselves to attend without needing to be motivated by their parents. Many participants also agreed that having reliable nutrition would improve student performance. Participants noted that take-home rations for girls would be particularly popular.

> "When WFP was providing food for children on campus, all of my children were willing to attend regularly and happily, but since the stop of those provision by WFP, some refused [to return to school]."
>
> –Teacher

In schools that did not have any school feeding program or where feeding was rare or irregular, children were expected to find their own food during recess, with money provided by their parents. Parents and teachers reported that many parents didn't have the 10-50 LD for food, leaving children without lunch.

At the time of research, some of the schools visited had feeding programs on some days of the week (or as "donations were available") from WFP for students only; others said that WFP had provided meals previously but had stopped, to everyone's great disappointment. Many parents and teachers said that, when the school feeding stopped, attendance decreased dramatically. As one parent said, "For my children, when WFP was providing meal on campus, they were happy and willing to go to school even on Saturday…. If meal is not provided, they feel reluctant."

Previous school feeding programs excluded teachers, a fact they did not appreciate. Teachers requested that they be included in any future feeding programs.

Only one of the schools in the sample (a peri-urban school in River Gee) had its own program to supplement school lunches: a cassava farm on the school grounds. Though the garden was not adequate to feed all students every day, still it might serve as a model of how feeding programs can be sustained after LEARN ends.

> *"Please help not to only save the children but also save those who are [helping] to save children by providing us take-home and including us into the feeding program."*
>
> *–Teacher, rural school*

6.3.2 PTAs

Our understanding is that many of the LEARN activities, such as building or rehabilitation of facilities, commodity management, and food preparation, will be facilitated through local PTAs. Our qualitative study found that all schools had a PTA, and at most schools, it was expected that all parents, teachers, and other community members join the group. The PTAs had many purposes. Respondents most commonly reported that PTA members often pooled money together to make improvements to the school and/or to provide teachers (either salaried or volunteer) with sufficient compensation. Some parents who were PTA members reported making repairs to the school, installing fences or additional classrooms, installing toilets, buying materials for report card preparation, and paying janitors and security guards.

> *"Yes, we are part of parent and teachers group called PTA. There is no other activities we are into at the school. We suggest that training be conducted for us as parents and citizens of the community to enable us know the role and responsibility of PTA. We don't really know what a good PTA is expected to do. We are not aware of who is to join PTA."*
>
> *–Parent, rural community*

Though almost all parents expressed clear ideas about what a PTA should do, parents in several PTAs (particularly in the rural communities) reported that they did not have as strong an influence as they would like. One principal said, "There is PTA but weak in collaboration. They have no activities undertaking now." Many respondents said that schools and school communities needed to be sensitized to the importance of PTAs, so that PTAs could have more legitimacy and support — and, at times, financial backing — for their activities. Some PTA members requested that they be compensated for their time and effort. PTA members also often requested training so that they could do more, particularly in solving problems and disputes in the school and in raising funds to improve the school. Members of the weaker PTAs admitted that they didn't really know what to do.

Though most respondents reported that PTA members were responsible – and all agreed that they should be responsible – for monitoring teachers and other school staff, members were not able to provide any examples of how this responsibility actually played out. This finding suggests that monitoring was a relatively weak area of PTA responsibility compared to fundraising. Still, most teachers appreciated the idea and said they would benefit from support for school improvement. One said:

> *"Yes, we will be very happy to see parents coming on campus to monitor our interaction with children because there are other things we are doing that may be wrong and they will advise us. Rewarding good teacher will also be a welcoming idea because it will serve as motivational factor to all teachers and will improve their performance. I have been rewarding teachers in other schools where I taught along with PTA members, which motivated teachers a lot."*

Even where PTAs were presently weak, parents and principals said that the organizations had the potential to fulfill important roles, including making school improvements (such as building or rehabilitating latrines and building sport/play areas), monitoring the relationships between teacher-student, student-student, and parent-teacher, and providing financial assistance to needy children and volunteer teachers.

6.3.3 Corporal Punishment and SGBV

One of the planned activities in LEARN is promotion of the code of conduct including SGBV awareness. In our focus groups, we learned that all of the schools' principals and teachers were aware of the Ministry of Education's code of conduct. In general, teachers and principals understood, accepted, agreed with, and had put into place the regulations in this document. They remarked, however, that parents often disagreed with the rules, in particular the rule that teachers are not allowed to use corporal punishment on children. One principal said, "Some parents feel disappointed when teachers refuse to beat children."

> *"We as parents feel good about the rules but unhappy about the exclusion of beating because that was the discipline that gets us to where we are today which is helpful to the growth of children morally."*
>
> *–Parent, rural community*

Many parents and teachers expressed the belief that not beating children makes them unruly. One principal admitted, "We don't really beat but at times we break the rules because of children behavior." One parent said that parents were sometimes able to convince teachers to beat their children in school when behavior was continuously bad:

> *"Yes, there are rules in placed that we as parents are aware of. One of the laws is broken which is the beating aspect – it is broken at times based on parents and teachers agreement in meeting due to children misconduct regular occurrence."*

In this same school, the principal explained further — and the teachers told the same story later. The principal clearly indicated that he did not consider corporal punishment to be abuse, where emotional abuse clearly was:

> *"Yes, at times teachers beat on students. The Bible says don't spare the rod and spoil the child so, even though MOE said no beating, but we sometimes do so, but we know how to do the beating. For example, there was a girl who left home to an unknown area. Her parents were in search of her for some times and later found her. She was brought on campus by her parents and recommended administration punishment by beating her, which we did, and from that time up to present, she has totally changed and continuing her education. This is a Bible-believing institution so there is nothing like insulting."*

Some principals and teachers shared alternative discipline strategies that they used instead of beating, such as making students stand in the corner, lose outdoor break time, write words, clean around the school, and fetch water. Some of these alternatives could be considered abusive as, for example, when students are forced to carry heavy water buckets in heat or heavy rain. Some could detract from student learning, as when students are forced to clean during class time. None of the teachers or principals elaborated on any positive discipline strategies, such as rewards for good behavior, that could replace corporal or other forms of punishment that focus on negative behavior.

Specific incidents of SGBV or "sex-for-grades" were not reported by respondents in our qualitative sample to be a problem in their community. However, such a sensitive issue may not be so easily elucidated in this rapid assessment. Almost all respondents said they had not even heard of SGBV or sex-for-grades happening, which is highly unlikely, given the known prevalence of SGBV in Liberia.[30] Two respondents hinted that this may occur or have occurred. One principal said "I have never experienced that [sex-for-grades] since I started with this school, but have heard about that based on student discussion." A teacher from a different school said, "We hearing it as romance [between teachers and students], but no one have brought complaint or gotten witness to that, so we cannot say it's happening here."

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[30] See for example: http://africa.unwomen.org/en/digital-library/publications/2017/12/liberia-sgbv-brief#view and http://www.lr.undp.org/content/dam/liberia/docs/docs/SGBV%20Prevention%20Strategies%202013.pdf

SECTION 7.   CONCLUSION

This report presents the baseline levels of the impact and project evaluations of the LEARN project in four counties in Liberia: Grand Bassa, Grand Gedeh, Rivercess, and River Gee. This baseline study helped to: (1) benchmark baseline values so the evaluation team can assess progress later at midline in 2020 and at endline in 2022; (2) establish baseline equivalence for the treatment and control groups that comprise the impact evaluation; (3) confirm project design assumptions; and (4) identify potential threats to project implementation.

Our findings are based on data collected from surveys of students that included reading assessments, health, hygiene, nutrition, and SGBV knowledge and practices, as well as interviews with school principals and focus group discussions with parents and with teachers. We collected data from 1,247 primary school students in Grade 2 and 6 and administered the reading assessment to 836 second-grade students. This section summarizes key findings in response to the main research questions, highlights study limitations and potential challenges, and provides recommendations for the project as a whole and for the evaluation.

7.1 Summary of Key Outcomes

7.1.1 Quantitative Findings

Below are listed key findings from the project evaluation related to students' literacy outcomes, nutrition knowledge, hygiene practices, and knowledge and practices regarding SGBV and gender norms. We also discuss the baseline equivalence of key student demographic information and outcomes for the baseline values of the impact evaluation.

Project Evaluation Key Outcomes

- **Literacy.** The evaluation team found that 89 percent of Grade 2 students could identify 21–26 letters, with an average of 23. However, students struggled with reading proficiency and comprehension, regardless of county or gender. Only 18 percent of surveyed second-graders were identified as readers, i.e. read at least five words correctly in 30 seconds, and 32 percent of them were able to answer at least 80 percent of the comprehension questions correctly (reading with comprehension). These results confirmed the low proficiency of Grade 2 students at grade level at the end of the school year, before the intervention was implemented.
- **Home environment.** The majority of students (66 percent) said that someone in their household helped them study; 54 percent stated that someone read to them; and 52 percent that they saw someone reading.
- **Nutrition.** Students lacked sufficient knowledge of a healthy diet; less than one percent of them could correctly identify the three types of foods defined as constituting a healthy diet, defined by the project as *go, glow,* and *grow* foods.
- **Handwashing.** A high proportion of sampled students (94 percent) said that they had washed their hands during the day prior to the survey. The survey also gathered information on student knowledge and practice of handwashing at three critical moments: after using the toilet to defecate, after using the toilet to urinate, and before consuming food. Although 25 percent of students said they should wash their hands at these moments, only 11 percent responded that they actually did.
- **Sexual and gender-based violence.** To gauge students' understanding of SGBV, as well as their willingness and ability to report such incidents, we examined the proportion of students who reported that they understood school rules and codes of appropriate conduct; said that they would report any cases of inappropriate teasing or touching; and listed any type of corporal or psychological teacher discipline. Our data showed that 72 percent of students responded that rules exist for how teachers should treat students at school. Furthermore, students in all grades stated that they would willingly report inappropriate teasing or touching. Lastly, in our overall project sample, 88 percent of students listed teacher discipline that involved extra work, dismissing students from class, physical violence, humiliating language, and manual labor – categories that we considered as corporal or psychological discipline.

- **Gender norms.** We established a benchmark that considered students to be aware of gender norms if they disagreed with at least four of five statements related to stereotypical gender perceptions. About half of students (51 percent) disagreed with at least four statements, and this percentage was the same for girls and boys. A regional analysis of the data revealed slight county variations. A smaller proportion of students in Grand Bassa and Grand Gedeh disagreed with the gender statements regarding stereotypes that were read to them, compared to the other two counties (Rivercess and River Gee).

Impact Evaluation Key Outcomes

- **Literacy.** Overall, students had limited literacy skills across different treatment and control groups. Baseline equivalency has been mostly attained across treatment arm and control groups for key literacy outcomes (letter recognition and reading proficiency), with the exception of listening comprehension. 14 percentage points differences between each of treatment arms and control group in listening comprehension stem from very low scores in the control group; the differences were significant at the 10 percent level for SF and at the 5 percent level for SF+LB+SHN.
- **Home environment.** In general, students' home literacy activities were equivalent at baseline between the treatment and control groups.
- **School environment.** The control group had a much higher access to story books (other than textbooks) at school compared to each treatment arm, 24 and 26 percentage points compared to SF+LB+SHN and SF arms, respectively. However, the imbalance was only significant at the 5 percent level between SF and control groups. Additionally, there was imbalance between both treatment arms and the control group with the control group reporting 21 and 19 percentage points lower than the SF and SF+LB+SHN arms.
- **Student composition.** Students' demographic information were more or less the same between treatment and control groups in terms of main language spoken at home, household size, and their socioeconomic status.

7.1.2 Qualitative Findings

- **Culture of literacy at home.** Parents value education and have high aspirations for their children's educational attainment. While parents say they value education for their daughters, domestic work at home prevents many girls from attending school regularly. Parents encourage their children to study at home, but many are unable to assist with school work due to lack of literacy or education. The majority of households do not have any books, with the exception of some having a Bible. No households had storybooks, or books for children to read for fun. Only a few parents tell stories at home, but this is generally limited to the youngest children.
- **Culture of literacy at school.** Teachers and principals reported several challenges to teaching reading and writing, including: lack of school supplies and materials; overcrowded classrooms; overage students; and students in grades above their competency levels. Teacher absenteeism is high, mainly because teachers are unmotivated due to low or irregular pay. Teachers and principals support the idea of school or community libraries/book banks. Food and/or financial assistance would motivate teacher attendance and performance.
- **Challenges to school attendance.** Financial reasons, including school fees and the cost of supplies, are the primary barriers to school attendance. Parents, teachers, and principals blame girls for not going to school, citing pregnancy and marriage. Further, domestic duties and child labor prevent many children from attending school, particularly girls and adopted children. Some parents understand that their children are required to attend school, so will beat their children who resist going.
- **Potential threats to program implementation.** Many school communities have previously participated in school feeding programs which were not sustainable. PTAs do not currently have the training or capacity to carry out planned program activities. Teachers and principals understand that corporal punishment is prohibited in school, but some admit to still hitting students, especially as parents continue to encourage this at home and at school as a way to discipline their children.

7.2 Limitations

The **quantitative approach** has several limitations. The main limitation is that the same survey instrument is designed to be applied to both second- and sixth-graders, who may have different developmental levels. However, the IMPAQ team, with a strong emphasis on cognitive interviews prior to data collection, made corrections to the survey instruments to adapt them to the Liberian context and to mitigate any issues with unreliable data. Another limitation is the inability to triangulate student reports on such factors as parents' education or the availability of reading materials in the home with those of an informed adult such as a parent or a teacher. Working with our partner CART, we also phrased and updated the questions to the extent possible to ensure that all questions are understandable to children regardless of their grade.

Another limitation arises from sampling students who were present at school rather than drawing a sample from full classroom lists. The possibility of systematic student absences, especially during the rainy season, could result in sampling bias. For example, students from vulnerable socioeconomic backgrounds might have more health-related absences and might be more likely than more affluent students to have been excluded from the study because they were absent on the day of data collection.

Furthermore, the inflated EMIS enrollment data and delay that caused data collection to run into the rainy season resulted in smaller number of schools and students for the impact sample. The smaller sample size leads to less power to confidently estimate program impacts even though the study remains rigorous. The minimum detectable effect size for the impact evaluation in Grand Gedeh increased from 0.42 SD to 0.45 SD. That is, the program activities need to be even more effective than initially anticipated in order for their impact to be captured by the analysis. This limitation is important because LEARN may very well have positive effects that we will not be able to identify. Only much larger effects can be estimated to be statistically significant with smaller sample sizes.

The smaller number of schools and students for the impact evaluation may also introduce bias if this smaller sample deviates from our target. In fact, harder to reach schools were not accessible. In terms of students, too, there may be some bias as well. The final sample of students for the impact evaluation may represent a subset of students who are more motivated than most to attend school or who live closer to the school.

For the project evaluation, there was no reduction in sample size (and thus no reduction in power) as the schools we could not reach were replaced with alternative schools that were more accessible. However, the resulting sample may be less representative than originally designed; for example, the inaccessible schools were more remote, and the schools in the final sample may be closer to major roads. Similarly, far fewer students than expected were found attending sampled schools given the inflated EMIS enrollment numbers. The final sample of students for the project evaluation may also be a more motivated subset of students living in close proximity to their school.

While these limitations are important to mention and keep in mind when interpreting the results, they do not undermine the validity and rigor of the study.

The **qualitative approach** also has limitations, as the nature of qualitative research does not allow the results to be empirically generalizable. To address the research questions at baseline, we selected geographically diverse schools in each county to provide theoretical generalizability. However, caution should be taken when interpreting the results.

Another limitation is getting participants to be fully honest when answering sensitive questions (for example, asking if teachers coerce students to have sex for grades). SGBV is a "known-secret" in Liberia, yet no teachers, principals, or parents would admit any history of sexual abuse of students at their schools.

Finally, as this is a new project, the qualitative approach aims to identify threats to implementation. Based on our knowledge of the program and the country context, we attempted to ask the appropriate questions to provide recommendations.

7.3 Recommendations

We present the following recommendations to SC based on our experience in the field and analysis of baseline data.

- **Challenge the perception among adults that girls are deciding to become pregnant, initiate relationships with male teachers, or engage in early marriage.** Training and community mobilizing activities should address the fact that parents and teachers blame girls, rather than teachers or older students, for SGBV. Though our findings did not include reports of sex for grades, it should be assumed that this practice is occurring or at least is at risk of occurring; therefore, the program should create or advocate for a reporting mechanism supported by the community, such as trusted administrators, the PTA, or local protection committees. In addition to educating teachers and students of the Ministry of Education's Code of Conduct, program activities should also focus on prevention – that is, challenging current attitudes and perceptions of why SGBV happens and who is responsible.
- **Consider the varying functionalities of individual PTAs when providing training/capacity building support.** Our qualitative data show that the capacity of individual PTAs varies greatly by school, with some PTAs existing in name only. We suggest that in addition to completing a needs assessment in Year 1, SC work with PTA members first to learn their existing ideas and strategies and then to help them to devise formal PTA charters or agreements that dictate roles and responsibilities (including items on gender parity, elections/rotation of members and leadership, reporting mechanisms for complaints, and so on). SC will need to tailor their training and capacity building activities, particularly to provide additional support for new or low-functioning PTAs.
- **Educate parents as well as teachers on positive discipline**. Our qualitative data indicate that most parents do not understand or appreciate the need to stop corporal punishment. They continue to beat their children at home and encourage teachers to beat their children at school. We suggest that training activities for parents and PTAs address this, as the current planned activity of using parents or PTAs to monitor teacher corporal punishment will not be effective if parent attitudes do not change.
- **Ensure continuity of school feeding.** Lack of sustainability or continuity from the previous school feeding program has upset parents and teachers. With no transition, schools just stopped serving food, and student attendance dropped. Of the schools we visited, only one had a sustainability plan (a school cassava garden), but this wasn't enough to replace the food WFP had provided.

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APPENDICES

APPENDIX A: LEARN RESULTS FRAMEWORK

Key
- Strategic Objevctive
- Intermediate Results (IR)
- Lower Level IR
- MGD LEARN Activities
- Other Actors and Project

SO1: Improved Literacy of School-Age Children

1.1: Improved Quality of Literacy Instruction

1.2: Improved Attentiveness

1.3: Improved Student Attendance

1.1.1: More Consistent Teacher Attendance
1.1.2: Better Access to School Supplies & Materials
1.1.3: Improved Literacy Instructional Materials
1.1.4: Increased Skills and Knowledge of Teachers
1.1.5: Increased Skills and Knowledge of School Administrators

1.2.1: Reduced Short-Term Hunger

1.3.1: Increased Economic and Cultural Incentives (or Decreased Disincentives)
1.3.2: Reduced Health-Related Absences
1.3.3: Improved School Infrastructure
1.3.4: Increased Student Enrollment
1.3.5: Increased Community Under-standing of Benefits of Education

Teacher recognition

Establish libraries

Production of books and supplementary reading materials

Training: Teachers

1.2.1.1, 1.3.1.1: Increased Access to Food (School Feeding)

Custom: Promotion of Code of Conduct including SGBV awareness

SO2: Increased Use of Health and Dietary Practices *see next page for activities

Provide Energy Saving Stoves Building/Rehab: kitchens Building/Rehab: warehouses and storerooms

Establish activities to promote literacy

Provide school meals Take Home Rations Establish school gardens

Distribute deworming medication, vitamins, and minerals

READ Liberia G2B-ESP Education Management and Accountability Program

Supplementary reading materials created by USAID, LTTPII

G2B-ESP Curriculum & Assessment Program

READ Liberia G2B-ESP Teacher Education and Management Program

G2B-ESP Education Management and Accountability Program

National School Feeding Policy G2B-ESP Student Well-Being Program WFP, Mary's Meals, Winrock Home Grown School Feeding Pilot

G2B-ESP Student Well-Being Program G2B-ESP Teacher Education and Management Program

School Health Division supplies deworming meds and trains teachers (G2B-ESP, Student Well-Being Program)

G2B-ESP School Quality Program

AQE G2B-ESP Over-age and Out-of-School Program

READ Liberia AQE G2B-ESP Over-age and Out-of-School Program

Foundational Results

1.4.1: Increased Capacity of Government Institutions
- Training: Commodity Management
- G2B-ESP Student Well-Being Program

1.4.2: Improved Policy and Regulatory Framework
- Custom: Promotion of Code of Conduct including SGBV awareness
- G2B-ESP Student Well-Being Program: Counter school-related gender-based violence

1.4.3: Increased Government Support
- Education Sector Planning Working Group

1.4.4: Increased Engagement of Local Organizations and Community Groups
- Establish Parent Teacher Associations Training: Parent Teacher Associations
- G2B-ESP Student Well-Being Program

Key

Strategic Objevctive	(yellow)
Intermediate Results (IR)	(orange)
Lower Level IR	(green)
MGD LEARN Activities	(blue)
Other Actors and Project	(gray)

SO2: Increased Use of Health and Dietary Practices

2.1: Improved Knowledge of Health and Hygiene Practices	2.2: Increased Knowledge of Safe Food Prep and Storage Practices	2.3: Increased Knowledge of Nutrition	2.4: Increased Access to Clean Water and Sanitation Services	2.5: Increased Access to Preventative Health Interventions	2.6: Increased Access to Requisite Food Prep and Storage Tools and Equipment
Extracurricular activities	Training: Food preparation and storage practices	Training: Good health and nutrition practices	Building/ Rehab: Latrines	Distribute deworming medication, vitamins, and minerals	Training: Food Preparation and Storage Practices
G2B-ESP Student Well-Being Program	G2B-ESP Student Well-Being Program	G2B-ESP Student Well-Being Program	G2B-ESP Student Well-Being Program, School Quality Program DFAP in River Cess (community WASH)	G2B-ESP, Student Well-Being Program	G2B-ESP Student Well-Being Program

Foundational Results

2.7.1: Increased Capacity of Government Institutions	2.7.2: Improved Policy and Regulatory Framework	2.7.3: Increased Government Support	2.7.4: Increased Engagement of Local Organizations and Community Groups
G2B-ESP Student Well-Being Program: Implement National Policy on Girls	G2B-ESP Student Well-Being Program: Counter school-related gender-based violence	G2B-ESP Student Well-Being Program: Implement National Policy on Girls	Establish Parent Teacher Associations Training: Parent Teacher Associations
			G2B-ESP Student Well-Being Program

APPENDIX B: McGovern-Dole Performance Indicators

McGovern-Dole Indicators	Data Collection methods	Data Source	Observations	Baseline (Percentage or Number)
MGD 26: Percent of students who, by the end of two grades of primary schooling, demonstrate that they can read and understand the meaning of grade level text	Evaluation	LBRA	430	Boys: 1%
			406	Girls: 1%
			836	Overall: 1%
Custom: Percent of students who, by the end of two grades of primary schooling, demonstrate proficiency in identifying letters.	Evaluation	LBRA	430	Boys: 66%
			406	Girls: 57%
			836	Overall: 61%
MGD 27: Number of individuals benefiting directly from USDA-funded interventions	SC/Monitoring	SC		0
MGD 28: Number of individuals benefiting indirectly from USDA-funded interventions	SC/Monitoring	SC		0
MGD 1: Number of students regularly (80%) attending USDA supported classrooms/schools	SC/Monitoring	SC		TBD
MGD 19: Number of individuals who demonstrate use of new child health and nutrition practices as a result of USDA assistance	SC/Monitoring	SC		0
MGD 21: Number of individuals who demonstrate use of new safe food preparation and storage practices as a result of USDA assistance	SC/Monitoring	SC		0
Custom: Percentage of teachers in target schools who attend and teach at least 90% of the scheduled school days	SC/Monitoring	SC		TBD

McGovern-Dole Indicators	Data Collection methods	Data Source	Observations	Baseline (Percentage or Number)
MGD 2: Number of textbooks and other teaching and learning materials provided as a result of USDA assistance	SC/Monitoring	SC		0
MGD 5: Number of teachers/educators in target schools who demonstrate use of new and quality teaching techniques or tools as a result of USDA assistance	SC/Monitoring	SC		0
MGD 6: Number of teachers/educators/teaching assistants trained or certified as a result of USDA assistance	SC/Monitoring	SC		0
MGD 15: Number of daily school meals (breakfast, snack, lunch) provided to school-age children as a result of USDA assistance	SC/Monitoring	SC		0
MGD 16: Number of school-age children receiving daily school meals (breakfast, snack, lunch) as a result of USDA assistance	SC/Monitoring	SC		0
MGD 13: Number of take-home rations provided as a result of USDA assistance	SC/Monitoring	SC		0
MGD 14: Number of individuals receiving take-home rations as a result of USDA assistance	SC/Monitoring	SC		0
MGD 17: Number of social assistance beneficiaries participating in productive safety nets as a result of USDA assistance	SC/Monitoring	SC		0
Custom: Number of daily school meals provided that include fruits, vegetables and/or animal-sourced proteins in addition to USDA commodities	SC/Monitoring	SC		0
Custom: Number of schools with a strengthened support structure for a code of conduct policy	SC/Monitoring	SC		TBD

McGovern-Dole Indicators	Data Collection methods	Data Source	Observations	Baseline (Percentage or Number)
Custom: Percentage of children in target schools who demonstrate improved knowledge and practices towards SGBV prevention and response	Evaluation	Student survey	657	Boys: 69%
			590	Girls: 70%
			1,247	Overall: 69%
MGD 12: Number of educational policies, regulations and/or administrative procedures in each of the following stages of development as a result of USDA assistance.	SC/Monitoring	SC		0
MGD 24: Number of students receiving deworming medication(s)	SC/Monitoring	SC		TBD
Custom: Number of energy-saving stoves provided as a result of USDA assistance	SC/Monitoring	SC		0
MGD 7: Number of educational facilities (i.e. school buildings, classrooms, and latrines) rehabilitated/ constructed as a result of USDA assistance	SC/Monitoring	SC		0
Custom: Number of primary school-age children in targeted communities who participated in a reading camp in the past year	SC/Monitoring	SC		0
Custom: Number of government officials trained in commodity management practices	SC/Monitoring	SC		0
MGD 10: Number of public-private partnerships formed as a result of USDA assistance	SC/Monitoring	SC		0
MGD 9: Number of Parent-Teacher Associations (PTAs) or similar school governance structures supported as a result of USDA assistance	SC/Monitoring	SC		0
Custom: Percentage of Grades 2 and 6 students in target schools who can identify the components of a healthy diet	Evaluation	Student survey	647	Boys: 0%
			583	Girls: 0%
			1,230	Overall: 0%

McGovern-Dole Indicators	Data Collection methods	Data Source	Observations	Baseline (Percentage or Number)
MGD 20: Number of individuals trained in safe food preparation and storage as a result of USDA assistance	SC/Monitoring	SC		0
Custom: Number of schools equipped with food preparation and storage materials	SC/Monitoring	SC		100
MGD 11: Value of new public and private sector investments leveraged as a result of USDA assistance	SC/Monitoring	SC		0
MGD 18: Number of individuals trained in child health and nutrition as a result of USDA assistance	SC/Monitoring	SC		0
MGD 23: Number of schools with improved sanitation facilities	SC/Monitoring	SC		100

Exhibit 45. Main Language by County
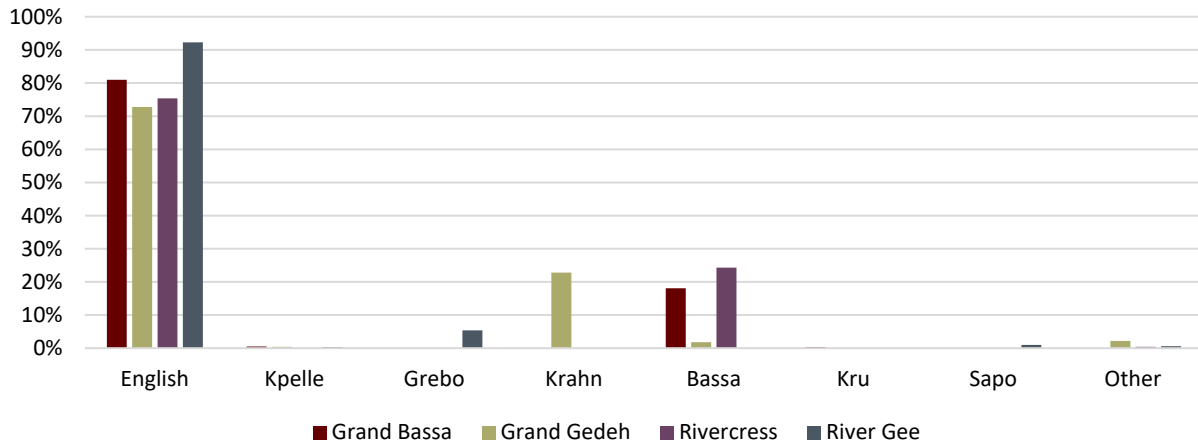
Source: Student survey; IMPAQ calculation. Note: N=386 for Grand Bassa, 276 for Grand Gedeh, 272 for Rivercess, and 313 for River Gee

Exhibit 46. Proportion of Students who Read Non-Textbooks in the Last Week Outside School by County
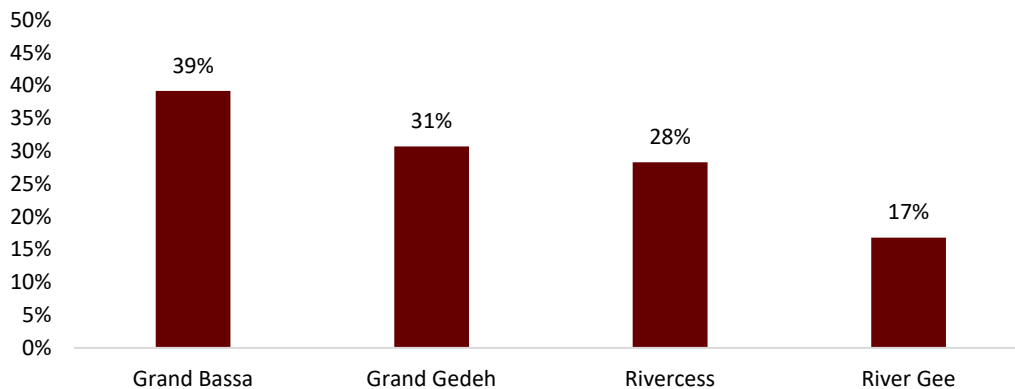
Source: Student survey; IMPAQ calculation. Note: N=240 for Grand Bassa, 215 for Grand Gedeh, 184 for Rivercess, and 197 for River Gee

Exhibit 47. Type of Household Members Providing Literacy and Learning Support to Students

Family Member	Who did you see reading last week?	Who helped you study?	Who read to you?	Who told you a story?
Mother	5%	6%	10%	23%
Father	23%	25%	21%	20%
Older sister	21%	15%	18%	18%
Younger sister	4%	2%	1%	4%
Older brother	34%	37%	38%	18%
Younger brother	2%	1%	1%	3%
Grandmother	1%	0%	1%	5%
Grandfather	1%	1%	1%	3%
Other female relative	5%	2%	3%	5%
Other male relative	10%	13%	11%	6%
Female non-relative	1%	0%	1%	1%

Family Member	Who did you see reading last week?	Who helped you study?	Who read to you?	Who told you a story?
Male non-relative	2%	3%	3%	3%
Total Responses	470	590	487	366

Source: Student survey; IMPAQ calculation. Note: Proportion of the 836 Grade 2 students only. Grade 6 students did not answer this question. Students were told to select all that apply and therefore the total of the percentages do not add to 100 percent.

Exhibit 48. Reasons Students Like Their School and Class
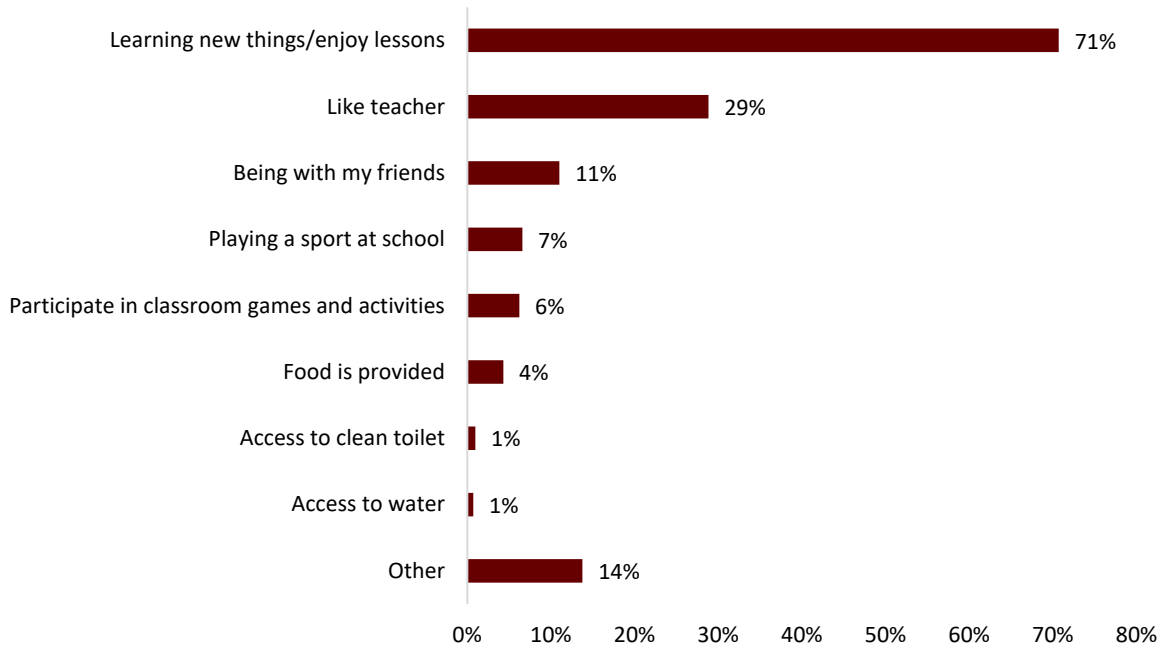
Source: Student survey; IMPAQ calculation. Note: Students were told to select all that apply and therefore the total of the percentages do not add to 100 percent. N=836

Exhibit 49. Reasons Students Dislike Their School and Class
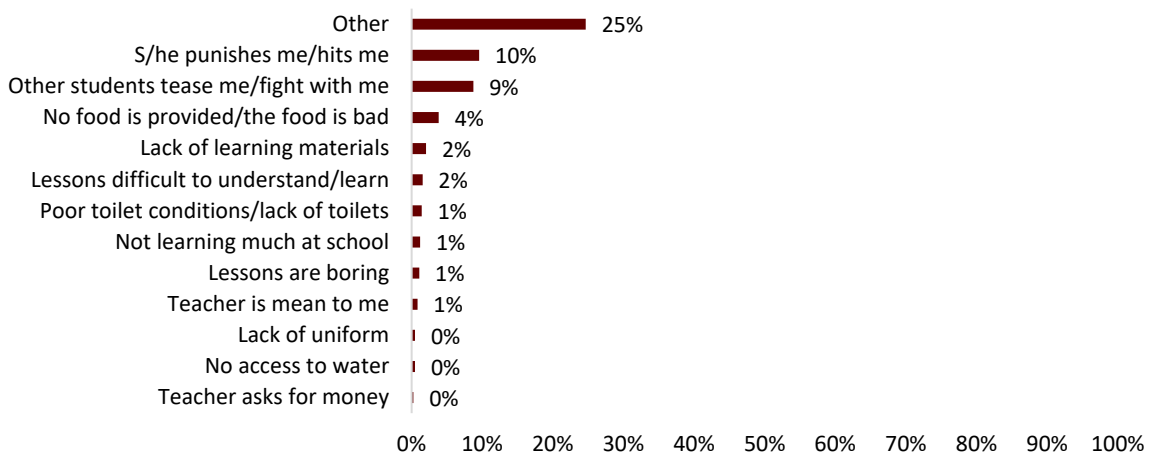
Source: Student survey; IMPAQ calculation. Note: Negligible difference (<7 percent) among both male and female Grade 2 and Grade 6 students for these responses. However, in Grand Gedeh 36 percent of students reported other compared to 19-23 percent in Grand Bassa, Rivercess, and River Gee. Students were told to select all that apply and therefore the total of the percentages do not add to 100 percent. N = 836

Exhibit 50. Student Knowledge vs. Practice of Critical Handwashing Practice by County (Breakdown)

Indicator	Grand Bassa	Grand Gedeh	Rivercess	River Gee	Overall
Washed hands after urinating	42%	6%	44%	38%	**34%**
Washed hands after defecating	76%	69%	83%	72%	**75%**
Washed hands before eating	36%	38%	36%	36%	**37%**
All of the above	16%	1%	10%	14%	**11%**

Source: Student survey; IMPAQ calculation. Note: Students were told to select all that apply and therefore the total of the percentages do not add to 100 percent. N = 362 for Grand Bassa, 263 for Grand Gedeh, 248 for Rivercess, and 294 for River Gee

Exhibit 51. Student Knowledge vs. Practice of Critical Handwashing Behavior by County

Indicator	Grand Bassa	Grand Gedeh	Rivercess	River Gee	Overall
Should wash hands after urinating	54%	8%	70%	60%	**49%**
Should wash hands after defecating	83%	66%	92%	91%	**83%**
Should wash hands before eating	47%	31%	54%	54%	**47%**
All of the above	28%	2%	34%	33%	**25%**

Source: Student survey; IMPAQ calculation. Note: Students were told to select all that apply and therefore the total of the percentages do not add to 100 percent; N=386 for Grand Bassa, 276 for Grand Gedeh, 272 for Rivercess, and 313 for River Gee

Exhibit 52. Types of School Discipline by Grade
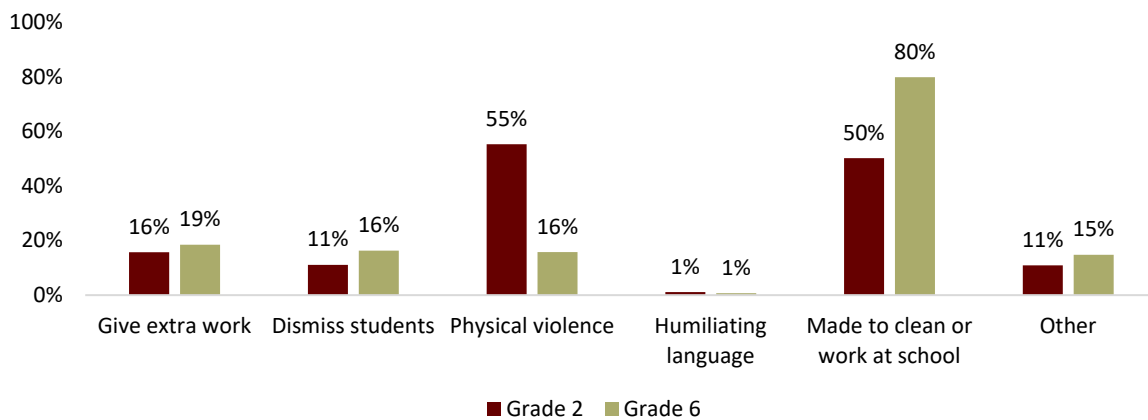
Source: Student survey; IMPAQ calculation. N = 836 for Grade 2 and 411 for Grade 6

Exhibit 53. Perceptions of Gender Norms by County

	Grand Bassa	Grand Gedeh	Rivercess	River Gee
If a boy touches a girl at school it's because the girl did something to attract him				
Disagree	71%	80%	77%	85%
There are times when a boy needs to beat his girlfriend				
Disagree	58%	75%	68%	80%
Girls like to be teased by boys				
Disagree	41%	67%	55%	65%
When girls wear short skirts they are telling boys or men to touch them				
Disagree	39%	59%	51%	57%
For girls to get good grades, they sometimes have to let their teachers touch them or love them				
Disagree	68%	80%	78%	78%

Source: Student survey; IMPAQ calculation. N = 411

Exhibit 54. Comprehension and Reading by Language

Indicator	English	Non-English	Overall
Reading Comprehension (among readers who read most of the passage)	29%	50%	58%
Listening Comprehension (among those who did not complete the passage)	22%	10%	20%
Accuracy (% words correct in passage out of attempted words)	39%	43%	39%
Accuracy (% words correct in passage out of total words)	5%	4%	4%
Fluency (words correct per minute), readers only	5	5	5

Source: Student survey; IMPAQ calculation. N = 656 for English and 160 for Non-English

APPENDIX D: OTHER SUBTESTS OF READING ASSESSMENT

As mentioned in **Section 4.2.5 Reading Outcomes**, we also tested students on other literacy skills including word recognition, and invented word recognition. This appendix presents the outcomes of these subtests to shed more lights on children's literacy outcomes.

Word Recognition

To assess children's word recognition skill, students were given a chart of 20 words that we developed based on the most frequently used words from their textbooks. Exhibit 55 shows the ability of second graders to read these words. In comparison to their ability to identify letters, students struggled to read full words. Additionally, there were some large disparities between counties as more students struggled to read the words in Grand Gedeh and River Gee compared to Grand Bassa and Rivercess. As seen in **Exhibit 55**, overall, students were only able to identify 38 percent of the 20 words but students from River Gee could only identify 28 percent correctly. Almost a quarter of River Gee students (23 percent) could not identity a single word correctly.

Exhibit 55. Most Recognized Word by County

Indicator	Grand Bassa	Grand Gedeh	Rivercess	River Gee	Overall
Total number of correctly read words	9	7	9	6	**8**
% of words read correctly	46%	33%	45%	28%	**38%**
% identified hardest word (uncle)	13%	7%	11%	2%	**8%**
% identified easiest word (school)	85%	77%	85%	62%	**78%**
% identified zero words	8%	13%	3%	23%	**12%**

Source: Student survey; IMPAQ calculation. N = 386 for Grand Bassa, 215 for Grand Gedeh, 184 for Rivercess, and 197 for River Gee

Exhibit 56 also shows that the overall distribution of the number of words identified has a downward trend with the plurality of students naming just 1-5 words correctly.

Exhibit 56. Distribution of Most Used Words Identified by County
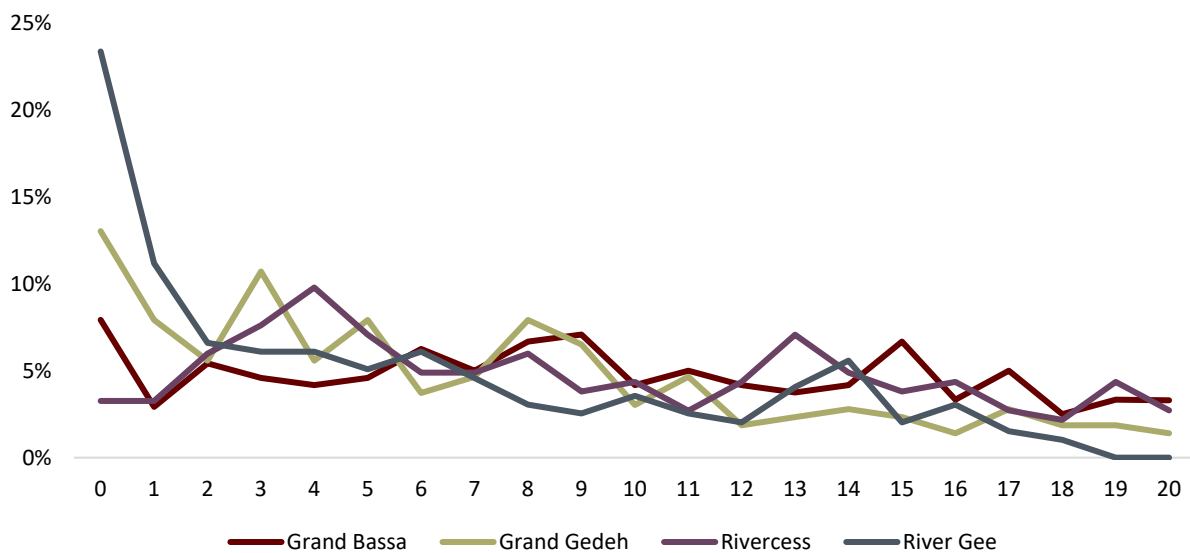
Source: Student survey, IMPAQ calculation. N=836

Decoding (Invented Word Recognition)

We also included a decodable word test in the LBRA to measure the ability of students in recognizing the basic sounds and phonemes. We rearranged the 20 most common words (from the word recognition test) to form "pseudo words" and asked students to decode. Students especially struggled with this task as they only identified one word correctly on average. Only 13 percent were able to decode even the easiest invented

word. **Exhibit 57** shows that 77 percent of the sample could not read even one word. There were no large differences in these numbers between county, gender, or first language.

Exhibit 57. Invented Word Recognition

Indicator	Mean/Percent	Observations
Total number of correctly read invented words	1	836
% of invented words read correctly	4%	836
% identified hardest invented word (gelb)	1%	836
% identified easiest invented word (ne)	13%	836
% identified zero invented words	77%	836

Source: Student survey, IMPAQ calculation.

Baseline Equivalence of Other Subtests (Grand Gedeh Only)

Word and Invented Word Recognition

Similar to the letter knowledge subsection, the word recognition subsection asked students to identity words from a list of 20 real words followed by a list of 20 invented words. Compared to the letter knowledge section, Grade 2 students performed poorly on this section, identifying only 31 percent of the real words correctly. Overall, 13 percent of the sample could not read a single word correctly.

Exhibit 58. Distribution of Most Used Words Read by Treatment Arm
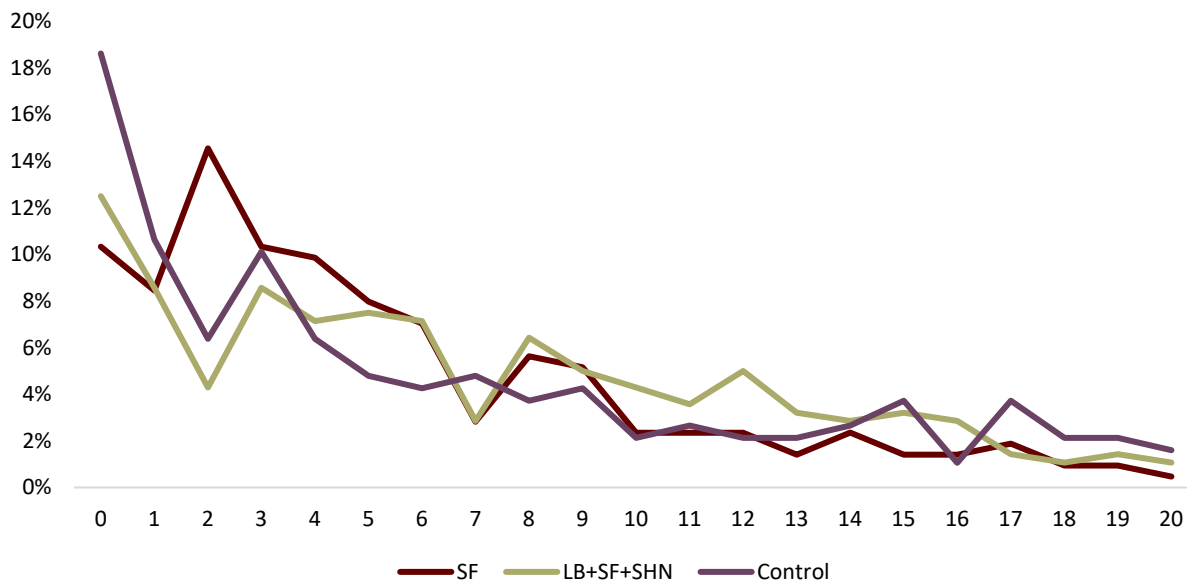
Source: Student survey, IMPAQ calculation. N = 213 for SF, 280 for LB+SF+SHN, and 180 for control

Across three groups, students most easily recognized "school" as an average of 75 could identify the word in the overall sample. At the same time, students only correctly read a less common word—"uncle"—5 percent of the time. These results were consistent across treatment groups. Students consistently struggled to read the invented words across the three treatment arms. See and **Exhibit 60** for more details.

Exhibit 59. Baseline Equivalence Most Used Words Recognition

Outcomes	SF	LB+SF+SHN	Control	Difference SF-Control (p-value)	Difference LB+SF+SHN-Control (p-value)	Overall
Word Recognition (# correct out of 20)	5	7	6	1 (0.6451)	1 (0.7054)	6
Word Recognition (% correct)	27%	34%	31%	-4 (0.6451)	3 (0.7054)	31%

Source: Student survey, IMPAQ calculation; N = 213 for SF, 280 for LB+SF+SHN, and 188 for control

Exhibit 60. Invented Words Recognition

Outcomes	SF	LB+SF+SHN	Control	Difference SF-Control (p-value)	Difference LB+SF+SHN-Control (p-value)	Overall
Invented Word Recognition (# out of 20)	1	1	0	1 (0.1229)	1 (0.1472)	1
Invented Word Recognition (% correct)	4%	3%	2%	2 (0.1229)	1 (0.1472)	3%

Source: Student survey, IMPAQ calculation. N = 213 for SF, 280 for LB+SF+SHN, and 188 for control

APPENDIX E: Additional Tables for Baseline Equivalency

Exhibit 61. Baseline Equivalence in Age of Students in Impact Sample

School Type	Mean Age	Median Age	Range of Ages	Observations
SF	12	12	8-18	213
LB+SF+SHN	12	12	7-18	275
Control	12	12	5-16	188

Source: Student survey, IMPAQ calculation. Note: There were five students from LB+SF+SHN treatment schools who reported that they did not know their age.

Exhibit 62. Baseline Equivalence in Language Spoken at Home

Language	SF	LB+SF+SHN	Control	Difference SF-Control (p-value)	Difference LB+SF+ SHN-Control (p-value)	Overall
English is the main language spoken at home	77%	69%	63%	14 (0.1288)	6 (0.6236)	**70%**

Source: Student survey, IMPAQ calculation. N= 213 for SF, 280 for LB+SF+SHN, and 188 for control

Exhibit 63. Baseline Equivalence in Socioeconomic Status by Consumer Durable Goods

Does your home have a…	SF	LB+SF+SHN	Control	Difference SF-Control (p-value)	Difference LB+SF+SHN-Control (p-value)	Overall
Mobile phone	69%	78%	75%	-6 (0.4683)	3 (0.7193)	**74%**
Electricity	15%	22%	19%	-4 (0.3492)	3 (0.4596)	**19%**
Ice box/Fridge	2%	8%	6%	-4** (0.0109)	2 (0.4545)	**5%**
Bicycle	7%	11%	7%	0 (0.9047)	4* (0.0935)	**8%**
TV	7%	16%	10%	-3 (0.2063)	7 (0.1156)	**11%**
Motorbike	25%	43%	34%	-9 (0.3237)	8 (0.3289)	**35%**
Car	0%	5%	2%	-2 (0.1803)	3 (0.116)	**3%**
Keh keh	0%	1%	0%	0 (0.2503)	1* (0.0708)	**0%**
None of the above	21%	13%	16%	4 (0.6206)	-4 (0.5965)	**16%**
Total Number of Observations	**311**	**546**	**317**	**n/a**	**n/a**	**137**

*Source: Student survey, IMPAQ calculation. *p-value <0.1, ** p-value < 0.05, *** p-value < 0.01; N=311 for SF, 546 for LB+SF+SHN, and 317 for control*

Exhibit 64 summarizes associations between students or household characteristics and students' literacy skills. The table shows either positive or negative associations that are statistically significant ($p < 0.05$). A "+" indicates that the factor is positively associated with the respective literacy outcome, while a "-" indicates a negative association. Detailed regression results can be found in the full OLS regression table in

Exhibit 65 below.

Exhibit 64. Predictors of Literacy Skills at Baseline

	Letter Knowledge	Word Recognition	Invented Word Recognition	Reading – Accuracy (total words)	Reading – Accuracy (attempted words)	Reader	Listening Comprehension
Age							
Female	-	-		-	+		-
English	+						
Repeated a grade		-					
Caregiver attended school							
Reading materials					-		
Home literacy index		+	+			-	
SES Index					-	-	

Source: Student survey; IMPAQ calculation. Note: Only statistically significant predictors (p-value < 0.05) are presented in the table.

Exhibit 65. Predictors of Literacy Skills at Baseline

	Letter Knowledge	Word Recognition	Invented Word Recognition	Reading – Accuracy (total words)	Reading – Accuracy (attempted words)	Reader	Listening Comprehension
Age	0.018	0.027	0.002	-0.000	0.002	-0.001	-0.007
	(0.117)	(0.148)	(0.042)	(0.001)	(0.004)	(0.009)	(0.011)
Female	-0.642**	-1.266***	-0.233	-0.011***	0.041**	0.012	0.075**
	(0.272)	(0.357)	(0.155)	(0.004)	(0.016)	(0.035)	(0.037)
English	0.735**	0.611	0.253*	0.004	-0.016	0.044	0.012
	(0.287)	(0.507)	(0.134)	(0.003)	(0.015)	(0.051)	(0.042)
Repeated a grade	-0.585	-0.973**	-0.106	-0.002	0.011	-0.027	-0.042
	(0.313)	(0.471)	(0.139)	(0.003)	(0.015)	(0.030)	(0.039)
Caregiver attended school	-0.049	-0.644	-0.098	-0.000	-0.015	-0.022	0.007
	(0.370)	(0.565)	(0.159)	(0.004)	(0.022)	(0.041)	(0.041)
Reading materials	-0.014	0.090	-0.001	0.000	-0.010***	-0.009	0.007
	(0.075)	(0.106)	(0.029)	(0.001)	(0.003)	(0.011)	(0.012)
Home literacy index	0.187	0.388***	0.086***	-0.000	-0.005	-0.068***	0.011
	(0.077)	(0.136)	(0.029)	(0.001)	(0.004)	(0.017)	(0.011)
SES Index	0.159	0.255	0.073	0.000	-0.017	-0.068	0.034
	(0.145)	(0.235)	(0.074)	(0.002)	(0.007)**	(0.017)***	(0.023)
Constant	22.210***	5.921***	0.469	0.036**	0.521***	0.286**	0.254*
	(1.469)	(2.079)	(0.510)	(0.015)	(0.060)	(0.127)	(0.139)
R^2	0.04	0.06	0.02	0.02	0.06	0.04	0.03
N	649	649	649	648	648	649	619

*Source: Student survey; IMPAQ calculation. *p-value <0.1, ** p-value < 0.05, *** p-value < 0.01 Note: Robust standard errors are clustered at the school level and shown in parentheses below the coefficients.*

Exhibit 666. Associations Between School Characteristics and Literacy Skills (Performance Sample)

School Observation	Letter Knowledge	Word Recognition	Invented Word Recognition	Reading - Accuracy (total words)	Reading - Accuracy (attempted words)	Reader	Listening Comprehension
Number of boys enrolled in Grade 2	-0.041** (0.028)	-0.076* (0.070)	-0.006** (0.026)	-0.000*** (0.001)	-0.001*** (0.002)	0.001*** (0.003)	-0.007*** (0.003)
Number of girls enrolled in Grade 2	0.048** (0.024)	0.116* (0.062)	0.009 (0.023)	0.001 (0.001)	0.003 (0.002)	0.002 (0.003)	0.008** (0.003)
Number of toilets	0.076 (0.077)	-0.036 (0.210)	0.004 (0.077)	-0.002 (0.002)	0.003 (0.007)	0.000 (0.008)	0.005 (0.009)
Presence of handwashing station	0.087 (0.388)	-0.049 (0.909)	-0.323 (0.245)	0.001 (0.009)	0.037 (0.031)	0.019 (0.041)	-0.042 (0.044)
Water available for drinking	0.207 (0.243)	0.840 (0.546)	0.154 (0.186)	0.008 (0.006)	-0.014 (0.019)	0.017 (0.021)	0.016 (0.020)
Food preparation at school	-0.180 (0.558)	-0.703 (1.403)	-0.100 (0.278)	-0.004 (0.013)	-0.108*** (0.030)	-0.089** (0.040)	-0.088 (0.075)
Library or book bank for students to take books home	0.036 (0.478)	1.662 (1.106)	0.329 (0.397)	0.019* (0.011)	-0.041 (0.035)	-0.051 (0.044)	-0.015 (0.037)
Constant	22.835*** (0.646)	6.661*** (1.569)	0.791** (0.393)	0.036* (0.021)	0.449*** (0.042)	0.183*** (0.067)	0.271*** (0.082)
R^2	0.014	0.049	0.008	0.023	0.033	0.012	0.022
N	771	771	771	751	751	771	669

*Source: Student survey and School Observations; IMPAQ calculation. *p-value <0.1, ** p-value < 0.05, *** p-value < 0.01 Note: Robust standard errors are clustered at the school level and shown in parentheses below the coefficients. Given the small sample size of students*

Exhibit 677. Associations Between School Characteristics and Literacy Skills (Impact Sample)

School Observations	Letter Knowledge	Word Recognition	Invented Word Recognition	Reading - Accuracy (total words)	Reading - Accuracy (attempted words)	Reader	Listening Comprehension
Number of boys enrolled in Grade 2	-0.089** (0.034)	-0.112* (0.057)	-0.029* (0.016)	0.001* (0.000)	0.002 (0.002)	-0.003 (0.004)	-0.006 (0.005)
Number of girls enrolled in Grade 2	0.121*** (0.025)	0.182*** (0.052)	0.031 (0.019)	-0.000 (0.000)	-0.005** (0.002)	-0.003 (0.004)	0.009* (0.005)
Number of toilets	-0.029 (0.053)	-0.129 (0.103)	0.006 (0.036)	-0.001 (0.001)	-0.006 (0.004)	-0.031*** (0.006)	0.009 (0.010)
Presence of handwashing station	0.355 (0.474)	1.170 (0.962)	0.106 (0.134)	-0.000 (0.004)	-0.051 (0.031)	-0.124*** (0.039)	0.059 (0.084)
Water available for drinking	0.218 (0.286)	0.044 (0.475)	0.061 (0.135)	0.001 (0.002)	0.017 (0.014)	0.023 (0.037)	0.006 (0.024)
Food preparation at school	-0.289 (0.463)	0.120 (0.877)	-0.041 (0.202)	-0.002 (0.003)	0.019 (0.023)	0.058 (0.038)	-0.092* (0.048)
Library or book bank for students to take books home	0.808** (0.339)	3.211*** (0.871)	-0.268* (0.157)	0.023*** (0.006)	0.019 (0.024)	0.225*** (0.062)	-0.054 (0.070)
Constant	22.313*** (0.455)	5.119*** (0.820)	0.618** (0.241)	0.026*** (0.004)	0.572*** (0.018)	0.463*** (0.053)	0.190*** (0.061)
R^2	0.038	0.084	0.017	0.043	0.069	0.080	0.027
N	605	605	605	604	604	605	577

*Source: Student survey and School Observations; IMPAQ calculation. *p-value <0.1, ** p-value < 0.05, *** p-value < 0.01 Note: Robust standard errors are clustered at the school level and shown in parentheses below the coefficients.*

Appendix G: INTER-RATER RELIABILITY

Reading Assessment

To measure the reliability and level of homogeneity of enumerators' scores on children's literacy skills, 9 percent of the overall second grade sample (76 out of 760) were assessed by two different enumerators simultaneously. Long one-way Analysis of Variance (ANOVA) techniques, which is used to determine whether the mean of a dependent variable is the same in two or more unrelated and independent groups, were used to calculate the intra-class correlation within pairs of assessors for a measure of inter-rater reliability. Adapted from Fleiss et al. (1973), we interpreted the intra-class correlations as it follows:

- Less than .40 – Poor
- Between .40 and .75 – Good or fair
- Greater than .75 – Excellent

Exhibit shows the percent of agreement between the raters, as well as inter-rater reliability ratings for the project evaluation sample. Overall, the inter-rater reliability (IRR) across the project evaluation sample was excellent for most of the literacy skills measures and good for two of them, showing high internal validity of the scores. For reading comprehension, however, there were no variations in the proportion of children who were able to answer at least 80 percent of comprehension questions. Therefore, the ANOVA test could not calculate the IRR.

Exhibit 68. IRR by Literacy Skill Subtests for Performance Sample

Literacy Skill Sub-test	IRR	Rating
Letter Knowledge	83%	Excellent
Word Recognition	99%	Excellent
Reader	68%	Good
Fluency	72%	Good
Accuracy (out of the whole passage)	92%	Excellent
Accuracy (out of the words attempted)	78%	Excellent
Reading Comprehension	n/a	n/a
Listening Comprehension	93%	Excellent

Source: Student survey, IMPAQ calculation. N = 77 Grade 2 students

Exhibit shows the IRR results for the impact sample. The enumerators conducted paired interviews for 13 percent of the control, 11 percent of the SF group, and 7 percent of the LB+SF+SHN group. Similar to the project evaluation sample, the IRR was excellent for almost all measures. But again, there was no variation in the reading comprehension measure.

Exhibit 69. IRR by Literacy Skill Subtests for Impact Sample

Literacy Skill Sub-test	IRR	Rating
Letter Knowledge	91%	Excellent
Word Recognition	100%	Excellent
Reader	86%	Excellent
Fluency	67%	Good
Accuracy (out of the whole passage)	96%	Excellent
Accuracy (out of the words attempted)	81%	Excellent
Reading Comprehension	n/a	n/a
Listening Comprehension	86%	Excellent

Source: Student survey, IMPAQ calculation. N = 50 Grade 2 student

Overall, the IRR was good or excellent. To maintain the good internal validity of the scores, and improve the administration and scoring of the LBRA, we will provide further training at midline and endline.

IMPAQ INTERNATIONAL LLC

BASELINE DATA COLLECTION FOR USDA FOOD FOR EDUCATION (LEARN) IN LIBERIA

IMPACT AND PROJECT EVALUATION

Student Survey

Start Time _____ **Date** _____

INTRODUCTION

County	Grand Bassa Grand Gedeh Rivercess River Gee
Districts	Enter the name of the district -----------------------------
school name	Enter the school name ------------------
enum	Enter your name -------------------------------

Consent	Has the principal given consent for the child to participate in this survey?
	  0. No → thank them and terminate the survey and select the next child on your list.
	  1. Yes → " assent"
		I__I	

⚠ If teacher says No, thank them, and terminate the survey and proceed to the next child on your list.

Student Code

stcode1	Please enter the student code CAREFULLY------------
stcode2	Please enter the student code CAREFULLY again ------------

Reliab	Is this an individual assessment or a pair assessment?
	  0. Individual → "nickname"
	  1. Pair assessment → "reliabtype"
		I__I	

| Reliabtype | Talking enumerator or observing enumerator?
　0.　Observing
　1.　Talking | I__I | |

⚠ Please get the student code from the team leader. It is very important to use the correct student code, so please enter the code twice. If you are unsure, please check again with the team leader

Dear student:

Hi, my name is ___, and I am with Center Action and Research Training. I am here asking some questions from children like you to understand more about a reading program. Your answers will help us make Liberia's education system better. Your parents, your classmates and your teachers will not know your answers to the questions. Everything you say will be kept a secret. There aren't any right or wrong answers. I want you to answer honestly and as best as you can. It will take only 30 to 35 minutes. Do you have any questions for me? You can interrupt me to ask a question at any time. Also, if you don't know the answer to a question or don't want to answer it, just let me know and we can skip it. I will just start with a few questions to know you better, and then we will play a reading game. Are you ready to begin?

| assent | Do you agree to answer the questions I have?

　0.　No → thank him/her, terminate the survey, and proceed to the next child on your list.
　1.　Yes → continue to the background section. | I__I | *Select only one option |

⚠ If child says No, thank him/her, terminate the survey, and proceed to the next child on your list.

Background information [DON'T READ TO THE CHILD]

Fname	What is your first name?
Lastname	What is your last name?
Caregivername	What is the name of the person that takes care of you at home most of the time?
Caregiver	Who is (caregivername)'s to you? 　1.　Mother 　2.　Father 　3.　Older sister 　4.　Older brother 　5.　Grandmother 　6.　Grandfather 　7.　Other female relative 　8.　Other male relative

	9. Female non-relative 10. Male non-relative 888. Don't know		
Caregiverschool	Did (caregivername) go to school when she/he was small? 0. No 1. Yes 888. Don't know/No response		*Select only one option
gender	0. Male 1. Female	I__I	*Ask only if necessary
age	How old are you?	……	*RECORD AGE >=5 & <25 *Mark 888 if no response/don't know
grade	Which grade/class are you in? 1. Grade 2 2. Grade 6 3. Other → Thanks the child and terminate the survey	I__I	*Select only one option
everrpt	Did you repeat any grades? 0. No 1. Yes 888. Don't know/ No response	I__I	*Select only one option
studattend	During the last week of school, how many days did you attend school? 1. 1 2. 2 3. 3 4. 4 5. 5 888. Don't know/No response	I__I	*Select only one option
mainlang	What language do you speak at home most often? 1. English 2. Kpelle 3. Grebo 4. Krahn 5. Bassa 6. Kru 7. Lorma 8. Belleh 9. Sapo 10. Other	I__I I__I I__I I__I I__I I__I I__I I__I I__I I__I	*Do not read options *Select only one option

	888. Don't Know		
otherlang	At home, do you speak any other languages? 1. English 2. Kpelle 3. Grebo 4. Krahn 5. Bassa 6. Kru 7. Lorma 8. Belleh 9. Sapo 10. Other 11. No 888. Don't Know	I__I I__I I__I I__I I__I I__I I__I I__I I__I I__I	*Select all that apply *Do not read the options
ses	In your home, do you have any of the following items that I will read to you? 1. CELL PHONE 2. CURRENT/LIGHT/GENERATOR 3. ICE BOX 4. BICYCLE 5. TV 6. MOTORBIKE/PEMPEM 7. CAR 8. KEHKEH 9. None 888. Don't know	I__I I__I I__I I__I I__I I__I I__I I__I I__I	*Please read all the options to the child and select all that apply
book	At home do you have : 1. TEXTBOOKS/SCHOOLBOOKS 2. NEWSPAPERS 3. STORYBOOKS/COMICS 4. COLORING AND DRAWING BOOKS 5. HOLY BOOK (BIBLE OR KORAN) 6. None 888. Don't know	I__I I__I I__I I__I I__I I__I I__I	*Please read all the options to the child and select all that apply

WASH [DON'T READ TO THE CHILD]

Okay, now I have some questions about hygiene.

hand1	Did you wash your hands at all *yesterday*?
	
	    0. No→ hand4
	    1. Yes
	888. Don't know
		|__|	*Select only one option

hand2	When did you wash your hands yesterday?
	
	    1. After using the toilet (poo poo)
	    2. After using the toilet (pee pee)
	    3. Before eating food
	    4. When they were dirty
	    5. After eating
	    6. After playing
	    7. Before preparing food
	    8. After helping someone else use the toilet
	    9. Other
	888. Don't know/ No response
		|__|
		|__|
		|__|
		|__|
		|__|
		|__|
		|__|
		|__|
			* Probe if the child refers to the time s/he washed he/his hands, ask them why they washed their hands at that time
			
			*Do not read the options to the child.
			
			*Select all that apply.

hand3	What did you use to wash your hands *yesterday*?
	
	    1. Water only
	    2. Water and soap
	    3. Water and ash
	    4. Other
	888. Don't know/ No response
		|__|	*Do not read the options to the child.
			
			*Select only one option

hand4	When should you wash your hands?
	
	    1. After using the toilet (poo poo)
	    2. After using the toilet (pee pee)
	    3. Before eating food
	    4. When they were dirty
	    5. After eating
	    6. After playing
	    7. Before preparing food
	    8. After helping someone else use the toilet
	    9. Other
	888. Don't know/ No response
		|__|
		|__|
		|__|
		|__|
		|__|
		|__|
		|__|
		|__|
			*Do not read the options to the child.
			
			*Select all that apply.

Food Security [DON'T READ TO THE CHILD]

Thank you! Now, I would like to ask you some questions about food.

eatfreq	How many times do you eat per day?
	
	    1. More than three times per day
	    2. Three times per day
	    3. Twice per day
	    4. Sometimes two times, sometimes one time
	    5. Once per day
		|__|	*Select only one option

	6. I eat once a day and sometimes not eat at all 888. Don't know/ No response		
diet1	Do you know what does a "balanced diet" mean? 　0. No → diet3 　1. Yes→diet2 888. Refuse to answer → diet3	|__|	*Do NOT probe if the child does not understand probe *Select only one option
diet2	Can you explain to me what a balanced diet is? 　1. Eating foods that give us energy to play, work, learn (Go) 　2. Eating foods that help us grow (Grow) 　3. Eating foods that protect us from disease (Glow) 　4. None of the above 888. Don't know/ No response		__
__
__
__
__		*Probe if needed but do NOT read the options to the child * Select all that apply * For programming purpose - restrict selection of None of the above and 888 with other options.
diet3	Can you name foods that give you energy to play and learn? 　1. Grains like maize (corn), rice, fufu, bulgur, or pasta 　2. Sweet foods like sugarcane, sugar, or honey 　3. Roots like potato, yam, cassavas, eddos, or sweet potato 　4. Fats like margarine (butter), or oils 　5. Other 888. Don't know/ No response		__
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__		*Probe if needed but do NOT read the options to the child * Select all that apply * For programming purpose - restrict selection of None of the above and 888 with other options.
diet4	Can you name foods that help your body grow? 　1. Dairy products like milk, yogurt, and cheese 　2. Red meat 　3. Poultry (chicken) 　4. Fish 　5. Eggs 　6. Beans, peas, legumes/pulses like seeds and nuts 　7. Other 888. Don't know/No response		__
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__		*Probe if needed but do NOT read the options to the child * Select all that apply * For programming purpose - restrict selection of None of the above and 888 with other options.
diet5	Can you name foods that protect your body from disease? 　1. Green leafy vegetables like potato greens, spinach, collard green, cassava greens, watergreens		__
__
__
__
__
__
__		* Do NOT read the options to the child * Select all that apply * For programming purpose - restrict selection of None of

	2. Fruits like mango, banana, pawpaw, oranges, pineapple, watermelon, or cucumber 3. Okra 4. Cauliflower 5. Pumpkin 6. Other 888. Don't know/ No response		the above and 888 with other options.

diet6	How do you think the food should be divided between boys and girls?
	   1. Boys should get more
	   2. Girls should get more
	   3. Boys and girls should get equal amounts
	888. Don't know/ No response
		|__|	*Select only one option

That's great! You did a good job! Now I want to ask you a couple of questions about your school.

			*Select only one option

canteen1	Did you eat a meal that was prepared at school for free *yesterday*?
	   0. No
	   1. Yes
	   2. No food was prepared
	888. Don't know/ No response
		|__|	*Probe if necessary
			
			*If the interview is on Monday, ask the child about Friday or the last time the child was at school. If the child was absent yesterday, ask about the last time the child was at school.

SCHOOL ENVIRONMENT AND PARTICIPATION [DON'T READ TO THE CHILD]

⚠ The following questions are only for Grade 2 students.			

enviro1	What do you like best about your class and school?
	
	   1. Like teacher
	   2. Learning new things/enjoy lessons
	   3. Participate in classroom games and activities
	   4. Playing a sport at school
	   5. Access to water
	   6. Access to clean toilet
	   7. Food is provided
	   8. Being with my friends
	   9. Other (Specify …)
	888. Don't know/ No response
		|__|
		|__|
		|__|
		|__|
		|__|
		|__|
		|__|
		|__|
		|__|
			*Select all that apply.
			*Do not read the options to the child.

enviro2	What do you not like about your class and school? 1. Teacher is mean to me/other students 2. S/he punishes me/ hits me/other students 3. Teacher asks for money 4. Lessons difficult to understand/learn 5. Not learning much at school 6. Poor toilet conditions/lack of toilets 7. No access to water 8. No food is provided/the food is bad 9. Other students tease me/fight with me/other students 10. Lack of uniform 11. Lack of learning materials 12. Lessons are boring 13. Other (specify) 888. Don't Know/ No response	I__I I__I I__I I__I I__I I__I I__I I__I I__I I__I I__I	* Do not read the options to the child * Select all that apply *Note to enumerators: Mean can be yelling, laughing at students, or humiliating them, etc.
enviro3	How many times **in the last week** did your teacher come to class? 1. Every day (5 days) 2. A few times during the week (2-4 days) 3. Once during the week 4. Never → enviro5 888. Don't know/No reponse		*Read the list to the respondent, but don't read 'don't know' *Select only one
enviro4	How many times **in the last week** did your teacher come late or miss a portion of the class? 1. Every day (5 days) 2. A few times during the week (2-4 days) 3. Once during the week 4. Never 888. Don't know		*Read the list to the respondent, but don't read "don't know" *Select only one
enviro5	Does your school have books other than textbooks/schoolbooks for you to borrow? If yes, is it free, or do you have to pay money? 0. No → nhhold 1. Yes, we can take books, but not off campus → nhhold 2. Yes, we can take books home and it is free → enviro5a 3. Yes, we can take books home but it costs money → enviro5a	I__I	*Select only one option

	888. Don't know		
enviro5a	How many times **in the last week** did you borrow books other than textbooks/school books from school to take home to read? 1. Every day 2. A few times during the week; 3. Once during the week; 4. Never 888. Don't know	I__I	*Read the list to the respondent, but don't read 'don't know' *Select only one

Household Environment [DON'T READ TO THE CHILD]

We are almost done! We have a few more questions about your home.

Nhhold	How many people are there in your household, including yourself?	....	*Define the household for the child as a place where its members live with each other, eat out of the same pot *Record the number > 0 & < 30
hh1	In the last week, did you see anyone in your house reading? 0. No →hh2 1. Yes →hh1a 888. Don't know	I__I	*Select only one option
hh1a	Who did you see reading last week? 1. Mother 2. Father 3. Older sister 4. Younger sister 5. Older brother 6. Younger brother 7. Grandmother 8. Grandfather 9. Other female relative 10. Other male relative 11. Female non-relative 12. Male none-relative 888. Don't know		*Select all that apply

hh2	In the past week, did anyone in your household help you with your studies/school work?
	
	    0. No →hh3
	    1. Yes →hh2a
	 888. Don't know
		I__I	*Select only one option

hh2a	Who helped you study?
	
	    1. Mother
	    2. Father
	    3. Older sister
	    4. Younger sister
	    5. Older brother
	    6. Younger brother
	    7. Grandmother
	    8. Grandfather
	    9. Other female relative
	   10. Other male relative
	   11. Female non-relative
	   12. Male none-relative
	888. Don't know
		I__I	*Select all that apply

hh3	In the past week, did anyone in your house read to you?
	
	    0. No →hh4
	    1. Yes →hh3a
	 888. Don't know
		I__I	*Select only one option.

hh3a	Who read to you?
	
	    1. Mother
	    2. Father
	    3. Older sister
	    4. Younger sister
	    5. Older brother
	    6. Younger brother
	    7. Grandmother
	    8. Grandfather
	    9. Other female relative
	   10. Other male relative
	   11. Female non-relative
	   12. Male none-relative
	888. Don't know
			*Select all that apply

hh4	In the past week, did anyone in your house tell you a story?
	
	    0. No →readout1
	    1. Yes →hh4a
	 888. Don't know
		I__I	*Select only one option.

hh4a	Who told you a story?		*Select all that apply

	1. Mother 2. Father 3. Older sister 4. Younger sister 5. Older brother 6. Younger brother 7. Grandmother 8. Grandfather 9. Other female relative 10. Other male relative 11. Female non-relative 12. Male none-relative 888. Don't know		

readout1	During the last week, did you read books other than textbooks/schoolbooks outside of school?
	
	    0. No
	    1. Yes
	  888. Don't know
		I__I	*Select only one option

readout2	Outside of your school or home, where else can you go to read or borrow books (other than textbooks)?
	
	    1. Community library
	    2. Church/Mosque or any other religious building
	    3. Reading clubs
	    4. Friends or relatives
	    5. Other
	  888. Don't know/ No response
		I__I
		
		I__I
		
		I__I
		
		I__I
		
		I__I
			*Select all that apply

Sexual and Gender-based Violence [DON'T READ TO THE CHILD]

Thank you! Now, I would like to ask your opinion about something. There is no right or wrong answer.

sgbv1	Are there rules for the ways that teachers should treat students in school?
	
	    0. No→ sgbv3
	    1. Yes→ sgbv2
	  888. Don't know
		I__I	Probe if needed

sgbv2	What are they?
	
	    1. Teachers are not allowed to be in a relationship with students
	    2. Teachers are not allowed to beat students
	    3. Teachers are not allowed to beat students too much
			* Do not read the options to the child
			
			* Select all that apply

	4. Teachers are not allowed to use humiliating language on students 5. Teachers are not allowed to ask students for money 6. Other (specify) 888. Don't know		
sgbv3	How do teachers discipline students at school? 1. Give extra work/assignments 2. Dismiss students from class 3. Physical violence (hitting students) 4. Humiliating language 5. Made to clean or work at the school 6. Other (specify) 888. Don't know/No response	I__I I__I I__I I__I I__I	* Probe if needed *Do not read the options to the child * Select all that apply
sgbv4	If children are teased or touched in a way they don't like at school, what do they do? 1. Tell their teacher 2. Tell the principal or registrar 3. Tell their parents 4. Nothing 5. Other (specify) 888. Don't know/No response		* Probe if needed *Do not read the options to the child * Select all that apply

I'm going to read you things that some children agree with and some children disagree with. After I read each one, please tell me if you yes you agree or no you disagree.

⚠ The following questions are only for Grade 6 students.			
gender1	If a boy touches a girl at school, it's because the girl did something to attract him 1. Disagree 2. Agree 888. No response/Not sure	I__I	*Select only one option
gender2	There are times when a boy needs to beat his girlfriend 1. Disagree 2. Agree 888. No response/Not sure	I__I	*Select only one option
gender3	Girls like to be teased by boys 1. Disagree 2. Agree 888. No response/Not sure	I__I	*Select only one option
gender4	When girls wear short skirts they are telling boys or men to touch them	I__I	*Select only one option

	1. Disagree 2. Agree 888. No response/Not sure		

gender5	For girls to get good grades, they sometimes have to let their teachers touch them or love them
	
	   1. Disagree
	   2. Agree
	888. No response/Not sure
		I__I	*Select only one option

Disability [DON'T READ TO THE CHILD]

Thank you! You are doing a great job! We are almost done! Then we can play the reading game!

dis1	Do you have difficulty seeing? For example, is it difficult to see the chalkboard when you are at school, even if you sit near the front of the classroom, or when you wearing your glasses (mention this example if they wear glasses)? What about when you sit at the back of the classroom?
	
	   0. No – no difficulty
	   1. Yes – some difficulty
	   2. Yes – a lot of difficulty
	   3. Cannot do at all
	888. Don't know
		I__I	*Select only one option
			
			***Make sure difficulty is not because students are blocked by taller students in front of them

dis2	Do you have difficulty hearing? For example, if you were in the main room of your house, could you hear someone talking in a normal voice on the other side of the room, or even when you wearing your hearing aid (only ask if you see they have hearing aid)?
	
	   0. No – no difficulty
	   1. Yes – some difficulty
	   2. Yes – a lot of difficulty
	   3. Cannot do at all
	888. Don't know
		I__I	*Select only one option

dis3	Do you have difficulty walking or climbing steps? For example, is it difficult to move around in your home?
	
	   0. No – no difficulty
	   1. Yes – some difficulty
	   2. Yes – a lot of difficulty
	   3. Cannot do at all
	888. Don't know
		I__I	*Select only one option

LITERACY BOOST ASSESSMENT:

Understanding Letters

1. Give the child the list of letters and say to the child:
2. Say: *Let's look at some letters. Can you start here* (point to first letter) *and tell me what these letters are moving in this direction?* (indicate left to right direction) *Do you understand? Ok, you can begin.*
3. Mark the letters correct or incorrect as the child reads.
4. Correct letters are:
   - the letter name in the home language or language of instruction
   - any sound that is acceptable for in the home or instructional language
   - a response which says "It begins like…" giving a word for which the letter is the initial letter
5. If the child read the letters out of order, then remember to bring his/her attention to the ones they might have skipped.
6. Make sure you marked all of the letters
7. Move to the Most Used Words section.

What to do if a student is struggling:
   - If the student is struggling, and hesitates at any letter for five seconds, ask follow up questions: *Do you know its name? What sound does it make? Do you know a word that starts with this letter?*
   - If the student still hesitates for five seconds, ask: *Can you tell me any of these letters?*
   - If the student still hesitates for five seconds, then stop and thank him/her for trying his/her best.
   - Mark letters not identified or not attempted as incorrect.
   - Move to the Most Used Words section.

x	v	s	o	a
k	g	c	f	b
p	l	h	d	z
t	q	m	i	e
w	u	r	n	j
y				

Most Used Words

1. Give the pupil the laminated copy of the "Most Used Words" list.
2. Say: *I would like you to read some words to me. They are words from your textbook. Please point to and say each of these words starting here* (point to first word) *and moving across each line like this* (indicate left to right direction). *Do you understand? Ok, you can begin.*

3. Mark the words correct or incorrect as the child reads
4. Remember that pronunciations of words in local dialects are acceptable.
5. If the child read the words out of order then remember to bring his/her attention to the ones they might have skipped.
6. Make sure you marked all of the words.
7. Move to the Decoding Section.

What to do if a student is struggling:
- If the student is struggling, and hesitates at any words for five seconds ask the child, *Are there any words on the list that you know? Tell me or say the words you know.* Repeat the request to encourage the child to continue.
- If the student still hesitates for five seconds, then stop and thank him/her for trying his/her best.
- Mark words not identified or not attempted as incorrect.

your	his	uncle	we
school	girls	want	help
and	said	story	room
go	she	will	ask
not	was	mother	did

Invented words

1. **Give the pupil the laminated copy of the "Invented Words" list.**
2. **Say:** *I would like you to read another list of words to me. These words are <u>not</u> real words, rather they are words that we made up ourselves. But they can still be read. Please point to and say each of these words starting here* **(point to first word)** *and moving across each line like this* **(indicate left to right direction).** *Do you understand? Ok, you can begin.*
3. Mark the words correct or incorrect as the child reads.
4. Remember that pronunciations of words in local dialects are acceptable.
5. If the child read the words out of order then remember to bring his/her attention to the ones they might have skipped.
6. Make sure you marked all of the incorrect words.
7. Move to the Reading Passage section.

What to do if a student is struggling:

- If the child hesitates at any word for five seconds, ask the child, *Are there any words on the list that you know? Tell me or say the words you know.* Repeat the request to encourage the child to continue.
- If the student still hesitates for five seconds, then stop and thank him/her for trying his/her best.
- Mark words **not identifies or attempted as incorrect**.
- Move to the Reading Passage section.

jour	mir	undle	ne
sprood	kirls	vakt	gelb
alt	baid	flory	koom
vo	phe	yill	asb
dok	sar	rothem	thu

COMPREHENSION PASSAGES AND QUESTIONS

1. **Give the pupil the reading passage.**
2. **Say**: *I am going to give you a reading passage to read. When I say 'begin,' start reading aloud from the title on this page. Try to read each word. If you come to a word you don't know, I'll tell it to you. Be sure to try to do your best reading. Do you understand what I want you to do*?
1. **Say:** *'Begin'* **and** <u>when the pupil begins to say the first word of the title</u> **press START.**

2. As the pupil reads, follow along on your screen. Click on words read incorrectly (they will turn with a line through them).

3. If the pupil stops reading before the end of the passage, encourage the pupil to keep reading. Show the pupil where he/she stopped, if necessary. Follow along on your copy. If the child does not want to or cannot read anymore, stop the timer and select the last word the child read. Thank the child for reading it and read it out to him/her.

4. After 30 seconds, a message will flash, "Please mark the item being attempted." Mark the word that the child was reading when the message came, and a blue box will appear around it.

5. When the screen flashes at the end of 30 seconds, do a quick count of the <u>correct</u> words.

   - If the pupil has read less than 5 words correctly, then:
     - **Politely stop the child and Press "Finish" box to stop the timer. Say: Thank you.**
     - **Read the passage to them.**
     - **On the next page, mark NONREADER**
     - **And ask them comprehension questions.**

   - If the pupil has read 5 or more words correctly, then:
     - Select the box under the word being read/attempted by the child at 30 seconds.
     - Allow the pupil to finish the passage.
     - Continue marking which words are read incorrectly by clicking on them.
     - As soon as the pupil finishes the last word of the passage, click the FINISH button. Say: Thank you.
     - On the next page, for the question, 'Was the student a reader or nonreader?' mark READER.
     - Move to the Reading Comprehension questions

What to do if a student is struggling:

- If the pupil is struggling and fails to correctly pronounce a word within five seconds, **tell him/her the word and mark it as an error by clicking on it** (the word should appear with a line through it).

The Lone Star Kite! One hot day, all the children were outside playing. Many were flying kites high in the sky. Flomo looked at the kite that his older brother Moses made for him. It had red and white stripes and a blue lone star at the top. It looked great. Flomo was proud of his kite. He ran up the hill. Flomo ran so fast that he fell down and broke his kite. Flomo began to cry. Moses came down from the hill. "Why are you crying?" he asked. "My kite is broken," said Flomo. "I will fix it," said Moses. Flomo trusted his brother. Moses fixed the kite with glue. He handed it to Flomo. "Try it now!" Flomo ran and the wind carried the kite in the air. All the children came running to look at the beautiful Lone Star kite. Flomo was right – his big brother always knew what to do.

reader	Is child a reader or a non-reader? 0. A non-reader read fewer than 5 words accurately 30 seconds) 1. A reader (read correctly 5 per 30 seconds)	I__I	Select only one option

Comprehension Questions

Comp1	What happened in the story? 1. Flomo wants to fly the kite that his brother made 2. Flomo falls and breaks his kite 3. Flomo's brother fixes the kite 4. Flomo is able to fly the kite 5. None	I__I	mark every main point mentioned by the child
Comp2	Who made the kite for Flomo? (His older brother, Moses) 0. False 1. True	I__I	Don't read the answer to them
Comp3	What did the kite look like? (Lone Star/red and white stripes with blue star) 0. False 1. True	I__I	Don't read the answer to them
Comp4	How did the kite break? (Flomo tripped and dropped it) 0. False 1. True	I__I	Don't read the answer to them
Comp5	Who fixed Flomo's kite? (his brother, Moses) 0. False 1. True	I__I	Don't read the answer to them
Comp6	How did Moses fix the kite? (with glue) 0. False 1. True	I__I	Don't read the answer to them
Comp7	Does the kite fly at the end of the story? (yes) 0. False 1. True	I__I	Don't read the answer to them

Comp8	Why was Flomo proud of his kite? (his brother made it for him/it was a Lone Star kite) 1. Student could explain their answer with information from the story 2. Student could NOT explain their answer with information from the story	I__I	Don't read the answer to them
Comp9	How did Flomo feel after he broke his kite? (Sad or depressed) 0. False 1. True	I__I	Don't read the answer to them
Comp10	Why do you think Moses was a good brother? 0. False 1. True		True if student can support opinion with details from story
Thank you very much for answering my questions.			

End time …………………..

Comment ……………………….

Parents: Focus Group Discussion

_____

- **Here as researchers for a project that Save the Children is starting. We are not funding any programs or school, we are providing feedback to from parents to STC to improve planned activities**
- **Everything is confidential, we will not record anyone's name or share anything they say with teachers or principals. Respect each other and do not repeat this conversation outside of here**
- **No right or wrong answers – it's ok to disagree, because we want everyone's opinion. Everyone should speak freely, and respect each other**
- **You do not have to answer a question if you do not want**
- **Can we record the discussion for notes?**
- **Do you have any questions for us before we begin?**

1. **Do you think children need to go to school?** For how long? Are there any differences between boys and girls?

2. **How do children benefit from school?** What are both the immediate benefits and future benefits? Are there different benefits for boys and girls?

3. **Do you encourage your children to study at home?** Why? Why not?

4. **Do you tell your children stories?** How often? Which children – how old? Both girls and boys? If not, why not?

5. **Do you have storybooks or other reading materials such as newspapers at home?** [If no] why not? [If yes], do your children read them, or do you read to your children? How often? Which children – how old? Both girls and boys? **[If parents say yes] Is this typical of families in your community?**

6. **Does your children's school have books that the children can borrow to take home? Is there another place in your community where children can borrow books?** [If yes] how often do your children bring books home? Do you encourage them to borrow books? Why or why not? [If no] what do you think of the idea?

7. **In some communities, not all children are able to attend school on a regular basis. Does this happen in your community? Are there some children who attend school more than others?** What prevents some children in this community from going to school? Are there different reasons that prevent boys and girls from going to school? What usually happens when children are unable to attend regularly?

8. **What do you think would encourage children in your community to go to school more often? What are the specific encouragements needed for girls? For boys?** (Spend time on this question and probe – for example, if they parents say "money" ask specifically what the costs are, and why they are prohibitive. Try to get a lot of responses here – keep following up, "is there anything else?" Encouraging stories of real children in the community might be helpful.)

9. Do your children go willingly and look forward to attending school? **What do they like/dislike about going to school?** (Probe for specific examples of their own children and what they like / dislike)

10. **What do you like about the school your child attends? What, if anything, could be better?** Do you know your child's teacher or teachers? What do you like (or not like) about your child's teacher or teachers?

11. **Do you know if there are any rules in place for how teachers should treat students in school? Do you think these rules are followed, or sometimes broken?** (probe for beating, sex for grades, teacher/student relationships) How do you go about handling any issues that arise in the school? If there are problems, what is the main barrier keeping it from being addressed?

12. Are you part of a parent group, such as a parent teacher association that collaborates with your school?

    a. If yes, what kind of activities does this group do? **Do you have any suggestions on how to improve collaboration? What would a good PTA be able to do in this school?**

    b. **If no, do you think a group like this would benefit your school? What activities would you expect from such a group?** Would you be interested in joining? Who from your community do you expect would want to join?

13. **Do you think teachers will accept if the parent body has a role to monitor their attendance, their behaviour with the children, rewarding good teachers?**

14. Is there anything that I did not ask about that you would like to share with me, or do you have any additional thoughts about what we have discussed today?

Thank you all very much for your sharing with me today, your feedback is much appreciated!

_____

- **Here as researchers for a project that Save the Children is starting. We are not funding any programs or school, we are providing feedback to from parents to STC to improve planned activities**
- **Everything is confidential, we will not record anyone's name or share anything they say with teachers or with anyone else. Respect each other and do not repeat this conversation outside of here**
- **No right or wrong answers – please speak freely**
- **You do not have to answer a question if you do not want**
- **Can we record the discussion for notes?**
- **Do you have any questions for us before we begin?**

1. **Let's start by talking a little bit about your background – how long have you been a principal? How long have you been at this school?**

2. **What are the challenges families in this community face in sending their children to school and supporting their education?** (Probe to understand if there are different reasons that prevent boys and girls from going to school, and if there are different challenges by age group or class level)

3. **Do you feel that boys and girls have equal access to education in your community?** By 'equal access' we mean: do girls and boys have the same chance to go to school, or do girls or boys have more responsibilities in the household that would prevent them from going to school, or maybe there could be differences in parent's idea of the importance of education being more or less important for boys as opposed to girls. There may be other reasons that there could be different levels of opportunity for boys and girls in attending school.

4. **What factors do you think encourage families to send their children to school?** (Probe if there are gender and age differences)

5. **Does your school currently have place where meals are cooked for students and teachers?** How do children eat during the day (bring food from home; don't eat; school garden; other donations, etc.)? Do you think if a meal was cooked at school for them, would it increase the attendance of students at your school? What about the attendance of teachers? Do you think providing take home rations to girls as an incentive will increase girls' attendance at your school? Why or why not?

6. **Is there a place in your community, either at school or somewhere else, for children to read or take books home from school, unrelated to their homework?** If yes, do students use this? Are there are certain types of students who take books home (gender, age, others)?

7. Are parents involved at your school? **Do you have any parent groups, such as a parent teacher association that collaborate with your school?**

   a. If yes, what kind of activities does this group do? **Do you have any suggestions on how to improve collaboration? What would a good PTA be able to do in this school?**

   b. **If no, do you think a group like this would benefit your school?** What activities would you expect from such a group?

8. **Do you think teachers will accept if the parent body has a role to monitor their attendance, their behaviour with the children, rewarding good teachers?**

9. **How many teachers are there at your school? On average, how long does each teacher stay at this school** (do the teachers change every year?)

10. **Aside from the usual reasons for missing school (being sick, taking care of family members), do teachers regularly skip coming to school, or come late/leave early?** If not in your school, what about nearby schools? Why do you think that is?

11. **What do you think encourages or motivates teachers to come to school, or stay engaged? What do you think would encourage teachers to have better performance?**

12. **Do the teachers in this school or in nearby schools hit or beat students in this school?** What about humiliating language? Why do you think that is? Do you think there are any alternatives that could work better? If so, how could we convince teachers to use them?

13. **Is there a problem in your school or local schools with teacher behaviour with children** – e.g. asking children to do their housework; sex for grades, persuading girls (or boys) to have sex with them, or become their girlfriends? If so, why do you think that is? What could you and we do about it?

14. **What are your priorities as a leader in terms of developing the school?** What are the most important things you would like to see improve with regard to education in this community?

15. **Is there anything that I did not ask about that you would like to share with me?**

Thank you for taking the time to speak with us today, your feedback is very valuable!

Teachers: Focus Group Discussion

_____

- **Here as researchers for a project that Save the Children is starting. We are not funding any programs or school, we are providing feedback to from parents to STC to improve planned activities**
- **Everything is confidential, we will not record anyone's name or share anything they say with principals. Respect each other and do not repeat this conversation outside of here**
- **No right or wrong answers – it's ok to disagree, because we want everyone's opinion. Everyone should speak freely, and respect each other**
- **You do not have to answer a question if you do not want**
- **Can we record the discussion for notes?**
- **Do you have any questions for us before we begin?**

1. **Let's start by talking a little bit about your background – how long have you been a teacher? How long have you been at this school?**

2. **What are the challenges families in this community face in sending their children to school and supporting their education?** (Probe to understand if there are different reasons that prevent boys and girls from going to school, and if there are different challenges by age group or class level)

3. **Do you feel that boys and girls have equal access to education in your community?** By 'equal access' we mean: do girls and boys have the same chance to go to school, or do girls or boys have more responsibilities in the household that would prevent them from going to school, or maybe there could be differences in parent's idea of the importance of education being more or less important for boys as opposed to girls. There may be other reasons that there could be different levels of opportunity for boys and girls in attending school.

4. **What factors do you think encourage families to send their children to school?** (Probe if there are gender and age differences)

5. **Does your school currently have place where meals are cooked for students and teachers?** How do children eat during the day (bring food from home; don't eat; school garden; other donations, etc.)? Do you think if a meal was cooked at school for them, would it increase the attendance of students at your school? What about the attendance of teachers? Do you think providing take home rations to girls as an incentive will increase girls' attendance at your school? Why or why not?

6. **Is there a place in your community, either at school or somewhere else, for children to read or take books home from school, unrelated to their homework?** If yes, do students use this? Do you encourage students to take home books? Are there are certain types of students who take books home (gender, age, others)?

7. Are parents involved at your school? **Do you have any parent groups, such as a parent teacher association that collaborate with your school?**

   a. If yes, what kind of activities does this group do? **Do you have any suggestions on how to improve collaboration? What would a good PTA be able to do in this school?**

b. If no, do you think a group like this would benefit your school? What activities would you expect from such a group? Would you be interested in joining? Who from your community do you expect would join?

8. **Would you, or do you think other teachers will accept if the parent body has a role to monitor their attendance, their behaviour with the children, rewarding good teachers?**

9. **Do you, or other teachers ever miss coming into school (other than occasionally for being sick or family reasons)?** Why? What encourages you to come to school every day? Is there anything that would help encourage you to attend more frequently?

10. **What are some situations when you need to punish students at school? What do you do as punishment?** (Probe if they don't mention: Do some of the teachers in this school beat students as punishment? How about use humiliating language?) **Do you think there are any alternatives that could work better?**

11. **Is there a problem in your school or local schools with teacher behaviour with children** – e.g. asking children to do their housework; sex for grades, persuading girls (or boys) to have sex with them, or become their girlfriends? If so, why do you think that is? What could you and we do about it?

12. **Do you want to stay at this school, or would you prefer to move to another school?** Why?

13. **What are the key challenges you face in your teaching?**

14. **What do you like most about teaching?**

15. **Is there anything that I did not ask about that you would like to share with me?**

Thank you for taking the time to speak with us today, your feedback is very valuable!