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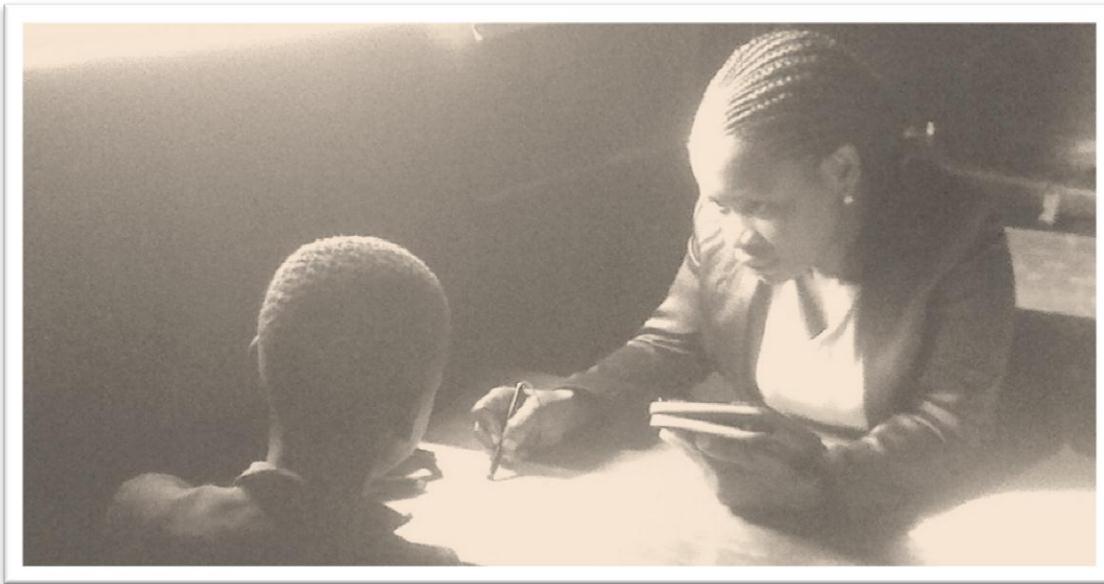
World Vision®



MobiLiteracy-Uganda Program

Phase 1: Baseline Report

Project Number: 0213750.000.000



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Acronyms

AusAID	Australian Agency for International Development
clspm	correct letter sounds per minute
cnwpm	correct non-words per minute
CSR	Center for Social Research
EGRA	early grade reading assessment
EMIS	education management information system
IRB	institutional review board
IRR	inter-rater reliability
MLIT	MobiLiteracy
P1	Primary 1 (Grade 1)
P2	Primary 2 (Grade 2)
RCT	randomized controlled trial
RTI	Research Triangle Institute International
SES	socioeconomic status
SHRP	School Health and Reading Program Uganda
UP	Urban Planet Media and Entertainment Corporation/Urban Planet (UP)
USAID	United States Agency for International Development

Executive Summary

Introduction and research framework

In 2012, Urban Planet Media and Entertainment Corporation/Urban Planet (UP¹) was awarded a grant through All Children Reading: A Grand Challenge for Development. The grant awarded to UP is being used to develop, pilot test, and evaluate an early literacy product in Uganda that targets parents through their mobile phones and encourages them to engage their early primary-school aged children in literacy skills-building activities outside of school hours. The product, which is delivered in the Luganda language, delivers multimedia (text plus audio, or SMS+audio) content on a daily basis over a sustained period of time—in this case, 91 days, during which all of the letters of the Luganda alphabet are introduced as well as 10 key vocabulary words all related to a short story.

The program involves several partners:

- **UP** is the prime awardee for this grant program and designed the plans for creating a literacy development program with unique early literacy content for the Ugandan context, and evaluating it in the context of the grant program.
- **RTI International** was designated to lead the evaluation of the program's effects on students' reading skills and home-based literacy practices, as well as its potential for scale-up.
- Local partners **Mango Tree** and the **Center for Social Research (CSR)** were recruited to manage the local logistics of program implementation and evaluation activities.

The MLIT evaluation program is designed to determine the effectiveness of the MLIT SMS+audio product and to allow for a comparison of the effectiveness of strategies for providing variations of that product to parents to help them encourage reading acquisition. The strategies evaluated include SMS+audio lessons or literacy prompts delivered via mobile phone, the same prompts provided to parents in paper format, and a one-time literacy prompt delivered to parents verbally at the beginning of the program. This one-time prompt strategy operates as the control in the evaluation. The MLIT evaluation will be conducted in two phases:

- Phase 1: Focuses on evaluating the MLIT SMS+audio product and its effects on literacy development when provided free of charge to parents through organized, school-based recruitment. (May to October 2013, approximately)
- Phase 2: Focuses on evaluating the feasibility of taking the program to scale by offering it at a small cost to parents. (October 2013 to June 2014, approximately)

This report describes the outcomes of the Phase 1 Baseline data collection and is limited to descriptive information collected about the context, program, and participants. Evaluative information on the program's effects will be provided in the Phase 1 Endline report. A third

¹ At the time the grant was awarded, the company also went by the name Urban Planet Mobile (UPM).

report after Phase 2 will also be produced to discuss the potential for scale based on findings from implementation in Phase 1.

The MLIT evaluation is designed to allow for a comparison of the effects on reading acquisition of providing parents with content through SMS+audio against the outcomes of content provided via paper-based literacy materials, as well as against simply providing one-time verbal messages to parents about supporting children’s literacy development. Through a randomized controlled trial (RCT) involving two treatment groups and one control group, and measurement of differences in outcomes (namely children’s reading achievement) over time and between groups. The groups consist of parents and their Primary 1 (P1, or Grade 1) or Primary 2 (P2, or Grade 2) children, who were randomly assigned to one of the following groups:

- **Group A – Mobile phone content:** Provided with a mobile phone, verbal instructions and in-person demonstrations for using it, and the MLIT 91-day SMS+audio product delivered to the phone daily.
- **Group B – Paper-based content:** Provided with a paper-based version of MLIT, as well as basic instructions for using the materials.
- **Group C – Control group receiving verbal suggestion only:** Provided with a brief, one-time verbal message to support children’s literacy (i.e., explaining the importance of talking to children daily about school, letters of the alphabet, letter sounds, etc.)

This “difference-in-differences” evaluation approach—comparing both differences over time and differences between groups—will allow us to isolate the effect of MLIT delivered by mobile phone as compared to paper-based delivery and the control group. A product-oriented approach built in to the evaluation will further allow for a formative evaluation of the product while it is being tested.

To answer the research questions, qualitative and quantitative information was gathered using three key instruments: student reading skills assessment (based on the Early Grade Reading Assessment [EGRA] methodology), student interview, and parent interview. Equivalent instruments will be used at the end of the 91-day program to detect the degree of implementation and effects. Information from the interviews will be used to determine if reading levels and literacy-related practices have changed due to participation in the program, and what degree of participation may have influenced changes in outcomes.

Baseline Findings

Data was collected from participants in a sample of eight co-ed public schools in the Wampewo Coordinating Cluster, an education administrative geographic unit within the district in the Wakiso District. Participants from each of the three groups (treatment and control) were selected at each school to maximize the likelihood that participants would be as similar as possible to each other, to mitigate any potential unobservable differences related to school administration, conditions, and quality that may have an effect on outcomes.

Matching student and parent interviews were collected for 158 participant pairs; in a few cases, a parent was interviewed but the child was not, or vice versa. (Information collected from parents who were not matched to a student will still be used for some aspects of the evaluation, though may be limited in terms of helping to assess the program's effects; this report only provides data from matching pairs). The rate of complete interview pairs is 81% of the anticipated sample of 192 participant pairs. In total, 54 parents are considered participants in Group A (the mobile group), 56 in Group B (paper-based group), and 57 in Group C (control group). There are fewer participants in the mobile phone group than in the paper or control groups because of unanticipated problems issuing phones to a few women, who declined to participate in the program. As noted below, with very few exceptions, there were no significant differences between the control and treatment groups on variables of interest.

▪ **Participant characteristics**

Responses to the oral questionnaire reveal that 91% of participating parents or caregivers are female. Most participants in the program are mothers, followed by an aunt/uncle or grandparent. Fathers are also involved (7%). The average age is 35. Eleven percent (11%) of parents reported attending an adult literacy program in the past, and 80% said they read and write Luganda well. Within Group B—the group that received MLIT in printed format—approximately one-third of participants declined to read the short story in Luganda, indicating they may not be able to utilize the materials. Families in all three groups have a similar socio-economic profile based on an index ranging from 0 to 100—the average in each group was close to 48, but the distribution of the index values range from 16 to 70. Families are not the poorest of the poor, but are all in a similar socioeconomic range based on self-reported characteristics that reveal them to be about 50% likely to be living below the poverty level.

▪ **Student reading skills**

Children's reading ability at baseline was assessed using the Early Grade Reading Assessment (EGRA) developed for the Luganda language. Specific skills tested were letter sound knowledge, syllable segmentation, familiar word reading, non-word decoding, and listening comprehension.

Results show that the reading skill level of children in all three groups is similar, with no group showing a particular advantage at baseline. A large proportion of children in each group (mobiles, paper-based and control) did not provide a single correct letter sound during the exercise, and of those who did, the largest proportion gave fewer than 10 correct letter sounds per minute. Similarly, more than half of the children could not correctly read any of the 10 "familiar words", which will be included in the MLIT program. For each individual word, no more than 25% of the children could read that word correctly. Even more children—more than three-quarters—could not decode even one invented word using letter-sound correspondence. The results therefore indicate that children are in need of reinforcement in skills that are a focus of the MLIT program. Interviews with the children following the reading assessment further indicate that the characteristics of children across all three research groups are similar, with a few exceptions (though none is statistically significant).

- **Literacy-promoting behaviors and attitudes in the home**

Characteristics of children and families are also very similar across groups. There is an equal distribution of P1, P2, and P3 children in the groups. Families mostly speak Luganda at home and demonstrated some Luganda and English reading ability, equally distributed across groups. Parents report engaging their children in a range of literacy promoting activities such as learning letters, telling stories, and teaching word reading; however, a small proportion read stories aloud or ask the children to read stories aloud. There is a presence of Luganda reading materials in the home, particularly religious books and newspapers. Children's storybooks or school books are more likely to be in English though.

A large majority of parents are already mobile phone users, and it is common for them to make and receive phone calls or send and receive SMS messages. Sharing SMS messages with children, however, is not common. Of note is that at least a third of parents, however, are not literate (by their own admission or by the assessors' observation).

Conclusions and next steps

Very few of the differences between groups (whether student skills or self- and home characteristics) are statistically significant. Therefore we can conclude that, at baseline, treatment and control groups are similar, and all children and parents show similar need for the MLIT content and a measurable margin for improvement.

At the time of this report, the program has been launched in all three groups and is progressing as planned. All groups received a one-time orientation to the program in which they were given instructions for what to do in their particular case. This orientation was conducted one week after baseline interviews and was dependent on parents being aware of the time and available during that specific, limited time period (two hours per school were allocated for orientation). The local program coordinators are keeping records of any further contact made with program participants, including technical support to mobile phone users. Some challenges and limitations are present, which are outlined in the report.

The pilot program will run 91 days, until mid-September, during which time parents participating in the mobile phone program will receive daily messages. Phase 1 endline data collection to conduct student assessments and parent interviews is tentatively scheduled for the end of September 2013. Once Phase 1 analysis has been completed, planning will begin for Phase 2 implementation based on lessons learned.

I. Background

1.1 Description of the program

In 2012, Urban Planet Media and Entertainment Corporation/Urban Planet (UP) was awarded a grant through All Children Reading: A Grand Challenge for Development. The purpose of the All Children Reading initiative, sponsored by the United States Agency for International Development (USAID), World Vision, and the Australian Agency for International Development (AusAID), is to fund the design and implementation of solutions to improve early grade reading outcomes in low-resource settings.² The grant awarded to UP is being used to develop, pilot test, and evaluate an early literacy product that targets parents through their mobile phones and encourages them to engage their early primary-school aged children in literacy skills-building activities outside of school hours. The product, known as MobiLiteracy-Uganda (MLIT), is a 91-day literacy building audio program with SMS developed by UP. It is based on a proven pedagogical model successfully employed in by their Urban English™ mobile English language program currently delivered in 15 countries on three continents. The product delivers multimedia (text plus audio, or SMS+audio) content on a daily basis over a sustained period of time—in this case, 91 days—which is recognized as an effective pedagogical model.³ Every day the parent receives a text message—for example, “MobiLiteracy Lesson ‘K’, ‘k’”. Over the 91-day period, all of the letters of the alphabet are introduced as well as 10 key vocabulary words all related to a short story. UP has developed audio design specifications that enable several minutes of audio to be compressed into a file size equivalent to a ‘ringtone’ that is accessible through the phone network on most mobile phones, without internet access, so that parents download and listen to the audio recording with their child.

MLIT is a complement to existing approaches to teaching and learning in the classroom by providing reinforcement and support to parents, who are a child’s first teacher. It is designed as an alternative to resource-intensive, supplementary literacy programs that require trained personnel in-country to implement and direct contact time with learners, which can often be challenging in developing country contexts, and is not usually scaleable. It is designed for the characteristics of basic mobile phones (i.e., text-enabled devices, not smart phones, which many people can afford, even in the most remote areas⁴) and the characteristics of the target population—namely, low levels of education and literacy. The audio format compensates for the fact that some parents may not be literate and allows them to become involved in their children’s literacy development despite their own illiteracy. Thus it targets an important opportunity for addressing early literacy achievement. If the MLIT SMS+audio product is proven effective (in

² For more information on the All Children Reading initiative, visit www.allchildrenreading.org. A Mobiles for Reading working group established as part of the Grand Challenge promotes dialogue and knowledge sharing on the use of mobile technology and applications for improving reading.

³ See research on microlearning or spaced learning; for example, Douglas Fields, R. (2005). Making memories stick. *Scientific American*.

⁴ At the end of 2011, Uganda was reported to be third in the region in terms of mobile penetration (38.4%). See: <http://www.ihub.co.ke/blog/2012/05/mobile-technology-in-east-africa/>

terms of enhancing parental literacy practices at home, as well as student learning gains, compared to other alternatives), then there is considerable potential for scale, given the ever-increasing mobile phone ownership worldwide.

The MLIT evaluation program is designed to determine the effectiveness of the MLIT SMS+audio product and to allow for a comparison of the effectiveness of strategies for providing variations of that product to parents to help them encourage reading acquisition. The strategies evaluated include SMS+ audio lessons or literacy prompts delivered via mobile phone, the same prompts delivered on paper, and a one-time literacy prompt delivered to parents verbally at the beginning of the program. This one-time prompt strategy operates as the control in the evaluation. The MLIT evaluation will be done in two phases:

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This report describes the outcomes of the **Phase 1 Baseline** data collection, or pilot, and is limited to descriptive information collected about the context, program, and participants. Evaluative information on the program's effects will be provided in the Phase 1 Endline report. A third report after Phase 2 will also be produced to discuss the potential for scale based on findings from implementation in Phase 1. More details on the evaluation framework and methodology are provided in the following sections.

1.2 Implementing partners

The organizations involved in the grant program are the following:

- Urban Planet (UP)
- RTI International (RTI)
- Mango Tree⁵
- Center for Social Responsibility (CSR)⁶

UP is the prime awardee for this grant program and designed the plans for developing audio literacy development content, which were delivered over a 91 day period as a daily audio lesson embedded as a small data file into a basic SMS for the Ugandan context, and evaluating it in the context of the grant program.

RTI International was designated to lead the evaluation of the program's effects on students' reading skills and home-based literacy practices, as well as its potential for scale-up. As the

⁵ To support project implementation, Mango Tree was hired to replace the originally proposed local partner, The Kasisi Project.

⁶ CSR was the first institution in Uganda to implement the EGRA approach to reading assessment, in collaboration with RTI under a grant from the William and Flora Hewlett Foundation (2009-2010). CSR is currently working with RTI under the USAID/School Health and Reading Program in Uganda, which conducted EGRA with approximately 10,000 learners in February 2013.

external evaluator, RTI is primarily concerned with designing the evaluation study and instruments and conducting data analysis. RTI is also documenting inputs and monitoring fidelity of implementation, as feasible, to analyze vis-à-vis program outcomes.

Local partners Mango Tree and CSR were recruited to manage the local logistics of program implementation and evaluation activities.⁷ Mango Tree was responsible for selecting caregivers and children to participate in the program, including coordinating their availability on the days of data collection and materials distribution. CSR, based in Kampala, was contracted to organize the logistics of data collection and to provide assessors who had previously been trained in and administered the early grade reading assessment (EGRA) for other studies.

Table 1 below summarizes the roles and responsibilities of the different project partners, with particular emphasis on the elements that affect the evaluation design and implementation.

Table 1: Roles and responsibilities of partners

Activity	Partners involved
1. Research design	<p>RTI designed the research and sampling framework, identified sample schools, and managed the IRB approval process for determining methods of obtaining consent and tracking of participants.</p> <p>Mango Tree managed participant recruitment into the program, consent to participate in the research program, and assignment of participants to treatment and control groups.</p>
2. Product development	<p>UP designed the MobiLiteracy program, developed the content of the SMS+audio product, and recruited language expert advisors and translators.</p> <p>UP conducted a formative evaluation of the product (SMS messages and audio recordings) through a focus group with parents prior to the Phase 1 implementation. RTI reviewed a printout of the product after it was completed, made suggestions on presentation of the material for the print group, and double-checked some aspects of language orthography with other language experts, as part of the process of preparing assessment instruments.</p>
3. Data collection instrument design	<p>RTI designed the student reading assessment (EGRA), student questionnaire, and parent questionnaires (the parent and student questionnaires are mostly uniquely designed for this program; the EGRA was adapted from the existing instrument used by USAID/SHRP).</p> <p>UP reviewed and commented on the instruments; provided the list of familiar words based on what words are used in the program; and provided a translator to translate the instrument into Luganda.</p> <p>CSR and Mango Tree provided revisions to the translations during the training period.</p>
4. Assessor training	<p>CSR recruited the assessors from among its staff and roster of expert researchers, provided a venue for training, and organized the logistics of the training (i.e., meals, materials).</p> <p>RTI delivered in-person training to the assessors through an experienced trainer, measured inter-rater reliability, and monitored quality of assessors.</p> <p>UP identified a local partner, the Literacy Association of Uganda, which recruited adults and their children with whom data collectors practiced administering the instruments during training.</p>

⁷ Contractually, RTI, Mango Tree, and CSR are all subcontractors managed through UPM.

5. Data collection	<p>CSR researchers administered EGRA to students and conducted parent interviews, obtained consent from both for participation in the interviews, and arranged transportation for data collection.</p> <p>Mango Tree communicated with schools and local education officials to schedule the dates for data collection and to ensure that parents and their children would be present on the scheduled day; and provided a small payment to parents and teachers to cover costs incurred (such as airtime and transportation) and refreshments on the day of data collection; and conducted some parent interviews.</p> <p>RTI provided tablets for electronic data collection; supervised data collection procedures, ensuring adherence to the research principles (see Annex A) monitored quality of data collection through observation of assessor behaviors, and helped manage movement of students and parents during data collection.</p>
6. Program implementation	<p>Mango Tree helped test the mobile infrastructure, provided training and orientation to all three groups after baseline data collection had taken place, and delivered the mobile phones and printed materials.</p> <p>UP designed the content of the print and audio mobile programs and coordinated work with Mango Tree. UPM determined the technological infrastructure and established a stable delivery platform, tested a variety of basic phones, and arranged with distribution partners to deliver the SMS with audio recordings daily to the Group A participants utilizing an international long code.</p>
7. Data analysis	<p>RTI conducted data processing and analysis (maintaining sole access to the raw data) and wrote the data analysis report.</p> <p>UP reviewed a draft of the report to ensure clarity and accuracy.</p>

II. Evaluation Framework

2.1 Purpose and research questions

The goal of this grant funded by All Children Reading is to test the feasibility and effectiveness of using mobile phones as a tool to help parents help their children acquire early reading skills. The focus of this evaluation is the MLIT–Uganda SMS+audio product, consisting of 91 days of short early literacy content delivered to parents via mobile phones (see description of the product in the previous section). The MLIT evaluation is designed to allow for a comparison of the effects on reading acquisition of providing parents with content through SMS+audio against the outcomes of content provided via paper-based literacy materials, as well as against simply providing one-time verbal messages to parents about supporting children’s literacy development. The purpose of this external evaluation is therefore to (1) assess the effect of MLIT-Uganda in improving parental support for literacy in the home and in improving early grade reading ability in Uganda; (2) describe particular aspects of the product design and use, and determine their link to program outcomes; and (3) use the data and results to inform potential scale-up.

The main questions that guide the evaluation of MLIT’s effectiveness are listed below:

1. To what degree did parents implement the proposed activities with the print-based and SMS+audio based materials?

2. Does participation in a structured reading program change parents' attitudes and engagement in reading with their children?
3. Does this change affect the nature of their engagement (type of literacy activities they do)?
4. To what degree did that engagement improve students' reading skills?
5. What are minimal contextual prerequisites for the two-way SMS plus audio literacy program to be successful?

The design of the evaluation (see next section) aims to provide credible evidence of the MLIT product's effectiveness, and as such takes an impact evaluation approach; however, given that this is the first time the product is being used in this context, the results of the Phase 1 evaluation will also serve to improve the content and distribution mechanisms. Therefore, the evaluation can also be considered a formative evaluation of a new approach to home-based literacy support. It is expected to contribute to the larger body of knowledge around the use of mobile phones to support learning ("m-learning")—in particular the use of mobiles for reading in low-resource contexts—by documenting the strengths and limitations of the approach in that context and factors that may drive or inhibit its usefulness.

2.2 Evaluation approach

In order to answer the above questions and report on the results in a way that will best inform decision making in the future with regards to scale up or expansion to other contexts, we have adopted a program evaluation approach that has been used to analyze curriculum packages, new technologies, instructional media, and other educational products introduced to the marketplace.⁸ This product-oriented approach allows us to use criteria for formative evaluation of the product while it is under development as well as for summative evaluation of product effectiveness after its use. It emphasizes the information needed to make a decision about adopting a product or not based on effectiveness and utility compared to alternatives. In particular, Scriven's checklist identifies the following elements of analysis:⁹

- Need (evidence of need, number affected, absence of substitutes)
- Market (dissemination plan, size, importance)
- Performance (through field trials, with consumers, compared to alternatives, long-term effects, side effects, process/causal claims, statistical and educational significance)
- Cost effectiveness (judgment of costs compared to alternatives)
- Extended support (plans for training, updating, consumer service)

Some of these aspects will be covered in more detail than others in this report and in the final evaluation report following Phase 2. To analyze the need, market, and cost effectiveness, the

⁸ This is known as a "consumer-oriented evaluation approach." See Worthen, B., Sanders, J., and Fitzpatrick, J. (1997). *Program evaluation: Alternative approaches and practical guidelines* (2nd ed.). White Plains, NY: Longman Publishers USA.

⁹ Scriven, M. (1991). Key evaluation checklist. In M. Scriven, *Evaluation thesaurus* (4th ed.). Newbury Park, CA: Sage.

evaluation will gather information about the local context, profiles of potential and actual users, and availability and costs of practical and effective alternatives. Additionally, the program will be implemented in two phases, allowing us to examine both the effect of MLIT as a free service and the feasibility of offering it for a small fee. This second phase will also contribute to analyzing market demand and need based on willingness of parents to pay for the product.

The main focus of the evaluation is an analysis of product performance through a randomized controlled trial (RCT) involving two treatment groups and one control group, and measurement of differences in outcomes (namely children’s reading achievement) over time and between groups. The groups consist of parents¹⁰ and their Primary 1 (P1, or Grade 1) or Primary 2 (P2, or Grade 2) children, who were randomly assigned to one of the following groups:

- **Group A – Mobile phone content:** Provided with a mobile phone (to be returned at the end of the program), verbal instructions and in-person demonstrations for using it, and the MLIT 91-day SMS+audio product delivered to the phone daily (see description above). Provided with follow-up technical support (one-time visit to schools and by mobile phone).
- **Group B – Paper-based content:** Provided with a paper-based version of MLIT, which is a printout of all of the audio and text messages delivered to Group 1, as well as basic (verbal) instructions for using the materials. Does not receive on-going training or support unless requested.
- **Group C – Control group receiving one-time verbal literacy message:** Not provided with any literacy materials or support. At the time of assignment into the different groups, provided with a brief, one-time verbal message to support children’s literacy (i.e., talking to children daily about school, letters of the alphabet, letter sounds, etc.). The list of suggestions matches questions asked to parents about their habits with their children. See *Annex A*). Does not receive on-going training or support.

Data will be collected from each of the three groups at three different time periods: Phase 1 Baseline, Phase 1 Endline, and after Phase 2. This “difference-in-difference” evaluation approach—comparing both differences over time and differences between groups—will allow us to isolate the effect of MLIT delivered by mobile phone as compared to paper-based delivery and the control group. The selection of participants, described below, was designed to minimize differences between groups (such as socioeconomic status or school/teacher quality) that could affect outcomes.

Furthermore, demographic data will be collected on program participants to control as much as possible for any differences between program participants that might affect outcomes. Finally, in order to draw conclusions about the program’s performance, and especially the causal relationship between inputs, processes, and outcomes, the evaluation report will gather metrics related to program implementation, descriptive information related to the program’s objectives, the extent to which the program activities were designed to achieve those objectives, and whether they were carried out consistently and completely.

¹⁰ For the purposes of this report, the term ‘parents’ is used, but participation was open to other caregivers.

As described by the evaluation framework above, the RCT design will allow us to compare the effects on reading performance of MLIT—as a support program provided through SMS+audio—with the value of a support program provided on paper or simply through verbal suggestions given to parents. A key assumption in this design is that each treatment group is a credible source of comparison against which to assess the effectiveness of a mobile-based literacy support program. For example, the programs’ content should be comparable, should be designed with the target audience’s characteristics in mind (i.e., low literacy parents, poor households, early primary grade children), and should have an instructional design that is appropriate for the particular mode of delivery. Issues related to program design and content vis-à-vis outcomes will be discussed in more detail during the endline report based on participant feedback and a review of the results.

2.3 Instruments

To answer the research questions, qualitative and quantitative information was gathered using three key instruments: student reading skills assessment, student interview, and parent interview. Equivalent instruments will be used at the end of the 90-day program to detect the degree of implementation and effects. Copies of baseline instruments are included in *Annex B* and *C*.

The **student reading skills assessment** was designed as a concrete measurement of children’s reading ability in Luganda before and after participating in the program. The instrument used is the EGRA, a research-based measure of key early grade reading skills that are shown to be predictive of later success in reading, including phonemic awareness, alphabetic principle, and oral reading fluency and comprehension.¹¹ The EGRA adapted to evaluate the MLIT program includes the following sub-tasks that are most applicable to the MLIT content:

- **Letter sound identification:** This sub-task assesses a child’s ability to identify the sounds of the letters of the Luganda alphabet. The sub-task is timed to one minute to assess automaticity of letter sound identification.
- **Syllable segmentation:** This sub-task measures children’s phonemic awareness by asking them to identify and pronounce the syllables they hear in words read by an assessor. The task is not timed.
- **Familiar word reading:** This untimed sub-task assesses a child’s ability to accurately and quickly read familiar or high-frequency words. This task was specifically designed to test pre- and post-program knowledge of 10 key words that are used in the MLIT lessons.
- **Non-word decoding:** This sub-task (timed to one minute) assesses a child’s ability to decode words, rather than simply recognize them by sight. It uses words that could exist (based on the properties of the Luganda language), but do not. (The words are therefore called “non-words” or “nonsense” words.)
- **Listening comprehension:** Listening comprehension assesses a range of language and skills, such as attention, vocabulary knowledge, comprehension strategies, processing of oral language, and generation of appropriate responses. After listening to a short story,

¹¹ See www.eddataglobal.org for more information.

students respond to questions asked orally. This sub-task was included in the EGRA for the MLIT Uganda program to verify the students' oral mastery of Luganda, the language taught in the program. Moreover, because MLIT includes audio and encourages interaction between parent and child, this sub-task may reveal changes in children's listening comprehension skills.

All of the items included in the sub-tasks described above were adopted without any changes from the version of EGRA used in the USAID/School Health and Reading Program (SHRP) in Uganda, with the exception of the familiar word reading task, which is based on words that are used in the MLIT content rather than the most frequent or common sight words in the language. Additionally, the MLIT frequent words sub-task uses only 10 words instead of 50, is untimed, and has no autostop function. See *Annex C* for the full instrument.

The scores for each sub-task are calculated based on the number of correct responses provided. For the timed sub-tasks (letter sound recognition, non-word reading, and oral reading fluency), the score is calculated based on the number of correct responses provided within the one-minute timeframe. A response given but read incorrectly, and no response provided at all, are both considered incorrect. The EGRA administration also includes a "stop" rule, which means a sub-task is discontinued if a pupil is unable to respond correctly to a pre-set number of items (i.e., the first 10 letters, the first five non-words). This rule (applied in all EGRA administrations) was established to avoid frustrating pupils who do not understand the task or lack the skills to respond. Finally, before administering the EGRA test, administrators are required to read to children explicit information about the test and how the results will be used. Pupils are asked to provide verbal consent before the assessment is administered.

The student interview (see *Annex C*) consisted of a series of questions regarding the child's demographic characteristics and school- and home-based literacy environment and experiences. Information gathered included the type and frequency of literacy practices (for example, whether anyone engages the child in literacy-promoting practices such as teaching letters and words, singing songs, telling stories, reading aloud, etc.) and exposure to print materials. Collecting this information, combined with skills information, at baseline, will enable us to determine at endline if practices have changed at all due to participation in the program. Along with the results from the student reading assessment, the information collected at baseline will provide an indication of whether the content of MLIT is tailored to the level and needs of the children, or if they may already be engaging in the practices that the product promotes.

The parent interview (see *Annex B*) was designed to gather in-depth information on participants that can be analyzed to inform program results. It included basic demographics of the parents (age, gender, etc.), educational level and socioeconomic status, mobile phone habits, and attitudes/beliefs related to early literacy in Luganda, the most widely spoken second language in Uganda, next to English¹². Additionally, questions about the literacy environment (availability and type of reading materials in the home) and literacy-promoting practices (same as the ones asked of children) were also asked of the parents in order to triangulate the responses

¹² See Ganda: A language of Uganda. *Ethnologue*. <http://www.ethnologue.com/language/lug>

of the children to have a better estimate of the situation. At baseline, the information will allow us to determine if the three research groups have similar characteristics, and therefore whether changes in any one group’s outcome measures can be attributed to the program at the end of the intervention. At the end of the pilot, parents’ responses to the questions will be compared to those provided at baseline to identify any changes in attitudes and behaviors related to literacy practices. Additionally, we may be able to identify factors that may be correlated with achievement and therefore draw conclusions about the contextual prerequisites for such programs.

Finally, some basic demographic information about the schools was gathered to determine any additional characteristics of schools that might influence outcomes and to describe under what conditions the results of the evaluation are applicable. See more about school characteristics in the following sub-section on sampling.

2.4 Sampling framework

The sample size is as follows. It is based on a compromise between an ideal (i.e., large) size and a cost-efficient one (i.e., small). Details about the final sample number and characteristics are provided in the Baseline Findings section.

Level	Number
Schools	8
Participants per school (student + parent)	24
- <i>Group A (Mobiles)</i>	8
- <i>Group B (Paper)</i>	8
- <i>Group C (Control)</i>	8
Total participant pairs	192

To obtain a random sample of participants for the research study, a two-stage sampling process was utilized for selecting schools and then participants (students and parents).

Because the MLIT program is targeted to parents with children in school, schools were used as the site for participant selection. The Wakiso district was purposefully chosen because of its proximity to Kampala, to facilitate oversight by program coordinators and multiple visits by data collectors. However, the district also has rural areas and is therefore more likely to be representative of population of the country overall, which will provide some indication as to the program’s potential for scale-up success if the evaluation indicates positive outcomes.

A sample of eight schools from the Wampewo Coordinating Cluster, an education administrative geographic unit, were identified for participation based on characteristics provided in Uganda’s education management information system (EMIS) data.¹³ The schools were selected from within the same cluster and based on specific characteristics to maximize the likelihood that they are as similar as possible to each other, to mitigate any potential unobservable differences related

¹³ EMIS data were provided by USAID/SHRP, which also provided information on the USAID/SHRP evaluation framework.

to school administration, conditions, and quality that may have an effect on outcomes. All private and same-sex schools were excluded from the sample. The eight selected schools were selected based on the following characteristics (based on EMIS data):

- Enrollment (large enough to have at least 30 children in P1)
- Presence of latrines (to mitigate potential health effects, such as increased absenteeism due to illness, that may be associated with no latrines)
- Water source (included schools with any water source except lake/river, based on rationale that this water source is more likely to pose health problems that may also affect educational achievement levels).

Additionally, efforts were made to select schools that were not included in the USAID/SHRP evaluation study.¹⁴

Participants for each of the three groups (mobiles treatment group, paper treatment group, and control group) were selected at each of the eight schools to participate in Phase 1, to minimize the likelihood that a particular difference or problem associated with a given school might affect a large number of participants from any one group, and to minimize costs. For example, a problem with teachers or a principal at one school could affect the involvement of half to one-third of any given group, thereby jeopardizing the validity of the outcomes. (Sampling of additional schools to avoid this problem was not possible due to cost constraints.) While contamination from one group to another within the same school is possible, efforts were made to minimize this by selecting schools with the largest enrollment and by instructing parents to only conduct the program with the children who had been designated to participate. Moreover, because activities are conducted at home and not at the school with an entire class of students, contamination is expected to be minimal. Finally, because parents themselves live in various locations around the school (i.e., not always in the same town), contamination is not considered to be likely. Based on this rationale, the effects of contamination were determined to be less potentially detrimental to the research outcomes than those of separating the groups by school and having a significant problem, advantage, disadvantage or characteristic associated with any one school. Whether parents conducted the activities with other children will be further explored and controlled for in the post-pilot/Phase 1 data collection.

The second stage of the sample section, recruitment of parents and students to participate in the program, was managed by Mango Tree, with support from school staff. The only requirement for parent participation was that the caregiver had a child in P1 or P2 and that the child did not board at the school. It was not required that parents be literate, nor was it specified that parents should be Luganda speakers, though the mobile/SMS program and print materials were only provided in Luganda.

The process of recruitment involved three key steps. First, recruitment of volunteers was based on an initial call for participants organized with the help of school staff. Parents came to a

¹⁴ Due to constraints in identifying enough schools that were large enough for the MLIT study, the final sample included one school that is part of the SHRP control group. SHRP staff are aware of this, and it is not expected to affect either program's evaluation results.

meeting on a specified day, were informed about the program by Mango Tree coordinators, and indicated their willingness to participate. Parents who wished to participate were recorded in a participant roster. Where more parents volunteered than were necessary, they were listed on a participant form on a first-come-first-served basis. Where fewer parents volunteered than were required, school staff made an extra effort to recruit parents and offered the program to P2 and P3 students as well.

To avoid bias in participant selection and in participants' responses to baseline questionnaires, at the time of selection parents were only told that they would be participating in a reading program. They were not told which group they would be assigned to until after the baseline data collection had taken place. When parents volunteered, they were listed on a recruitment form with contact information in the order in which they volunteered. After the list was complete, they were randomly assigned to a treatment group (in alternating order in which they were listed on the registration form). Therefore there was no prerequisite, i.e., being able to read or to use a mobile phone, in order to be assigned to a treatment group.

Next, the parents who volunteered were called back to the school on the date of data collection (both parent interviews and student assessments and interviews were conducted on the same day). At that time, if a parent who had originally volunteered was not available, an alternate was called. In some cases, P2 and even P3 students were accepted on the day of baseline data collection in order to achieve the required sample. Finally, all parents were called back to school on a specific day to receive the materials. Only parents who attended the orientation meetings were retained as "participants" (the degree of their participation will be assessed as part of the endline evaluation). Follow up was conducted by Mango Tree personnel by phone to try to locate parents who were not present on the day of data collection, or for program orientation, to provide them with materials and conduct interviews at a later date, but all follow up activities were completed by June 27.

III. Baseline Activities

3.1 Assessor training

Assessors were trained over four days during an in-person training delivered in Kampala by an experienced RTI EGRA trainer. All of the six CSR assessors had previously administered EGRA under USAID/SHRP, and the instruments were the same, with the exception of the familiar word reading sub-tasks. A significant portion of the four days was therefore dedicated to reviewing and practicing administration of the parent instrument, particularly the nuances of the translations of both questions and responses. The training process included review of all instruments, practice with other assessors, and practice with parents and children. Because school was not yet in session at the time of the training, the Uganda Reading Association was contacted to recruit a group of volunteer parents and their children to come to the workshop to provide an opportunity for assessors to practice. The volunteers were provided with a small travel allowance and refreshments.

During the course of the training, assessors' performance and ability to accurately capture responses was reviewed and individual feedback was provided. Furthermore, to verify the assessors' consistency in scoring, two inter-rater reliability (IRR) exercises were conducted. As noted in **Table 2** below, the overall final IRR score was 94%, which indicates an overall good level of agreement for this type of assessment. The results of the IRR further helped to identify particular areas that required more training practice (such as letter sound identification) and to identify assessors who were most often in disagreement with the others. These issues were discussed and specific support was given to assessors who demonstrated need. Ongoing support was provided during the four days of data collection by the RTI evaluation specialist who accompanied the teams and was able to observe assessments being conducted by all assessors several times.

Table 2: Assessor training IRR results, by sub-task

Instrument section	Agreement with the majority (mode)
Letter sound identification	83%
Syllable segmentation	96%
Familiar word reading	100%
Non-word decoding	92%
Listening comprehension	94%
Student questionnaire	96%

3.2 Data collection

Initial data collection took place from Tuesday, May 28, to Friday, May 31, 2013. Two teams consisting of three assessors (CSR) and one coordinator (Mango Tree) each visited one school per day, completing all 8 participating schools in four days. The RTI evaluator accompanied one or the other team each of the first three days of data collection to help coordinate students and parents, and to observe the quality and consistency of data collection by assessors. (Parents and children who were not present on the day of data collection (due to illness or other reasons) were later interviewed or assessed on June 10 and June 18, respectively.)

Parents who had been recruited previously were called to the school on the scheduled day via multiple phone calls during the week before and even the day of data collection. The participation of the teachers proved to be critical, since they know the parents and children by name, and they could follow-up frequently with the families. They had been reminded also to send their child to school on the first day of the new term. At schools, the team coordinator was responsible for liaising with the head teacher or other school staff to manage the movement of parents and children between assessors. Children were only removed from class for the duration of the assessment, with minimal waiting time. Using a simple tracking form, the coordinator filled out the basic demographic information about the child, including the parent name and unique parent ID assigned by the project. After the child was interviewed, the assessor recorded the unique student ID (generated by the electronic data collection system) on the tracking form. This was given back to the coordinator to record whether the child's interview had been completed, at which time the coordinator matched the child to parent, if present, gathered some

demographic information on the parent, and then sent the parent to the next available assessor. This process ensured that the project could match parent and child interviews for comparison purposes at both baseline and endline. Since parent and student names were used, consent from both was obtained, in accordance with institutional review board (IRB) requirements.

In most cases, the children’s interviews were completed first, before parent interviews, but in some cases parents who arrived early were interviewed immediately by the coordinator. The team coordinators only conducted parent interviews and did not administer EGRA, since they were not experienced EGRA assessors. In some cases, the coordinators read and accepted the consent from the parents in advance of sending them to the available assessor, in order to save time. In each case, the assessor still confirmed whether the parent had understood the conditions of participation before administering the questionnaire. After each interview, the parent was provided a small sum (5,000sh, or about \$2.50) to cover the cost of transportation and lunch.

All parents were then notified of the date and time they should come back to the school to pick up the information or materials related to their participation in the program.

IV. Baseline Findings

4.1 Description of the sample

- **Schools**

The characteristics of the schools in the sample are provided in *Table 3*, below. The schools are all co-ed government schools that operate in one shift only. They all enroll P1-P7 students, and two also have a nursery school. Two have boarding sections (children live at the school), but children in the program were only selected from the non-boarding sections.¹⁵ They all have access to water and latrines, though the source and number vary. All schools teach Luganda literacy starting in P1.

Table 3: Sample school characteristics

School ID	Total enrollment	P1 enrollment	Boarding section	Library*	Electricity	Latrine stances	Water source
1	947	79	✓	✓	✓	12	borehole
2	407	53			✓	12	piped
3	826	56		✓	✓	10	borehole
4	610	38	✓	✓	✓	17	borehole
5	509	57				13	borehole
6	510	60				10	spring well
7	536	65				14	borehole
8	400	38			✓	8	borehole

* Presence of a library is self-reported by the head teacher. The evaluation team was not always able to visually verify the presence of a library. A shelf of books in the school headmaster’s office was not considered a library.

¹⁵ The presence of boarders was not noted in the EMIS data prior to school selection.

As noted above in the section on research design, volunteers from each school were evenly divided into the three groups, to avoid school-level characteristics potentially affecting any one group (treatment or control). Any differences between schools will be explored in the endline report to identify any potential effects on outcomes.

▪ **Participant summary**

A total of 348 student and parent interviews (167 parents and 181 children) were completed for the baseline, representing 91% of the total anticipated sample of 192 parents and 192 students—referred to hereafter as ‘participant pairs’. There was a relatively even distribution of student and parent interviews across schools and research groups. Data collection took place during the first week of the second (of three) school term, and there were some cases where students or parents, or both, were not present. At one school there were no missing parents or students, and the full sample of 24 participant pairs were completed; however, all schools had at least an 85% completion rate.

Following data collection, the project coordinators returned at a scheduled time to meet with parents, provide orientation to the program and distribute materials (for the mobile and paper group). At that time, parents either agreed to participate, declined, or did not attend, and if possible, missing students were interviewed. However, the final sample size was reduced further by parents who were absent during materials distribution or who declined to participate once they knew what the program entailed. A second effort was made on June 26 and 27 to re-contact parents and secure their participation. These efforts resulted in an additional seven parents receiving the materials for the program, although they started one week later than the rest of the group.¹⁶ This report provides data only on the parents who were present for the orientation to the program and who accepted the materials, and are therefore considered to be “participants.”

This final sample is broken down in **Table 4**. For each group, the total number of participating parents is shown in the first column (“a”), and the number of participating parents for whom we have both a parent and a student interview is shown in the second column (“b”).

Table 4: Total number of parents participating in research study, by group

ID	Group A - Mobiles		Group B – Paper		Group C – Control		Total (a)	Total (b)
	(a)	(b)	(a)	(b)	(a)	(b)		
1	7	6	6	6	6	5	19	17
2	5	5	6	6	8	8	19	19
3	8	7	6	4	6	6	20	17
4	7	6	8	8	8	8	23	22
5	6	6	7	7	7	7	20	20
6	6	6	7	7	7	7	20	20
7	7	6	8	7	7	7	22	20
8	8	8	8	8	8	7	24	23
TOTAL	54	50	56	53	57	55	167	158

¹⁶ Efforts are being made to send to these participants the SMS that were sent prior to when they began the program to ensure that no lessons will be missed.

There are matching student and parent interviews for 158 participant pairs since there were cases where a parent was interviewed but the child was not, or vice versa. Information collected from parents who were not matched to a student may still be deemed useful, but the ability to draw conclusions on the program’s effects will be limited where we do not have complete interviews for the participant pair. The rate of complete interview pairs is 81% of the anticipated sample.

Table 4 also shows that the total number of participant pairs per school ranges from 17 to 23, while the total number of participant pairs per treatment group at each school varies from five to eight. In total, 54 parents are considered participants in Group A (the mobile group), 56 in Group B (paper-based), and 57 in Group C (control group). There are fewer participants in the mobile phone group than in the paper or control groups because of unanticipated problems issuing phones to a few women, who refused to accept the mobile phone because they feared retribution from husbands who might think they had obtained the phones from boyfriends. (See the sections on participating parents and students for a more detailed explanation of the limitations and reasons for non-participation.) The following sections provide specific demographic characteristics such as age and gender of participating parents and students.

▪ **Participating student characteristics**

Of the sample of 158 participating students (for whom we have interviews and the parent confirmed participation), 54% are girls and 46% are boys. There is some variation in the distribution across groups, with 53% boys in Group A, 44% boys in Group B and 40% boys in Group C.

The average age (reported by parents) is 8 years, with a range between 4 and 13 years old. The majority of children fall in the 6-7 age range (41%), followed by the 8-9 age range (31%). The distribution across research groups follows the same pattern, as shown in **Figure 1**. Although the program was designed for P1 students, it was offered to P1 through P3 students as necessary to ensure a sufficient sample size per school. The final sample includes more P2 students (87) than P1 (67), but this is consistent across research groups, as shown in **Figure 2**.

Figure 1: Student age

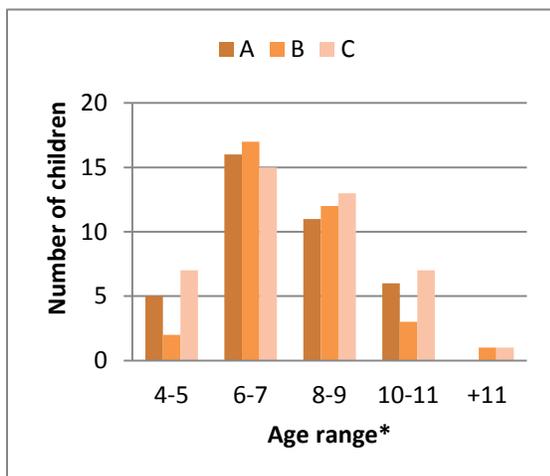
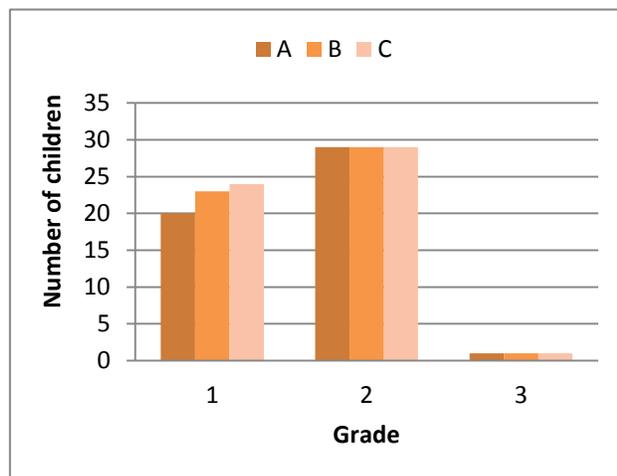


Figure 2: Student grade



* Age reported by parents

Eighteen percent (18%) of parents reported that their child has some kind of special needs or disability, and these children are distributed equally across research groups (9 or 10 per group). This questionnaire did not seek information on the type of disability, nor verify it in any other way. Ninety-one percent of parents and children reported that they speak Luganda at home, and this distribution is equivalent across all research groups.

Table 5, below, summarizes certain child and school characteristics that may affect children’s ability to learn. The table presents the average for the whole sample and by group. None of the between-group differences are statistically significant.

Table 5: Characteristics of the students and learning environment

Question	Proportion			
	All groups	Group A (n=50)	Group B (n=53)	Group C (n=55)
Did you eat before coming to school today?	60%	56%	64%	62%
Do you have a Luganda textbook at school?	42%	41%	47%	40%
Do you have an English textbook at school?	51%	53%	49%	51%
Do you have time to read books in your school every day?	53%	59%	50%	51%
Do you ever bring home books from your classroom or library?	35%	35%	36%	35%
Takes less than 30 minutes for the child to get to school*	58%	58%	52%	64%
Child attended pre-school*	89%	88%	89%	91%
Child was absent for more than 5 days last term*	17%	26%	6%	18%
Child knows the letters of the Luganda alphabet*	54%	53%	64%	44%
Child knows the sounds of the English alphabet*	47%	47%	59%	35%
Child has the required school books for learning Luganda*	12%	12%	13%	11%
Child brought his/her books home from school last term*	75%	78%	74%	75%

* Parent reported. Questions not marked with an asterisk (*) are student reported.

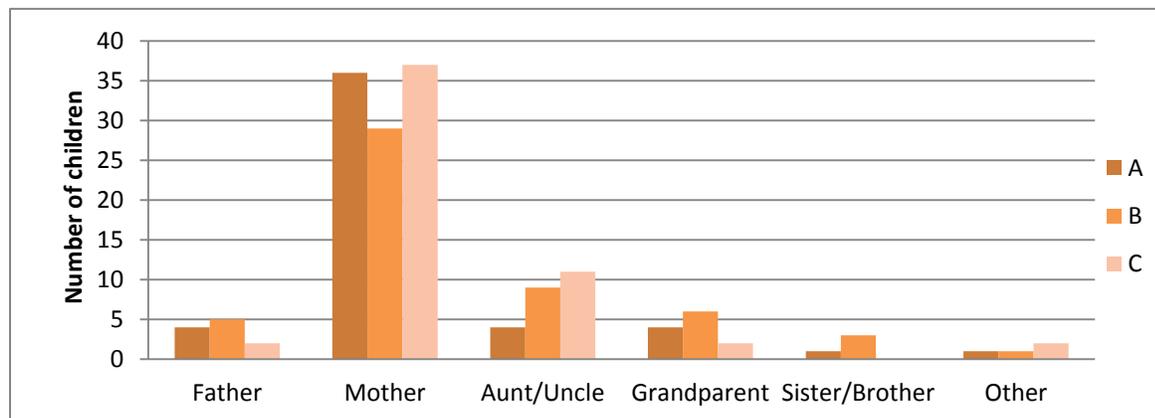
Characteristics of children across all three research groups are similar, with a few exceptions, none of which is statistically significant. On average, fewer children in Group A, the mobiles group, reported eating before coming to school, but they also reported having more time to read in school. More children in Group B, the paper-based group, reported having a Luganda textbook at school and having eaten before coming to school. Furthermore, children’s absenteeism, as reported by parents, was much higher for children in the mobile group (26%) than children in the paper group (6%). It is important to recall that this interview took place after a one-month school holiday, so parents were asked to report on the child’s behavior during the last term. This could cause some recall error, and the information was not verified against school records. Also, fewer parents in the control group reported that their children know the letters of the alphabet for both Luganda and English, while in the paper-based group, parents more often reported that their children know the letters. The report will describe reading ability as measured by the EGRA

instrument in the next section, after presenting characteristics of parents and the learning environment.

- **Participating parent characteristics**

Questionnaires reveal that 91% of participating parents or caregivers are female. Most participants in the program are mothers, followed by an aunt/uncle or grandparent (see *Figure 3*, below). Some fathers are also involved (7%). The average age is 35.

Figure 3: Relationship of adult participants in the program to children



The sample is split nearly equally between participants who have completed P6 or fewer years of education (52%) and those who have completed P7 or higher (48%). *Table 6* shows the distribution of some of these characteristics across groups.

Table 6: Parent characteristics, by group

	All groups	Group A: Mobiles (n=50)	Group B: Paper (n=53)	Group C: Control (n=55)
Female	91%	92%	87%	95%
Age (average)	35	35	37	33
Has attended an adult literacy program in the past 5 years	11%	10%	8%	15%
Reads and writes Luganda well (self-reported)	80%	78%	83%	78%
Reads and writes English well (self-reported)	34%	34%	30%	36%
Reads Luganda with ease, according to assessor's observation	39%	38%	42%	38%
Reads English with ease, according to assessor's observation	26%	30%	21%	30%
Declined to read the Luganda passage	34%	36%	32%	34%
Declined to read the English passage	59%	54%	62%	60%

Eleven percent (11%) of parents reported attending an adult literacy program in the past, and 80% said they read and write Luganda well. Thirty-four percent (34%) said they read and write English well, and 29% said they read and write both English and Luganda well. Only 1% of parents said they do not read or write any language well. Assessors asked parents to read out loud a short story, as they would if they were reading to their children, and recorded an

observation of whether they read with ease, with difficulty, or if they declined to read at all.¹⁷ Most parents who declined did so because they admitted they could not read. Of those who attempted to read the passage, the assessors recorded whether the parent “read with ease” (if the reading pace was similar to the pace of speaking) or “read with difficulty” (if the reader struggled to recognize words or read with a pace much more hesitant than that when speaking). It is interesting to note that the parents’ self-reported ability to read Luganda is much higher than the ability the assessors observed, whereas their self-reported and assessor-reported ability to read English is comparable. Based on an analysis of their actual reading scores, parents read Luganda more fluently than in English. Finally, it is important to note that within Group B—the group that received MLIT in printed format—approximately one-third of participants declined to read the short story in Luganda, indicating these parents may not be able to read and therefore may not be able to make use of the materials at all. The evaluation will gather more information about actual use of the materials at endline.

Parents’ reading ability, their level of education, and their socioeconomic status (SES) are all interrelated factors that are also expected to have an effect on student achievement. A measure of wealth was included in this evaluation in order to correct for this factor, if necessary, when determining the effect of MLIT based on pre- and post-test gains in reading ability. The instrument used was adapted from the Grameen Foundation’s “Progress out of Poverty” Index.¹⁸ This index measures a household’s likelihood of living in poverty, based on 10 items that they have or do not have in the home, and for which answers are assigned a relative value. The cumulative index ranges from 0 to 100, with a value of 100 indicating a low likelihood of living below the poverty line, and 0 indicating a high likelihood (consult *Annex D* for the actual score card or the website for more information). The value of a participant’s responses to the questions are combined to create a poverty index variable.

The average result for parents participating in this program is 48.5, indicating a 4% chance that the participants’ households are living below the “extreme poverty” line by USAID standards and an 11% chance they are living below the national poverty index. The average scores are equivalent across the three research groups, as shown in *Table 7* and *Figure 4*, below, but the distribution of the SES index ranges from 16 to 70.

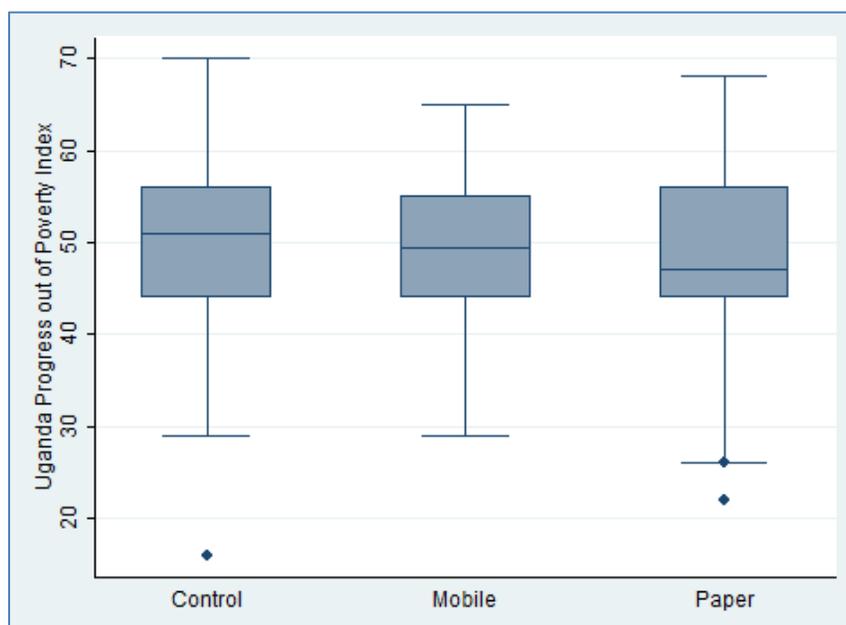
Table 7: Socioeconomic status, by group

	All groups	Group A: Mobiles	Group B: Paper	Group C: Control
Poverty index	48.5	48.7	47.9	48.8

¹⁷ The assessors also used the EGRA instrument in Tangerine to record the parents’ actual reading fluency as they would with children, although they were not expected to be as precise as with children. It was more important for the purposes of this assessment to make sure the parents felt comfortable and not as though they were being tested. Thus the precise fluency measurements are not reported here.

¹⁸ See www.progressoutofpoverty.org for more information.

Figure 4: Distribution of SES index, by group



It is common in other studies to find that SES correlates to reading achievement. In this sample, the SES score showed a significant, but small correlation ($r^2=0.19$, $p=.018$) only to listening comprehension, and this may be related to the fact that Group C children had both a higher mean score on listening comprehension (due to fewer zero scores) and a slightly higher SES score. The lack of variation in student scores and the high proportion of zero scores is likely the reason why no significant correlation between SES and reading ability was detected. The key finding is that families in all three groups have a similar SES profile, which will make it easier to attribute any post-participation gains to the program inputs using the measurement of students' reading skills, the results of which will be presented in the next section.

4.2 Baseline reading ability

The characteristics of students such as those reported above are important to understanding the context and factors that could influence reading ability apart from MLIT; analysis at endline (post-participation in the program) will control for such differences in order to verify whether actual changes are due to the program or other factors. However, changes in children's measurable reading skills before and after participation will be the most important indicator of the effect of MLIT. This section provides information about children's reading ability as measured through the EGRA instrument, and the sub-tasks described in the Instruments section above.

▪ Letter sound identification

Presented with a sheet of 100 letters of the alphabet (in random order and a mix of upper and lower case letters, repeated according to frequency in the language), participating children were able to correctly provide the sound of 4.7 letters, on average, in one minute. Forty-four percent (44%) of the children provided no correct answer among the first 10 letters presented, so the

exercise was discontinued, resulting in a score of zero for this exercise. When these zero scores are not included in the overall average calculation, the mean correct letter sounds read per minute (clspm) increases to 8.6. **Table 8** shows the differences in letter-sound identification by treatment group:

Table 4: Correct letter sounds per minute, by group

	All groups	Group A	Group B	Group C
Mean clspm	4.7	5.4	4.4	4.3
Percentage of children scoring zero	44%	46%	51%	36%
Mean clspm excluding zero scores	8.6	10.0*	9.0	6.8

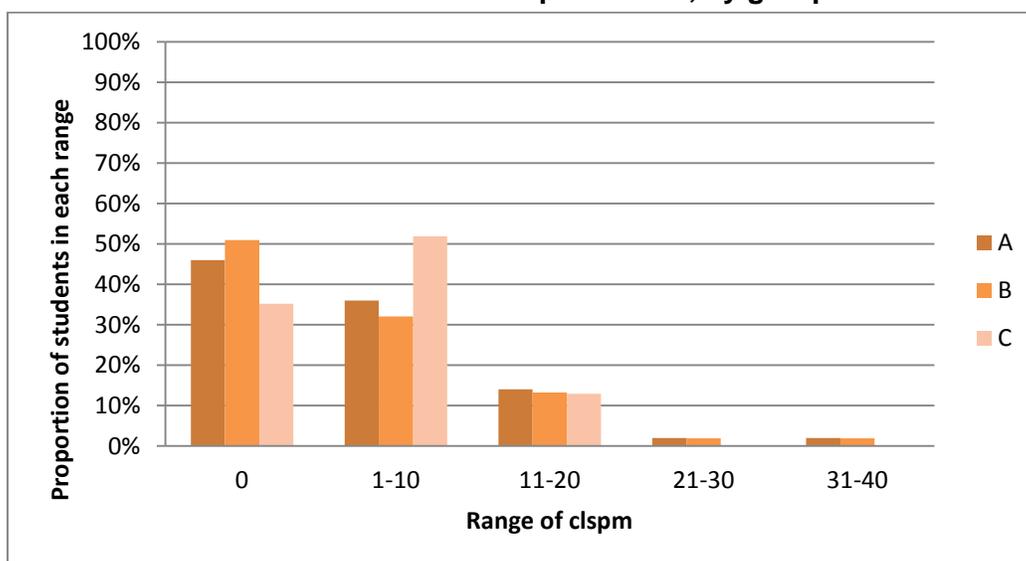
* statistically significant difference (p=0.0467)

Group A shows a slight advantage with higher clspm and a lower proportion of zero scores than Group B. Group C shows the lowest clspm when zero scores are excluded, but the overall percentage of zero scores is lowest in that group. This can be explained by viewing the scores by range of performance, as in **Figure 5**, below, which shows that there is much less variation in this group, with no pupils scoring more than 20 clspm, and the majority in the range of 1-10 clspm. This is likely the reason for the low p-value¹⁹ when Group C, the control group, is compared to treatment Groups A and B, but the fact that it is statistically significant should not be of concern. The differences in the mean scores across groups are also not large enough to be of concern, and at endline it will be average individual student gains that count more than the average across groups in determining the effect of MLIT on skills.

Scores for P2 students, who read 5.9 clspm on average with 34% zero scores, were higher than for P1 students, who read 3.2 clspm with 57% zero scores. Even the few P3 students in the sample read fewer than 8 clspm, demonstrating that regardless of grade level, all children in the sample would likely benefit from the skills being taught by MLIT.

¹⁹ The p-value is a statistic used to measure the probability, or likelihood, that a particular measurement or occurrence is a result of chance. In evaluation studies, p-values are frequently used to compare groups to identify whether specific characteristics are the result of random chance, or if they are likely due to an innate difference between the groups. When the p-value is small, it means that a difference in a measured characteristic between two groups is unlikely to be due to chance; for example, a p-value of 0.05 means there is a 5% probability that a given difference is a result of random chance; in other words, if a similar sample and measurement were to be taken again, the differences may not be found. Conversely, it means we are 95% confident that there is a real difference between groups. The following key is used in this report to identify levels of significance: * = p<0.01, 90% confidence level; ** = p<0.05, 95% confidence level; *** = p<0.001, 99% confidence level.

Figure 5: Distribution of correct letter sounds per minute, by group



▪ **Syllable segmentation**

This sub-task consists of 10 words that children were asked to break into syllables to demonstrate their level of phonemic awareness. For example, the assessor orally asked, “What are the syllables you hear in the word ‘lumu’?” The assessor recorded whether each syllable in a given word was pronounced correctly or incorrectly. Therefore, for each word, three scores were possible: no syllables pronounced correctly, some syllables pronounced correctly, or all syllables pronounced correctly. The average number of words for which all syllables were correctly segmented was 3.7.

Table 9, below, shows the distribution of responses in each group, out of a total of 10 words (except in the case of auto-stops, when children were not asked more than 5 words if the first 5 were all answered incorrectly).

Table 5: Syllable segmentation scores, by group

Responses	All groups	Group A	Group B	Group C
All syllables correctly segmented (mean)	3.7	4.2	3.5	3.3
Some syllables correctly segmented (mean)	3.9	3.4	4.4	4.1
Percentage of children scoring zero	47%	42%	51%	47%

Children in Group A, the mobiles group, segmented slightly more words correctly, on average, than the other groups. Group B, the paper-based group, shows the largest percentage of children who did not respond correctly to any of the first 5 words and therefore discontinued the test. None of these differences is statistically significant.

- **Familiar word reading**

For this untimed sub-task, children were asked to read 10 words that are key words in the MLIT materials (no auto-stop rule was applied). The average for P1 children was less than 1 word read correctly, and for P2 children, 2 words read correctly. The average for all of the participating children was 1.4. The words used are shown in **Figure 6**, below, along with the proportion of participating children who answered the word correctly. For most words, fewer than 15% of children could read the word correctly. This shows that there is a demonstrated need for the content of the MLIT materials and a large margin for showing improvement as a result of targeted inputs.

Figure 6: Familiar words by percent of correct responses

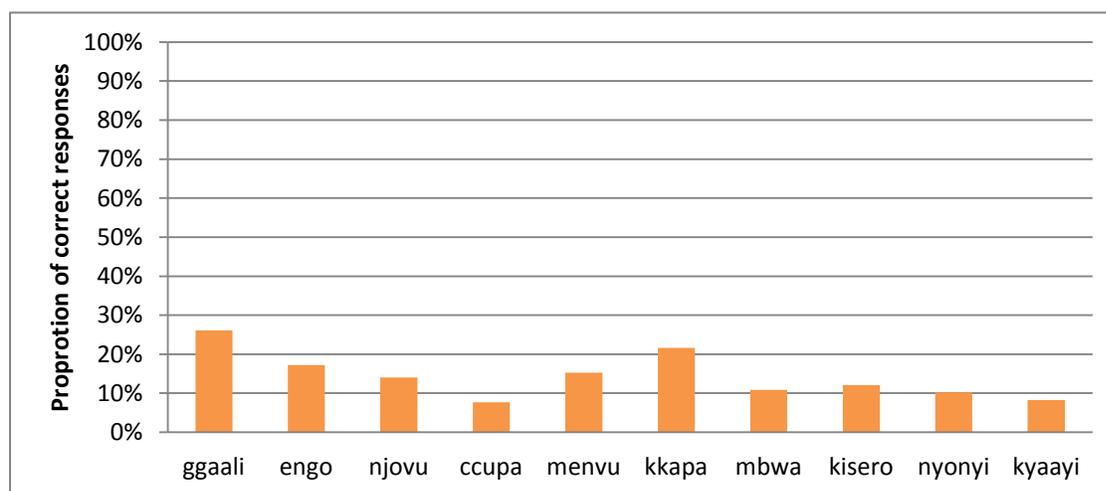


Table 10 shows the average number of correct words read by group as well as the proportion of zero scores by group. None of these differences is statistically significant.

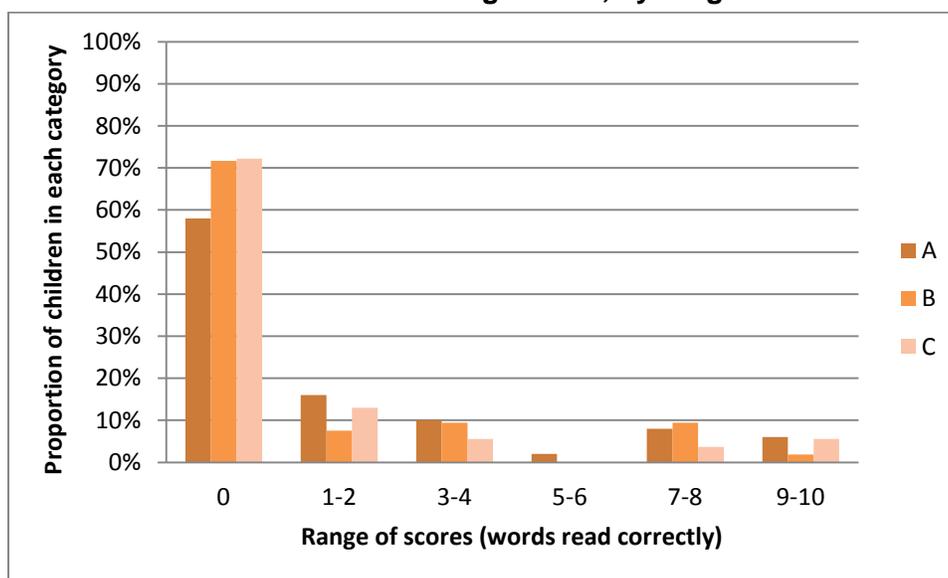
Table 6: Familiar word reading, by group

	Total	Group A: Mobiles	Group B: Paper	Group C: Control
Average words read correctly (mean)	1.4	1.8	1.3	1.2
Percentage of children scoring 0	67%	58%	72%	72%

Although average words read correctly is roughly equivalent across all groups, the share of zero scores—children unable to read even one word of the 10 presented—in Group A is much lower than in Group B or C. It is important to recall that the sample size is also lower—50 in group A compared to 54 in Group C, so a real difference of 1 child more or less in the zero scores range could change the percentage difference by 1, whereas that difference has to be 2 or 3 children for Groups B and C. At endline, it will be the percentage improvement that demonstrates differences in learning gains rather than the actual numerical improvement.

The distribution of correct responses, as shown in **Figure 7**, below, shows that there is a greater range of abilities among the Group A participants than among those in Group B and C.

Figure 7: Distribution of familiar word reading scores, by range



▪ **Non-word decoding**

Whereas the familiar word reading sub-task measures children’s ability to automatically recall words they should have already seen, the non-word reading sub-task measures children’s ability to use letter-sound correspondence to decode words they have never encountered. The items in this sub-task were previously constructed, piloted, and used for large-scale data collection in Uganda under USAID/SHRP. Presented with this list of 50 non-words, children attempted 7.5 words, on average, in one minute and read 2.4 correctly (cnwpm). For P1 students, the average cnwpm was 1.2, while for P2 students it was 3.3.

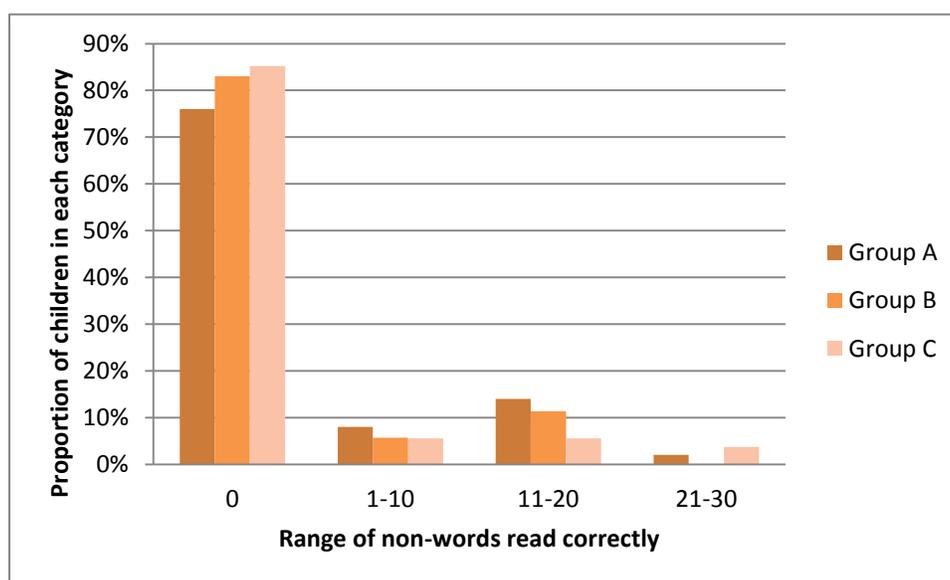
Table 11 shows the average number of words read correctly by group as well as the proportion of zero scores by group.

Table 7: Non-word reading, by group

	All groups	Group A: Mobiles	Group B: Paper	Group C: Control
Average non-words read correctly (mean)	2.4	3.3	2.0	2.0
Percentage of children scoring 0	81%	76%	83%	85%
Average non-words read correctly, excluding zero scores (mean)	13.0	13.7	11.8	13.5

The data reveal that the high number of zero scores account for the very low group averages. For the small number of children who were able to attempt more than the first 5 words, some decoding ability is apparent. *Figure 8*, below, shows the distribution of scores in each group by range. Excluding the children with zero scores, the largest proportion of children in all groups was able to read more than 10 non-words in a minute, and distribution is similar across all groups.

Figure 8: Distribution of non-word reading scores, by group



▪ **Listening comprehension**

The listening comprehension sub-task is composed of three comprehension questions related to a short story in Luganda read aloud by the assessor. The four possible scores for this sub-task are based on the number of questions answered correctly: 0% (0 out of 3 questions answered correctly), 33% (1 out of 3 questions answered correctly), 67% (2 out of 3 questions answered correctly) or 100% (all three questions answered correctly). The average score of participating children was 45%, indicating that, on average, children correctly answered fewer than 2 out of 3 questions. There was very little difference between P1 and P2 students in the average number of questions answered correctly (1.1 versus 1.5, respectively). However, P2 pupils had fewer zero scores (17%) than their peers in P1 (27%). **Table 12** shows the average performance by group.

Table 8: Listening comprehension, by group

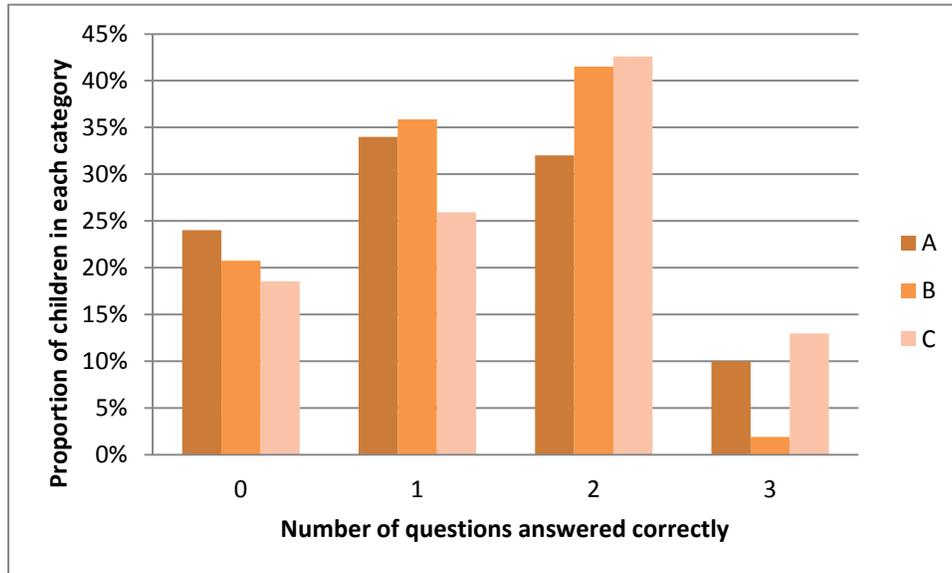
	All groups	Group A: Mobiles	Group B: Paper	Group C: Control
Average % of questions answered correctly	45%	43%	42%	50%
Percentage of children scoring 0	21%	24%	21%	18%

In this case, the abilities are relatively evenly distributed among groups, with the exception of the control group, in which fewer students scored 0. This is also reflected in **Figure 9**, below, showing the distribution of scores across groups. None of these differences is statistically significant, though.

Even though, as reported above, 91% of children speak the language in which the story was read and the questions were asked, they still have difficulties with comprehension. This may be due to the level of vocabulary in the story and/or their lack of vocabulary knowledge, lack of

comprehension strategies, lack of familiarity with articulating responses to questions, or other issues that cannot be detected from these instruments.

Figure 9: Listening comprehension scores, by group



4.3 Literacy-promoting behaviors and attitudes in the home

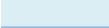
In addition to measuring the differences in reading skills, as measured by the sub-tasks above, the MLIT evaluation will also analyze whether certain literacy-promoting conditions and behaviors at home are present prior to participation and if they change after participation. Analyzing the home literacy environment and practices may also indicate whether certain conditions and behaviors are correlated with reading outcomes within the MLIT-Uganda context.

To obtain information on home-based literacy practices, both children and their parents were asked to report whether they had certain text materials and whether they engaged in practices that support reading development. Similarly-worded questions were asked to both parents and children as a means to verify the information provided. Their responses are presented, by group, in **Table 13** below. (Note that the student questionnaire did not ask about frequency of these behaviors, only about whether they were *ever* done. However, in the parent questionnaire, some information on frequency was gathered, given the likelihood that adults would be more able to accurately report it.)

Table 9: Pre-participation literacy practices

Has anyone in your household ever...(student response) <i>Have you ever...(parent response)</i>	All groups	Group A (n=50)	Group B (n=53)	Group C (n=55)
...told you a story? (student-reported)	66%	65%	62%	70%
(parent-reported)	45%	42%	47%	47%
...asked questions about the story ?	25%	18%	25%	31%
<i>Have you ever asked your child to tell you a story?</i>	22%	22%		25%

Has anyone in your household ever...(student response) <i>Have you ever...(parent response)</i>	All groups	Group A (n=50)	Group B (n=53)	Group C (n=55)
			19%	
...played word games or riddles?	44%	35%	45%	50%
	49%	48%	45%	55%
...taught letters? (student-reported)	71%	69%	72%	71%
	75%	74%	77%	75%
...taught words?	61%	55%	60%	67%
	65%	70%	60%	64%
...taught you to sing songs?	48%	41%	49%	56%
	46%	46%	42%	49%
...read aloud to you?	32%	33%	32%	31%
	25%	30%	19%	25%
...asked you to read aloud?	31%	31%	28%	35%
	43%	42%	38%	49%
...talked with you about what you did at school?	78%	80%	75%	76%
	87%	88%	87%	85%
...provided you with books or other reading?	72%	76%	70%	71%
	76%	78%	79%	70%
...read an SMS message to you?	9%	8%	8%	11%
	6%	6%	6%	7%

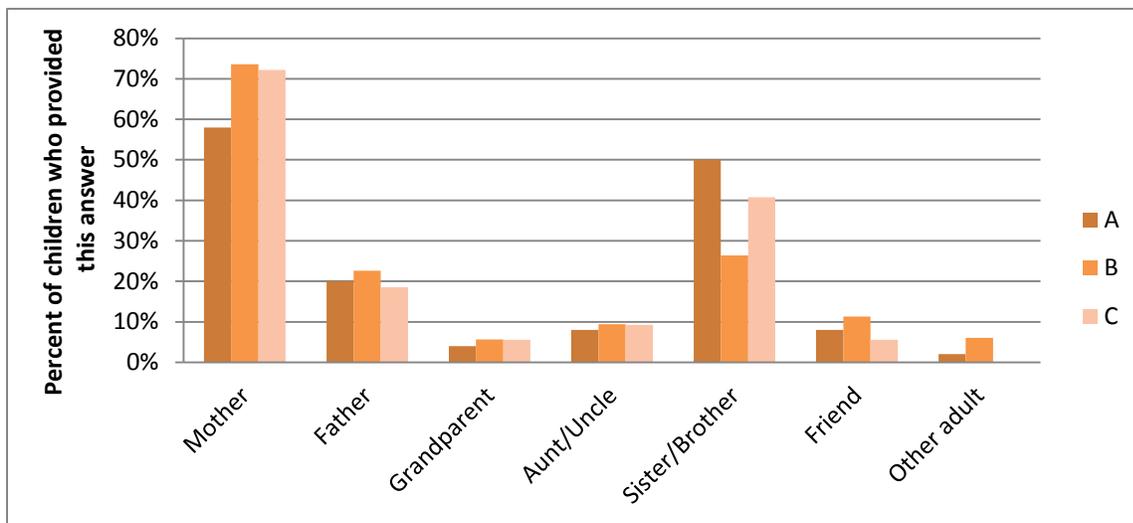
 student-reported
 parent-reported

These data indicate that, according to children, a majority already engage in some of the habits/behaviors that MLIT promotes, such as learning letters (71%) and words (61%), and listening to stories (66%). Still, between 20-40% do not, indicating an opportunity to better support parents to assist their children's reading development. Other literacy promoting behaviors that a majority of children report doing at home are discussing activities they did at school (78%) and being provided with books or other reading materials (72%). On the other hand, only one-third of children reported being read to or being asked to read aloud. Very few children have ever had someone read an SMS message to them (9%). Parent reports of the same activities were similar, although students reported that someone has 'told them a story' more frequently than parents reported telling their child stories. This could be a sign that there are different perspectives of what a 'story' is. Parents also reported asking their child what they did

at school more often than children reported that their parents talk to them about what they did at school. In either case, the majority reported engaging in the behavior, and this is distributed relatively equally across groups. Interestingly, in almost every category, the highest percentage of affirmative responses came from children in the control group, Group C. However, none of these differences (student- or parent-reported) stood out as statistically significant.

Also according to the student questionnaire, the majority of children receive their home-based literacy support from their mothers or a sibling. While this program targeted, but was not limited to, mothers, the majority of participants are mothers (see next section). **Figure 10**, below, summarizes the answers from the student interview concerning who engages them in reading activities. Parents were also asked whether they have ever asked *someone else* to read aloud to the child; 62% of all parents said yes, from 50% in Group A to 67% in Group C.

Figure 10: Individuals who engage children in literacy-promoting activities, by group



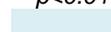
Nearly all parents (98%, consistent across groups) said that they think it is important for their child to learn how to read in Luganda. The most frequent reason given was that it is part of the culture (35% of parents mentioned this as the reason). Other reasons cited by more than 15% of parents are the benefit of being bilingual (15%) and that learning to read in Luganda can help children learn to read in English (18%). Only three participants said it was not important to learn to read in Luganda; two on the grounds that it is more important to focus on one language at a time and one because it is not important for school. These three individuals were distributed equally among groups A, B, and C.

Another important contributing factor to creating a literacy environment conducive to learning to read is whether children have access to books and reading materials outside of school. The parent questionnaire inquired about the presence of reading materials in the home and whether those materials were in English, Luganda, or another language. **Table 14**, below, provides the percentage of parents across the sample and by group who answered affirmatively.

Table 10: Literacy environment in the home

Has this item in the home (in which language)	All groups	Group A (n=50)	Group B (n=53)	Group C (n=55)
Story books for children besides school books (Luganda)	22%	18%	30%	16%
(English)	13%	18%	9%	11%
Children's school books (Luganda)	20%	20%	15%	25%
(English)	34%	28%	38%	35%
Novels or other books for adults (Luganda)	7%	6%	8%	7%
(English)	7%	8%	6%	7%
Religious books like the bible (Luganda)	53%	52%	53%	53%
(English)	22%	18%	26%	22%
A dictionary (Luganda)	1%	0%	2%	0%
(English)	10%	8%	4%*	18%
Newspapers (Luganda)	44%	42%	42%	49%
(English)	17%	26%*	15%	11%
Other type of reading material (Luganda)	7%	6%	8%	7%
(English)	11%	10%	15%	7%

* $p < 0.01$

 Items in Luganda
 Items in English

The only type of reading materials that were available in other languages were religious books, where 18% of the total sample reported having this type of book in a language other than English or Luganda, newspapers (2% of parents—all in Group B, the paper-based group—reported having a newspaper in another language at home), and “Other” (4% of parents, split between Group A and Group B). Within most categories, distribution of answers is relatively even, for both English and Luganda. A few exceptions stand out. First, nearly twice as many parents in Group B reported having children’s books in Luganda at home; on the other hand, this group also reported the lowest availability of children’s *school* books at home (15%). Parents in the paper-based group (A) were the only ones to report having a Luganda dictionary at home (2%), while in the control group (C), far more parents reported having an English dictionary at home (18%). Overall, the presence of Luganda reading materials—particularly those targeted to an early reader’s level—is low. The only materials that a large proportion of parents have in Luganda are newspapers and religious books. In Group A, more parents reported having English language newspapers and children’s story books, and Group A parents more often had English materials than Luganda materials in all categories except for newspapers and religious materials. A few of the differences between groups were significant (when compared to Group C), as

indicated by the asterisk (*). At endline the evaluation will control for any differences in the home literacy environment in order to judge the effect of MLIT.

- **Mobile phone usage**

All parents were asked a series of questions related to their mobile phone usage habits, regardless of group assignment. This information may help explain outcomes related to Group A (the mobile phone group), and in general it will be useful for reporting on the potential for scale up. The overall averages are presented in *Table 15*, by group.

Table 11: Mobile phone usage

	Total (n=158)	Group A (n=50)	Group B (n=53)	Group C (n=55)
Do you have access to a mobile phone?	87%	86%	85%	91%
If yes, do you own it?	78%	86%	91%	82%
If yes, do you use your phone to...	(n=138)	(n=43)	(n=45)	(n=50)
... Receive voice calls	96%	95%	96%	98%
... Make voice calls	94%	86%	96%	100%
... Send SMS	32%	23%	34%	38%
... Receive SMS	46%	44%	46%	47%
... Bank/send money	34%	44%	34%	24%
... Listen to music	14%	16%	20%	7%
... Watch videos	1%	0%	2%	2%
... Play games	5%	5%	8%	2%
... Take photos	6%	5%	6%	7%

In Group A and in the overall sample mobile phone habits are similar. The fact that there are people with access to a mobile phone who do not use it to send or receive calls (or any other activity) is explained by the fact that these individuals have indicated that there is a phone in the household, but they do not own it (and therefore do not use it regularly). Nearly half of participants use the phone to receive SMS messages, but fewer participants use the phone to send SMS. Fewer than 15% of participants (or 16% in Group A) use the phone for more advanced functions like listening to music, watching videos, or taking photos. Some parents reported using the phone for other functions such as the calculator or checking the time. All parents participating in Group A were given a mobile phone to receive the MLIT content, regardless of whether they previously owned one or not, and all were given the same orientation to functionality regardless of previous experience.

4.4 Summary

To summarize, a significant amount of information was collected at baseline from parents and children—prior to families being assigned to a group and before any materials were provided—to determine the effect of MLIT. This information will be used to measure the learning outcomes that MLIT is designed to achieve (while controlling for factors that may influence learning achievement), as well as to measure how program participation may have influenced literacy-

related attitudes and behaviors. Moreover, the information was gathered to ensure that the characteristics of the treatment and control groups are similar and that there is a need for the program content and a possibility for improvement in the desired outcomes. By measuring the extent to which families actually participate in MLIT, we will be able to link participation with outcomes.

The content of the 91-day MLIT product is focused on letters and letter sounds. All of the letters of the Luganda alphabet are introduced at least once, and in the process, there are 10 key words that are constructed and used as the key word in a short story. The student skills assessment, using the EGRA methodology, shows that participating children are in need of basic letter-sound skills reinforcement. A large proportion of children in each group did not provide a single correct letter sound during the exercise, and of those who did, the largest proportion gave fewer than 10 correct letter sounds. Similarly, more than half of the children could not read any of the 10 key words correctly; for each individual word, no more than 25% of the children could read that word correctly. Even more children—over three-quarters—could not decode even one non-word using letter-sound correspondence. Skills were distributed similarly across groups, with no group showing a particular reading advantage at baseline. Thus there is considerable margin to improve early reading skills using the MLIT product in all of its forms. At endline, children’s learning gain will be measured on an individual basis, and mean group gains will be reported. In addition to looking at the increase in the number of letters or words read, an important indicator of improvement will be the extent to which zero scores decline.

Characteristics of children and families are also very similar across groups. The design of the evaluation—selecting students for each research group from within the same school, and selecting schools within one geographic district—was done to minimize variation across groups. There is an equal distribution of P1, P2, and P3 children in the groups. Families mostly speak Luganda at home and have some demonstrated Luganda and English reading ability, equally distributed across groups. Families are not the “poorest of the poor,” but are all in a similar socioeconomic range based on self-reported characteristics that reveal them to be about 50% likely to be living below the poverty level. Parents report engaging their children in a range of literacy promoting activities such as learning letters, telling stories, and teaching word reading; however, a small proportion read stories aloud or ask the children to read stories aloud. There is a presence of Luganda reading materials in the home, particularly religious books and newspapers. In contrast, children’s storybooks or school books are more likely to be in English.

A large majority of parents are already mobile phone users, and it is common for them to make and receive phone calls or send and receive SMS messages. At least a third of parents, however, are not literate (by their own admission or by the assessors’ observation). This will likely have an effect on their ability to use the printed materials, if they are in Group B, and will demonstrate the importance of being able to access the audio component of MLIT if they are in Group A.

Very few of the differences between groups (whether student skills or characteristics) are statistically significant, meaning that these differences would most likely be found in another sample and the differences are not due to group assignment. Therefore we can conclude that, at baseline, treatment groups are similar, all children and parents had an equal chance of

participating in each of the three groups, and all children and parents show similar need for the MLIT content and a measurable margin for improvement.

V. Conclusions and Next Steps

5.1 Progress of program implementation

At the time of this report, the program had been launched in all three groups and was progressing as planned, according to reports from the Mango Tree program coordinators.²⁰ The MLIT inputs—phones and training for Group A, printed materials and orientation for Group B, and verbal input to Group C—were provided to all three groups the week of June 3, 2013. Some parents who had originally declined to participate in the mobile group were recontacted and began the program the week of June 18. (As noted earlier in the report, efforts will be made to provide these parents with the SMS that were delivered prior to their start date in the program, if possible.) All groups received a one-time orientation to the program in which they were given instructions for what to do in their particular case. This orientation was conducted one week after baseline interviews and was dependent on parents being aware of the time and available during that specific, limited time period (two hours per school were allocated for orientation). Program evaluators were not present during these orientations to confirm exactly what parents were told, if each group received equivalent support, and if the orientation message was delivered consistently across schools; however, endline questionnaires will inquire about the nature of orientation activities as well as materials design.

The local program coordinators are keeping records of any further contact made with program participants, including technical support to mobile phone users. One scheduled follow-up session was held with Group A MLIT participants to address technical difficulties, but other than that the program coordinators will not initiate any contact with program participants. Thus for the next 91 days, or until approximately September 15, 2013, the program will be ongoing with little direct input other than the technology that sends the daily messages. The 91-day period will include several weeks during the break between school Term 2 and Term 3.

Tentative plans for endline data collection are to conduct student and parent interviews the week of September 30, 2013. This would be two weeks after the program ends to avoid collecting data during the first week that school is in session for Term 3. Once Phase 1 analysis has been completed, planning will begin for Phase 2 implementation based on lessons learned.

5.2 Challenges and limitations

Every research program has limitations that will affect the ability of the measurements to detect significant change and draw valid conclusions on the basis of the measurements. While we cannot draw conclusions about the significance of these factors in advance of completing the

²⁰ The evaluators have not seen the technology in action or otherwise verified that messages are being sent daily and received.

program, we can speculate on some issues that will require particular attention when explaining the results at endline.

Design of the MobiLiteracy comparison groups. As described above, a key assumption in comparing the performance of the MLIT program against alternatives is that each group is a credible model for supporting children’s literacy at home. However, the funds for this grant were not intended to be invested in development of a print-based literacy support program; therefore, the paper-based treatment group is receiving a printout of the script of the audio lessons. An initial review of the materials indicates that the layout of the materials (i.e., formatting, print type, etc.) may pose challenges to users, and would not be considered best practice in design of a self-directed, print-based learning resource. This potential limitation will be explored more in the endline data collection, by asking parents about their perceptions of the usability of the materials. Additionally, due to program limitations, participants who received the print materials are not receiving training in how to use them, nor literacy instruction if they do not read well themselves. Thus the evaluation of MLIT will be able to discern whether the mobile program is more effective than *this particular version* of a print-based product, but it will not tell us whether mobile-based programs are more effective than *any* print-based product.

There is also not a “pure” control group. Group C is considered the control group, but rather than being provided with no inputs at all, they were provided—only once—with verbal suggestions of how they could help their child with reading. The decision to provide at least verbal suggestions was suggested by Mango Tree program coordinators at the time of the parent interviews, to avoid creating any discord amongst the control group, given they were selected from the same school community as parents participating in the program. It is not expected that this one-time verbal message will significantly affect outcomes, and the ‘difference-in-differences’ method of comparing the relative gains from pre- and post- measurements in each of three groups will allow us to evaluate the MLIT program’s potential additional benefit. Furthermore, all research groups are subject to the “Hawthorne effect”, wherein participants modify their behavior once they know they are being studied, so no control group is ever completely neutral once pre-testing has taken place.

Participant recruitment. Parents were randomly assigned to a group to eliminate any bias due to self-selection into a certain group, and they did not know in advance what the program consisted of (i.e., mobile phones, printed materials, or possibly no input). Therefore, several women declined to accept the mobile phone when assigned to Group A for fear of retribution from their husbands. In this case, the program coordinators tried several times to discuss the program further with these women and their husbands and were successful in convincing some of them to participate. In one school, two parents from Group A who refused to take the phones were moved to Group C, and one person from Group C was placed in Group A. Additionally, some parents randomly assigned to Group B (the paper program) could not read, but they were given the materials anyway. No parents in Group B or C declined to participate. The majority of parents who were originally selected to participate, but did not, were those who simply did not show up on the day of materials distribution to get the information about program participation. For these parents, there is no explanation for the reason for non-participation. Parents were

recruited largely through messages relayed to them through teachers at the school, unless the parents had a mobile phone number and could be reached directly. Initial selection, baseline interviews, and program orientation were done at one time for the whole group using the school as a central location, but this required parents to be available at a specific time. For this reason recruitment was sometimes limited by availability of the parents at the given time, or difficulty reaching them to inform them of the time.

The low number of participants overall who declined to participate is not expected to bias the results, since we oversampled slightly in order to compensate for some program drop-out. (Though a greater number of replacements was desired, due to challenges in recruiting participants, as well as cost-constraints, we were limited in the number of people we could sample.) However, it will be important that we are able to gather post-participation assessments and interviews from all of these participating parents as any higher non-response rate may compromise the ability to draw conclusions.

Characteristics of the local language. Designed for beginning readers, the MLIT 91-day program focuses on teaching letters and letter sounds; therefore we expect the largest increases to be found within the letter-sounds subtest. However, letter sounds are challenging for assessors to measure accurately and consistently (as indicated by the IRR results). According to language experts consulted by this evaluation and the assessors, sounds have traditionally been taught as syllables, with vowels as the focus, and consonants only ‘existing’ in combination with a vowel (i.e., “ma”, “pa”, “mu”, “pu”), but the MLIT program introduces letter sounds in isolation and then as part of a word. It was therefore difficult for assessors to consistently agree on an acceptable response to letter sounds, and adhere to the requirement that the child say the pure letter sound, without the vocalized vowel at the end. Some assessors were still observed during data collection accepting alternative responses and a tendency to count as correct a letter sound pronounced with either the syllabic sound (“ta”) or the letter name (“tee”), as opposed to the more linguistically correct, ‘clipped’ sound (/t’/). The evaluation intends to use the same assessors at endline, which may minimize any potential bias in scoring from one data collection to the next. Additionally, care has been taken to ensure that assessors are interviewing children in each of the research groups so that the effect of differences in scoring is distributed among the groups.

Another subtest used in this evaluation was to ask the child to read 10 words that were used during the 91-day program to support letter sounds. These 10 words are common words (cat, bicycle, tea), yet many language experts disagreed on how they were actually spelled. Among the 13 words used in the baseline assessment (including the three example words), 7 had contentious spellings. MLIT’s content was designed with Luganda experts in the United States and Uganda, but when the assessment instrument was reviewed by language experts from the USAID/SHRP program and with the assessors from CSR, different spellings were suggested. Because the reading program, including audio recordings, had already been developed, the evaluation instruments used the same spellings as in the MLIT materials. The different spelling possibilities resulted in difficulty in obtaining agreement among assessors about acceptable

pronunciation of the words and so could affect the ability of the instruments to detect actual learning gains among the children.

Generalizability of the results. For reasons of convenience, efficiency, and experimental rigor, the participants of this study (all three research groups) were all from a relatively homogenous semi-urban context (within 40 minutes of central Kampala) and thus not representative of what would be found in other parts of the country. Therefore generalizing the results to other contexts within or outside of Uganda will have to be done with caution, and will be discussed in the endline report.

Annex A: Evaluation Standards

This program, being both a pilot of a new method for delivering education services, and evaluation into the method's effectiveness, is designed to adhere to certain research and evaluation standards. The following standards were proposed by Herman, Morris, and Fitz-Gibbon²¹ and guide RTI's contributions to the design and conduct of the evaluation:

- Utility – does it serve the practical information needs of the audience (timeliness, clarity, scope, etc.)?
- Feasibility – is the evaluation realistic, prudent, diplomatic, and frugal?
- Propriety – does it adhere to legal and ethical standards, regard for welfare, full disclosure, IRB, etc.?
- Accuracy – does it use adequate information about and valid measurement of the features of the object being studied? Is it objective and complete?

Utility. We believe that the evaluation will be very useful to the client (the All Children Reading consortium) as well as other m-learning practitioners if the results can be widely disseminated. Currently there are abundant examples of m-learning initiatives being implemented globally, but very few that provide empirical evidence of their effectiveness²² in terms of learning outcomes, especially compared to other available alternatives. Therefore the timing of this research is extremely relevant. The existence of comparison groups against which to compare the MLIT program results will provide important information about the utility of a mobile-phone based literacy program in the specific context compared to alternatives.

Feasibility. The evaluation was designed to be feasible and cost-effective, drawing on existing resources as much as possible (existing instruments, experienced assessors, knowledge of the local context given existing partnerships, and field presence in the country chosen, etc.) Selection of the participants from schools near the country's capital, Kampala, allowed the program to keep costs of this first-time implementation and evaluation low while maintaining the rigor of the design. (Whether the results are generalizable to other, more rural areas, is a potential concern that will be explored in the endline report.) Introducing too much variation in the sample, i.e., by including both urban and rural schools, would have limited the statistical power of any correlations found within this group.

Propriety. The program implementation and evaluation have insisted on maintaining ethical standards and protecting the welfare of the participants. All instruments underwent IRB approval within RTI prior to use and all participants—parents and students alike—were fully informed about the conditions of participation, expectations of personal gain, risks involved (of which

²¹ Herman, J., Morris, L., and Fitz-Gibbon, C. (1987). *Evaluator's Handbook*. Los Angeles: Sage Publications and Center for the Study of Evaluation, University of California, Los Angeles.

²² Strigel, C., and Pouezevara, S. (2012). *Mobile learning and numeracy: Filling gaps and expanding opportunities for early grade reading*. Berlin: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH; Traxler, J. (2013). *Be still and know*. Presentation given to the mEducation Alliance, July 2013.

there were none foreseen²³) and responsibilities of each of the partners.²⁴ Although it was lengthy and detailed, the consent process used simple language, in Lugandan; individuals who were unable to understand or otherwise consent to the process were not interviewed. As described in the limitations above, there is some concern about the marginalization of the participants of the paper-based group, who were provided with a product that may not meet their needs. From an ethical standpoint all groups should have been provided with high-quality inputs that could realistically be expected to promote literacy development. All participants were provided with the option to decline to either participate or complete the interviews at any time. Additionally, all participant information is being kept confidential and no identifying information will be included in reports. Finally, the reports disclose the extent to which each participating organization has a stake in the outcomes, and any limitations to the objectivity of the evaluation are explained in the limitations section.

Accuracy. The extent of the parent and student interviews provides multiple sources of information that can be triangulated for greater accuracy (for example, including both student and parent reports of certain literacy practices) and thus confidence in determining the effects of MLIT on participants. The EGRA instrument is well known to provide technically accurate information about students' early literacy skills, the kinds that are being promoted by the MLIT program. In addition to this outcome measurement, details on context and implementation are being gathered in order to explain outcomes in an objective manner. Limitations to the ability of instruments to measure desired changes are outlined clearly in the report.

²³ No one anticipated that giving mobile phones could be a potential risk to female participants because the husbands might become upset or suspicious. When this objection was raised by the participants, they were not pressured to participate, although program coordinators made an effort (with permission from the female volunteers) to contact the husbands and provide additional explanation to make sure there was no misunderstanding.

²⁴ Express consent was only required by RTI for participating in the interview. It was Mango Tree's responsibility to ensure consent for participation in the larger program from beginning to end, and this was done verbally at the time of recruitment and again when the inputs were delivered.

Annex B: Parent Instrument

(Note: This is not an exact copy. Formatting may have changed when integrated into the report)

Omuwuzi W'omusomo Gwo Ku Simu : Ebibuuzo By'omuzadde/Alabirila Omwana.

Fomu yo kukiriza okwetabamu (Copy ya'betabyemu) : Participant copy

Wasuze otya nyabo/ssebo. Amanyanga nze ____ era nga nkola mukitongole ekinonyeereza ku mbeera z'abantu mu Uganda, 'Urban Planet Mobile' ne 'RTI International' nga tugezaako okutegeera ebikwata ku bazadde awamu n'abaana byebakola okuyiga okusoma ewaka. Ekigendererwa ky'okunonyeereza kuno kwe kutegera obulungi engeri abazadde gy'ebasobola okuyambamu abaana baabwe okuyiga okusoma. Minisitule y'ebiyengigiriza eya Uganda ekimanyiko nti okunonyeereza kuno kugenda mu maaso era ewagila entekateeka eno.

Oli wano olwaleero olw'ensonga nti wakiriza okwetaba mu ntekateka y'okwongera okutumbula e'byensooma n'omwana wo ow'ekibiina ekisooka oba ekyo'kubiri mu ssomero lino. Nga bw'omanyi, abazadde oba abalabirira'abaana nga bakiriza okwetaba mu ntekateka ya Urban Planet eyo ku'simu bajja kuba batekebwa mu bikolwa eby'enjawulo, newankubadde abamu tebjja kuba nga betaba mukikolwa kyonna mu mumutendera ogusooka ogwe ntekateka eno. Tugenda kubuuzza abazadde bonna oba abalabirira abaana emirundi ebiri: nga entekateka eno tenatandiika nekunkomerero y'entekateka eno. Kino kigya kutuyamba okuyiga ku bikolwa by'omuzadde no'mwana we mu myezi esaatu eginadirira.

Okwetaba kwo mu kunonyereza kuno kujja kutuyamba okumanya engeri gyetuyinza okuyamba abazzade basobole okuyamba abaana okuyiga okusoma. Okunonyereza kwona kwetunakola kugya kutuyamba okutegeera oba entekateka eno ekola. N'olwekyo nsaba okubuuzayo ebibuuzo bitonotono ebikwata ku mwana wo ne'biwata ku bikolwa ebimu by'oyinza okwetabamu no mwana wo ewaka, ne by'oyinza okwetabamu mu ntekateka eno. Era nja kubuuzayo ebibuuzo ebikwata ku mbeera ya bulijjo mu makaago, tusobole okutegeera ani ali mu ntekateka eno. Bwetunamaliriza, nja kusaba onsomereyo embooji enyimpi.

Nja kukubuuzza erinnya lyo ne'ryo'mwana wo okukakasa nti mbuuzizza abazadde bonna na'baana abakiriza okwetaba muntekateeka eno. Era nja kusaba ombulire enamba yo ey'esimu. Njakuwa olupapula luno eri omukunganya w'ekitoongole ku nkomekerero y'olonaku. Ebinaava mukunonyereza kuno bijja ku kumibwa UPM ne RTI era tebigya kugambibwa muntu yenna atakola mu ntekateka eno.

Mu kimu ku bitundu mukunonyeereza kwaffe, tuwadde omwana wo ekigezo ekitonotono mukusoma era tujja kudamu okumubuuzza ku nkomekerero ye ntekateka eno. Okugezesebwa kuno, kwakozesedwako dda mu Uganda, era kutwala edakika kumi nataano zoka nga tekulina bulabe bwekuleta eri omwana wo. Ebinava mukubuzibwa kw'omwana wo bigya kukumibwa nga bya kyama: Tetuja kuwa enkola y'omwana wo mu kigezo kino eri omuntu yenna atakola naffe mukunonyeereza kuno, naye tujja kwekenenya enkola y'omwana wo awamu n'enkola y'abaana abalala.

Ngenda kuwandiika byongambye mu kuuma kano naye sijja kwandiika linnya lyo. Mukifo kye linnya lyo, njakuwandiika enamba yo ey'ekyama okukakasa nti byozemu bikumibwa nga bya kyama. Bantu batono nnyo mu ntekateka eno abajja okulaba amaanya n'enamba ze kyama ezigenderako. Tetujja kukozeza linnya lyo oba elyo'mwana wo mungeri endala yonna. Amanyanga gamwe gajja kukumibwa UPM ne RTI basobole: okwatagana namwe olw'okubuuzibwa okulala; okukwataganya by'ozemu ne byo mwana wo; okukibira bwebaliba balina ebikolwa ebirala bye banayagala okuyita wetabemu.

Tewali bulabe bugya kutukako olw'okwetaba mu kunonyeereza kuno okwa leero okujako nti okuddamu ebibuuzo ebimu kuyinza obutakwanguyira. Nziramu okukakasa nti byozemu bigya kumibwa nga bya kyama. Okukiriza oba obutakiriza kubuzibwa leero tekigya kukugaana kwetaba mubikolwa bya UPM. Era, bwewaba nga waliwo ebibuuzo byotayagala ku ddamu, tokakibwa kubiddamu. Wadde nga tojja kuganyulwa mukwetaba mukubuzibwa kuno, by'onaddamu bijja ku tuyamba okutumbula etekateka zo'kusoma eza'baana nabazadde baabwe.

Olina edembe okwetaba mu kubuzibwa kuno era oyinza okugana okwenyigiramu kati oba ekiseera kyonna mumaaso bwoba nga tokyayagala. Njakuwa olumu ku lupapula luno olutereke. Luliko ebikwata ko bwoba nga oyagala kututukirira otubuuzze ebibuuzo ebirala byolina ku ntekateka eno.



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EBIRAGIRO ERI OMUBALIRIZI - INSTRUCTIONS TO ENUMERATOR

- Only interview the PARENT OR THE PRIMARY CAREGIVER of children who are assessed.
- Ask each question verbally, as in an interview. DO NOT READ THE ANSWER OPTIONS TO THE PARENT UNLESS INDICATED TO DO SO.
- Wait for the Parent/Caregiver to respond to each question, then tick the box () that corresponds to his or her response.
- Only one response is permitted, except where indicated otherwise.

PART A: DEMOGRAPHIC DATA [TO BE COMPLETED BY SUPERVISOR PRIOR TO INTERVIEW]

a.	Interview date	<table border="1"> <tr> <td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>D</td><td>D</td><td>M</td><td>M</td><td>Y</td><td>Y</td> </tr> </table>							D	D	M	M	Y	Y
D	D	M	M	Y	Y									
b.	Time the interview started	<table border="1"> <tr> <td></td><td></td><td></td><td></td><td>(USE 24 HOUR CLOCK)</td> </tr> <tr> <td>H</td><td>H</td><td>M</td><td>m</td><td></td> </tr> </table>					(USE 24 HOUR CLOCK)	H	H	M	m			
				(USE 24 HOUR CLOCK)										
H	H	M	m											
c.	School name:													
d.	School code:													
e.	Assessor name and code:													
f.	Gender of the respondent?	Male <input type="checkbox"/> Female <input type="checkbox"/>												
g.	Parent's code [Refer to participant list for code]													
h.	Child's code [Refer to participant list for code. Will be the code generated by Tangerine, i.e., XYCGB]													
i.	To which group does this parent belong?	A. Mobile SMS <input type="checkbox"/> B. Paper <input type="checkbox"/> C. Control <input type="checkbox"/>												
j.	Relationship to child:	Mother <input type="checkbox"/> Father <input type="checkbox"/> Grandparent <input type="checkbox"/> Aunt/Uncle <input type="checkbox"/> Sister/Brother <input type="checkbox"/> Other adult: <input type="checkbox"/>												

k.	Parents Age:	Years <input type="text"/>
		Don't know/No response <input type="text"/>
l.	Child's Date of Birth:	Month: <input type="text"/> Year: <input type="text"/> Don't know: <input type="text"/>

PART B: PARENT DEMOGRAPHIC QUESTIONS

1.	<p>Bameka ku baana bo abasomera mu ssomero lino ku buli mutendera? Nkusaba ombulire omuwendo gw'abaana bo abayigirizibwa boka so ssi abaana bonna abali ewaka.</p> <p>How many of your children are enrolled in this school. [Please tell me how many of your children are enrolled in each grade/level. Please tell me only the number of YOUR children who are enrolled, not all the children in your household. [ENTER NUMBER IN BOX]</p>	<p>Bameka abali mu Nursery <input type="text"/></p> <p>Bameka abali mu P1? <input type="text"/></p> <p>Bameka abali mu P2 <input type="text"/></p> <p>Bameka abali mu P3 <input type="text"/></p> <p>Bameka abali mu P4 <input type="text"/></p> <p>Bameka abali mu P5 <input type="text"/></p> <p>Bameka abali mu P6 <input type="text"/></p> <p>Bameka abali mu P7 <input type="text"/></p>
2.	<p>Lulimi ki lw'osinga okukozesa ewaka no'mwana wo?</p> <p>What language do you speak most frequently to your child at home?</p>	<p>Luganda <input type="checkbox"/></p> <p>English <input type="checkbox"/></p> <p>Other <input type="checkbox"/></p> <p>Do not know/No response <input type="checkbox"/></p>
3.	<p>Wasoma paka ku ddala ki?</p> <p>What is the highest level of schooling you have completed?</p>	<p>None <input type="checkbox"/></p> <p>Some primary <input type="checkbox"/></p> <p>Completed primary <input type="checkbox"/></p> <p>Some secondary <input type="checkbox"/></p> <p>Completed secondary <input type="checkbox"/></p> <p>Certificate <input type="checkbox"/></p> <p>Degree <input type="checkbox"/></p> <p>Diploma <input type="checkbox"/></p> <p>Other <input type="checkbox"/></p> <p>Do not know/No response <input type="checkbox"/></p>
4.	<p>Lulimi oba niimi ki zewandigambye nti osobola okuzisoma no'kuziwandiika obulungi?</p> <p>What language or languages would you say you read and write well?</p> <p>[MULTIPLE RESPONSES ALLOWED. CHECK ALL THAT APPLY]</p>	<p>None <input type="checkbox"/></p> <p>Luganda <input type="checkbox"/></p> <p>English <input type="checkbox"/></p> <p>Other <input type="checkbox"/></p> <p>Do not know/No response <input type="checkbox"/></p>
5.	<p>Wali wetabyeko mumisomo gya'bakulu mu myaka etaano egiyise?</p> <p>Have you ever attended any adult literacy programs in the past 5 years?</p>	<p>No [skip to Part C: Q6] <input type="checkbox"/></p> <p>Yes <input type="checkbox"/></p> <p>Do not know/No response <input type="checkbox"/></p>

5+	[IF YES TO QUESTION 6] Niimi ki ze wa somesebwa mu misomo gino? What language(s) were taught? [MULTIPLE RESPONSES ALLOWED]	Luganda <input type="checkbox"/> English <input type="checkbox"/> Other <input type="checkbox"/> Do not know/No response <input type="checkbox"/>
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PART C: ENGAGEMENT IN READING QUESTIONS

<p>Webale nnyo . Mukitundu ekidako, ngenda kukubuuza ku bimu ku bikolwa byemuyinza okuba nga mwetabamu no’mwana wo ewaka wo.</p> <p>Thank you so much for the information. In this next part of our interview, I’m going to ask you about some activities you may have done with children in your home.</p>						
<p>Ngenda kukusomera ku bimu ku bintu byoyinza okubeera nabyo mumaka go. Nkusaba ombulire oba olina ebintu bino. Bwoba obilina, biri mululimi ki?</p> <p>First, I’m going to read to you a list of items you might have in your home. Please tell me if you have the item. If you have the item in your home, please tell me in which language the material is written.</p>						
6.	[MULTIPLE RESPONSES POSSIBLE]	No	Yes, English	Yes, Luganda	Yes, other	Don’t know No resp.
	a) Ebitabo bya’baana ebye’ngero nga ogyeeko ebirala? Story books for children besides school books					
	b) Ebitabo bya’baana ebye’ssomero Children’s school books					
	c) Ebitabo bye’ngero za bakulu oba ebitabo ebirala eby’abakulu Novels or other books for adults					
	d) Ebitabo by’ediini nga Bayibuli/Quran Religious books like the Bible/Quran					
	e) Ekitabo ekinyonyola ebigambo kyebitegeza Dictionary					
	f) Amawulire Newspapers					
	g) Ebilala Other					
7.	<p>Ngenda kukusomera ebikolwa ebiberako. Nkusaba ombulire oba wabikolako no’mwana wo asoma wano mu pulayumale esooka oba eyokubiri mu wiiki eyise.</p> <p>I’m going to read you a list of activities. Please tell me if you have done these activities <i>during the past week with your child in primary 1 or 2.</i> Did you:</p>					
	a) Wabulira ku mwana wo olugero? ...Told your child a story?	No..... <input type="checkbox"/> Yes..... <input type="checkbox"/> Don’t know/No response..... <input type="checkbox"/>				

<p>b) Wabuuza omwana wo ebibuuzo ekikwata ku lugero? ...Asked your child questions pertaining to a story?</p>	<p>No..... <input type="checkbox"/></p> <p>Yes..... <input type="checkbox"/></p> <p>Don't know/No response..... <input type="checkbox"/></p>
<p>c) Mwazanyako ku mizanyo gye bigambo oba wagamba ko ku mwana wo ekyikokyo/ekitontome? ...Played word games or told your child a riddle?</p>	<p>No..... <input type="checkbox"/></p> <p>Yes..... <input type="checkbox"/></p> <p>Don't know/No response..... <input type="checkbox"/></p>
<p>d) Wasomesako omwana wo ennakuta? ...Taught your child letters?</p>	<p>No..... <input type="checkbox"/></p> <p>Yes..... <input type="checkbox"/></p> <p>Don't know/No response..... <input type="checkbox"/></p>
<p>e) Wasomesesako ku mwana wo ebigambo? ...Taught your child words?</p>	<p>No..... <input type="checkbox"/></p> <p>Yes..... <input type="checkbox"/></p> <p>Don't know/No response..... <input type="checkbox"/></p>
<p>f) Wasomesesako ku mwana wo enyimba? ...Taught your child songs?</p>	<p>No..... <input type="checkbox"/></p> <p>Yes..... <input type="checkbox"/></p> <p>Don't know/No response..... <input type="checkbox"/></p>
<p>g) Wasomeramu omwana wo ku mbooji? ...Read aloud to your child?</p> <p>[Note: How many times <u>last week</u>; and for how long (approximately, on average) each time]</p>	<p>No..... <input type="checkbox"/></p> <p>Yes..... <input type="checkbox"/></p> <p>IF YES, mirundi emeka gwe oba omuntu omulala gye mwasomera mu omwana wo mu wiiki eyise (number): _____</p> <p>IF YES, Gwe (oba omuntu omulala yenna ewaka ewamwe) bwe mwasomeramu omwana wo, banga ki lye mwa'mala nga mumusomera? Nkusaba obulire edakiika zenyini zemwamala. (minutes): _____</p> <p>Don't know/No response..... <input type="checkbox"/></p>
<p>h) Omwana wo wamusaba okukusomeramu embooji? ...Asked your child to read aloud to you?</p>	<p>No..... <input type="checkbox"/></p> <p>Yes..... <input type="checkbox"/></p> <p>Don't know/No response..... <input type="checkbox"/></p>
<p>i) Wayogerako no'mwana wo ku byeyakola ku ssomero? Talked to your child about what s/he did at school?</p>	<p>No..... <input type="checkbox"/></p> <p>Yes..... <input type="checkbox"/></p> <p>Don't know/No response..... <input type="checkbox"/></p>
<p>j) Wali owade ku mwana wo ebitabo oba ebikozesebwa ebirala ebyo'kusoma? ...Provided your child with books or other reading materials?</p>	<p>No..... <input type="checkbox"/></p> <p>Yes..... <input type="checkbox"/></p> <p>Don't know/No response..... <input type="checkbox"/></p>
<p>k) Wali osomye ko ku bubaka bwo ku simu no'mwana wo? ...Read an SMS message with your child?</p>	<p>No..... <input type="checkbox"/></p> <p>Yes..... <input type="checkbox"/></p> <p>Don't know/No response..... <input type="checkbox"/></p>

	<p>l) Wali osabye ku muntu yenna okuyamba omwana wo mu nnukuta ne'bigambo? ...Asked someone to help your child with letters or words?</p>	No..... <input type="checkbox"/> Yes..... <input type="checkbox"/> Don't know/No response..... <input type="checkbox"/>
8.	<p>Mirundi emeka omwana wo ali mu P.1/P.2 gye'yegezamu okukusomera ennukuta oba ebigambo oba okusomera omuntu yenna omulala ewaka wamwe mu wiiki eyise? How often did your child in P1/P2 practice reading letters or words to you or to someone else in your home in the past <u>week</u>?</p>	Never <input type="checkbox"/> 1 or 2 times <input type="checkbox"/> 3 or 4 times <input type="checkbox"/> 5 or 6 times <input type="checkbox"/> Every day..... <input type="checkbox"/> Don't know/No response..... <input type="checkbox"/>
9.	<p>Mirundi emeka YENNA ku baana bo gye yegezamu okusomera ennukuta oba ebigambo oba okusomera omuntu omulala yenna ewaka wo mu wiiki eyise? How often did ANY of your children practice reading letters or words to you or to someone else in your home in the past <u>week</u>?</p>	Never <input type="checkbox"/> 1 or 2 times <input type="checkbox"/> 3 or 4 times <input type="checkbox"/> 5-6 times <input type="checkbox"/> Every day..... <input type="checkbox"/> Not applicable (only 1 child) <input type="checkbox"/> Don't know/No response..... <input type="checkbox"/>
10.	<p>Olowooza omwana yandibadde mukibiina ki okusobola okusoma ebigambo ebyangu mu luganda? By what grade do you think a child should be able to read simple words in Luganda?</p>	Never (not useful) <input type="checkbox"/> Earlier than P1..... <input type="checkbox"/> P1 <input type="checkbox"/> P2 <input type="checkbox"/> P3 <input type="checkbox"/> P4 <input type="checkbox"/> Higher than P4 <input type="checkbox"/> Don't know/No response..... <input type="checkbox"/>
11.	<p>Olowooza kyamugaso omwana wo okuyiga okusoma mu luganda? Do you think it is important for your child to learn how to read in Luganda.</p> <p style="text-align: right;">Don't know/No response <input type="checkbox"/></p>	
	<p>No <input type="checkbox"/></p> <p style="text-align: center;">IF NO ↓</p>	<p>Yes..... <input type="checkbox"/></p> <p style="text-align: center;">IF YES ↓</p>
	<p>Lwaki olowoza nti sikyamugaso omwana wo okuyiga okusoma mu luganda? Why do you believe it is NOT important for your child to learn to read in Luganda? [DO NOT READ POTENTIAL OPTIONS.]</p>	<p>Lwaki olowoza nti kyamugaso omwana wo okuyiga okusoma mu luganda? Why do you believe it IS important for your child to learn to read in Luganda? [DO NOT READ POTENTIAL OPTIONS.]</p>

Not important to learning in school	<input type="checkbox"/>	Important to learning in school	<input type="checkbox"/>
Not important for getting a job	<input type="checkbox"/>	Important for getting a job	<input type="checkbox"/>
Need to focus on 1 language (English)	<input type="checkbox"/>	Benefit of being bilingual	<input type="checkbox"/>
No materials in Luganda	<input type="checkbox"/>	Children can learn better in L1	<input type="checkbox"/>
Other.....	<input type="checkbox"/>	Learning to read L1 helps learn English	<input type="checkbox"/>
(specify) _____		It is our language/culture.....	<input type="checkbox"/>
Don't know/No response	<input type="checkbox"/>	Other.....	<input type="checkbox"/>
		(specify) _____	
		Don't know/No response.....	<input type="checkbox"/>

PART D: MOBILE PHONE USAGE QUESTIONS GENERAL

Webale nnyo. Kakati ngenda kukubuuza ebibuuzo ebikwata ku nkozesa y'amasimu go'mungalo.

Thank you for the information. Now I'm going to ask you some questions about the use of mobile phones in your home.

12.	Mulina esimu yo mungalo ewaka? Do you have access to a mobile phone in your household?	No..... <input type="checkbox"/> Yes..... <input type="checkbox"/> Don't know/No response..... <input type="checkbox"/>
12.1	[IF YES TO QUESTION 12] Gwe nanyini simu eyo? Are you the owner of this mobile phone?	No [skip to 13] <input type="checkbox"/> Yes..... <input type="checkbox"/> Don't know/No response..... <input type="checkbox"/>
12.2	[IF YES TO QUESTION 12] Banga ki lyomaze nga okozesa esimu?	Less than 6 months..... <input type="checkbox"/> 6-12 months..... <input type="checkbox"/> 12 to 24 months..... <input type="checkbox"/> More than 24 months <input type="checkbox"/> Don't know/No response..... <input type="checkbox"/>
12.3	[IF YES TO QUESTION 12] Nkusaba ombulire biki byokozesa esimu yo eyo'mungalo. O.....? [READ THE OPTIONS LISTED IN THE RIGHT-HAND COLUMN. TICK ALL ACTIVITIES FOR WHICH THE RESPONDENT SAYS "YES"] Please tell me which of these things you do with your mobile phone. Do you.....? Note: "How Often" is only applicable to SMS use and is written in <u>number of times per week</u> .	Ofuna amasimu g'amaloboozi agakubibwa (Receive voice calls)..... <input type="checkbox"/> Okuba amasimu g'amaloboozi (Make voice calls)..... <input type="checkbox"/> Owereza obubaka obusomwa ku simu (Send SMS)..... <input type="checkbox"/> [If yes, how often? _____] Ofuna obubaka obusomwa ku simu (Receive SMS)..... <input type="checkbox"/> [If yes, how often? _____] Otereka oba owereza esente (Bank/send money)..... <input type="checkbox"/> Owuliriza enyimba (Listen to music)..... <input type="checkbox"/> Olabira ko vidiyo (Watch videos)..... <input type="checkbox"/> Ozanyirako emizanyo (Play games)..... <input type="checkbox"/> Ojikubisa ebifaananyi (Take photos)..... <input type="checkbox"/> Other..... <input type="checkbox"/> Specify: _____ Don't know/No response..... <input type="checkbox"/>

13.	Okozesa sente meka ku simu yo buli wiki? Approximately how much money would you say you spend on your mobile phone usage each week?	None.....	<input type="checkbox"/>
		0 - 500 sh.....	<input type="checkbox"/>
		501 – 1000 sh.....	<input type="checkbox"/>
		1001 – 1500 sh.....	<input type="checkbox"/>
		1501 – 2000 sh	<input type="checkbox"/>
		Don't know/No response	<input type="checkbox"/>

PART E: SOCIOECONOMIC STATUS QUESTIONS²⁵

<p>Webale nnyo. Kakati ngenda kubuuzza ebibuuzo bitonotono ebikwata ku waka wo. Nga bw'enakutegeezeza ku ntandikwa y'okubuuzibwa kwaffe, byozemu byona bigya kusigala nga bya kyama era bwewaba nga waliwo ebibuuzo byotayagala kuddamu, gamba bugambi nti nedda</p> <p>Thank you for providing me with this information. Now I'm going to ask you a few questions about your household. As I mentioned at the beginning of our interview, all your responses will remain anonymous and if there are any questions you don't want to answer, just say no... ..In your household:</p>					
14.	<p>Gwe asalawo kunsonga ezisinga obukulu ewaka wamwe? Are you the head of your household?</p> <p>Note: If shared responsibility for head of household, check "Yes". Provide the following clarification if the participant asks what is meant by head of household: "Person who manages the income earned and expenses incurred by the household, and who is the most knowledgeable about other members of the household. The person (or persons) recognised by other household members as the head(s)".</p> <p style="text-align: right;">Don't know/No response <input type="checkbox"/></p>				
	<table border="1" style="width: 100%;"> <tr> <td style="width: 50%; text-align: center;"> No <input type="checkbox"/> </td> <td style="width: 50%; text-align: center;"> Yes..... <input type="checkbox"/> </td> </tr> <tr> <td style="text-align: center;">IF NO ↓</td> <td style="text-align: center;">IF YES ↓</td> </tr> </table>	No <input type="checkbox"/>	Yes..... <input type="checkbox"/>	IF NO ↓	IF YES ↓
No <input type="checkbox"/>	Yes..... <input type="checkbox"/>				
IF NO ↓	IF YES ↓				
<p>14.1 Nkusaba ombulire omulimu ogukolebwa omukulu wa maka.</p> <p>Please describe the primary type of work performed by the head of household.</p> <p>[DO NOT READ RESPONSES. LISTEN AND CHOOSE THE CLOSEST CATEGORY]</p>	<p>14.2 Nkusaba onyonyole emirimu gyokola okubezawo amaka gwo, nga oyongeza ko emirimu gyona egyokulabirila abaana na'maka. Tewali nsonga bwoba tolina mirimu mirala gyokola okujako egya waka.</p> <p>Please describe the primary type of work you do to support your family, in addition to any home-based childcare and household work. If you do not work outside the home, that's OK.</p>				

²⁵ SES questions adopted from Grameen Foundation's "Progress out of Poverty" Index. <http://www.progressoutofpoverty.org/>

	Unemployed outside the home/do not conduct work that generates income) <input type="checkbox"/> Agriculture, farming and/or fishing <input type="checkbox"/> Informal sales (sell food, crafts or other goods from home and/or at a market) <input type="checkbox"/> Construction worker <input type="checkbox"/> Formal Business owner <input type="checkbox"/> Teacher <input type="checkbox"/> Other professional job besides teacher (NGO worker, manager, office assistant, etc.) <input type="checkbox"/> Other <input type="checkbox"/> [Specify]: _____ Don't know/No response <input type="checkbox"/>	Unemployed outside the home/do not conduct work that generates income)..... <input type="checkbox"/> Agriculture, farming and/or fishing <input type="checkbox"/> Informal sales (sell food, crafts or other goods from home and/or at a market) <input type="checkbox"/> Construction worker <input type="checkbox"/> Formal business owner <input type="checkbox"/> Teacher <input type="checkbox"/> Other professional job besides teacher (NGO worker, manager, office assistant, etc.) <input type="checkbox"/> Other <input type="checkbox"/> [Specify]: _____ Don't know/No response <input type="checkbox"/>
	THEN ⇨	THEN ↓
15.	Muli abantu bameka ewaka? How many members live in the household? (Defined as someone who mostly sleeps and eats at the house since at least 6 months ago).	More than 6..... <input type="checkbox"/> 4 or 5..... <input type="checkbox"/> 3 <input type="checkbox"/> 2 <input type="checkbox"/> Don't know/No response <input type="checkbox"/>
16.	Abaana bo bonna abalina emyaka 6 ne 18 mukiseera kino basoma- era bwebaba basoma basomera mu ssomero lya gavumenti, lya bwananyini, eridukanyizibwa ku musinji gwa bwanakyewa oba ekitoongole k'ye diini, oba basomera mukisulo? Do all children ages 6 to 18 currently attend school – either one supported by the government, a private school, a school run by an NGO or religious organization, or a boarding school?	Not all attend..... <input type="checkbox"/> Yes, all attend government schools..... <input type="checkbox"/> All attend, and one or more attend a private, NGO, religious or boarding school <input type="checkbox"/> Not applicable, no children 6 – 18 in the home <input type="checkbox"/> Don't know/No response <input type="checkbox"/>
17.	[Skip if respondent is head of of household] Kibiina ki omukyala akulira amaka oba omuganzi wa nanyini maka kye ya koma mu? What is the highest grade that the female head of the household, or the head of household's spouse, completed?	Household has only male head <input type="checkbox"/> P5, or less or none <input type="checkbox"/> P6..... <input type="checkbox"/> P7 to Senior 6 <input type="checkbox"/> Higher than S6 <input type="checkbox"/> Don't know/no response..... <input type="checkbox"/>

Webale nnyo. Kakati ngenda kukubuuza ebibuuzo ebikwata ku nyumba yammwe.

Thanks. I have a few more questions about your home and things you own.

18.	Akasoolya k'ennyumba gyemusulamu kakolebwa muki? What is the major construction material of the roof?	Thatch, straw or other..... <input type="checkbox"/> Iron sheets or tiles..... <input type="checkbox"/> Don't know/no response..... <input type="checkbox"/>
19.	Enyumba gyemusulamu yazimbwa naki ? What is the major construction material of the external wall?	Un-burnt bricks, mud poles, thatch/straw, timber, stone, burnt bricks with mud, other <input type="checkbox"/> Burnt bricks with cement, or cement blocks <input type="checkbox"/> No response <input type="checkbox"/>
20.	Ki kye musinga okukozesa okufuna ekitangaala mu nyumba yamwe? What is the main source of lighting in your dwelling (after daylight hours)?	Firewood..... <input type="checkbox"/> Tadooba or other <input type="checkbox"/> Paraffin lantern or electricity (grid, generator, solar) .. <input type="checkbox"/> Don't know/No response <input type="checkbox"/>
21.	Waliwo omuntu ewaka wamwe alina ebintu nga 'TV', radio, computer oba DVD? Does any member of your household currently own electronic equipment – for example, a TV, a radio, DVD/video player or a computer?	No <input type="checkbox"/> Yes..... <input type="checkbox"/> Don't know/No response..... <input type="checkbox"/>
22.	Musinga kukozeza kabuyonjo za kika ki ewamwe? What is the type of toilet that is mainly used in your household?	Bush <input type="checkbox"/> Covered pit latrine, VIP latrine (private or shared) uncovered pit latrine, flush toilet (private or shared) or other <input type="checkbox"/> Don't know/No response..... <input type="checkbox"/>
23.	Buli omu ewaka ewuwo alina ku ngoye ezisuka mu biri? Does every member of the household have at least two sets of clothes?	No..... <input type="checkbox"/> Yes..... <input type="checkbox"/> Don't know/no response <input type="checkbox"/>
24.	Buli omu ewuwo alina ko wakiri peya ye ngato emu? Does every member of the household have at least one pair of shoes?	No..... <input type="checkbox"/> Yes..... <input type="checkbox"/> Don't know/no response <input type="checkbox"/>

PART F: QUESTIONS ABOUT THE CHILD

<p>Webale nnyo. Kyenkana tunatera okumaliriza! Kamalirize okubuuzibwa kwaffe nga nkubuza yo ebibuuzo bitonotono ebikwata ku mwana wo ali mu kibiina ky'oluberyeberye.</p> <p>Thanks for the information. We're almost done! Let me end our interview by asking just a few questions about your child who is in Primary 1.</p>		
25.	<p>Mukutebeereza kwo omwana wo kimutwalira budde ki okuva ewaka wo okutuka ku ssomero? Nkusaba ombulire obudde mu dakiika ne mu saawa.</p> <p>Approximately how much time does it normally take your child to travel from your home to school? Please tell me the amount of time in minutes and hours.</p>	Less than 15 minutes <input type="checkbox"/> 15 – 30 minutes..... <input type="checkbox"/> 31 -45 minutes <input type="checkbox"/> 45 - 60 min <input type="checkbox"/> More than 1 hour <input type="checkbox"/> Don't know/No response <input type="checkbox"/>

26.	<p>Omwana wo yasomako nursery nga tanaba kugenda mu P1?</p> <p>Did your child attend school—such as nursery school or kindergarten—before attending Primary 1?</p>	<p>No <input type="checkbox"/></p> <p>Yes <input type="checkbox"/></p> <p>Don't know/No response <input type="checkbox"/></p>
27.	<p>Omwana wo bwaba nga ayoseza okusoma, nsonga ki etera okumuletera okwosa okusoma?</p> <p>When your child is absent from school, what is the most frequent reason? [DO NOT READ RESPONSES]</p>	<p>None (never absent) <input type="checkbox"/></p> <p>Child is sick or injured <input type="checkbox"/></p> <p>Someone in the family is sick or injured <input type="checkbox"/></p> <p>Child works at home <input type="checkbox"/></p> <p>Child works outside the home <input type="checkbox"/></p> <p>School is closed <input type="checkbox"/></p> <p>No transportation..... <input type="checkbox"/></p> <p>Safety concerns <input type="checkbox"/></p> <p>Child expelled from school/discipline <input type="checkbox"/></p> <p>Don't know/No response <input type="checkbox"/></p>
28.	<p>Omwana wo yayosa emirundi egisuka mwe'taano term eyaggwa?</p> <p>Was your child absent from school more than 5 days last term?</p>	<p>No <input type="checkbox"/></p> <p>Yes <input type="checkbox"/></p> <p>Don't know/No response <input type="checkbox"/></p>
29.	<p>Omwana wo amanyi amalobozi g'ennukuta za walifu yo Luganda?</p> <p>Does your child know the sounds of the letters of the Luganda alphabet?</p>	<p>No <input type="checkbox"/></p> <p>Yes <input type="checkbox"/></p> <p>Don't know/No response <input type="checkbox"/></p>
30.	<p>Omwana wo amanyi amalobozi g'ennukuta za walifu yo luzungu?</p> <p>Does your child know the sounds of the letters of the English alphabet?</p>	<p>No <input type="checkbox"/></p> <p>Yes <input type="checkbox"/></p> <p>Don't know/No response <input type="checkbox"/></p>
31.	<p>Omwana wo alina ebitabo ebyetagisa okuyiga oluganda?</p> <p>Does your child have the required school books for learning Luganda?</p>	<p>No <input type="checkbox"/></p> <p>Yes <input type="checkbox"/></p> <p>Don't know/No response <input type="checkbox"/></p>
32.	<p>Mu term eyayita, omwana wo yaleeta ko ewaka ebitabo bye okuva ku ssomero wakiri omulundi gumu?</p> <p>Last term did your child bring home his or her books from school at least one time?</p>	<p>No <input type="checkbox"/></p> <p>Yes <input type="checkbox"/></p> <p>Don't know/No response <input type="checkbox"/></p>
33.	<p>Olowooza omwana wo alina obulemu bwona? Okugeza obulemu kumubiri oba obutawuliira bulungi oba obutalaba oba obuzibu mukuyiga okusoma?</p> <p>Does your child have special needs or disabilities? For example, have you been told your child has a physical disability, hearing or visual impairment, or learning difficulty?</p>	<p>No <input type="checkbox"/></p> <p>Yes <input type="checkbox"/></p> <p>Don't know/No response <input type="checkbox"/></p>

	<p>Mukitundu kino ekisembayo, njagala kusaba ondage engeri gyo'yinza okusomera omwana wo embooji enyimpi. Njakukuwa embooji mu luganda nemuluzungu. Tewali nsonga bwoba toyagala kusoma mbooji zino zombi. Ombulira bubulizi ntino toyagala kusoma. Tolina kusoma mbooji yonna bwoba toyagala.</p> <p>Before we end the interview, I'd like to ask if you could show me how you would normally read a short story to your child. I will show you a story in Luganda and a story in English. If you do not want to read either or both of the stories, that is fine. Just tell me you would prefer not to read. You do not have to read the entire story if you do not want to.</p>
34.	<p>Olugero olusoka mu Luganda luluno. Bwoba nga oyagala ku lusooma, nkusaba otandikire wano. {Songa ku kigambo ekisooka mu lugero. Omuzadde bwatandiika okusoma, kwata ku pesa elitandiika ku ccuma kakalimagezi. Makinga ebigambo nga bwekitera okolebwa mu bibuuzo bya 'EGRA'. Sikulini bwe myansa, teeka 'bracket' ku kigambo ekisembayo omuzadde kyasomye. Kiriza omuzadde okusoma olugero lwona okutuuka welukoma, wade edakika emu ekomye. Omuzadde bwatagezako kusoma lugero, buuka ekibuuzo ogende ku lugero lwo mu luzungu.]</p> <p>Here is the first story, in Luganda. If you would like to try to read it, please begin here. [Point to the first word in the story. When the parent starts to read, tap "Begin" on the tablet. Mark the words as you would normally score the EGRA. When the screen flashes, put a bracket on the last word the parent read. Allow the parent to read to the end of the story, even if the 1 minute has ended. If the parent does NOT attempt to read the story, skip the question and move to the English story.]</p> <p>Kaye yasamba omupiira ku Lwokutaano. Tiimu ye yawangula. Kaye yakoowa nnyo. Yatuula ku ntebe awummulemu. Yeekanga n'abuuka mu bbanga ng'akaaba. Banne abamu baamusekerera. Omusomesa yagenda alabe ekibadde. Kaye yamulaga amaggwa abiri. Omusomesa yabuuza ani yali agataddewo. Abayizi basooka ne beegaana. Oluvannyuma omu ku basambi b'omupiira yagamba nti ye yali akikoze. Kaye yasigala yeebuuzo lwaki munne yamutega amaggwa?</p> <p><input type="checkbox"/> Declined <input type="checkbox"/> Read with difficulty <input type="checkbox"/> Read with ease</p>
35.	<p>Olugero olwo kubiri mu luzungu luluno. Bwoba oyagala okulusoma, nkusaba otandikire wano. [Ebilagiro bye bimu nga wagulu]</p> <p>Here is the second story, in English. If you would like to try to read it, please begin here. [Same directions as above.]</p> <p>My name is Pat. I live on a farm with my mother, father, and brother. Every year, the land gets very dry before the rains come. We watch the sky and wait. One afternoon as I sat outside, I saw dark clouds. Then something hit my head, lightly at first and then harder. I jumped up and ran towards the house. The rains had come at last.</p> <p><input type="checkbox"/> Declined <input type="checkbox"/> Read with difficulty <input type="checkbox"/> Read with ease</p>
<p>WERE DONE! THANKS SO MUCH AND I'LL SEE YOU AGAIN AFTER THE PROGRAM.</p>	
Time the interview ended	Assessors initials

Annex C: Student Instrument

(Note: This is not an exact copy. Formatting may have changed when integrated into the report.)

Early Grade Reading Assessment – Luganda Assessor Instructions & Pupil Protocol MobiLiteracy Baseline Assessment May 2013

General Instructions:

It is important to establish a playful and relaxed rapport with the children to be assessed via simple initial conversation on topics of interest to the child (see examples below). The child should perceive the following assessment almost as a game to be enjoyed rather than a severe situation. It is important to read ONLY the Subtasks in boxes aloud slowly and clearly.

Oli otya _____? Nze _____ era mbeera _____. Njagala okukutegeeza ebimu ku bintu ebinkwatako. [For example, number and ages of children; sports.] **1. Oyinza okumbuulira ebimu ku bintu ebikukwatako awamu n’abantu b’obeera nabo ewammwe?** [Wait for response; if the child is reluctant, ask question two, but if she/he seems comfortable continue to verbal consent]. **2. Biki by’otera okwagala okukola bw’oba toli ku ssomero?**
Good morning. My name is _____ and I live in _____. I’d like to tell you a little bit about myself. Could you tell me a little about yourself and your family? 2. What do you like to do when you are not in school?

Verbal Agreement:

Ka nkubuulire lwaki nzize wano leero. Nkolera wamu ne’ekitongole ekimu era nga tugezaako okutunuulira engeri abaana gye bayigamu okusoma. Waloneddwa mu ngeri ya kalulu.
Let me tell you why I am here today. I work with a group of organizations that is trying to understand how children learn to read. You were picked by chance, like in a raffle or lottery.

- **Twandyagadde otuyambeko mu nsonga eno gye tuliko. Naye tetukukaka kwetaba mu kunoonyereza kuno bw’oba toyagala.**
We would like your help in this. But you do not have to take part if you do not want to.
- **Tugenda okuzannyayo akazannyo ak’okusoma. Njenda kukusaba osome amaloboozi, ebigambo awamu n’embooji ennyimpi mu ddooboozi eriwalikika obulungi.**
We are going to play a reading game. I am going to ask you to read letters, words and a short story out loud.
- **Nga neeyambisa akuuma kano, njenda kulaba ekiseera ky’oonoomala ng’osoma.**
Using this device, I will see how long it takes you to read.
- **Kino si kigezo n’olwekyo teweeraliikirira.** This is NOT a test and it will not affect your grade at school
- **Nate era nja kukubuuzza ebibuuzo ebikwata ku maka gy’ova, ng’olulimi lwemwogera n’ebimu ku bintu bye mulina awaka.** I will also ask you other questions about your family, like what language your family uses at home and some of the things your family has.
- **Sijja kuwandika linnya lyo era teri n’omu ajja kumanya by’ogenda okumbuulira.** I will NOT write down your name so no one will know these are your answers.
- **Nziramu okukujjukiza nti bw’oba toyagala kwetaba mu kunoonyereza kuno tokakibwa. Ne bwe tuba tutandise n’owulira nga waliwo ekibuuzo ky’otoyagala kuddamu, okireka.** Once again, you do not have to participate if you do not wish to. Once we begin, if you would rather not answer a question, that’s all right.
- **Olina ekibuuzo kyonna kye wandy’agadde okumbuuzza? Okkirizza okwetaba mu kazannyo kano? Kale katutandike.** Do you have any questions? Are you ready to get started?

Check box if verbal agreement is obtained: YES

(If verbal agreement is not obtained, thank the child and move on to the next child, using this same form.)

A. Date of Assessment:	<table style="display: inline-table; border: none;"> <tr> <td style="border: none;"> _ _ </td> <td style="border: none;"> _ _ </td> <td style="border: none;"> _ _ </td> </tr> <tr> <td style="border: none; text-align: center;">day</td> <td style="border: none; text-align: center;">month</td> <td style="border: none; text-align: center;">year</td> </tr> </table>	_ _	_ _	_ _	day	month	year
_ _	_ _	_ _					
day	month	year					
B. Assessor’s Name:							
C. GROUP	<input type="radio"/> Mobiles <input type="radio"/> Paper <input type="radio"/> Control						
D. Parish							
E. School Name:							
F. Class:	<input type="radio"/> 1 = P1 <input type="radio"/> 2 = P2						

PARENT CODE:	
Student Code:	
G: Class name (stream)	
H. Pupil Birth Month (if available)	_ _
I. Pupil Birth Year (if available)	_ _
J. Pupil’s Gender:	<input type="radio"/> 1 = boy <input type="radio"/> 2 = girl
K. Time:	Start _ _ : _ _ Finish _ _ : _ _

Subtask 1. Letter Sound Knowledge

Show the child the sheet of letters in the pupil stimuli booklet. Say,

Olupapula luuluno okuli ennukuta za walifu. Mbuulira amaloboosi g’ennukuta zonna z’omanyi—njagala MALOBOOSI gaazo so ssi MANNYA.

Ekyokulabirako, eddoboosi ly’ennukuta /a/ [point to the letter “a”] **liri /a/.**

Katwegezeemu: mbuulira eddoboosi ly’ennukuta eno [point to the letter “v”]:

[If the child responds correctly, say:] **Kirungi, eddoboosi ly’ennukuta eno liri /v/.**

[If the child does not respond correctly, say:] **Eddoboosi eryo liri /v/.**

Kati gezaako eno: mbuulira eddoboosi ly’ennukuta eno [point to the letter “L”]:

[If the child responds correctly, say:] **Kirungi, eddoboosi ly’ennukuta eno liri //.**

[If the child does not respond correctly, say:] **Eddoboosi ly’ennukuta eno liri //.**

Bwe njamba nti “tandika”, tandikira wano [point to first letter] **okutandikira ku olusooka. Songa ku buli nnukuta ombulire eddoboosi ly’ennukuta eyo.** [Point to the first letter on the row after the example and draw your finger across the first line]. **Soma mu bwangu ddala nga bw’osobola ate n’obwegendereza nga otandikira ku lunyiriri olusooka. Genda ku nnukutta edako singa osanga e’nnukuta nga togimanyi. Songa ku nnukuta esooka. Weetegese? Tandika.**



Start the timer when the child reads the first letter.

- Follow along with your pencil and clearly mark any incorrect letter sounds with a slash (/).
- Count self-corrections as correct. If you already marked the self-corrected letter sound as incorrect, circle it (ø) and continue.
- If the pupil skips an entire line, ~~draw a line through it on the protocol.~~
- Stay quiet, except if the pupil hesitates for 3 seconds. Point to the next letter and say, “**Genda mu maaso**”. Mark the skipped letter wrong.
- If the child gives you the letter name, rather than the sound, provide the letter sound and say: “**Mbulira eddoboosi ly’ennukuta**”. This prompt may be given only once during the subtask.
- Early stop rule:** If you have marked as incorrect all of the answers on the first line with no self-corrections, say “**Weebale nnyo!**”, discontinue this subtask, check the box at the bottom, and continue to the next subtask.

AFTER 60 SECONDS SAY, “Lekera awo.” Mark the final letter sound read with a bracket (]).

1	2	3	4	5	6	7	8	9	10	
u	A	P	L	W	U	M	R	i	a	(10)
h	J	y	A	M	E	T	b	K	η	(20)
i	A	G	A	T	I	W	n	a	U	(30)
k	G	A	b	E	A	I	i	N	A	(40)
b	Y	O	M	E	a	N	g	A	S	(50)
U	E	a	o	C	A	m	u	K	o	(60)
E	B	u	v	I	w	n	a	T	m	(70)
k	B	F	u	N	A	L	ny	O	a	(80)
d	N	k	z	A	e	g	η	O	I	(90)
A	Y	W	O	R	n	E	A	N	a	(100)

⌚ Time showing on stopwatch at completion (number of SECONDS):

Check this box if the subtask was discontinued because the child had no correct answers in the first line.

Subtask 2. Syllable Segmenting

This is NOT a timed subtask and **there is not a pupil stimuli**.

Remove the pupil stimuli booklet from the child's view. Say,

Ekyokukola kino kya kuwuliriza. Njagala omenye ennyingo eziri mu buli kigambo. Ekyokulabirako, mu kigambo “muti” mulimu ennyingo zino “mu” ne “ti”. Mu kyokukola kino njagala omenye ennyingo z’owulira mu buli kigambo. Buli kigambo nja kukyatula emirundi ebiri. Wuliriza ekigambo kino, n’oluvannyuma omenye ennyingo ezirimu.

Ka twegezeemu tulabe. Nnyingo ki eziri mu kigambo “gema”? “gema”?

[If the child responds correctly, say:]: **Kirungi nnyo, ennyingo eziri mu kigambo “gema” ziri “ge” ne “ma”.** [The child DOES NOT need to say the word “ne” between the syllables.]

[If the child does not respond correctly, say]: **Ennyingo eziri mu kigambo “gema” ziri “ge” ne “ma”.**

Kati ka tufuneyo ekyokulabirako ekirala: nnyingo ki eziri mu kigambo “taata”? “taata”?]

[If the child responds correctly, say]: **Kirungi nnyo, ennyingo eziri mu kigambo “taata” ziri “taa” ne “ta”.**

[If the child does not respond correctly, say]: **Ennyingo eziri mu kigambo “taata” ziri “taa” ne “ta”.**

Kale, katutandike. Nja kusoma ekigambo emirundi ebiri. Kiwulirize bulungi, oluvannyuma ombuulire ennyingo eziri mu kigambo ekyo. Otegedde eky’okukola?

- Pronounce each word slowly. Do not break the word into individual syllables.
- Only say each word twice.
- If the child gives you the word, rather than the syllable, provide the syllable and say: **“Mbuulira ennyingo”** This prompt may be given only once during the subtask.
- Put a slash (/) through each INCORRECT syllable.
- If the child has not responded after 3 seconds, mark all the syllables as incorrect and proceed to the next word.

Early stop rule: If a child gives no correct answers among the first five words, say, **“Weebale nnyo!”** discontinue this subtask, check the box at the bottom of the page, and continue to the next subtask.

Nnyingo ki eziri mu kigambo “ _____ ”? “ _____ ”? [Say each word twice]				All Correct	No Response
lumu	lu	mu			
weta	we	ta			
wano	wa	no			
bali	ba	li			
kutu	ku	tu			
sapatu	sa	pa	tu		
mukazi	mu	ka	zi		
bazina	ba	zi	na		
kabaka	ka	ba	ka		
akati	a	ka	ti		

(5 words)

Check this box if the subtask was discontinued because the child had no correct answers in the first five words.

Subtask 3. Familiar Word Reading

Show the child the sheet of non-words in the pupil stimuli booklet. Say,

Waliwo wano ebigambo . Njagala osome bingi nga bw’osobola. Ebigambo bino tobigattulula wabula bisome busomi. Okugeza , ekimu ku bigambo bino kye kino: “ndiga”

Ka twegezeemu tulabe: soma ekigambo kino [point to the word: mbaata].

[If the child responds correctly]: **Kirungi, kino ekigambo kisomebwa: “mbaata”**

[If the child does not respond correctly, say]: **Kino ekigambo kisomebwa “mbaata.”**

Kati ka tufuneyo ekyokulabirako ekirala: Soma ekigambo kino [point to the next word: feeza].

[If the child responds correctly, say]: **Kirungi, kino ekigambo kisomebwa “feeza”.**

[If the child does not respond correctly say]: **Kino ekigambo kisomebwa “feeza”**

Bwe njamba nti “tandika”, tandikira wano [point to first word] **okutandikira ku lunyiriri olusooka. Songa ku buli kigambo okisome.** [Point to the first word on the row after the example and draw your finger across the first line]. **Soma mu bwangu ddala nga bw’osobola ate n’obwegendereza. Genda ku kigambo ekidako singa osanga ekigambo kyo’tomanyi . Songa ku kigambo ekisooka. Weetegese? Tandika.**

- This is NOT a timed task and there is NOT an auto-stop rule. The child will attempt to read all words.
- Follow along with your pencil and clearly mark any incorrect words with a slash (/).
- Count self-corrections as correct. If you already marked the self-corrected word as incorrect, circle it (ø) and continue.
- If the pupil skips an entire line, draw a line through it on the protocol.
- Stay quiet, except if the child hesitates for 3 seconds. Then point to the next word, and say, **“Genda mu maaso.”**

Examples: ndiga mbaata feeza

1	2	3	4	5	
ggaali	engo	njovu	ccupa	menvu	(5)
kkapa	mbwa	kisero	nyonyi	kyaayi	(10)

Subtask 4. Non-Word Reading

Show the child the sheet of non-words in the pupil stimuli booklet. Say,

Waliwo wano ebighambo ebiiyiye. Njagala osome bingi nga bw’osobola. Ebighambo bino tobigattulula wabula bisome busomi. Okugeza , ekimu ku bigambo ebiiyiziddwa kye kino: “moki”

Ka twegezeemu tulabe: soma ekigambo kino [point to the next word: **suki**].

[If the child responds correctly]: **“Kirungi nnyo: “suki.”**

[If the child does not respond correctly, say]: **Ekigambo kino ekiiyiye kiri “suki.”**

Kati ka tufuneyo ekyokulabirako ekirala: soma ekigambo kino [point to the next word: **galu**].

[If the child responds correctly, say]: **Kirungi nnyo: “galu.”**

[If the child does not respond correctly say]: **Ekigambo kino ekiiyiziddwa kiri “galu.”**

Bwe njamba nti “tandika”, soma ebighambo mu bwangu ddala nga bw’osobola ate n’obwegendereza. Soma ebighambo nga bwe biddiriinjana ku nnyiriri, ng’otandikira ku lunyiriri olusooka. Genda kukigambo ekidako singa osanga ekigambo kyo’tomanyi. Otegedde eky’okukola? Songa ku kigambo ekisooka. Weetegese? Tandika.



Start the timer when the child reads the first word.

- Follow along with your pencil and clearly mark any incorrect words with a slash (/).
- Count self-corrections as correct. If you already marked the self-corrected word as incorrect, circle it (Ø) and continue.
- If the pupil skips an entire line, draw a line through it on the protocol.
- Stay quiet, except if the child hesitates for 3 seconds, point to the next word, and say, **“Genda mu maaso.”**

AFTER 60 SECONDS, SAY **“Lekera awo.”** Mark the final word read with a bracket (]).

- Early stop rule:** If you have slashed/marked as incorrect all of the answers on the first line, say **“Weebale nnyo!”** discontinue this subtask, check the box at the bottom, and continue to the next subtask.

Examples: moki suki galu

1	2	3	4	5	
feyo	vera	mulu	doku	mbiya	(5)
ngiru	yofu	kugga	peri	adada	(10)
aka	nnyi	banu	teno	mukadi	(15)
palu	seyo	mbiba	miripa	lakya	(20)
ngolu	liru	kyawu	zimuka	amu	(25)
moku	nuli	gena	midda	genjo	(30)
emmole	yu	fuyo	kalitu	lwaga	(35)
mwane	gwefu	ntuba	moti	jjata	(40)
njera	motu	njawi	ama	awoto	(45)
dasa	cava	nkobi	njaamu	tuuki	(50)



Time showing on stopwatch at completion (number of SECONDS):

Check this box if the subtask was discontinued because the child had no correct answers in the first line.

Subtask 5. Listening Comprehension

Remove the pupil stimuli booklet from the child's view. Say,

Njagala kukusomera embooji nga nnyimpi omulundi gumu. Bwe nnaaba mmaze okugikusomera, nja kukubuuza ebibuuzo. Mwattu wuliriza n'obwegendereza. Oluvannyuma oddemu ebibuuzo bye nnaaba nkubuuzizza. Otegedde eky'okukola?

- This is an untimed task.
- Read the entire passage *ONLY ONE TIME*.
- Ask all of the questions.
- Do not allow the child to look at the passage or the questions.
- Give the child 3 seconds to begin to answer each question. Mark the child's response, and continue to the next question.

Kisitu ayagala nnyo okusoma ebitabo. Taata we amugulira ebitabo bingi. Asoma ekitabo kimu buli wiiki. Olumu asomeramu banne. Ayigamu ebintu bingi. Asoma nnyo engero. Ayagala kuba muwandiisi nga maama we.

Kati ddamu ebibuuzo bino,

	Correct	Incorrect	No Response
Ki Kisitu ky'ayagala ennyo? (<i>bitabo/okusoma ebitabo</i>)			
Mu kusoma Kisitu ayigiramu ki? (<i>ebintu bingi</i>)			
Lwaki taata wa Kisitu amugulira ebitabo bingi? (<i>asobole okufuuka omuwandiisi/okumwagazisa okuwandiika/asobole okubisoma/kubanga ayagala nnyo okusoma ebitabo/asobole okuyiga</i>)			

Do not read the English translation to the child.

Kisitu likes reading books a lot. His father buys him many books. He reads a book every week. Sometimes he reads to his friends. He learns a lot of things. He reads many stories. He wants to be a writer like his mother.

1. What does Kisitu like to do? (read books, learn new things)
2. What does Kisitu learn while reading? (many things)
3. Why does Kisitu's father buy him many books? (so that he can be a writer/ as motivation for writing, so that he can read, because he enjoys reading, so that he can learn)

PUPIL QUESTIONNAIRE

Webale nnyo. Kakati njenda kukubuuza ebibuuzo ebikwata ku waka wamwe.

PART A: GENERAL QUESTIONS

EKITUNDU A: EBIBUZO EBY'AWAMU

1.	<p>Lulimi ki lw'osinga okwogera ewaka? What language do you speak <i>most</i> frequently at home?</p>	<p>Luganda <input type="checkbox"/></p> <p>English..... <input type="checkbox"/></p> <p>Other <input type="checkbox"/></p> <p>Don't know/No response..... <input type="checkbox"/></p>												
2.	<p>Walide emmere olwa leero nga tonagya ku ssomero? Did you eat before coming to school today?</p>	<p>No..... <input type="checkbox"/></p> <p>Yes..... <input type="checkbox"/></p> <p>Do not know/No response..... <input type="checkbox"/></p>												
3.	<p>Do you have the following materials at school? [Read the list of materials to the pupil and check the box]</p>	<table border="1"> <thead> <tr> <th></th> <th>No</th> <th>Yes</th> <th>Don't know/No response</th> </tr> </thead> <tbody> <tr> <td data-bbox="721 814 938 1024"> 3a) Olina ekitabo ekiwandiike mu luganda (Luganda textbook) </td> <td></td> <td></td> <td></td> </tr> <tr> <td data-bbox="721 1029 938 1239"> 3b) Olina ekitabo ekiwandiike mu luzungu (English textbook) </td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		No	Yes	Don't know/No response	3a) Olina ekitabo ekiwandiike mu luganda (Luganda textbook)				3b) Olina ekitabo ekiwandiike mu luzungu (English textbook)			
	No	Yes	Don't know/No response											
3a) Olina ekitabo ekiwandiike mu luganda (Luganda textbook)														
3b) Olina ekitabo ekiwandiike mu luzungu (English textbook)														
4.	<p>Mubeera ko n'ebiseera okusoma ebitabo mukiibina kyamwe oba mu kunganilo ly'ebitabo buli lunaku? Do you have time to read books in your classroom or in your school library every day?</p>	<p>No <input type="checkbox"/></p> <p>Yes <input type="checkbox"/></p> <p>Do not know/No response..... <input type="checkbox"/></p>												
5.	<p>Otwala ko ebitabo by'okusoma ewaka okuva mu kibiina kyamwe oba mu kunganilo ly'ebitabo? Do you bring home reading books from your classroom or from the school library?</p>	<p>No <input type="checkbox"/></p> <p>Yes <input type="checkbox"/></p> <p>Do not know/No response..... <input type="checkbox"/></p>												

PART B: READING PRACTICES AT HOME**EKITUNDU B: ENKOLA Y'OKUSOMA EWAKA**

Kakati njenda kukubuuza ebibuuzo ebitonotono ebikwata ku bikolwa by'okusoma byoyinza okuba ng'okola n'omuntu ewaka. Bwoba tokola nga ko kubikolwa byenkubuuza, tewali buzibu. Ddamu ng'ogamba nti yee oba nedda.

Waliwo omuntu yenna ewaka wamwe eyali akoze ku bikolwa bino nawe?

Has anyone in your household ever done the following activities with you?

6.	Waliwo omuntu yeena eyali.... Has anyone ever...	No	Yes	Don't know/No response
	a) Akunyumiriza ko ku lugero? Told you a story?			
	b) Akubuuziza ko ku bibuuzo ebikwata ku lugero? Asked you questions about the story?			
	c) Azanye ko naawe akazanyo ke bigambo oba na'kubulira ekikokyo/ekitontome? Played word games with you or told you a riddle?			
	d) Akusomeseza ku nnukuta? Taught you letters?			
	e) Akusomeseza ku bigambo? Taught you words?			
	f) Akusomeseza ko okuyimba enyimba? Taught you to sing songs?			
	g) Akusomede ko embooji? Read aloud to you?			
	h) Akusabye okumusomera embooji? Asked you to read out loud?			
	i) Ayogedde ko nawe ku bye wakoze ku ssomero? Talked with you about what you did at school?			
	j) Akuwadeyo ku bitabo byokusoma oba ebintu ebirala ebisomebwa? Provided you with books or other reading materials?			
	k) Akusomede ko ku bubaka bw'okusimu? Read an SMS message to you?			

7.	<p>Bantu ki abakozeke ekikolwa oba ebikolwa ebisuka mu kimu ku ebyo nawe?</p> <p>[Check as many boxes as applicable]</p> <p>Who has done one or more of these activities with you? For example, your mother, father or someone else.</p>	<p>Mother - biological, adoptive, step..... <input type="checkbox"/></p> <p>Father - biological, adoptive, step <input type="checkbox"/></p> <p>Grandparent <input type="checkbox"/></p> <p>Aunt/Uncle..... <input type="checkbox"/></p> <p>Sister/Brother <input type="checkbox"/></p> <p>Friend <input type="checkbox"/></p> <p>Other adult living in the household <input type="checkbox"/></p> <p>Other adult NOT living in the household <input type="checkbox"/></p> <p>Other <input type="checkbox"/></p> <p>Do not know/No response..... <input type="checkbox"/></p>													
8.	<p>Mirundi emeka gy'ewegazamu okusoma ennukuta oba ebigambo eri omuntu yenna ewamwe?</p> <p>How often do you practice reading letters or words out loud to someone at home?</p>	<p>Never..... <input type="checkbox"/></p> <p>Sometimes <input type="checkbox"/></p> <p>Every day..... <input type="checkbox"/></p> <p>Do not know/No response..... <input type="checkbox"/></p>													
9.	<p>Mirundi emeka omuntu yenna ewamwe gya'kusomera mu?</p>	<p>Never..... <input type="checkbox"/></p> <p>Sometimes <input type="checkbox"/></p> <p>Every day..... <input type="checkbox"/></p> <p>Do not know/No response <input type="checkbox"/></p>													
<p>Webale nnyo. Kakati oyinza okuddayo mu kibiina.</p> <p>[Give child gift and ensure they get back to class.]</p>															
<p>Time the assessment and interview ended.</p>	<table border="1"> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>H</td> <td>H</td> <td>M</td> <td>M</td> <td colspan="3">AM/PM</td> </tr> </table>								H	H	M	M	AM/PM		
H	H	M	M	AM/PM											

Assessor's initials: [REDACTED]

Annex D: Progress out of Poverty Index (PPI) Scorecard for SES



Uganda PPI®: Look-up Tables

Use the following look-up tables convert PPI scores to the poverty likelihoods below each of the poverty lines.

PPI Score	Food (%)	National (%)	150% National (%)	200% National (%)	USAID 'Extreme' (%)
0-4	87.6	94.2	100.0	100.0	78.9
5-9	82.0	90.5	100.0	100.0	70.9
10-14	62.7	87.4	100.0	100.0	47.7
15-19	51.6	74.0	97.9	98.8	45.3
20-24	35.5	65.1	86.1	95.8	31.9
25-29	25.0	47.9	73.7	90.2	24.9
30-34	11.3	38.1	69.9	85.7	13.7
35-39	12.0	27.3	64.8	85.2	13.4
40-44	4.3	15.1	47.2	73.0	4.2
45-49	4.0	10.7	41.1	66.8	3.9
50-54	1.8	6.7	34.6	57.1	0.5
55-59	0.7	2.9	18.3	41.6	0.9
60-64	0.2	0.8	17.5	33.5	0.0
65-69	0.0	0.5	6.2	18.8	0.0
70-74	0.0	0.7	6.0	13.5	0.0
75-79	0.0	0.0	1.8	2.9	0.0
80-84	0.0	0.0	0.0	3.9	0.0
85-89	0.0	0.0	0.0	0.0	0.0
90-94	0.0	0.0	0.0	0.0	0.0
95-100	0.0	0.0	0.0	0.0	0.0

Source: Progress out of Poverty Index®: A Simple Poverty Scorecard for Uganda, by Mark Schreiner.