World Vision Burundi

Final Evaluation of Improving Learning and Reading Environment (ILRE)

Cankuzo and Kigamba Communes

February 2019

EXECUTIVE SUMMARY

This report summarizes the key findings and results of the Improving Learning and Reading Environment (ILRE) endof-project evaluation conducted in January and February 2019. The ILRE project was funded by World Vision Germany and was carried out in 51 schools in Cankuzo Province, Burundi from October 2015 to September 2018. The project aimed to improve students' learning achievements and their access to quality education in a child-friendly learning environment.

The evaluation used mixed-methods to gather quantitative and qualitative data from key project stakeholders. This included a project document review, secondary data review of provincial education data, key informant interviews with project staff, a parent survey, focus group discussions of ministry officials, SMC members, and parents, a pupil literacy assessment, a school survey, and a classroom lesson observation.

Stakeholders were sampled from 36 schools split across two communes that received programming: Cankuzo and Kigamba; and one commune that served as comparison: Mishiha.

In total, 6 staff and 5 provincial education officers were interviewed, 239 parents completed a quantitative survey, over 100 parents took part in focus group discussions, 36 grade 3 classrooms were observed, 36 head teachers were interviewed, and 36 school environments were observed. A total of 935 Grade 3 pupils throughout 36 schools in Cankuzo Province were surveyed on questions relating to student background, home literacy environment, participation in programme activities, and emergent Kirundi literacy skills. The literacy assessment included letter identification, most used words, fluency, reading accuracy, and reading comprehension.

The results of the evaluation are presented along the outline of the five DAC[1] evaluation criteria, to determine the relevance and fulfilment of objectives, developmental efficiency, effectiveness, impact and sustainability. Within each DAC criterion, results are presented by school-based and community-based activities.

Relevance

School-Based Interventions

The project activities and outputs were consistent with the overall goal of aiming to improve students' learning achievements. Most notably, the project implemented the main components of Unlock Literacy, a model which has shown significant impact on reading outcomes in at least 10 countries in which World Vision programmes. The programme successfully trained 299 teachers in UL methodology as well as 51 ministry officials in UL coaching methodology. Furthermore, all SMCs were trained and supported in school improvement planning. In terms of teaching and learning materials, WVB worked with 37 schools to establish reading corners and distributed 3,011 textbooks.

The project also aimed to improve access to quality education in a child-friendly learning environment. There were activities and outputs related to learning materials. However, there were little to no activities and outputs associated with the broader school environment. The evaluation observed significant gaps in the school environments, citing child safety concerns given holes in school floors as well as a large proportion of intervention schools (63.5%) that do not have a water point at the school. Furthermore, there is little evidence of this situation improving, as only 58.3% of the intervention schools have a School Improvement Plan.

Community-Based Interventions

The project worked to engage the community in children's education through several community-based interventions.
Over the life the project, 153 reading camps have been established, supported by 309 trained Reading Camp Facilitators (RCFs). At any given time, approximately thirty percent of grade 1-3 children from the 51 intervention schools were attending reading camps. Additionally, ECD aged children also attended reading camps, with numbers varying between 1,564 and 1,867 during FY16 to FY18. In 135 reading camps, brick structures with iron sheet roofs were constructed.

The remaining 18 sites had been constructed during the pilot phase. A total of 12,865 books (145 titles created by WVB) were distributed to book banks at the reading camps. Finally, 494 parents/caregivers took part in reading awareness workshops that were delivered in clusters of 3-4 schools, covering seven modules over seven months.

In contrast to the school-based activities, community-based activities not only worked to improve educational outcomes but also worked to create child-friendly learning environments through the establishing of reading camps.

Efficiency

Overall, the evaluation had difficulty speaking to efficiency as the project team was unable to provide budget and costing documentation. However, the points below highlight what the team was able to discern regarding efficiency.

School-Based Interventions

School-based activities were achieved on time. Textbooks and storybooks were very expensive for the project. Given the high price of purchasing books, the volume of books the project distributed was two-thirds of the planned total. This had significant impact on the presence of sufficient teaching and learning materials within the school. In the future, World Vision Burundi can improve the efficiency of book procurement through pooling orders.

Community-Based Interventions

Community-based activities were also achieved on time. More than 300 volunteers were mobilised to support community interventions, and all freely gave their time to support community interventions. Most of these volunteers supported the project for the full three years, with some in Cankuzo commune now reaching seven years' service to reading camps. No stipend payments and high retention rates demonstrates economic efficiency.

Effectiveness

School-Based Interventions

The classroom observations found that a high proportion of both intervention and comparison teachers were demonstrating UL best practices. While this might be a sign of teacher training effectiveness, it is also possible that the classroom observation tool was not sensitive enough to detect best practices. Further investigation is needed.

The classroom observation did find that almost all teachers were teaching to the level of reading stories. While this level is likely to be consistent with the grade 3 curriculum, the literacy assessment findings which show that 25% pupils are still struggling with the most used words. As such, it seems that teachers are not effectively using formative assessments to adapt their teaching to children's learning needs.

The project had objectives for improving the availability of textbooks and supplementary books (reading corners) in grade 1-3 classrooms. These objectives were only partly achieved. In most classrooms observed children were sharing textbooks, many sharing one textbook among three or more children. Only 38% of intervention schools have reading corners.

Community-Based Interventions

The evaluation found that where the project effectively targeted children, reaching them with all community-based interventions, those children had significantly higher reading scores. Although community activities were effective in supporting reading outcomes, a number of gaps with implementation prevented stronger results. These included the number of books in book banks, number and regularity of reading camps, and the frequency and distribution of reading awareness workshops.

The project model stipulates at least 100 titles with 2 copies of each. With this calculation, the project should have distributed at least 30,600 books, not 12,865 books. Triangulating this finding, the lack of books in book banks was the most frequent comment made by parents in FGDs for this evaluation. Parents also frequently mentioned that reading camps were not regularly operating, and when they were, the timing often conflicted with their child's school schedule. As such, only one-third of grade 1-3 children were attending reading camps, far short of the 75% target. Finally, only 3% of children had at least 1 parent participate in the reading awareness workshops, again far short of the 30% target stipulated by the project model.

Impact

School-Based Interventions

Intervention pupils significantly outperformed comparison pupils in advanced skills such fluency, accuracy, and reading with comprehension. There was no difference in performance on lower-level reading skills such as letter knowledge and most used words. Additionally, the program successfully contributed to the proportion of pupils reading with comprehension within programming sites. While this finding shows that the ILRE had impact, it is important to note that the project did not have impact on struggling readers, particularly those who have repeated a grade. The project is therefore increasing inequities in reading performance and needs to focus on targeting these struggling pupils in future programming. There were no significant differences in reading achievement between boys and girls.

The project has had a positive impact on the print environment within the schools. There were significant differences between intervention and comparison sites with letter and word charts hung on the walls. 66.7% of classrooms in intervention schools had letter charts and 54.2% had word charts. 33% of these classrooms had more than half the walls covered in reading materials. This compares to 0% of classrooms in comparison schools having print materials on the walls. However, the programme continues to struggle with other components of a print-rich environment, with very low levels of supplementary reading materials in the schools as well as textbooks.

Regression analyses found that the physical school environment had an impact on pupil success. Pupils with a water point on site were predicted to have significantly higher lowercase and uppercase letter identification, most used words, and fluence scores, as well as more likely to be readers. Additionally, the presence of classrooms reading corners was significantly associated with her endline scores. Although the ILRE project supported provision of books for reading corners in some intervention schools, it was not consistently or comprehensively done. Future programming should prioritise this intervention.

Community-Based Interventions

Regarding reading materials, significantly more intervention than comparison pupils reported having child-friendly reading materials in their home. However, the overall percentage of pupils reporting these child-friendly materials (29%) remains quite low and further commitment is needed to improve this area. Additionally, intervention pupils reported significantly more engagement in reading activities in the home than did comparison pupils. However, parents were asked the same questions and there was no significant difference between intervention and comparison sites. A symptom of the low participation in parent awareness workshops, 15% of intervention parents still express a lack of confidence in support children's reading, which is most likely hurting the impact the project has had.

Finally, it was found that increased participation in Unlock Literacy community activities was significantly associated with higher endline reading scores. Those pupils who participated in most or all of the community action activities were predicted to score higher on sub-tests than those who participated in few or no activities.

Sustainability

School-Based Interventions

While the teacher training component successfully trained 299 teachers, most teachers observed (51%) had not completed the UL training. This is most likely because the training took place in 2016 and 2017 and teachers have since transferred schools or shifted grades. There has been no effort to continue teacher training to account for these changes.

███████████ were trained in coaching of teachers, but government policy changed 2 years ago, and ████ ████ are no longer carrying out classroom observations. Head teachers are now responsible for classroom observation, but many head teachers have not received UL training. As such, there is a significant gap in the ongoing sustainability of coaching and supporting teachers in UL methodology.

The evaluation found that most classroom reading corners did not have sufficient number of titles and copies of storybooks. Furthermore, there is no plan in place for World Vision to replenish these reading materials.

While these challenges for sustainability of school interventions exist, ██████████████████ ████ expressed the view that if WVB leaves Cankuzo tomorrow, much of the UL activities can be sustained. This is because the DPE/DCE, teachers and parents will all stay in Cankuzo, and the capacity of these stakeholders and systems of support have been built.

Community-Based Interventions

The ongoing sustainability of community interventions requires capacitated and supported volunteers, along with mechanisms to renew key resources such as storybooks. In 2018, WVB signed an MOU with the ██████████ to transition responsibility for volunteers, implementation (eg operating reading camps) and monitoring activities. While this is potentially a good solution for sustaining activities beyond the project, it is unclear how well this arrangement has been communicated to stakeholders. Community volunteers interviewed for this evaluation were unaware of this arrangement, and in the case of Kigamba, were not even aware that WV had exited all education programming.

Summary

From this evaluation, we can conclude the following:

- The ILRE project had significant impact on advanced reading skills such as readers' accuracy, fluency, and reading comprehension scores.

- Intervention students were significantly more likely to be readers with comprehension than their comparison peers.

- Children in intervention sites reported greater interaction with reading activities in their homes than comparison pupils.

- Children in intervention sites were more likely to have child-friendly reading materials in their home than their comparison peers.

- The ILRE project developed 30 new storybook titles for distribution throughout their sites. Considering the titles created during the pilot project, WVB has produced 145 new titles for children in Cankuzo Province.

- The project has established a strong network of volunteers through Reading Camp Facilitators and Literacy Boost Mobilizers that provide quality support to the project and help sustain initiatives. Encouragingly, this volunteer network has experienced very low levels of attrition over the 3 year ILRE project and the 7 years since the first Literacy Boost pilot.

- All stakeholders interviewed show enthusiasm and support for the project.

- While there have been considerable activities and outputs for school-based interventions, there are significant gaps in those activities:
  - Both community and school-based interventions lack sufficient teaching and learning materials.
  - High teacher turnover and shifting of grades means that most current teachers have not received Unlock Literacy training.

- The rate of participation in community action activities is very low: o Only 1/3 of Grade 1-3 learners are regularly attending reading camps. o Only 3% of the targeted parents attended parent awareness workshops.
  - Only 51% of observed teachers had attended Unlock Literacy training.

- The project has not effectively adapted to changes in government policy such as the shift from ministry officials to head teachers providing coaching and mentoring to teachers.

- The ILRE project had significant impact on pupil's higher-level reading skills but not their lower level reading skills, thus potentially increasing inequities between low-performing and high-performing pupils.

- The school environments remain quite poor and nearly 50% of schools have no plan for improving them. This is significantly impacting educational achievement.

- A strong system of volunteers as well as partnership with the ▬▬▬▬▬ could be used to ensure the programme continues, however, these volunteers are not supported with a sustainable system for renewing reading corners in schools or book banks in communities. Additionally, there has been little to no communication of handover from World Vision to the ▬▬▬▬ with these volunteers and other project stakeholders.

- The project did not have an impact on reading outcomes for struggling students (those who performed poorly on the literacy assessment or have repeated a grade) and therefore the project actually increased divergence between struggling and strong performers.

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ACRONYMS

CSP	Community Sponsorship Programme
CVA	Citizens Voice and Action
DCE	Commune Directorate of Education
DPE	Provincial Directorate of Education
ECD	Early Childhood Development
FGD	Focus Group Discussion
HLE	Home Literacy Environment
ILRE	Improving Learning and Reading Environment Project
LBM	Literacy Boost Mobiliser
LB	Literacy Boost
NO	National Office
OECD	Organisation for Economic Cooperation and Development
PSDEF	Sector Plan for the Development of Education and Training in Burundi
RAW	Reading Awareness Workshop
RCF	Reading Camp Facilitator
SES	Socio-Economic Status
SIP	School Improvement Plan
SMC	School Management Committee
UL	Unlock Literacy
USD	United States Dollar
WASH	Water, Sanitation and Hygiene
WV	World Vision
WVB	World Vision Burundi
WVG	World Vision Germany

BACKGROUND AND PURPOSE

World Vision Burundi (WVB) is one of the leading international development organisations in Burundi, operating in seven of the country's eighteen provinces. Its holistic approach improves child well-being through community-led integrated interventions in health, nutrition, food security, livelihoods, WASH, education, protection, advocacy, peacebuilding, and gender. WVBs education program prioritises equitable pre-primary and primary school access, child literacy and community participation, with Unlock Literacy (UL)[2] being a core project model.

Since 2015, the National Office (NO) has been implementing the Improving Learning and Reading Environment (ILRE) project in Cankuzo province, with support of private funding sources from World Vision Germany (WVG). The ILRE project includes the UL project methodology. The project has the goal of improving pupils' learning achievements and their access to quality education in a child-friendly learning environment. With the project now completed, WVB sought a final evaluation study to:

- assess the effectiveness and sustained impact of the project
- determine the performance and results of the key objectives of the project
- identify reasons for success or lack thereof of implementation strategies
- identify lessons learnt from the implementation and results to inform scale-up of UL in Burundi and beyond
- gather evaluative information to be used for fundraising by WVG

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[2] Since the start of this project, the Literacy Boost project model has been re-branded to Unlock Literacy (UL). Literacy Boost is a copyrighted tool designed, developed, and owned by Save the Children. For the purpose of this report, the term Unlock Literacy will be used.

This report summarizes the key findings and results of the final evaluation which included several assessment tools, detailed in the methodology section.

Research Questions

The research questions are designed to examine the OECD-DAC evaluation criteria of *relevance, effectiveness, efficiency, impact,* and *sustainability*. Applying the criteria to the ILRE project in Burundi, it was determined that the endline assessment would work to answer the following research questions:

- Was the project implemented with fidelity? o Did WV Burundi focus equal effort on all aspects of the project model? Did certain project model components had more engagement from NO staff? o What were any additions/changes to the traditional UL project design? Do staff feel these components were beneficial? (infrastructure, CVA, etc.)
- What can the endline assessment tell us about pupils' reading skills?
- Has Unlock Literacy had an impact on reading with comprehension among Grade 3 pupils? o For which types of pupils was impact the greatest/least?
    - o Does this impact result in more equitable outcomes for traditionally disadvantaged groups (Gender, SES, ECD attendance, HLE, chore load)?
- Has there been uptake of Unlock Literacy teaching practice in UL schools? o Does any uptake of teaching practice seem sustainable?
- What can the endline assessment tell us about participation in UL activities? o Did participant differ by learner background?
- Has Unlock Literacy had an impact on repetition/drop-out rates?
    - o Grade 1 to 3 o Is repetition and dropout inequitably distributed to sub-groups in the population?
- What do the research findings mean for continuing UL programming in this area?

CONTEXT

The education system in Burundi is characterized by a rapid increase in the number of pupils enrolled at almost all levels of education. This growth is accompanied by an improvement in school coverage at all levels. The introduction of free primary education schooling in 2005 has largely contributed to this increase. During this period, enrolment in ECD tripled and enrolment up until grade 6 nearly doubled to 2,069,731 pupils. In 2012, the Government of Burundi adopted a plan for the development of its education system transitioning basic education to cover a total of 9 years of schooling as opposed to the traditional 6 years of schooling (PSDEF 2012-2020). The goal of this initiative was to provide pupils with the necessary background for the pursuit of their studies or their entry into the workforce. In 2013, with a three-year action plan, the Government initiated this major reform that resulted in the primary level (6 years) and the college level (4 years) being replaced by a complete block of basic education divided into 4 cycles: the three two-year cycles that cover the traditional primary education and the fourth cycle which goes from 7th to 9th grade. According to the Ministry of Education, this reform aimed at improving the transition to higher education levels, as well as better aligning the knowledge and skills of graduates to the needs of the local economy. These changes have led to significant improvements, a quadrupling of the number of pupils completing the 4th cycle, despite even those impressive gains, students are struggling to complete school.[3]

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[3] https://www.epdc.org/sites/default/files/documents/EPDC%20NEP_Burundi.pdf

The education reforms have resulted in significant gains with enrolment of pupils, reaching a 97% net enrolment rate in 2017, but the survival rate to end of primary school is only 43%. Repetition rates are still high, averaging 24% across primary school and there is a growing number of out of school children, particularly amongst boys.[4]

The sector faces recurring and cyclical risks that affect the educational pathways of children. An in-depth study carried out in 2017 by UNICEF[5] details the risks and vulnerabilities the education sector in Burundi faces. Firstly, pupils and teachers are highly vulnerable to dangers associated with deteriorating community buildings: in 2017, more than 400 classrooms were destroyed by bad weather. Socio-political crises also represent a substantial risk of disruption or interruption of children's education. Little access to latrines and water points in schools pose significant health risks. Exacerbating these risks is the challenge of increasing poverty and hunger that is impacting several regions of the country.

Figure 1. Map of Burundi, Cankuzo Province Highlighted

World Vision Burundi's Education Programming

World Vision International has had a presence in Burundi since 1963. Today, WVB helps children and communities in seven of the country's 18 provinces through 18 long-term area programs (APs). This holistic approach improves child well-being through community-led integrated interventions in health, nutrition, food security, livelihoods, WASH, education, protection, advocacy, peace-building, and gender. With an operational budget of over 21million USD in fiscal year 2017, 192 staff provided support to 40,188 sponsored children. Over the last three years, and in addition to the AP work, ▮▮▮

World Vision Burundi's education programming aims to improve equitable pre-primary and primary school access, child literacy and life skills, and community participation. The following are strategic sub-objectives of WVB:

1. Improved equitable access & quality of early childhood development and basic education
2. Improved applied life skills of adolescents aged 12-18 years

WVB's wide range of education activities targets approximately a quarter of a million children each year.[7] The education team comprises of thirteen specialized staff members, namely five Education Technical Programme Officers (TPOs), six Grants coordinators, one Grant Manager, and 1 Technical Programme Manager who oversees all education interventions by providing technical guidance to field team members. The education projects are implemented in close collaboration with local administration authorities, educational technical services, school management committees, churches, and other stakeholders. WVB signed a formal partnership with the Ministry of Education (MoE) and works in close collaboration.

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[4] Source for data in this paragraph from http://uis.unesco.org/country/BI

[5] UNICEF Annual report for Burundi, 2017. https://www.unicef.org/about/annualreport/files/Burundi_2017_COAR.pdf

[6] Estimated based on WVBs 2017 annual report. https://www.wvi.org/burundi which states that 250,031 children were targeted in 2017.

[7] Source: World Vision Burundi Annual Report 2017. Found at https://www.wvi.org/burundi [8] 2008 Burundi National Census data.

World Vision now implements Literacy Boost in every long-term program implementing an education project, covering six provinces in Burundi. In the current education TP period, 40% of WVBs sponsorship program sites implements the complete Literacy Boost/Unlock Literacy programme. The remainder of sponsorship sites include aspects of the community action component within the CSP.

Implementation Area

The ILRE Project is implemented in Cankuzo Province which is located in the far east of Burundi in an area bordering Tanzania. The province has a total population of 228,873 people[8], divided administratively into five communes of Cankuzo, Cendajuru, Gisagara, Kigamba and Mishiha. Cankuzo is one of the poorest provinces in Burundi, with more than 70% of the population living in poverty.[7] Livelihoods are mostly agriculturally based, with high levels of environmental degradation and low education levels amongst adults compounds the poverty cycle[8].

In Kigamba and Cankuzo communes, there is a total of 51 primary schools, with 23,872 children enrolled in grades 1-6.[9] The pupil teacher ratio averages 43:1. This average disguises differences by year level, where early grades have much larger class sizes. Many grades 1-3 classes in Kigamba and Cankuzo communes have a pupil to teacher ratio of more than 50:1.[10] Moreover, many schools are struggling with lack of classroom to run classes. To manage the *Figure 2. Map of Communes within Cankuzo Province* situation, most schools in the two communes operate a morning and afternoon shift.

WVB Literacy Boost Pilot (2012-2015)

As part of World Vision International (WVI)'s Education Transition Initiative (ETI), World Vision Burundi piloted Literacy Boost as part of the ▮▮▮▮▮▮▮▮▮▮ partnership. The pilot was carried out in 2 Area Development Programmes (ADPs), Cankuzo and Muyaga.

A randomized control trial (RCT)[11] was carried out during the pilot, with a baseline pupil background survey and reading assessment collected in October 2012. Pupils were followed throughout the life of the project and reassessed at the end of the pilot, in June 2014. The 28 schools in the RCT were randomly divided into 14 primary schools that received twenty months of the Literacy Boost Community Action component and approximately 10 months of the teacher training component, and 14 comparison primary schools that received no Literacy Boost intervention.

At baseline, benchmarks were set for each of the literacy skills, calculated from the 75th percentile of baseline scores, and pupils' progress toward these benchmarks was evaluated. Surprisingly, neither comparison nor LB pupils reached benchmarks for reading with comprehension at endline. Despite achieving benchmarks for the other reading sub-tests, LB pupils' overall progress could not be attributed to the LB program. The impact analysis found no significant impacts of Literacy Boost for the endline sample of learners. However, equity analysis revealed that Literacy Boost did cause skill gains for girls in fluency, accuracy, and reading comprehension. The analysis also revealed that LB had a significant impact on pupils from a less-rich background, e.g. in letter knowledge and fluency for both boys and girls from the lowest quintile in HLE. Moreover, marginal significance was revealed in terms of greater gains in letter knowledge and reading with comprehension for pupils from the bottom two quintiles of SES.

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[7] World Bank (2018); Project Appraisal Document for Burundi Landscape Restoration and Resilience Project.

[8] ibid.

[9] Data sourced from the Provincial Directorate of Education

[10] Government of Burundi (2018); Programme D'appui A La Mise En Oeuvre Du Plan Transitoire De L'education Du Burundi

[11] Rosenkranz, E; Jonason, C; Kajangwa, D (2014); Literacy Boost Burundi Endline Report. World Vision International & Save the Children. Available at
https://resourcecentre.savethechildren.net/sites/default/files/documents/literacy_boost_world_vision_burundi_endline_report_august_2014.pdf

Literacy Boost community activities were positively related to skill gains of LB pupils: the frequency of borrowing books from a Book Bank was positively correlated with baseline to endline gains in reading accuracy, reading comprehension, and proportion of readers, though only marginally significant. The pupils that responded that they 'always' answered questions at Reading Camps had higher gains in proportion of readers and reading accuracy. Additionally, the pupil response of 'very often' using make-and-take materials at home was positively associated with gains in letter knowledge, proportion of readers, and reading accuracy for Literacy Boost pupils.

The pilot evaluation generated several programming recommendations to improve the quality of project implementation. A focus was ensuring that all pupils, parents, and teachers in the programming area participated in project activities, as participation was correlated with improved reading outcomes. As such, this evaluation examines participation rates in the section on Fidelity of Implementation.

ILRE Project Overview

After the pilot phase from 2012 – 2015, World Vision Burundi decided to scale up the Literacy Boost interventions. Initially, the design of the project included scale up to all schools within Kigamba and Cankuzo communes in the first year, expanding to the three remaining communes with the province from year 2. However, budget constraints and a year's delay commencing implementation led to the project staying with two communes.

ILRE implemented all the components of the Unlock Literacy project model, training all grade 1-3 teachers in the methodology, engaging local education authorities to support coaching of teachers through lesson observation, raising awareness of parents on activities they can do for their child's reading development, creating reading materials in mother-tongue (Kirundi) and building capacity of community volunteers to facilitate literacy activities like reading camps. By the close of ILRE, the project was being implemented in all 51 primary schools located in Cankuzo and Kigamba communes. The baseline assessment[12] did not include a comparison group, but the endline did add a comparison group, sampling schools from the neighbouring commune of Mishiha.

METHODOLOGY

Evaluation Team Roles and Responsibilities

This evaluation was led by an external evaluation team from InformEd International. The external team worked closely with the World Vision Burundi team (as described in the table that follows) to carry out enumerator training and data collection. Table 1 describes the roles and responsibilities that were agreed upon by all team members and NO management.

Table 1: Evaluation Team Roles and Responsibilities

Evaluation Role	Responsibilities	Name	Position Title
Principal Investigator	Responsible for study design, data collection tools, enumerator training for literacy assessment, data collection quality assurance. Contributed to data analysis and report writing.	■■■■■	Director of Research and Impact, InformEd International
Co-Investigator	Responsible for technical expertise on Literacy Boost/Unlock Literacy methodology[13]; enumerator training on parent surveys, parent FGDs, lesson observation; data collection and interviewing for staff on implementation. Contributed to study design, tool creation, data analysis, reporting writing	■■■■■	Programme Director, InformEd International
Data Analyst	Responsible for data analysis and report writing. Contributed to study design, tool creation.	■■■■■	Sr. M&E Specialist, InformEd International

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[12] Shaner, B; Nindagiye, F (2015); World Vision Burundi Literacy Boost Baseline Report. World Vision International.
[13] Cameron Ryall served as the Global Programme Director for Literacy Boost, 2012-2015.

Role	Responsibility		Position
Internal Evaluation Lead	Responsible for organizing the evaluation, overseeing the data collection process, reviewing report.	██████████	Grants DME Manager, WVI-Burundi
Data Collection Lead	Responsible for overseeing the three data collect teams, ensuring data entry and upload every evening. Additionally, responsible for own data collection team as a Team Leader.	██████████	Monitoring and Evaluation Coordinator, WVI-Burundi
Team Leaders	Responsible for overseeing a team of 4 enumerators and 1 ministry official during literacy assessment and lesson observation; carried out school survey;	████████ ██████ ██████	Education Technical Officer, WVI-B Education Officer, WVI-Burundi
Enumerators	Responsible for carrying out literacy assessments with pupils.	██████████	External to both WVI-B and InformEd International
Parent FGD Facilitators	Responsible for facilitating parent FGD.	██████████	Education Technical Program Offcer, WVI-B
Parent FGD Annotator	Responsible for documenting and translating the parent FGD results.	██████████	DPE Staff
Lesson Observation	Responsible for carrying out the Lesson Observation for Grade 3 literacy lessons	██████ ██████ ██████	DPE Staff
Parent Survey Facilitators	Responsible for facilitating the parent survey, entering survey results in to database.	██████ ████████	WVI-B Interns

As described in Table 1, the external evaluation team (Principal Investigator, Co-Investigator, Data Analyst) worked to develop the study design, data collection tools, and sampling methodology. The external evaluation team then carried out training for data collectors. Through the trainings, the external evaluation team ensured that the data collectors had capacity to accurately and effectively carry out their roles and responsibilities through pre/post-tests, data quality checks during piloting, observation, as well as inter-rater reliability testing. The external evaluation team oversaw data collection throughout the piloting of the tools as well as for two days of data collection. This ensured that data collection was carried out as intended. Due to budget constraints, however, the external team was unable to oversee all data collection.

All data collection tools were designed to limit the introduction of any biases. Further analysis of potential biases from using DPE Staff and WVI-Burundi staff for data collection is discussed in the limitations section.

Study Design Methodology
The evaluation team used a mixed-methods design, conducting research through quantitative and qualitative data collection measures. Remote tools were used to gather details on project outputs and project implementation processes. The external evaluation team (Principal Investigator and Co-Investigator) then travelled to Burundi to carry out enumerator training on six additional data collection tools, comprising of quantitative and qualitative questions to all stakeholders. Upon determining that the in-country team was carrying out data collection with rigour, the external evaluation team returned home and monitored data collection virtually, thru the electronic monitoring tools. The external evaluation team then carried out data analysis.

It is important to note that the baseline evaluation did not include sampling within a comparison community. To answer the research questions above, this endline evaluation includes data collection from comparison schools in Mishiha Commune. These schools were selected based on background characteristics of the children which are like those of pupils in Cankuzo and Kigamba Communes at the beginning of the project. Analysis examined the similarities of pupils

based on background characteristics. The school environments were also analyzed to examine the comparability between intervention and comparison groups.

The endline assessment captures data from the 36 schools sampled (12 in Cankuzo, 12 in Kigamba, and 12 in Mishiha), including the 935 individual pupils' demographic backgrounds and their Kirundi reading skills. The learner assessment consisted of an orally-administered, one-on-one pupil background survey, an emergent literacy evaluation in Kirundi, and questions relating to the extent of the child's participation in UL community activities. The emergent literacy test was composed of five elements administered through four sub-tests covering letter awareness (upper case and lower case), single word recognition, reading fluency and accuracy, and reading comprehension.

Data Sources
The evaluation included the following modes of data collection:
- ✦ Fidelity of Implementation calculator
- ✦ Staff debrief discussion
- ✦ Provincial Education data
- ✦ DPE/DCE focus group discussion
- ✦ Pupil literacy assessment
- ✦ School survey
- ✦ Classroom lesson observation
- ✦ Parent survey
- ✦ Parent focus group discussion

A description of each data source is below.

World Vision Burundi Programming Data

Fidelity of Implementation Calculator
Data on programme implementation will be gathered by the external evaluators through discussion with World Vision staff members. The results of this exercise informed the documentation of the timeline of implementation as well as the basis for the staff debrief discussion.

Staff Debrief Discussion
World Vision Burundi staff members were interviewed by the external evaluators to gather the organizational perspective on the implementation of the ILRE project. The discussion also included questions on the specific elements of the project such as beneficiaries, output numbers, implementation approach and interactions with project partners.

Government Data

Provincial Education Data
Education data was collected through discussion with DPE staff, as well as via WV staff. These data include enrolment numbers for pupils in all schools, dropout rates, retention rates, and grade repetition rates.

DPE/DCE Focus Group Discussion
The FGD gathered seven local education officials to discuss a range of educational issues in the province, as well as get DPE/DCE perspective on the implementation of ILRE project.

School-Based Interventions Assessments

Pupil Assessment – Individual Background & Reading Outcomes
The literacy assessment consists of an orally- administered, one-on-one pupil background survey, an emergent literacy evaluation in Kirundi, and questions relating to the extent of the child's participation in Unlock Literacy community activities (the final component is discussed in the Community-Based Interventions Assessments section). The same questions are administered to intervention and comparison pupils in order to gauge how accurately pupils respond to the questions. The emergent literacy test is composed of five elements administered through four sub-tests covering letter awareness, single word recognition, reading fluency and accuracy, and reading comprehension.

Table 2: Unlock Literacy Survey and Assessment Components

Pupil background	Examples
General	Sex, age, work/chores
School-related	Attendance, repetition history
Socioeconomic status	Household size, household amenities/possessions
Reading Outcomes	**Description**
Letter Identification	Number of letters/sounds known of 23 lowercase and 23 uppercase
Most Used Words	Number of single words read correctly of 20
Fluency	Number of words in a short story read correctly in a minute
Accuracy	Percentage of words in a short story read correctly
Comprehension	Questions related to short story read aloud by pupil or assessor

School Survey

The school survey includes a combination of observable school characteristics and questions that must be asked of the head teacher. Observable characteristics include school electricity, latrines, water point, handwashing station, library, and classroom reading corners. Head teachers were asked about the presence of a community library, details of the School Improvement Plan, engagement in CVA activities, and supervision from the Provincial of Education. All schools within the sample, including comparison schools, were asked the same questions.

Lesson Observation

Staff from the Provincial Director of Education Office led this activity in one grade 3 classroom from each of the 36 sampled schools. Thus, the sample included 12 schools from each of the intervention communes and 12 schools from the comparison commune, Mishiha. A reading lesson was observed to identify to what extent quality teaching techniques are being used in classrooms led by teachers trained in Unlock Literacy methodologies. Analysis of results enabled comparison between intervention communes as well as between intervention and non-intervention sites to assess teacher competency with UL literacy methodologies.

Community-Based Interventions Assessments

Pupil Assessment – Home Learning Environment & UL Community Action Activities

As part of the pupil literacy assessment administered in the schools, children are asked about their engagement with reading materials and between family members in the home, as well as their participation in Unlock Literacy Community Action activities. All pupils were asked about their Home Literacy Environment (HLE), but only comparison school students were asked about Unlock Literacy Community Action activities.

Table 3: Unlock Literacy Survey and Assessment Components (continued)

Home Literacy Environment	Examples
Access to print	Materials present in home, types of materials

Reading activities at home	Presence and percentage of family members who children see read and who engage in literacy activities with children
Community Action	**Examples**
Engagement out-of-school	Reading Camps, Book Banks, Make-and-Take, and Read-a-Thons
Engagement in-school	Reading Buddies

Parent Survey

The parent survey was designed so that literate and illiterate SMC members and/or caregivers could provide confidential answers to questions about engagement in their child's learning process and their opinion on the quality of their child's school learning environment. A World Vision staff guided participants through the tool using images and icons that are strategically placed throughout the tool. Participants from all schools within the sample, including comparison schools, were asked the same questions.

Parent Focus Group Discussion

Based upon baseline results, a selection of two high and two low performing schools from both communes were chosen to sample SMC member and parent opinion about ILRE interventions in their school community. Results of the FGD provided qualitative insights on the project as well as helping determine any tangible differences between high and low performing schools.

Sampling Methodology

Data for the literacy assessment, school survey, and classroom lesson observation was captured from a sample of 36 schools in 3 communes:

- 12 schools in Cankuzo (intervention site); 26 pupils (13 boys/13 girls) and 1 Grade 3 lesson observation per school
- 12 schools in Kigamba (intervention site); 26 pupils (13 boys/13 girls) and 1 Grade 3 lesson observation per school
- 12 schools in Mishiha (comparison site); 26 pupils (13 boys/13 girls) and 1 Grade 3 lesson observation per school

The 12 schools were randomly chosen from the list of schools within each commune. The team leaders randomly chose 1 Grade 3 class (if there happened to be multiple) for the literacy assessment. That class was also identified for the lesson observation. The team leaders then also randomly sampled 13 boys and 13 girls from the class register, using random-number counting to identify the children.

Additionally, 8 schools were sampled from the intervention sites (4 schools from Cankuzo and 4 schools from Kigamba) for Parent Focus Group Discussions. These schools were identified using purposeful random sample, identifying 2 high-performing and 2 low-performing schools per commune, based on their baseline reading results. These schools did not complete the parent survey.

The parent survey was carried out in 24 schools (those not receiving the Parent Focus Group Discussion and otherwise randomly selected), SMC members and caregivers were randomly sampled by World Vision staff (alongside Head Teachers) for participation in the SMC survey. A total of 239 parents were surveyed.

LIMITATIONS

Study Design

There are several components of the study design that are important to understand in order to accurately interpret the findings. The two intervention sites, Cankuzo and Kigamba, began programming at different times, as described in

the section on implementation. These programmes were therefore baselined at different points in time. Cankuzo was baselined in June of 2014 and Kigamba was baselined in August 2016. Not only is this a large gap in time, it is also at different time periods within a child's learning. For instance, since Cankuzo's baseline was in June, pupils were actually in between Grades 2 and 3. Kigamba pupils had just begun Grade 3. Thus, any comparisons between baseline and endline need to consider the following two points:

1. Baselines for Cankuzo and Kigamba were carried out at different points in the school year.
2. Baselines for Cankuzo and Kigamba were carried out several years apart from one another.

In addition, since programming is at scale in both Cankuzo and Kigamba, it limited the research team's ability to identify comparison pupils. After consultation with the National Office, the team went to neighboring commune Mishiha to identify comparison pupils.

While baseline scores from the intervention sites cannot be directly compared to the endline scores, it is interesting to note that there are many differences between the groups of intervention pupils included in the last assessment compared to those interviewed for this evaluation. In Cankuzo, the pupils interviewed at endline reported significantly higher ECD attendance and Grade 3 repetition[14], but lower Grade 1 and Grade 2 repetition. The number of possessions for Cankuzo children has increased dramatically, as significantly more children report having electricity[15], mobile phones[16], motorbikes[17], sheep[18], and pigs[19]. Their homes are also safer, with significantly more children reporting good roof and floor construction[20]. The number of Cankuzo children completing many chores has increased significantly, and the total number of chores they complete has increased. However, they report spending less time completing the chores and more time studying on a daily basis.

Similar to Cankuzo, in Kigamba, pupils interviewed at endline reported significantly higher[21] ECD attendance but lower Grade 1 repetition. With regard to possessions in the home, Kigamba households largely stayed the same between baseline and endline apart from significantly more[22] children reporting the presence of mobile phones in the home. The number of Kigamba children completing many chores has increased significantly, and the total number of chores they complete has also increased.

While the calculations for regression analyses take these differences in programming length into account, summary statistics comparing baseline results at varying time points to endline results would be inaccurate. Additionally, the drastic changes in child background (within a commune) between baseline and endline further complicate one's ability to draw meaningful insights. As a result, differences between intervention baseline and endline results have not been discussed in the following sections.

Data Collection and Data Quality
As discussed in the methodology section, the evaluation and data collection teams comprised of WVB staff as well as ministry officials. Often it is helpful to include WVB staff as they can offer insights in to programming. However, it does pose two challenges: the introduction of potential bias as well as competing priorities.

The literacy assessment was collected by external local enumerators, so the external evaluation team feels there is very little possibility for biases in the pupil literacy assessment. Additionally, this assessment included Inter-RaterReliability (IRR) testing which did not show any signs of enumerator bias.

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[14] *p<0.001*

[15] *p<0.001*

[16] *p<0.001*

[17] *p<0.01*

[18] *p<0.001*

[19] *p<0.001*

[20] *p<0.001*

[21] *p<0.01*

[22] *p<0.01*

The parent survey was administered by WVB interns. The tool itself was designed to ensure that parents were able to voice both positive and negative view points.

The lesson observation was carried out by ministry officials. There is potential for bias here as the ministry officials also carried out the Teacher Training component. However, the tool is designed to simply track what the teacher is or is not doing during a lesson. As such, it would be difficult to impose biases in the survey. It should be noted, however, that simply having a ministry official observe the class may alter the way teachers carry out their teaching.

Finally, the Parent Focus Group discussion required probing by the WVB staff member to fully understand parent opinions. In the datasets, there was very little evidence of probing.

The biggest concern regarding data quality for this evaluation came from the shifting of staff members away from their ILRE data collection responsibilities. As part of this evaluation, the external evaluation team outlined the staff time needed to effectively collect the required data. The outlined time allocation, roles, and responsibilities were agreed upon by the staff members and approved by the NO management team (outlined in Table 1). Immediately after the external evaluation team left the country, every staff member except for 1 was removed from their ILRE roles and responsibilities and replaced by others. Those other staff members did not attend the trainings that had taken place over the period of 4 days. This severely undermined data quality.

ETHICAL CONSIDERATIONS

Specific ethical considerations were made before undertaking this research. First, informed consent was given to the parents or caregivers of all children involved in the study through their school at the request of World Vision Burundi. Additionally, the purpose of the pupil assessment was explained to each individual child before beginning the survey, allowing each child to offer direct consent to move forward with the assessment or return to his or her classroom without penalty.

Additionally, privacy and confidentiality of the children and adult participants was confirmed during data collection. Personal information is not contained within the datasets, and individual scores are never reported through Unlock Literacy projects. Data are not reported at the school level to prevent any penalties toward teachers or communities for underperformance, and results from parent/caregiver surveys remain anonymous.

FIDELITY OF IMPLEMENTATION

The following sections firstly outline the planned project design. It then details the implementation process and reflects on the fidelity with which implementation matched project plans and expectations of the UL project model[23]. Data for these sections were gathered using the Fidelity of Implementation calculator, staff debrief discussion tool, ILRE output data table, Provincial Education data, DPE/DCE focus group discussion tool, and observations from visits to schools and reading clubs.[24]

School-Based Interventions: Planned Implementation

Training Teachers in UL Methodology

In the 51 intervention schools, the project planned to train all grade 1-3 teachers as well as head teachers on UL methodologies. The training package includes eight modules covering an introduction to reading development, the five core literacy skills, formative assessment, and a concluding session reflecting on good classroom practices. The modules were to be delivered monthly over the course of a school year (FY16). Spreading the sessions out over the year allows the teachers to practice training content in their classes, returning to each new training with experiences to enrich

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[23] Information on project plans was taken from the ILRE Project Logframe and Indicator Tracking Table provided by WVB. The UL project model is 100% based upon Save the Children's Literacy Boost programme. LB sets out very clear expectations for implementation as detailed in the teacher training, community action, assessment and coaching manuals. These manuals can be found at https://resourcecentre.savethechildren.net
[24] All tools and data files were separately forwarded to WVB in a dropbox folder. Sources for this data can be found there. For the ILRE output data table, this information was populated by WVB staff involved with the project and checked for consistency by the consultants.

discussion and learning. Teachers were to be given a participant packet, providing details about each of the teacher training modules, pedagogical tips and examples of classroom activities linked to each of the five core reading skills.

Building upon the experience of the 2012-2014 implementation in Cankuzo, trainers were a combination of Provincial and Commune Education authority alongside World Vision staff. Trainers all completed two rounds of TOT (10 days training in total), conducted by an international specialist who delivered these trainings prior to the start of the project. Trainers were also equipped with a training guide and training materials to support teacher training sessions.

The project planned to provide targeted 'refresher' trainings to teachers in years 2 & 3 of the project. These refresher trainings were to be based on results of the classroom observations, seeking to ensure teacher competency to facilitate pupil reading development and formative assessment across the five core reading skills.

Coaching Teachers

Complementing and reinforcing the teacher training, the project designed school-based support for teachers through facilitation of classroom observation and coaching from the DPE/DCE staff as well as head teachers. The intent of partnering with the DPE/DCE staff was to draw on their technical expertise concerning good pedagogical practice in the context of Burundi. For head teachers, as they are school based and have a mandate to 'lead learning' in their school, the project emphasised building their capacity to fulfil this part of their role.

DPE/DCE staff and head teachers were to be trained in the UL teacher coaching methodology, a training which includes two separate 2-day workshops. The workshop material planned to cover specific requirements for following up UL teacher training, identifying good practices and areas for improvement consistent with the project model, the use of a classroom observation monitoring tool, and steps to debrief the lesson / provide coaching to teachers.

A key tool for this component is the UL lesson observation tool. The project had previously worked with the provincial authority to integrate this tool with a local template for classroom observation. The integration allowed for specific Burundian context to be included, while also ensuring key aspects of the UL model were included in the tool.

The classroom observation was planned to be implemented once a term for the duration of the project. All grade 1-3 teachers were to be visited, with the classroom observation tool to be completed by the observer. The data from the observation was to be used to inform further training requirements for teachers.

Print Rich Classrooms

With classroom walls devoid of any print materials and very few other reading materials available in classrooms at the commencement of the ILRE project, the project planned interventions to help improve access to and utilisation of reading materials in grade 1-3 classrooms. As a starting point, the project planned to improve the textbook to pupil ratio by providing Kirundi textbooks for grade 1-3 classes. At the start of the project, three or more pupils were sharing one textbook.

Most schools had few or no supplementary readers targeting grade 1-3 pupils. Given the availability of 115 book titles from the previous LB interventions in Cankuzo province, the project planned to procure and distribute some of these titles to schools, especially to build up reading corners in grade 1-3 classrooms.

Finally, building capacity of teachers to develop their own reading materials, whether they be wall charts (eg letter/word charts) or other teaching materials like flashcards, was also a planned intervention. The purpose was to increase the presence of contextually appropriate resources using locally available materials, raising the print rich status of classrooms while also contributing to the sustainability strategy for the project.

SMC Capacity Building & School Improvement Planning

The school management committees (SMC) play an important role in the school, especially providing a link between the parents/community and the school as well as facilitating planning functions focused on school development and improving the quality of learning outcomes. The project planned to build capacity of SMCs through annual trainings on school improvement planning. WVB staff also were to support the annual school planning process.

Training Teachers in UL Methodology & Coaching Teachers

Table 4 outlines the number of teachers participating in the teacher training component, as well as the number of grade 1-3 pupils benefitting from improved teaching and learning practices in Kirundi literacy classes. In FY16, the project delivered the eight teacher training modules to grade 1-3 teachers in the 29 schools of Cankuzo commune. It also provided a one-day UL overview training to grade 4-6 teachers (and head teachers) so they were aware of the program objectives and methodologies. In FY17, grade 1-3 teachers in Cankuzo received a one-day refresher training, while teachers in Kigamba participated in the 8 modules of the UL teacher training workshop. In FY18, teachers in Kigamba received a one-day fresher training.

The project achieved its target for teacher training. However, there is evidence from the evaluation that additional support in this area would have contributed to the relevance and sustainability of the project. Firstly, because the project only trained grades 1-3 teachers, this model didn't account for a school system that moves teachers between grades from year to year, as well as transferring teachers to different schools. **Data from the evaluation showed 30% of teachers currently teaching grade 1-3 in Cankuzo and Kigamba had never attended UL training and 50% had not completed the LB training modules[25].** Secondly, data from the lesson observation showed grade 3 teachers emphasising advanced reading skills prescribed by the curriculum. However, the literacy assessment (discussed in greater detail in a later section) found that 25% of grade 3 students are really struggling with their reading. Little to no literacy classes observed were incorporating foundational reading skills like letter or word knowledge. In this case, **additional teacher training could have supported teachers to better apply formative assessment practices and adapt teaching to student needs.**

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[25] Self-reported data from the teacher interview, as part of the lesson observation.

Table 4: Teachers Trained and Observed; Pupils Participating in the Project									
	FY16			FY17			FY18		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
# teachers trained in LB methodologies	97	53	150	85	64	149			
# teachers attending refresher training on LB methodologies	131	104	235	86	53	139	97	53	150
# grade 1-3 teachers observed teaching a Kirundi literacy lesson	20	24	44	86	35	121	86	35	121
# schools targeted for LB lesson observation			6			22			22
# children enrolled in grades 1-3 across 51 target schools	6,495	6,651	13,146	6,333	6,519	12,852	6,823	7,057	13,880
# grade 1-3 children participating in LB activities in schools[26]	3,373	3,379	6,752	6,333	6,519	12,852	6,823	7,057	13,880

Coaching Teachers

As depicted in Table 4, the project supported DPE/DCE staff to conduct lesson observation of grade 1-3 teachers. In FY16, 6 schools in Cankuzo Commune were visited three times during the year. In FY17, 22 different schools in Cankuzo Commune were visited on one occasion. In FY18, DPE/DCE conducted one lesson observation of grade 13 classrooms in the 22 intervention schools of Kigamba Commune. According to project records, 98% of teachers observed demonstrated UL practices.

Encouragingly, the project trained ██████████████████████████ in lesson observation strategies and teacher coaching, raising the potential for sustaining these components. However, **changes in government policy means ██████████ are no longer undertaking lesson observations in schools.** In interviews conducted with teachers for the evaluation, 100% indicated head teachers were observing their lessons during the past year. While that is a promising finding, there is no documentation or any detail on what exactly an observation by a head teacher entailed. As such, it is unclear whether these observations were brief visits to a class or complete lesson observations followed by a debrief with the teacher. **What is clear is the ILRE project did not ensure that ██████████████ ██████████ regularly conducted lesson observation and teacher coaching. The project did not meet its target of having grade 1-3 teachers observed once a term in their Kirundi class.**

Print-Rich Classrooms

There were three main components that contribute to a print-rich classroom. Firstly, through teacher training, World Vision build the capacity of teachers to produce teaching and learning materials to strengthen the classroom print environment, particularly the print on walls. Secondly, World Vision procured and distributed textbooks. Thirdly, World Vision procured and distributed storybooks, working with the schools to establish reading corners.

The Lesson Observation found that significantly more implementation schools (66.7%) than comparison schools (9.0%) had letter charts. However, as shown in Figure 3, there is **still much room for improvement to create truly print rich spaces**.

Table 5: Books Distributed to Schools FY16-18			
	FY16	FY17	FY18
Kirundi Textbooks		819	2,192

[26] The school enrolment data for grades 1-3 is taken from Provincial and Communal office of education data. WVBs data for children participating assumes all children participate given their teacher was trained. However, findings of the evaluation found at least 20% of current grade 1-3 teachers have not received that training. Thus, it is likely that grade 1-3 beneficiaries is lower than reported in the table.

Storybooks	1,000	2,000	3,000

Table 5 shows the textbooks and storybooks that were procured and distributed during the project. While the procurement and distribution of these materials is commendable, it is not enough. During the lesson observation, it was found that less than 50% of students had textbooks in 72% of the schools.

Budget constraints prevented World Vision from procuring enough textbook to ensure all students have a textbook. **It is recommended that World Vision adjusts its procurement procedure to negotiate better rates for textbooks** considering bulk order.

Figure 3. Classroom Reading Corner

Interestingly, the impact analysis presented later in this report found that the presence of classroom-based reading corners was significantly associated with gains in learning outcomes. An illustration of a reading corner is pictured in Figure 3. **Project reports state that 37 of 51 (73%) schools were supported to establish reading corners in grade 1-3 classrooms.** Through better procurement procedures (described below), it might be possible to equip all schools with reading corners. **Furthermore, the school survey conducted by the evaluation found only 38% of intervention schools had reading corners**. This seems to mean that either books are being worn and not replaced or distributed books are not being used to establish reading corners. It is possible that the storybooks are being locked up elsewhere in the school. It is important to note that 25.0% of comparison schools also had reading corners and thus the presence of reading corners should not be attributed to Unlock Literacy programming. **Further investigation is needed to determine why reading corners are not being sustained.**

To improve the efficiency of creating print rich environments, procurement procedures should be adjusted. During the evaluation it became apparent that the A5 sized storybooks cost 2,360 Burundian Francs each (approximately $1.30 at official exchange rate). Textbooks were also expensive, with print runs of 15,000 needed to get good price per copy. Given the higher costs, the volume of books the project distributed to schools was two-thirds of the planned total. **If WVs procurement practice improved through pooling orders, WV could have purchased many more books within budget.** Given WVB education programme is governed by a common TP design, a single procurement plan across all WVB education projects could have been put in place. Additionally, procurement guidelines could also have stipulated projects procure textbooks once in the project life cycle, not in each FY.

SMC Capacity Development & School Improvement Planning

In FY16-17, the project trained 51 SMCs on their roles and responsibilities, including developing school improvement plans, conducting enrolment campaigns, and undertaking monitoring of school attendance. SMCs were provided with the materials needed to facilitate planning processes. In FY18, the government (Ministry of Education) changed the policy regarding school governance. The project supported further training to 25 SMCs to enable their understanding and adoption of the new regulation and procedures governing SMCs. 26 SMCs received no training support due to lack of budget availability.

A positive development of the support to school improvement plans includes the partnership with the ▮▮▮▮▮▮. During an interview with ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮ **emphasised the strong partnership with World**

Vision, saying they plan together, implement together and evaluate together. An illustration of this work together concerned addressing the issue of school dropout. With it continuing to be persistently high in 2015, a joint planning meeting was held between different provincial authorities and WV. Objectives were set out for 2016 to undertake an education campaign in the province, targeting enrolment and school dropout. It was conducted by the education officials, local administration, and officials from the Department of Justice. Officials visited every commune, initiating a new strategy to advise parents that children must be in school and if they are not, they will be punished. WV provided some funding for the campaign. As displayed in Table 6[27], school dropout has been significantly reduced in WVs target communes.

Table 6: Cankuzo Province Dropout Rates 2015-2018			
	Cankuzo Commune	Kigamba Commune	Cankuzo Province
2015	13.9%	19.5%	17.6%
2016	13.5%	13.9%	16.2%
2017	8.1%	8.9%	10.2%
2018	7.8%	8.4%	6.5%

While improved enrolment and retention rates are an important change in Cankuzo province and showed positive planning initiative at provincial level, it was harder to determine changes brought to schools as a result of capacity building of SMCs for school planning. **Observations of schools showed significant gaps in school plans for basic infrastructure improvements or maintenance, availability of teaching and learning materials, teacher professional development, and the cleanliness of the schools. SMC Training should be adjusted to more**

adaptable for the needs of the schools.

School-Based Implementation Conclusion

Table 7 summarises the details above, outlining the planned design, actual achievement, and stakeholder feedback on the result of interventions. The teacher training component successfully trained 299 teachers. **However, a large proportion of teachers observed had not completed UL training. This is most likely due to teachers transferring schools or shifting grades.** Project reports found that 98% of these teachers demonstrated UL practices in the classroom. The lesson observation, as part of this evaluation, found similarly high-performance rates among teachers in UL as well as teachers within comparison schools. This is particularly interesting considering the low proportion of teachers that reported having attended (and/or completed) Unlock Literacy Teacher Training.

Due to the high proportion of both intervention and comparison teachers demonstrating UL best practices, regardless of training status, it is recommended that **further investigation is needed into the sensitivity of the Lesson Observation tool**.

Table 7: School-Based Implementation Conclusions

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[27] Provincial Education Data

	Project Model Design	ILRE Achievement	Stakeholder Feedback
Teacher Training	Train all grade 1-3 teachers in UL methodology (8 sessions) Provide follow up training to strengthen pedagogy & teacher knowledge on core literacy skills.	☑ 299 gr1-3 teachers trained ☑ One day refresher training ☑ High % showed best practices ☒ Narrow teaching focus	☑ 100% have lesson plans and use formative assessment ☒ 30+% of gr1-3 teachers not trained in LB method
Teacher Coaching / Supervision	Train local education authorities and head teachers in coaching model Complete 3 lesson observations per teacher/year	☑ 51 DPE/DCE & Head teacher trained in UL coaching method ☑ 44 schools only received 1 official observation over 3 years ☒ Results not used to inform further training of teachers	☑ 100% of grade 3 teachers said head teacher observes their lessons ☒ Limited school visits by DPE/DCE staff
School Learning Environment	Support school improvement planning. Improve availability and use of reading materials	☑ All SMCs trained and supported in SIP ☑ 37 schools established reading corners ☑ 3,011 textbooks distributed	☒ Little evidence SIPs consider holistic learning environment ☒ No renewal strategy for reading corners (books)

The standard of training head teachers and local education authorities (DPE/DCE) in lesson observation and teacher coaching was met, including providing the support needed for lesson observations of grade 1-3 teachers. Finally, the project provided supplementary supports to improve the school learning environment, intervening by training SMCs to plan and manage school improvement, and provision of textbooks and storybooks.

While there were **measurable and meaningful gains for school interventions that contributed to the relevance, effectiveness, and impact of the project, findings of the evaluation indicate gaps in the fidelity of implementation limited the sustainability, efficiency, and relevance of the project.** Findings show no system for sustaining or renewing reading corners in schools. Also, there remains a gap in provision of school-based coaching support of teachers. Both interventions are amongst the most effective interventions for improving literacy outcomes, so should have been a stronger focus for the project. **It is therefore recommended that the project prioritizes training all of the teachers within a school, to ensure that even when teachers transfer grades, they have UL training, and that World Vision further supports sustaining or renewing reading corners in the school.**

Further to the point above, the siloed nature of school and community interventions contributed to gaps in sustainability and efficiency. This issue was highlighted in FGD and interviews with teachers and DPE/DCE. One change they identified to improve the UL implementation model would be to make SMCs the link between the school and the parents/community. SMCs should be facilitating linkages to strengthen the collective effort to improve children's reading outcomes. As the bridge between community and school interventions, SMCs would have been well placed to sustain reading corners in schools and ensure head teachers were leading learning in their schools by regularly observing lessons of grade 1-3 teachers.

Community-Based Interventions: Planned Implementation

Reading Camps and Book Banks

The UL project model stipulates that the project regular attendance at the reading camps for 75% of grades 1-3 children in the programming area and that reading camps should have a maximum of 35 children in attendance. The WV Burundi project planned 3 reading camps per school catchment area. The calculation was based on an operational decision, rather than criteria such as pupil population, terrain, or available community resources. Grade 1-3 school populations across the 51 interventions schools varied from less than 100 to more than 300, and thus some schools had plenty of room in Reading Camps and others were over-crowded.

The project planned to continue the previous practice of partnering with local authorities to locate appropriate and child safe sites for the reading camps. In the absence of existing community structures to hold reading camps, the project intended to engage communities to build structures for the reading camps, with the plan over the course of the project to support strong constructions for all reading camp sites.

For each reading club the intention was to recruit two volunteers, one male and one female. Volunteers were to be provided with an initial two-day training and orientation for becoming a reading camp facilitator (RCF). They were also to be given a starter pack, including a curriculum book and a selection of teaching and learning materials.

Each reading camp was to be equipped with a book bank containing children's books as well as register recording book titles and borrowing record. Prior to the commencement of the ILRE project, World Vision Burundi had developed 115 story books and primers, resources the project planned to use to stock the book banks within the ILRE project. The project model standard is that there are 100 titles in each Book Bank, with 2 copies per title.

Additionally, 153 book bank custodians were to be selected to oversee the book banks, in locations close to the reading camp site. The design included training custodians in management of the book banks, including maintaining the books and facilitating borrowing processes.

The reading camp sessions were planned twice per week, for the purpose of enabling the majority of ECD and grade 1-3 children to attend. Note, the ILRE project did plan to encourage ECD children to also attend reading camps. Sessions were scheduled during weekday afternoons, following the reading camp curriculum which includes song time, story time, activity time, make and take and journaling. The duration for each session was targeted for 1.5 – 2 hours.

Parental Awareness Raising

Reading Awareness Workshop (RAW) facilitators were to be recruited in each commune and tasked with facilitating parental awareness raising workshops. The workshops have seven sessions and were to be implemented once a month for seven months. WVBs intent with this intervention was to enhance parental knowledge, attitudes and skills for supporting their children's education, especially their reading development. Workshops were planned to be implemented in all school catchment areas and the project model suggests at least 30% of children should have at least 1 parent regularly attending parental awareness sessions.

Monitoring and Operational Support

Unlock Literacy is operationalized differently in different countries. Burundi introduced the role of Literacy Boost Mobilisers (LBM) to facilitate community-based interventions. LBMs provide technical and operational support to reading camp facilitators and are also responsible for monitoring the reading camps and RAWs. LBMs were trained in the curriculum and operations of reading camps and parental awareness raising. A territory of 3-4 school catchment areas (9-12 reading camps) was planned for each LBM, with 15 LBMs supporting programming across the two communes. Unlike the case during the LB pilot phase (2012-2014), LBMs were not to be provided with any remuneration, consistent with the TP design which specified no stipends be paid to community volunteers. The plan outlined for LBMs was for them to visit reading camps once a month, gathering details on progress being made and checking whether there were any operational needs (e.g. supply of more teaching materials). The LBM were to complete a monthly report summarising elements like reading club attendance and challenges being experienced.

Community-Based Interventions: Actual Implementation

Reading Camps

The project supported 3 reading camps per intervention school for a total of 87 reading camps in Cankuzo commune and 66 camps in Kigamba. **At any given time, approximately 30% [28] of grade 1-3 pupils attending target schools were participating in reading camps.** During the first two years of the project, project monitoring data recorded a significant difference between the participation rates between girls and boys. For instance, in FY17 38% of grade 1-3 girls were attending reading camps, compared to 24% of boys. By FY18, the monitoring data reported more equitable attendance.[29] In addition to grade 1-3 children, children aged 4-6 not yet enrolled in school were welcomed into reading camps. On average, across the three years of the project, 1740 ECD children were attending reading camps at any given time (see Figure 4).

Construction of sturdy structures to house reading camps was supported in 135 of the 153 sites. The structures used bricks and iron sheeting, creating a safe and weather proof space for reading camps to be conducted (see Figure 5). Communities were mobilised to provide bricks, wood and the labour for construction, with World Vision providing the iron sheet and nails. Being a community space, the structures have provided a resource for other community meetings, including being a meeting venue for savings and loans groups. **While this initiative has worked well in many sites, lack of project monitoring has resulted in some sites not being completed**, as shown in Figure 6.
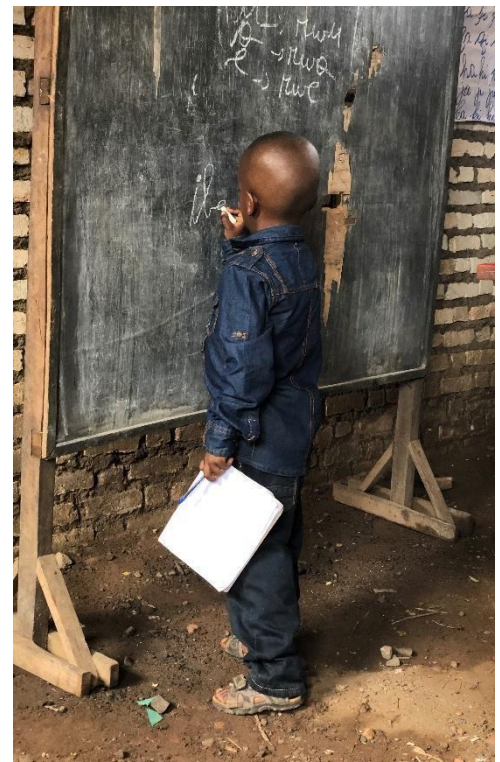
Figure 4. Child of ECD age at Reading Camp

Figure 5. Safe, well-constructed Reading Camp

Figure 6. Incomplete, unsafe Reading Camp

The project achieved its goal recruiting two volunteers per reading club, but had more success engaging women, resulting in 60% of the volunteers being female. **RCFs freely give their time, not receiving any remuneration, and provide up to 4 hours a week as their commitment to educating the children in their community. There is strong evidence of this commitment, with the project having low attrition rates of volunteers**, with less than a 10% attrition rate over the three-year duration of the project. Even more encouragingly, many RCFs who started in 2012 are still running reading camps on a weekly basis. These RCF received intensive support from 2012-14, building a capability and ethic that has sustained these original sites for seven years.

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[28] Calculated from WVB monitoring data and provincial education office enrolment data. Further supported by child-reported data (literacy assessment) in which 37.2% of UL children reported attending reading camp in the last week.

[29] Further supported the literacy assessment which found no significant differences between boys and girls self-reporting attendance data.

Feedback from parents FGD indicates two key operational issues affecting the sustainability and effectiveness of the reading camps. First, reading camps are scheduled for weekday afternoons. **This makes access to the camps impossible for those children whose school shift is scheduled for the afternoon session.** Most schools in Cankuzo province are operating morning and afternoon shifts, with classes alternating each week for morning or afternoon session. Many parents indicated their child wanted to attend the reading camp weekly but are unable to because of the school shift.

Secondly, **many reading camps have not continued to operate regularly after the end of the project.** During FGDs parents voiced disappointment that the reading camps have ended. The external evaluation team observed a reading club located close to the World Vision office in Cankuzo town. The attendance register showed that the last time the reading club operated was September 2018. Moreover, the attendance record showed the club only operated 19 times between 1 January – 30 September 2018, far less than the planned number of sessions[30].

Compounding these issues in Kigamba commune is **WVBs withdrawal from education programming, an action that was taken without communication to schools and community stakeholders. It became apparent during the evaluation that schools and community stakeholders were unaware that WVB was no longer supporting interventions in the commune.** Teachers and community stakeholders had expected a quarterly meeting with WV in December 2018, but none transpired. Commenting to the external evaluation team conducting this evaluation, both teachers and community volunteers (LBMs) wondered whether the planned meeting had been delayed and would happen sometime soon. These stakeholders were also unaware that the WV manager of the ILRE project had relocated to another province in September 2018. **Lack of communication and a clear exit strategy may undermine project sustainability.**

Book Banks

The project procured and distributed 8,000 books to book banks in FY16. Data lacks specificity as to the breakdown between titles and copies of those 8,000 books. There is also no data describing the distribution of books. If the books went to all 153 camps, it is not a sufficient allotment to meet the standard of 100 titles (2 copies per title) per book bank. If the books went to only the new sites across the two communes, there still would not be enough to meet project model standard. If the 8,000 books went to the 66 reading camps in Kigamba (and other funding supported books in Cankuzo commune), there may been enough books to meet project model standard. **It is recommended that the project re-examines distribution of books, considering titles and copies, to ensure sufficient books are in each book bank**.

In FY17, 15 new storybook titles were created by the project. These titles included themes of WASH, nutrition and child rights/protection. A total of 4,865 copies of these 15 titles were procured and distributed to reading camps across Cankuzo and Kigamba. On average, this enabled distribution of approximately 2 copies per title to each of the 153 reading camps. Also, another 15 titles were created in 2018, but due to lack of budget allocation, none of these titles were procured or distributed to schools.

Site visits, as well as feedback from parents during FGDs, indicate that the stock of books in book banks has greatly decreased, with most books now missing or degraded. While the project trained book bank custodians in how to manage and maintain the books, findings of the evaluation indicate the **project strategy for developing local capacity to replace and maintain books was inadequate.**

Figure 7. Book Bank with Inadequate Supply

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[30] The planned number of reading camp sessions per week is 2.

In one of the two reading camps visited, less than 10 books remained in the book bank (see Figure 7).[31] The external evaluation team spoke to a LBM, RCF, and a book bank custodian, inquiring about the sustainability of book banks. **Respondents expressed concern regarding ongoing maintenance of the book bank and described ongoing reliance on WVB to replenish books within the book banks.** Given WVB has ceased education programming in Kigamba commune, it is likely that the book banks will continue to diminish, eventually becoming unusable.

Parental Awareness Raising

According to project monitoring data and annual reports, RAWs were implemented within a cluster of four schools, with an average of 5-8 parents per school joining the sessions. In both FY16 & FY17, 9 RAWs took place, training a total of 494 parents/caregivers. In FY18, there was a one-day refresher course for those parents who had completed the RAWs, but no new parents completed the seven sessions.

The UL project model theory of change describes how RAWs are meant to change parental behaviour in order to better support their children's reading development. This initiative complements the school and community interventions to not only achieve the target of all children reading with comprehension by grade 3, but also to help sustain reading practices in the target communities. The project model suggests that at least 30% of the target children should have at least 1 parent/caregiver attend the seven RAW sessions in order to achieve community-level change[32]. In the case of the ILRE project, provincial education data allows for an estimate that 22,000 grade 1-3 children were attending the 51 schools supported by the project during FY16-18. **As such, the program directly trained less than 3% of the parents in target communities, far short of the project model recommendation.**

Monitoring and Operational Support

The project recruited and trained LBMs to support all reading camps, book banks, reading awareness workshops, and any other community-based activities. The project maintained all of these positions throughout the project, with very little turnover. **Encouragingly, the project even maintained LBMs who had been supporting sites in Cankuzo commune since 2012** (see Figure 8).

In an interview with ▮▮▮▮▮, who has been an LBM volunteer since 2012, she expressed her ongoing desire to support children in the community as the driving force behind her volunteer work. She did, however, request that World Vision support her through professional development and education as a gift for her hard work as a volunteer.

Figure 8. LBM, ▮▮▮▮▮ who has been volunteer with the project since 2012.

It is important that World Vision consider incentivizing volunteers, to ensure that the project can continue.

In 2018, WVB transitioned oversight of the ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮. No documentation nor details of this arrangement were provided during the evaluation. From a sustainability perspective, the arrangement is potentially a good solution for the ▮▮▮▮▮▮▮. However, **WVB and ▮▮▮▮▮▮▮▮▮ need to consider the ongoing role of ▮▮▮ within this arrangement, and how the ▮▮▮ structure will continue to support outcomes for relevance, effectiveness and efficiency of ▮▮▮ programme.**

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[31] When visiting the location of the book bank, the custodian had been using the book bank box for other storage purposes. He had to take time to empty the contents of the box before adding the remains of the book collection to the container, as pictured in Figure 7.

[32] This is the idea that communities and parents spread knowledge, attitudes, and practices amongst themselves.

Community-Based Implementation Conclusion

Table 8 summarises the results of the ILRE community interventions, outlining the planned design, actual achievement and stakeholder feedback gathered during the evaluation. 153 reading camps were established, supported by 309 trained RCFs. At any given time, approximately one-third of grade 1-3 children from the 51 intervention schools were attending reading camps. Additionally, ECD aged children also attended reading camps, with numbers varying between 1,564 – 1,867 during FY16-18. In 135 reading camps, brick structures with iron sheet roofs were constructed. The remaining 18 sites had been constructed during the pilot phase in 2012-2014. One book bank was allocated to a reading camp and managed by trained custodian. A total of 12,865 books taken from 145 titles created by WVB were distributed to the book banks. Finally, reading awareness workshops were delivered in clusters of 3-4 schools, and covered seven modules over seven months to reach 494 parents/caregivers.

Table 8: School-Based Implementation Conclusions

	Project Model Design	ILRE Achievement	Stakeholder Feedback
Book Banks	Managed by a trained custodian; Borrowing Register; 100 titles spread across reading development levels	☑ 153+ custodians trained ☑ 145 available titles (ECD-Gr3) ☑ 12,865 books distributed ☒ Less than 100 titles	☑ Children/parents enjoy ☑ Children able to borrow ☒ Insufficient titles (stories) ☒ Books degraded
Reading Camps	2 trained facilitators (M/F); Up to 35 children / session; Safe/secure location; teaching/learning materials; 75% grade 1-3 regularly attend	☑ 309 (186F) trained facilitators ☑ 153 Reading Camps ☑ 135 shelters constructed ☑ 4,152 Grade 1-3 attend (FY18) ☑ 1,789 ECD child attend (FY18)	☑ Committed volunteers ☑ Children/parents enjoy ☒ 30% Grade 1-3 attendance ☒ Sessions times irregular & conflict with school times
Parent Awareness Raising	7 sessions held monthly Workshops held at school level 30+% target children have at least 1 parent/caregiver attend	☑ RAW facilitators trained ☑ RAWs held at cluster level ☑ 494 parents completed RAWs ☒ <3% of target children had parent complete RAWs	☑ Increased confidence to support child's reading ☑ More likely to read with their child ☒ Insufficient reading materials

Community interventions were relevant to the target communities and contributed to the impact of the project. Children and parents engaged during this evaluation expressed high levels of support for community interventions, citing their importance and relevance for children's learning development. This enthusiasm for the community interventions also influenced the impact on children's reading outcomes, with analysis later in this report showing that as children participated more in community interventions, their reading skills improved. Furthermore, there is some evidence to suggest that ECD children attending reading camps is improving their reading skills, readying them for grade 1 and reducing repetition rates.[33]

The evaluation identified a number of gaps with the effectiveness of the interventions, including number of books in book banks, number and regularity of reading camps, and the frequency and distribution of reading awareness workshops. For book banks, the project model stipulates at least 100 titles with 2 copies of each. With this calculation, the project should have distributed at least 30,600 books, not 12,865 books. Triangulating this finding, the lack of books in book banks was the most frequent comment made by parents in FGDs for this evaluation. Parents also frequently mentioned that reading camps were not regularly operating, and when they were, the timing often conflicted with their child's school schedule. While this information would have been known to WVB staff early in the project, there is no evidence of any operational adjustment to improve the beneficiary targeting. Finally, implementation of RAWs was not done at school level as per project model guidance, nor did 30% of grade 13 children have at least one parent/caregiver complete the sessions. The project model promotes these targets to ensure a critical mass of parents/caregivers are equipped with strategies to support children's reading development. At less than 3% of parents/caregivers completing RAWs, the project didn't come close to achieving the target.

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[33] This finding came from the DPE/DCE FGD. They indicated that provincial data as well as their experience with UL programme indicated ECD aged children regularly attending reading camps were better prepared for grade 1 than children who had not attended reading camps.

It is difficult to determine the efficiency of community interventions given no budget detail was made available for the evaluation, but some findings can be made. More than 300 volunteers were mobilised to support community interventions, and all freely gave their time to support community interventions. **Most of these volunteers supported for the full three years, with some in Cankuzo commune now reaching seven years' service to reading camps. No stipend payments and high retention rates demonstrates economic efficiency.** Another finding can be made about alternative uses of resources to improve results at outcome and goal levels. Taking the example of the under-resourced book banks mentioned above, it is likely more resource allocation to ensure all book banks achieved the standard would have made a larger contribution to the project's overall goal than other activities prioritised in the project (eg classroom construction).[34]

Finally, the ongoing sustainability of community interventions requires capacitated and supported volunteers, along with mechanisms to renew key resources such as storybooks. In 2018, WVB signed an MOU with ███████████████ to transition responsibility for volunteers, implementation (eg operating reading camps) and monitoring activities.[35] **While this is potentially a good solution for sustaining activities beyond the project, it is unclear how well this arrangement has been communicated to stakeholders.** Community volunteers interviewed for this evaluation were unaware of this arrangement, and in the case of Kigamba, were not even aware that WV had exited all education programming. Whether or not the arrangement with ███████████████ is successful, WVB has been working with SMCs for the three years of the project, a structure who is well placed to be supporting interventions like reading camps and RAWs. However, to this point in time, WVB has developed no strategy to engage SMCs in this function. On the basis of this information, questions remain about the sustainability of the community interventions.

PUPIL RESULTS: SCHOOL-BASED INTERVENTIONS

Learning outcomes are dependent upon several factors, including a child's background and home environment. In order to accurately interpret the analysis of the Unlock Literacy interventions, it is important to understand any differences in pupil backgrounds that may influence performance of children on the literacy assessment. Additionally, it is important to understand any differences in characteristics between communes that are not likely the result of the programming but may influence interpretation of results. By understanding these differences, the contribution of Unlock Literacy becomes clearer.

Pupil Assessment – Background Characteristics

There are many differences in background characteristics between intervention and comparison pupils, as well as within the intervention communes (see Appendix B). There were significant differences between the children's socio-economic status as those in the intervention communes reported having more home possessions and livestock than their comparison school peers. Additionally, significantly more intervention pupils reported attending ECD[36] programming before primary school, while significantly more comparison pupils repeated Grade 1[37].

Significant differences are also present between the groups' child-reported chore load (see Figure 9 below). More intervention pupils reported their chores included fetching firewood, tending to livestock, and taking care of their siblings than comparison pupils. Despite intervention pupils being tasked with completing significantly more chores types than those from comparison schools, most intervention pupils reported spending a short amount of time on chores while comparison pupils reported spending a long time on chores. Potentially related, significantly more intervention than comparison pupils reported spending a long time studying[38] each day. There are also significant differences in both intervention and comparison populations between male and female chore load, with girls bearing significantly more of the responsibility for all tasks except fetching water, tending livestock, and farming. For more complete analysis on the background characteristics by sex, see Appendix D.

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[34] The goal level indicator is % of children (boys and girls) in grade 3 that are readers with comprehension. In the impact analysis of this report, children's access to books makes a significant difference to reading outcomes, whereas there was no such finding for the condition of classroom infrastructure.

[35] As detailed in ILRE 2018 annual report.

[36] $p<0.001$

[37] $p<0.001$

[38] $p<0.001$

Figure 9: Choretype by Unlock Literacy Status
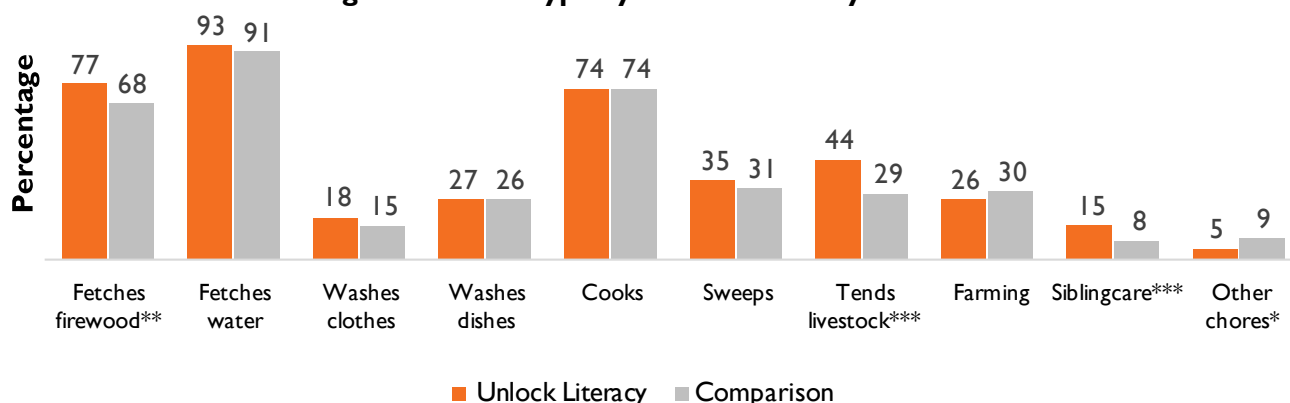
*p<0.05, **p<0.01, ***p<0.001

Pupil Assessment – Reading Outcomes

At endline, a reading assessment was administered to 935 pupils across the three communes. All sub-tests were the same as those used in the baseline assessment and included the following sub-tests: letter knowledge, most used words, passage reading. For a list of all results by UL status, commune, and sex, see Appendices H and I.

As shown in Table 9, there were significant differences between groups at endline for advanced reading skills, with intervention pupils outperforming their comparison pupil peers. Additionally, endline reading scores for intervention pupils were compared against the communes' baseline scores in order to examine change over time. Regarding the goal level indicator reporting the percentage of pupils who are readers with comprehension, the evaluation found that both intervention communes had significantly higher performance at endline than at baseline. **This result is encouraging, showing that Unlock Literacy pupils significantly outperformed their counterparts in comparison schools in advanced skills and are improving within their group over time. Note, however, that the same results were not observed for the lower level skills.**

The sections that follow describe in detail the performance of pupils on each of the literacy sub-tests.

Table 9: Baseline and Endline Reading Outcomes by UL Status and Commune

	Cankuzo			Kigamba			Unlock Literacy	Comparison	
	Baseline	Endline	Sig Diff?	Baseline	Endline	Sig Diff?	Endline	Endline	Sig Diff?
Lowercase Letter Identification									
Total Number of Letters (23)	21.9	21.9	N	19.6	21.5	N	21.7	21.2	N
Uppercase Letter Identification									
Total Number of Letters (23)	21.9	22.0	N	19.7	21.3	N	21.6	21.2	N
Most Used Words									
Total Number of Words (20)	18.1	18.4	N	15.1	17.4	N	17.9	17.2	N
Reader									
Percent Reader	82.8%	88.1%	N	66.2%	84.6%	N	86.4%	78.5%	Y**

34

Accuracy									
Percent Accuracy (Among Readers)	96.4%	95.0%	Y***	91.8%	95.8%	Y**	95.4%	93.1%	Y***
Fluency									
WPM Correct (Among Readers)	34.1	28.4	(-) Y***	20.2	29.2	Y***	28.8	23.2	Y***
Reading Comprehension									
Comprehension Q's Answered Correctly (%)	64.2%	81.0%	Y***	83.6%	91.9%	Y**	86.4%	69.8%	Y***
Listening Comprehension									
Comprehension Q's Answered Correctly (%)	63.6%	70.5%	N	72.7%	64.0%	N	66.8%	58.%	Y*
*$p<0.05, ** $p<0.01, *** $p<0.001$									

Letter Identification

The first sub-test examined pupils' letter knowledge. Pupils were shown a chart of 23 lowercase and 23 uppercase letters and then asked to either name the letter or pronounce the letter sound. There was no significant difference between the groups' endline performance on the letters sub-test, with intervention pupils correctly identifying 21.7 lowercase letters and 21.6 uppercase letters, while comparison pupils correctly identified 21.1 lower and uppercase letters, on average.

Figure 10. Lowercase Letter Knowledge by UL Status
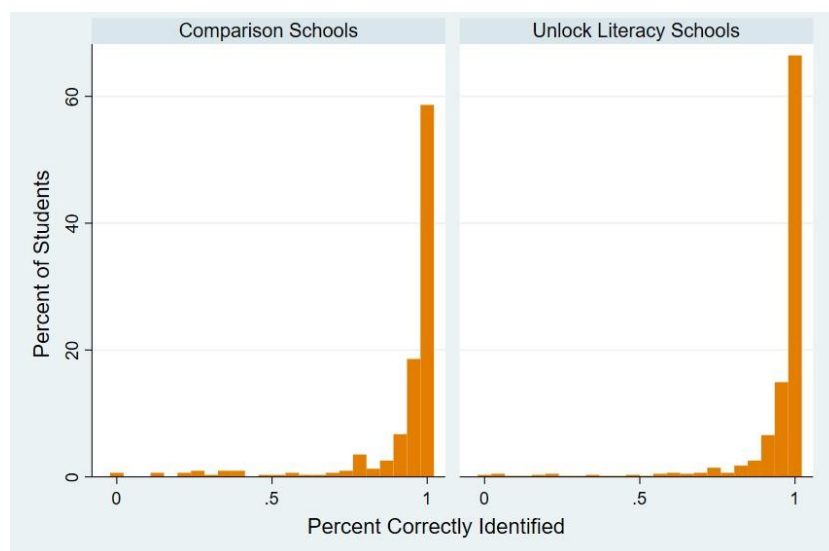
Figures 10 and 11 show the histograms of the percent of lowercase and uppercase letters correctly identified by the percent of pupils in each group at endline. A slightly larger proportion of intervention pupils scored 100% on the Lowercase Letter sub-test (66.5% compared to 58.7%) and Uppercase Letter sub-test (73.2% compared to 67.6%). **Given letter knowledge is foundational to reading, it is essential that the struggling pupils (any of those scoring below 100%) are encouraged through targeted assistance in any continued Unlock Literacy programming.**

Figure 11. Uppercase Letter Knowledge by UL Status
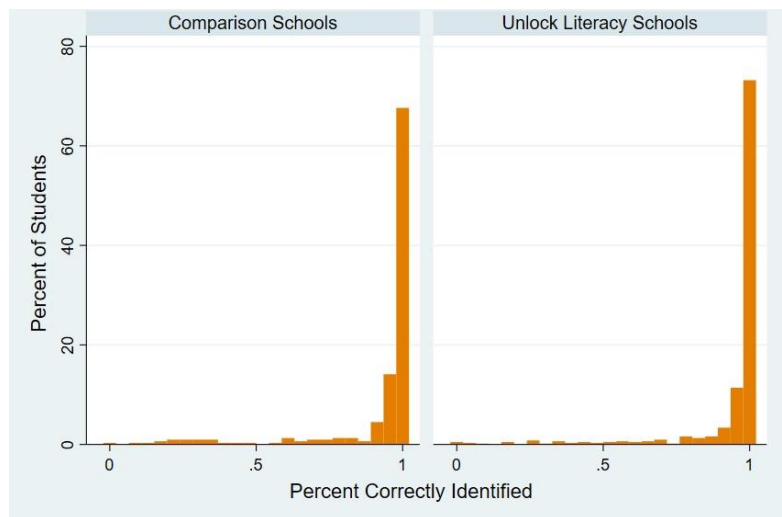
Most Used Words

The most used words (MUW) sub-test consists of 20 words the pupil is asked to read. The 20 words were identified as such by calculating the number of times a word appeared in pupils' language arts textbooks. Pupils in intervention schools were able to identify similar numbers of MUW as comparison pupils (17.9 and 17.2, respectively). Despite the encouraging endline scores, there is still work to be done, as all pupils should be able to read all 20 of the most used words.

As shown in Figure 12, only 57.8% of Unlock Literacy pupils are scoring 100% on the MUW sub-test, while 48.4% of comparison pupils score the same. Compared to Letter Knowledge where less than 1% of pupils in both groups are unable to identify any letters, 3.7% of intervention pupils and 4.8% of comparison pupils are unable to identify any words. **It is important that continued programming considers and addresses this divergence in performance so that struggling pupils are able to increase skills/knowledge to meet their peers.**

Figure 12. Most Used Words by UL Status
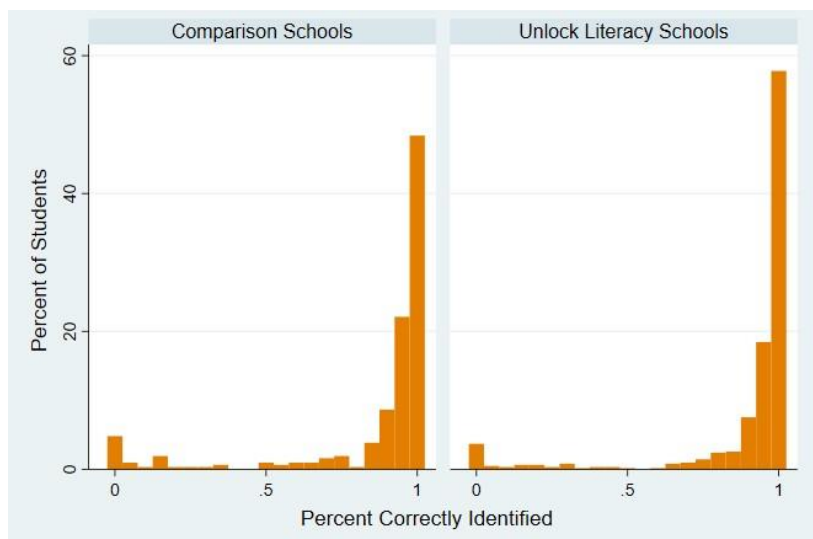
Proportion of Readers and Nonreaders

For the final sub-test, pupils were asked to read aloud a Kirundi passage of connected text of 86 words in length. The passage was written during the baseline, based on simple text/passages found in the pupils' language arts textbooks. It is at this point in the assessment assessors classify children as either 'readers' or 'nonreaders.' Readers are defined as pupils who were able to read at least 5 words correctly in the first 30 seconds of reading the passage. All other pupils were classified as nonreaders, and the rest of the passage was read to them by the assessors.

At endline, 83.7% of pupils surveyed were readers, with a significant difference[39] between the percentage of pupils in intervention versus comparison schools (86.4% and 78.5%, respectively). Similarly, high scores were seen in the intervention communes at baseline, with 82.8% of pupils in Cankuzo and 66.2% of pupils in Kigamba being identified as readers. **Future literacy programming in all Unlock Literacy schools should focus on remedial interventions for nonreaders to bring all pupils up to the level of 'reader.'**

Listening Comprehension

For a measure of listening comprehension, pupils classified as nonreaders were asked a list of ten comprehension questions (one summary, five literal, two inferential, and two evaluative) after the assessor read the corresponding passage to the pupil. The summary question asked children about the plot of the story, and children's responses were marked correct if they mentioned at least three of four main points of the story (characters, problem, action, resolution). The five literal questions referenced information that was directly available in the text, such as, "What was the name of the main character?" and "Where did the main character go?" The two inferential questions asked pupils about information indirectly available in the text, and the two evaluative questions asked children for their opinion of the text. For these two final questions, children's answers were marked correct if they justified their opinion with information from the text.

At endline, 16.3% of pupils were nonreaders, and they were able to correctly answer 63.1% of the 10 comprehension questions. There was a significant difference[40] between listening comprehension scores at endline, with intervention nonreaders scoring 66.8% and comparison school nonreaders scoring 58.4%. Among the intervention schools, there was no significant difference in comprehension scores between those nonreaders surveyed at baseline and endline. **The ultimate goal of Unlock Literacy is to shift pupils out of the nonreader category and to become readers. The data presented here thus represents struggling pupils who are still classified as nonreaders and would benefit from continued and targeted programming.**

Fluency and Accuracy

Fluency (words per minute read correctly) and accuracy (percentage of the passage read correctly) are presented together here because they are measured together in a single sub-test in which pupils read a passage aloud. The number of words pupils read correctly in a minute is tracked for fluency. As the pupil continues to read after the first minute, the total number of words read correctly from the passage as a whole, no matter how long it takes the pupil to complete, is calculated for accuracy.

Of the 83.7% of pupils who were classified as a reader (n=783) at endline, **intervention school readers read at a significantly faster rate[41] than comparison school pupils**. The average fluency rate for intervention readers was 28.8 words per minute correct, significantly greater than the 23.2 words per minute correct among comparison readers.

Similarly, **intervention school readers' accuracy scores[42] were significantly higher than comparison school readers**. Intervention pupils read the passage with 95.4% accuracy, compared to 93.1% accuracy among comparison pupils. These figures show that pupils in both groups who can pass the threshold of at least five words correct in 30 seconds are able to read at a moderate speed with a high degree of accuracy, but intervention readers outperform those in comparison schools on every both fluency and accuracy measures.

Reading Comprehension

Those pupils who were able to complete the reading passage unassisted by the assessor were asked the same ten questions highlighted in the Listening Comprehension section for a measure of reading comprehension. Intervention readers significantly outperformed comparison school readers on reading comprehension at endline[43]. Among intervention readers, pupils scored 86.4%, on average, on the reading comprehension subtest, while comparison

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[39] p<0.01

[40] p<0.05

[41] p<0.001

[42] p<0.001
[43] p<0.001

schools pupils scored 69.8%. In the intervention schools, reading comprehension scores rose significantly from baseline to endline in Cankuzo[44] and Kigamba[45]. The 10 comprehension questions comprised of a mix of factual, inferential, evaluative questions. Each of the categories gets progressively harder, requiring higher order thinking to answer correctly. In the case of Kigamba commune, more than 90% of students who could read the passage answered all three categories of questions correctly. For Cankuzo commune, it was 76% of students, lower than Kigamba but still significantly higher than Mishiha. **This result indicates that teachers are able to continue to build students skills once they have become readers. However, students struggled the most with inferential questions and therefore continued UL programming should focus on helping pupils read more strategically so they are able to make judgments of the text based on the given information.**

Reading with Comprehension Tiers

The ultimate goal of Unlock Literacy is that pupils are able to read with comprehension. A composite measure, as shown in the figure below, is used to focus attention on this goal and show a program's progress over time. 'Reading with comprehension' is defined as a pupil with the ability to read a grade-level passage unassisted and correctly answer 80% or more of the associated literal comprehension questions. 'Beginner' pupils are those who are able to read a grade-level passage unassisted but answer fewer than 80% of the associated literal comprehension questions correctly, while 'Nonreaders' are pupils unable to read a grade-level passage. As shown in Figure 12, intervention pupils scored significantly better than comparison pupils in the percentage of pupils who were readers with comprehension at endline ($p < 0.001$), and fewer were classified as nonreaders at endline[46].

Figure 13: Reader with Comprehension Tiers by Unlock Literacy Status

	Nonreader**	Beginner***	Reader with Comprehension***
Unlock Literacy	14%	9%	77%
Comparison	21%	26%	53%

**$p < 0.01$, ***$p < 0.001$
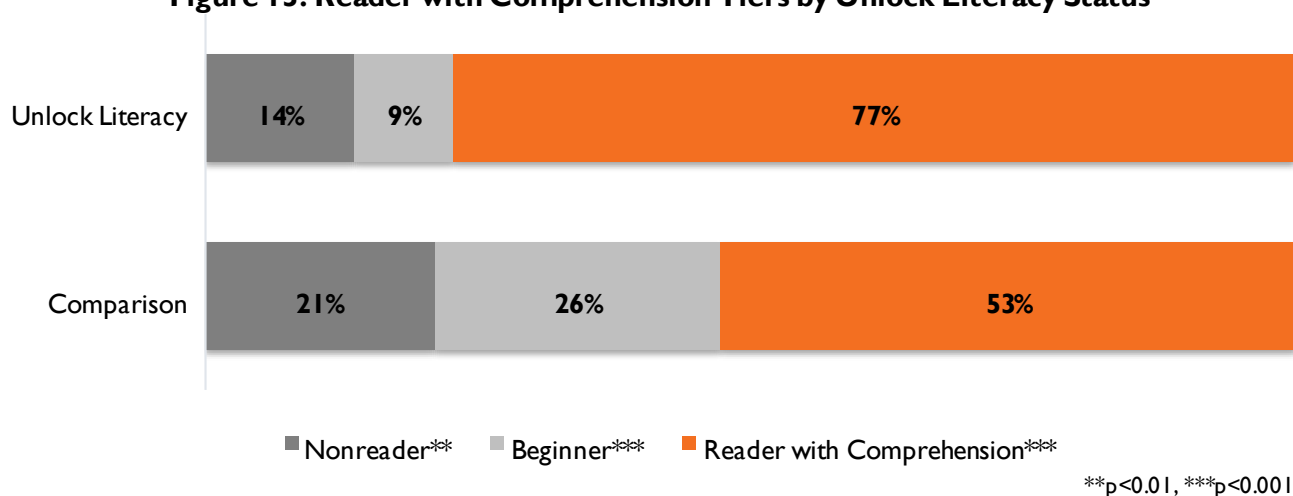
Unlock Literacy has successfully contributed to the proportion of pupils reading with comprehension within programming sites. As programming continues, teaching in the classroom may need to be diversified to bring nonreaders to the level of beginner readers while also assisting readers with comprehension in achieving higher levels of comprehension.

School Survey

In each of the 36 schools, the school principal or head teacher was interviewed the same day children in the school were assessed. This survey included questions on the school structure and its resources, supervision visits conducted by government officials, the number of teachers, the School Improvement Plan, and any Citizen, Voice, and Action (CVA) programming at the school.

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[44] $p < 0.001$

[45] $p < 0.01$

[46] $p < 0.01$

Regarding school structure and resources, the only significant difference[47] between intervention and comparison schools is the presence of a community library. According to head teachers, there are no community libraries in Mishiha commune, while 25% of schools in Cankuzo and 16.7% of schools in Kigamba are in communities with libraries. Additionally, only three schools in Cankuzo had a library on-site; there are no school libraries in the other communes. **Despite this, 33.3% of schools have classroom reading corners (4 in Cankuzo, 5 in Kigamba, and 3 in Mishiha).**

Only one school has electricity, and it is in Kigamba commune. Some schools in all communes have a water point (36.1% overall), and all of these schools treat the water. Nearly all schools, 88.9%, have latrines for pupils, with 84.4% providing separate latrines for girls. Nine schools (25% overall) throughout the communes provide handwashing stations, but only three, all in the intervention communes, provide soap.

When asked about supervision visits, teachers were more likely to report a visit from the ███████████████ ██████████████████████████████████████. Overall, 72.2% of head teachers reported a visit occurred by the ████ in the last term, while only 41.7% of head teachers reported the same from ██████. These visits were administrative in nature and not focused on quality of education (eg classroom observation). Conforming this finding, most intervention schools said ███████ did not provide suggestions for improving teachers' work.

Nearly all (94.4%) of head teachers reported the school director conducts observations of classroom teachers and provides feedback for improvement. On average, there are 12.5 teachers in each school, 1.7% of whom were transferred to the school within the current school year and 0.8% are new teachers in the current school year.

Slightly more than half (52.8%) of schools have a School Improvement Plan (SIP), with no significant differences between intervention and comparison sites. All but one of these SIPs are stored in the head teacher's office where they are easily accessible. As outlined in the SIP, only one school (Cankuzo commune) has budget to purchase teaching resources for Kirundi literacy classes in the current school year, while five schools (split between Cankuzo and Mishiha communes) have access to the technical and financial support needed if teachers need training in teaching literacy.

Regarding CVA, there is a significant difference[48] between intervention and comparison schools, but this is because no schools in Mishiha have had this type of engagement with World Vision. Of the five schools (four in Cankuzo and one in Kigamba) reporting benefits from CVA, all say visits from CVA leaders have occurred, but only three of the schools in Cankuzo have requested from the government improved services to the school.

In addition to the summary results presented here, relevant school variables are included in the impact analysis that will be discussed in later sections of the report.

Lesson Observation

In 35 of the schools, a World Vision Burundi staff member conducted an interview and observation of a Grade 3 teacher during a literacy lesson. This included questions on participation in Unlock Literacy trainings, school enrolment, class size on the day of the observation, teaching and learning materials in the classroom, questions about lesson plans and diversified teaching techniques, and the observation of best teaching practices.

Since World Vision programming has not begun in Mishiha, only teachers in intervention schools were asked about participation in Unlock Literacy trainings. Among these, 58.3% of Cankuzo (7 teachers) and 83.3% (10 teachers) of Kigamba teachers reported some level of participation. Among these schools, 6 teachers in each commune reported the completion of the trainings, and one teacher in Kigamba reported attending refresher trainings in the last year.

Each of the schools reported high attendance rates on the day of observation, with 88% or more (varies by commune) enrolled pupils attending school. On average, teachers have 46.5 pupils in their class, with Cankuzo reporting the highest number of pupils (48.5, on average) and Kigamba reporting the lowest number of pupils (44.3, on average).

Regarding teaching and learning materials, this is a deficiency in many schools that needs to be addressed. While, on average, nearly all (81-100%) pupils had an exercise book and a pen or pencil, only some pupils (1-50%) had a textbook for the lesson being taught. Additionally, observers noted Unlock Literacy schools, on average, had some wall (1-50%) covered by learning materials while comparison schools, on average, had no walls covered by learning materials. Specifically, there were significant differences (p<0.001) between intervention and comparison sites with letter and word charts hung on the wall as only one comparison school had letter charts and no comparison schools had word charts. For intervention sites, 66.7% (16 schools) of the 24 sites had letter charts while 54.2% (13 schools) had word charts.

When asked about regular observations in their classroom ████████████████████████, all but one teacher in Mishiha reported this happens. All teachers reported they have a lesson plan and work with other teachers to create lesson plans for literacy. All teachers also reported using assessments to identify struggling pupils, and then tailoring teaching strategies to support these pupils. All but one of the teachers, again in Mishiha, stated they provide extra support to those pupils who struggle in their class.

When observed during a literacy lesson in the classroom, **teachers on average scored 69.4% in meeting best teaching practices, with no significant differences between intervention and comparison schools**. On the day of observation, one teacher taught on letters, no teachers taught on words, nine taught on vocabulary, and 34 taught on a story. Among those 34 teachers who taught on a story, 30 continued with a lesson about comprehension.

As shown in Figure 14, **all teachers who taught vocabulary did so with best practice, and all but one Unlock Literacy teacher taught the story with best practice**. Those who taught stories were assessed on teaching comprehension as well, however, **only slightly more than half taught comprehension with best practice**. While this is only a 'point-in-time' measure of teacher practice, anytime a lesson is focused on reading a story, this should include a discussion that ensures pupils have comprehended what is being read.

Figure 14: Number of Teachers who taught each Core Component and did so with Best Practice, by UL Status
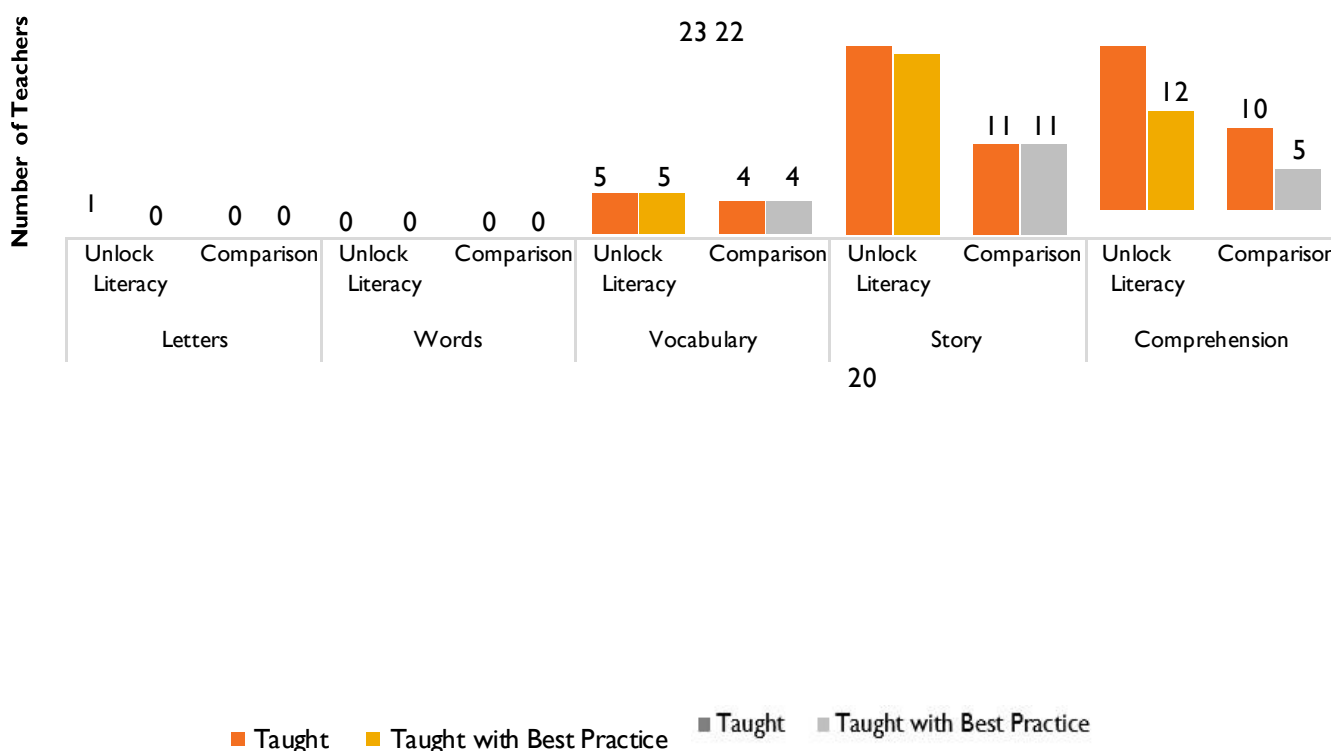
In addition to the summary results presented here, relevant teacher performance variables are included in the impact analysis that will be discussed in later sections of the report.

PUPIL RESULTS: COMMUNITY-BASED INTERVENTIONS

Pupil Assessment – Home Literacy Environment

An important component of reading development is the home literacy environment (HLE). Children's exposure to print materials in the home and engagement with household members in reading activities helps build literacy skills, and as a result, many Unlock Literacy activities are focused on helping caregivers and communities enhance the HLE. It is important, then, to measure pupils' HLE engagement.

Regarding reading materials, as seen in Figure 15, **significantly more[49] intervention than comparison pupils reported having storybooks and comics in their homes, despite the overall percentage of pupils remaining quite low**. For intervention pupils, this is also a significant positive change[50] at endline from those who were surveyed at baseline. While much progress is still needed to increase the number of pupils with child-friendly reading materials, **it is an encouraging finding that Unlock Literacy schools are improving in this area since a major program focus is increasing the amount of age-appropriate reading materials in the home.**

Figure 15: Frequency of Reading Materials by Unlock Literacy Status
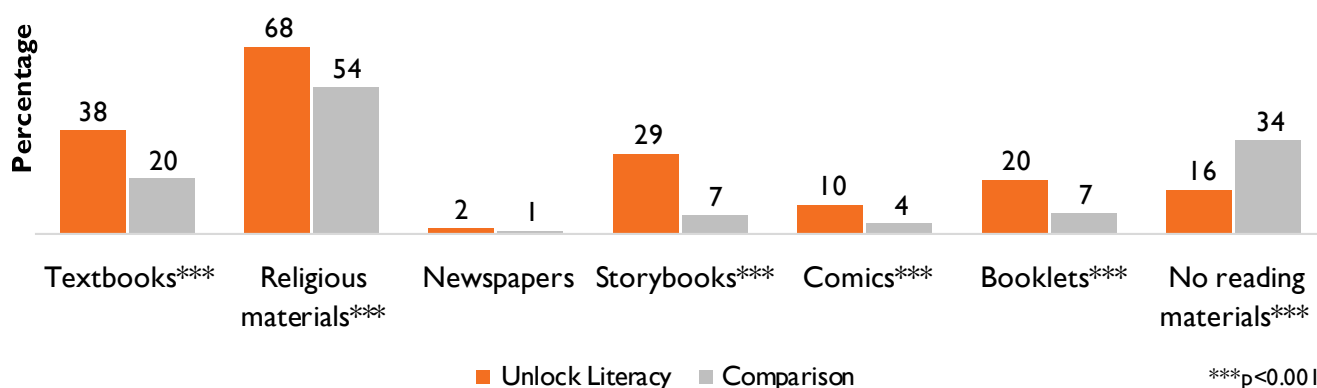
Regarding the frequency of reading activities occurring in the home, intervention pupils report significantly higher levels of engagement in every area than their peers in comparison schools (see Figure 16). In Cankuzo engagement was significantly higher for someone helping the child study[51] and reading to the child[52] at endline than was reported by the pupils at baseline. In Kigamba, results were the same at endline except for someone helping the child to study, which significantly decreased at endline[53]. While it is not clear why groups of pupils in the same schools are reporting levels of varying engagement after years of Unlock Literacy programming, **these are still encouraging findings as it shows improvement in home literacy environment among Unlock Literacy participants.**

Figure 16: Frequency of Engaging in Reading Activities In the past week someone has...

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[49] p<0.001
[50] p<0.001
[51] p<0.001
[52] p<0.01
[53] p<0.05

Percentage

	Been Seen Reading***	Helped Student Study**	Read to Student***	Told Story to Student***
Unlock Literacy	88	79	75	66
Comparison	77	70	62	54

Unlock Literacy   Comparison   **p<0.01, ***p<0.001
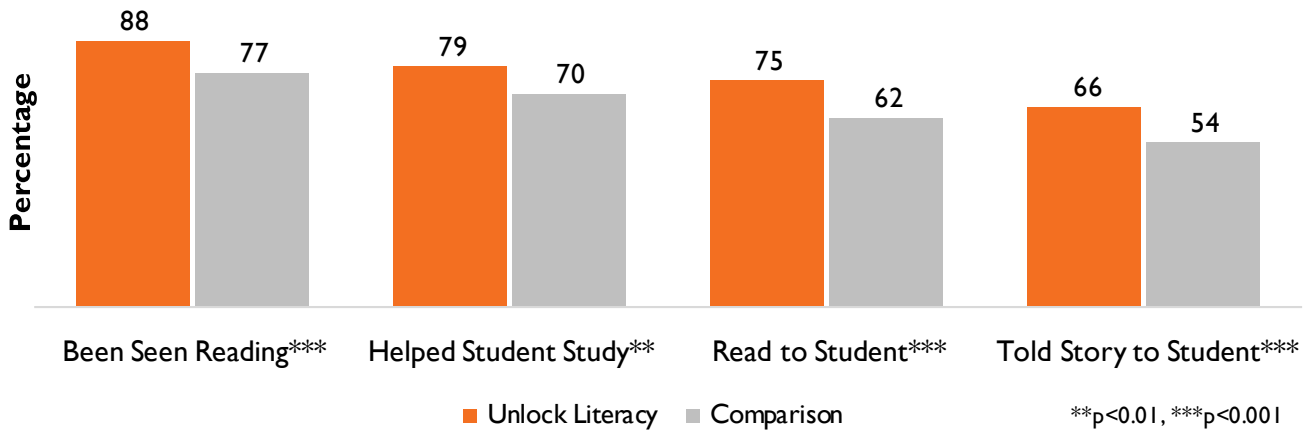
Pupil reported participation in HLE activities was triangulated by asking parents about their support of reading activities in the home (see Figure 17). Parents within Unlock Literacy schools were significantly more likely to report reading to their children. All other measure of HLE, singing, telling stores, and helping child with homework were reported similarly for both intervention and comparison parents. This information should be considered alongside parents selfreported frequency of themselves reading. Parents in Mishiha (comparison) were significantly more likely to report that they never read: 24.1% of parents in Mishiha reported never reading compared to 10.6% in Cankuzo and Kigamba. During school visits it was noticeable that parents in Mishiha had higher rates of illiteracy and, as such, these parents are less likely to be reading to children. Considering this, **there were little differences observed between intervention and comparison parents regarding home literacy activities.** If World Vision is going to undertake literacy programming in Mishiha, the project should adjust to these differences in parental literacy rates by offering parents with alternative activities to build reading skills in children.

Figure 17: Parent Reported HLE Activities

	Read to your child*	Sing to your child	Tell stories to your child	Help child with homework
Unlock Literacy	66%	72%	73%	66%
Comparison	52%	63%	68%	62%

Unlock Literacy   Comparison

*p<0.05
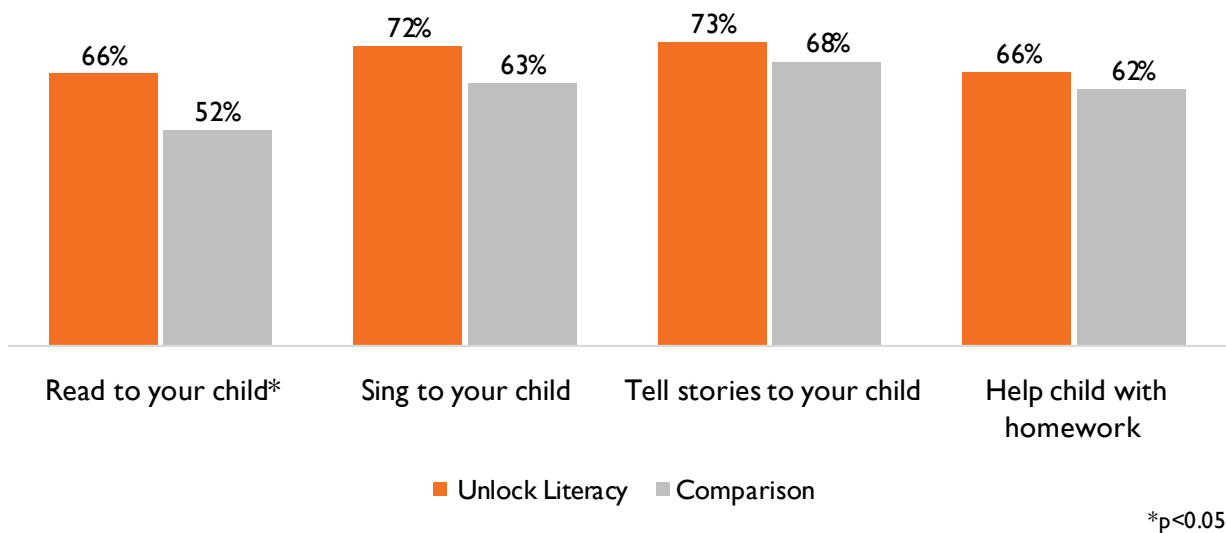
Parents in the intervention sites described higher levels of confidence in their ability to support their child's reading. As shown in Figure 18, 13% of parents in comparison sites state that they have no confidence at all in their ability to support their child's learning. Encouragingly, the proportion of parents in intervention sites that state similar lack of confidence is significantly lower. **It is important to note that 15% of intervention parents still express lack of confidence. This is an area that future programming should target, to ensure that learners are receiving significant support for reading acquisition at home.**

Figure 18: Parental Confidence in Ability to Support Child's Reading

Unlock Literacy	6%	9%	44%	19%
Comparison	13%	22%	25%	11%

No confidence; unconfident   Somewhat confident; very confident
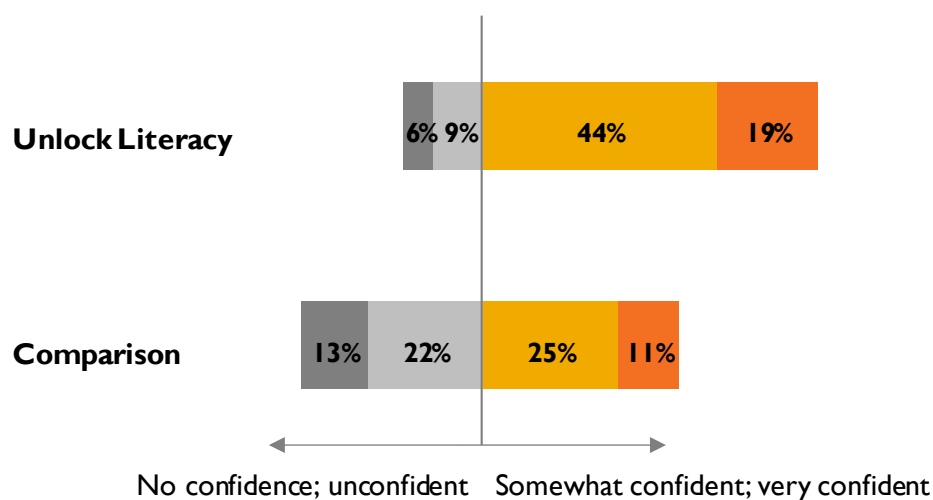
Pupil Assessment – Community Action Activities

A core component of Unlock Literacy is Community Action which engages pupils in the reading process outside of school. In Burundi, this included Reading Camps, Make-and-Take projects at Reading Camps, Book Banks, and Reada-Thons. While an in-school activity, Reading Buddies are introduced through the Unlock Literacy program and questions about pupils' engagement is included in this analysis. See Appendix G for results of all Community Action assessment questions.

Reading Camps are organized by volunteer facilitators and are intended to be held at a time when all children can attend and at a location that is easily accessible to these children. As stated in the implementation section, these Camps were held in the afternoon while some children are in school, so the interpretation of these results must take this into account. Of the intervention students asked about attendance at Reading Camps (comparison school students were not asked the Community Action questions), **50.1% said they ever attended Reading Camps**, and 74.4% of those said they attended Reading Camp last week. Pupils rotate between morning and afternoon shifts at all schools (e.g. a child who attends this week in the morning will attend in the afternoon next week), so it would seem reasonable that the children assessed in the morning would say they had not attended Reading Camp the previous week while they were at school in the afternoon. This was not the case, however. Of the children who said they attend Reading Camp regularly, 67.9% of morning students and 79.2% of afternoon students said they had attended in the last week. This means the morning students who would have been in school while the Camp was in session the previous week either misunderstood the question, did not answer the question correctly, or missed school to attend the Reading Camp instead.

During a Reading Camp, children often take part in a number of activities, including journaling, singing, and creating Make-and-Take objects, in addition to reading a story. When asked about their favourite activity, slightly more than half (51.6%) of students said it was story time (no significant differences between intervention communes). **When asked if Reading Camp facilitators ask them questions during reading time, 99.7% of the children answered affirmatively.**

While at Reading Camp, pupils should be given the opportunity to create a Make-and-Take object that is used to assist in building reading skills at home. **Among the students who attend Reading Camp, 48.9% said they made a Make-and-Take object the previous week. There was a significant difference[54] between the intervention sites, with 61.9% of Cankuzo pupils reporting taking part in the activity while only 35.1% of Kigamba pupils said the same.**

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[54] $p<0.05$

Book Banks are typically made available at the Reading Camps, but all intervention students, regardless of whether they reported attending Reading Camp, were asked about borrowing books from the Book Bank. Unfortunately, only **48.6% of pupils said they ever borrow books from the Book Bank**. Of these, 75.6% said they did so in the last week. There were no significant differences between the intervention communes for Book Bank participation.

To assist with acquiring reading ability, Unlock Literacy recommends early grade pupils be assigned an upper grade pupil Reading Buddy who reads with them on a regular basis. On average, **81.7% of children said they had a Reading Buddy**, and 76.6% of those children with Reading Buddies said they met with them in the last week. On average, children met with their Buddies 2.5 times in the last week. There were no significant differences between the intervention communes as it relates to participation with Reading Buddies.

Finally, Read-a-Thons are special out-of-school reading events to celebrate the culture of reading within a community. While not every Unlock Literacy school holds Read-a-Thons, **21.7% of the children said they attended a Reada-Thon** in Cankuzo or Kigamba (25.3% and 18% of children, respectively). The children who attended said, on average, they read 2.4 books at the Read-a-Thon.

Parental Engagement

Eight intervention schools (4 in Cankuzo and 4 in Kigamba) were selected for focus group discussions with parents. Parents were asked questions about the school environment, their participation in Unlock Literacy programming, their pupils reading habits. In the schools that did not hold a focus group discussion, parents were gathered for a quantitative survey. So that the survey could be completed by illiterate populations, the survey tool was designed using images and parents were given oral instructions for filling it out.

External Support

There has been some effort within WVB to integrate CVA with Unlock Literacy. This effort resulted in the establishment of 4 CVA groups in 2016, 2 groups in Cankuzo and 2 groups in Kigamba. Shortly thereafter, the CVA approach changed and it is unclear if UL is still integrated with any CVA approach. Within the intervention sites, 14.4% of parents were aware of the CVA group in their community, with 10% stating that they had attended a CVA meeting in the past year. Strangely, 7.6% of the parents in Mishiha had heard of CVA in their community. Whether CVA has been started in Mishiha or not, **the proportions of parents interacting with CVA in the intervention sites is extremely low and shows very little uptake of CVA programming.**

As shown in Figure 19, parents in Cankuzo and Kigamba feel significantly more supported by World Vision than parents in Mishiha. This is to be expected as World Vision has only just now opened a programming office in Mishiha. The important message in Figure 19 is that parents in Cankuzo feel significantly more supported by World Vision than parents in Kigamba. This is a sign that parental engagement programming has not been as strong in Kigamba as it was in Cankuzo.

**Figure 19: Proportion of Parents Feeling Supported by
World Vision Burundi**

Cankuzo 1% 5% 26% 55%

Kigamba 7% 8% 37% 30%

Mishiha (Comparison) 37% 33% 9% 8%

Strongly Disagree; Disagree   Agree; Strongly Agree
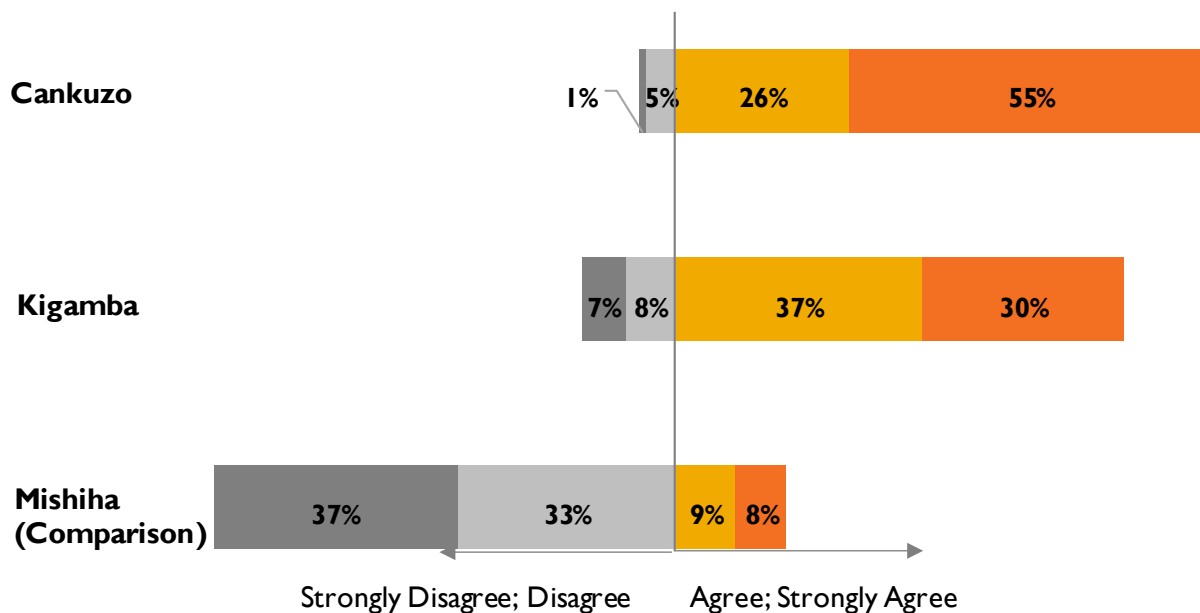
Finally, parents were asked about the support they feel ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮ is providing in the school. Parents from Unlock Literacy schools were more likely than comparison schools to respond positively, describing supportive relationships with ▮▮▮▮▮▮▮▮. This is an encouraging finding, that could show evidence of Unlock Literacy programming supporting ▮▮▮▮▮ engagement.

Parental Perception of School Quality

There were very few differences between parents from Unlock Literacy schools and parents from comparison schools when it comes to perceptions of education at their school (see Figure 20). An Unlock Literacy parent was slightly more likely than a comparison parent to respond positively when asked if his/her child would finish primary school. There was no difference when asked about finishing secondary school.

Parents at Unlock Literacy schools were also slightly more likely than comparison parents to respond positively that children are receiving a high-quality education. Surprisingly there were no differences between Unlock Literacy and comparison school when parents were asked about the whether the quality of education and the school is improving. A majority of parents do feel that things are improving, in both Unlock Literacy and comparison schools. This may be a sign that government support is increasing in all schools.

Finally, most parents in both cohorts responded that they are satisfied with their child's Kirundi reading skills. It is important to interpret this finding in light of the Kirundi reading skills presented here in this report. The majority of pupils are still struggling to read. **Parents need to be sensitized to children's reading scores through stronger interaction between the school and the community.** World Vision can help facilitate this relationship.

Figure 20. Parental Perception of School Environment

My child will finish primary school*
- Unlock Literacy: 4% | 2% | 37% | 39%
- Comparison: 4% | 10% | 33% | 30%

My child will finish secondary school
- Unlock Literacy: 8% | 12% | 32% | 28%
- Comparison: 8% | 10% | 33% | 30%

My child is receiving a high quality education*
- Unlock Literacy: 0% | 4% | 38% | 39%
- Comparison: 4% | 10% | 41% | 28%

The quality of education at this school is improving
- Unlock Literacy: 0% | 4% | 44% | 36%
- Comparison: 3% | 9% | 43% | 29%

I am satisfied with my child's Kirundi reading skills.
- Unlock Literacy: 1% | 3% | 43% | 29%
- Comparison: 0% | 8% | 51% | 22%

Strongly Disagree;   Disagree   Agree;   Strongly Agree

ANALYSIS BY GROUPS

Gender Comparison

A considerable focus of the international education community is ensuring boys and girls achieve equal levels of, and benefits from, education. This section examines the data to see if any significant differences exist between boys and girls in terms of background characteristics, reading skills, and engagement in community action activities (see Appendices D and F for charts of all background characteristics).

At endline, girls and boys are similar in terms of their socioeconomic status (measured by possessions, house building materials, and livestock) and health status, but there are a number of significant differences when it comes to chore load. While 99.8% of children overall reported doing chores, **girls are performing significantly more[55] chores than boys (4.5 compared to 3.6, respectively)**. Furthermore, there were significant differences in the types and number of chores carried out between boys and girls. Differences in types of chores seem to follow traditional gender norms. Significantly more girls were responsible for gathering firewood, washing clothes, washing dishes, cooking, sweeping and caring for siblings. On the other hand, significantly more boys reported tending to livestock.

In terms of HLE, there were no significant differences between boys and girls in the types of reading materials available in the home nor in reading interactions.

In regard to reading skills, the only significant difference between girls and boys in their endline scores is female readers had significantly higher[56] fluency rates. Additionally, there are no differences between girls and boys in their level of participation in Literacy Boost community action activities. **These results show Unlock Literacy equally engaged children of both sexes in programming activities.**

Figure 21: Reader with Comprehension Tiers by Sex

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[55] p<0.001
[56] p<0.05

Female	15%	16%	69%
Male	18%	13%	69%

■ Nonreader   ■ Beginner   ■ Reader with Comprehension
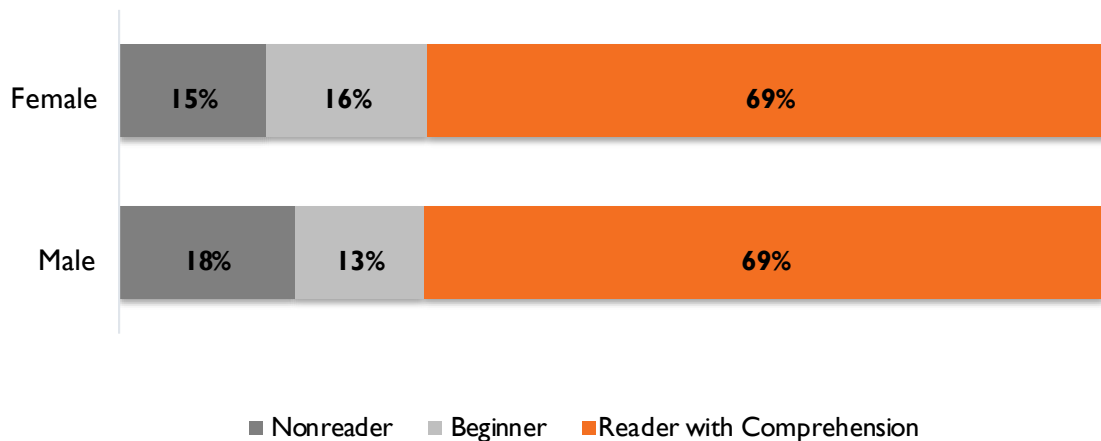
Commune Comparison

In terms of Home Literacy Environment (HLE) by commune, there were differences observed between the three communes. As shown in the figures that follow, pupils in Cankuzo reported having significantly more reading materials in the home than did Kigamba pupils. This supports the finding that **scale-up of the literacy programming in Cankuzo Commune had greater impact than it did in Kigamba Commune**. Even in Cankuzo, however, **only 35% of pupils reported having storybooks at home which is a very low number considering the emphasis of the program on supplying storybooks.** This finding is further supported by the parent FGDs, in which all parents stated that there was a great lack of reading materials available, especially when you set aside religious materials.

The pattern of Cankuzo having slightly higher results than Kigamba; and Kigamba having higher results than Mishiha is further supported by all of the home literacy environment activities. Overall, there are high levels of engagement being reported, although further work is needed around reading to pupils and telling pupils stories, especially in Kigamba.

Figure 22: Frequency of Reading Materials in the Home by Commune

■ Cankuzo   ■ Kigamba   ■ Mishiha
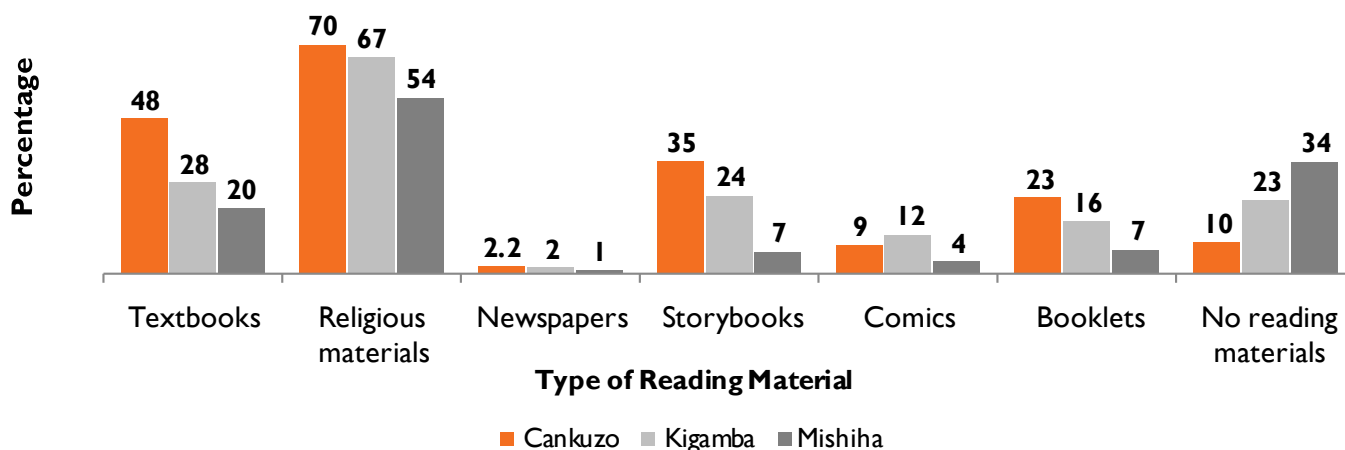
**Figure 23: Frequency of Engaging in Reading Activities
In the past week someone has...**

47
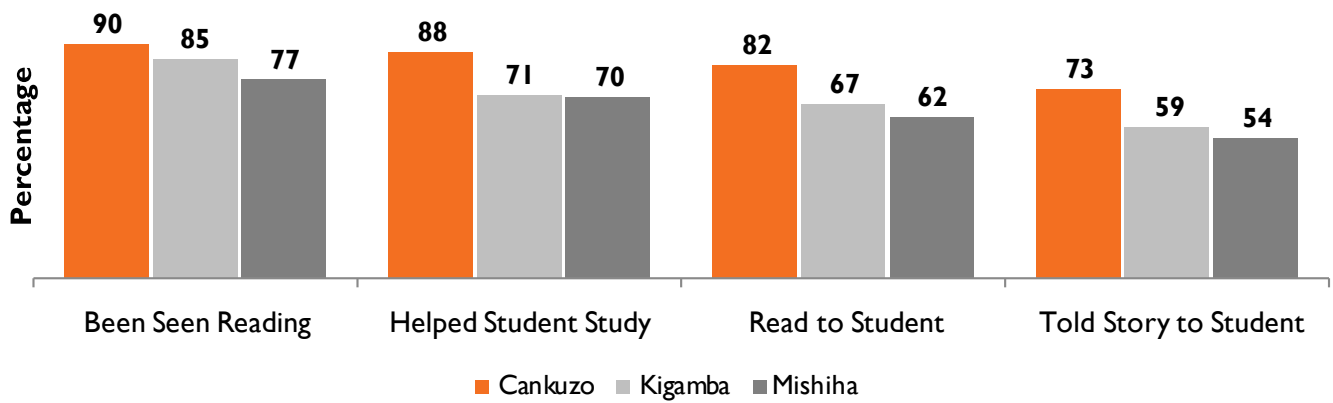
When examining reading performance by commune, Cankuzo and Kigamba communes performed similarly, with Kigamba performing slightly better, when looking at the proportion of pupils who could read with comprehension. Interestingly, however, Kigamba had significantly fewer pupils classified as beginner readers. This finding suggests that Kigamba is doing well to get pupils to comprehend what they are reading as long as they are readers. There are pupils, however, that have been left behind as non-readers.

Figure 24: Reader with Comprehension Tiers by Commune
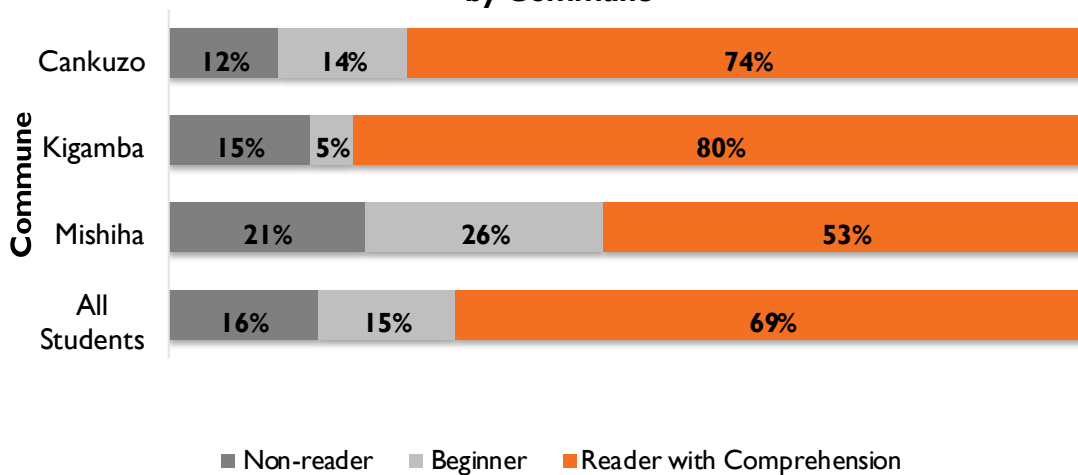
ILRE Impact Analysis

To better understand the impact of Unlock Literacy on program participants, it is necessary to determine how pupil background characteristics, school environment, and teacher skills interact. Using regression analysis, it is possible to statistically estimate the relationship among different variables. Regression analysis helps to explain how the value of the dependent variable (in this case, learning outcomes from the various reading sub-tests) changes when any one

As a result of the number of variables available through the tools included in this research design, stepwise regression was used first. After combining the

Figure 25: Predicted Endline Scores by UL Status

independent variable is varied (grade repetition, school electricity, level of best practice in teacher's lesson, etc.) and other all independent variable are held fixed.

quantitative datasets (literacy assessment, school survey, and lesson observation), objective variables in the standard analysis that presented a measure of difference between intervention and comparison groups were included in this analysis. Using STATA, independent variables predicted to have an impact on the dependent variables are chosen through an automatic procedure. From here, multivariate regression was used to determine which independent

Unlock Literacy is having the greatest impact on pupils with advanced skills, as readers' accuracy, fluency, and reading comprehension scores are predicted to be significantly higher (p<0.05, p<0.01, and p<0.001, respectively) than readers in comparison schools (see Figure 25).

variables help to explain the increase or decrease in value of endline learning outcome scores. Traditionally a variable is not considered a large factor in reading performance unless it is associated with at least three reading sub-skills tests (see Appendix G) repetition has a negative impact on basic reading skills (see Figure 26), as **pupils who repeat Grade 1 are likely to score significantly lower on uppercase letter identification[57] and most used words[58] than those who didn't repeat the grade.** These pupils are also less likely to be readers[59]. Similarly, pupils who repeat Grade 2 are likely to score significantly lower on lowercase letter identification[60], uppercase letter identification[61], and most used words[62], in addition to being less likely to be readers[63]. The results related to grade repetition are likely because pupils who need to repeat the grade are already falling behind their peers, not because they have spent more time in a single grade. These results relating to grade repetition were observed in both intervention and comparison sites. Thus, **the UL programme is not having an impact on these struggling students who have repeated classes. It is important that future iterations of the programme specifically tailor programming to meet the needs of these struggling students, thereby ensuring that the programme is address inequities.**

Legend: ■ Unlock Literacy   ■ Comprehension*** Grade Comparison

Accuracy* 95% / 93% Reading 87% / 69%
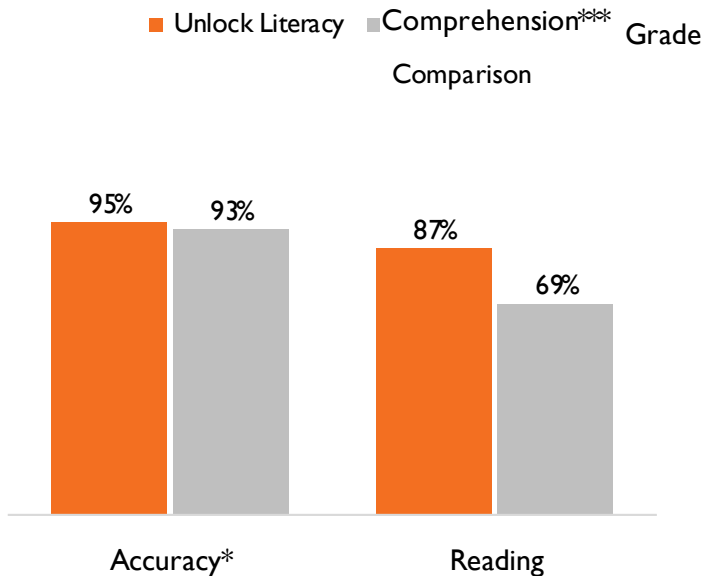
Figure 26: Predicted Endline Scores by Grade Repetition

Grade 1: Upper Letters* 95% 92%; Most Used Words* 91% 86%; Readers* 87% 80%
Grade 2: Lower Letters*** 95% 89%; Upper Letters** 95% 89%; Most Used Words*** 91% 82%; Readers** 87% 76%

Legend: ■ Did not Repeat   ■ Repeated

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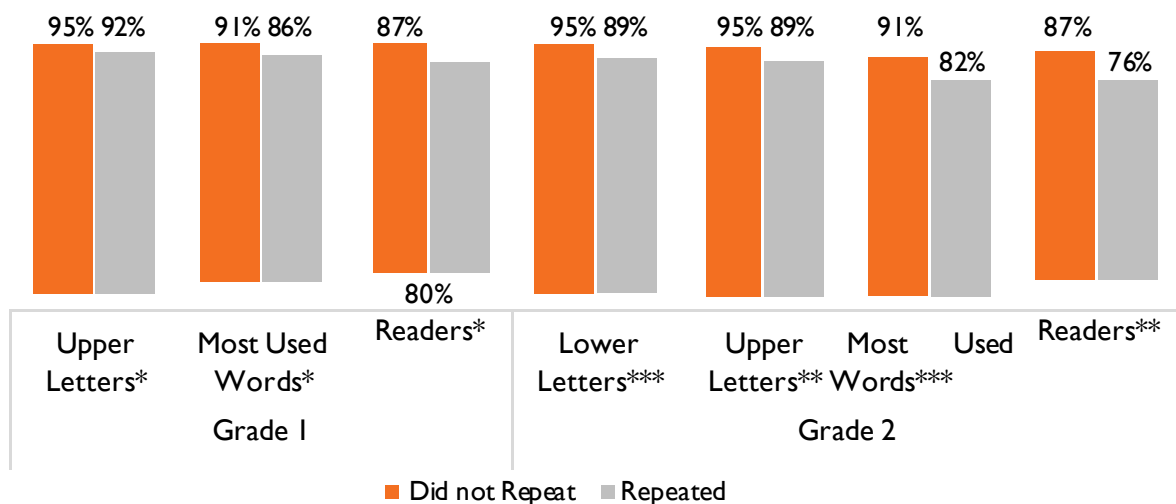
[57] p<0.05
[58] p<0.05
[59] p<0.05
[60] p<0.001
[61] p<0.01
[62] p<0.001
[63] p<0.05

Additionally, **school environment has an impact on pupil success**. Pupils who are readers and attend a school with electricity are predicted to have significantly higher accuracy[64], fluency[65], and reading comprehension[66] scores than those readers in schools without electricity. While electricity is only in one Kigamba school, accounting for all the factors in an impact analysis likely means this would have a similar impact on students in other schools if they had electricity. Those pupils in schools with a water point on site (see Figure 27) are also predicted to have significantly higher lowercase letter identification[67], uppercase letter identification[68], most use words[69], and fluency[70] scores, as well as more likely to be readers[71].

Figure 27: Predicted Endline Scores by School Water Point

- Lower Letters*: School has Resource 97%, School does not have Resource 94%
- Upper Letters*: School has Resource 91%, School does not have Resource 80%
- Most Used Words*: School has Resource 97%, School does not have Resource 92%
- Readers*: School has Resource 96%, School does not have Resource 92%

■ School has Resource ■ School does not have Resource

It is important to consider that children had varying levels of engagement and exposure to the Unlock Literacy program elements. During the literacy assessment, pupils in intervention schools were asked if they regularly attend Reading Camps, create "make and take" items at Reading Camp, borrow books from the Book Bank, have a Reading Buddy, and/or participate in a Read-a-Thon. **The rate of participation in all activities except Reading Buddies was much lower than what is typically seen at endline** (at or slightly lower than 50% overall), but the level of participation is important to explore.

After controlling for the variables as determined by the impact regression model described above, it was found that **increased participation in Unlock Literacy community activities was significantly associated with higher endline scores** for most used words[72] and the percentage of readers[75], as shown in Figure 28 below. Those pupils who participated in most or all of the community action activities were predicted to score higher on these sub-tests than those who participated in few or no activities.

Figure 28: Predicted Endline Scores by Level of Participation in Community Action Activities

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[64] p<0.01
[65] p<0.01
[66] p<0.05
[67] p<0.05
[68] p<0.05
[69] p<0.05
[70] p<0.01
[71] p<0.05
[72] p<0.05 [75]

p<0.01
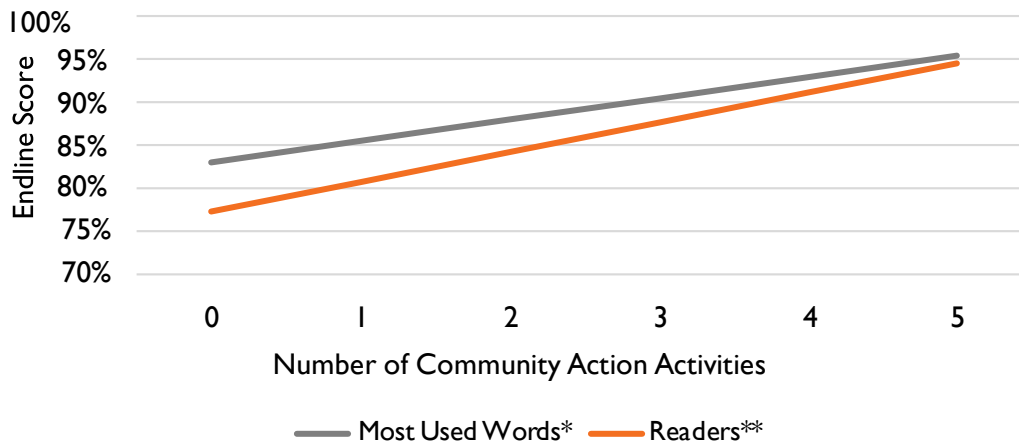
In addition to out-of-school activities introduced to communities as a result of Unlock Literacy, an innovative in-school practice, reading corners, were predicted to increase pupil scores for all reading outcomes. These are not a direct result of Unlock Literacy as they are present in comparison schools as well (4 in Cankuzo, 5 in Kigamba, and 3 in Mishiha), however, it is indicative of the need for additional teaching and learning materials in all classrooms for pupils to become successful readers. **Schools with reading corners in classrooms significantly associated with higher endline scores**, as shown in Figure 29 below.

Figure 29: Predicted Endline Scores by Presence of School Reading Corners
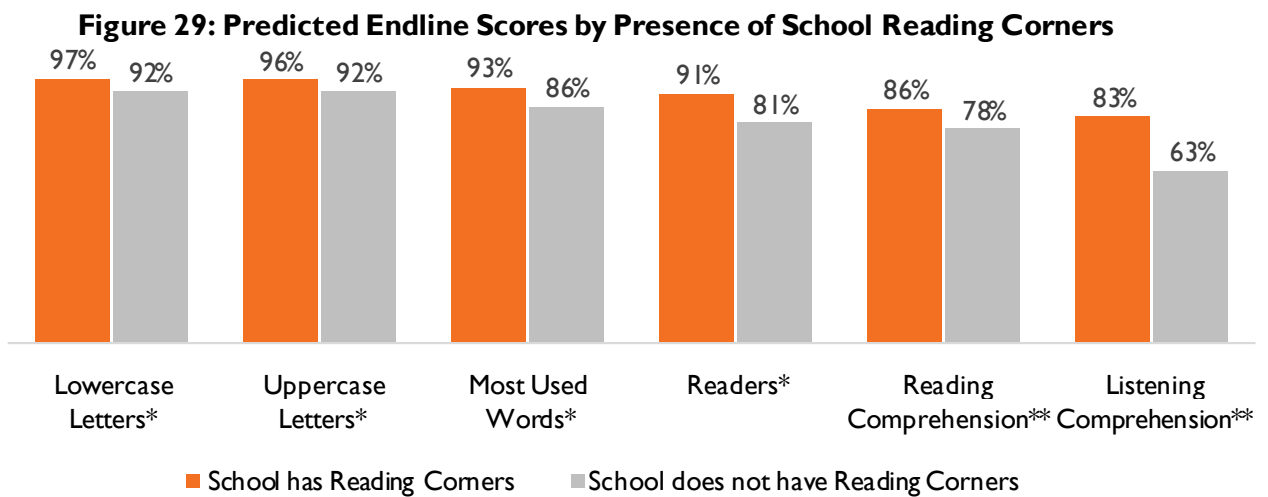
ILRE Equity Analysis

Multilevel regression analysis controlling for a number of factors reveals UL programming had an impact on advanced reading skills but not on basic reading skills or children who are struggling to become readers. The benefit of a multilevel regression analysis is that background factors contributing to improved reading skills can be identified. In the case of World Vision Burundi implementation sites, grade repetition and age, presence of classroom reading corners, and the physical school environment are the contributing factors.

As shown in Figure 30, among students with the lowest socioeconomic status, those in UL were predicted to score significantly higher on advanced reading skills, including fluency and reading comprehension scores. This is in encouraging and shows that **Unlock Literacy is seeing some impact among the lowest SES students, in particular.**

Figure 30: Predicted Endline Scores for Lowest SES Students by UL Status
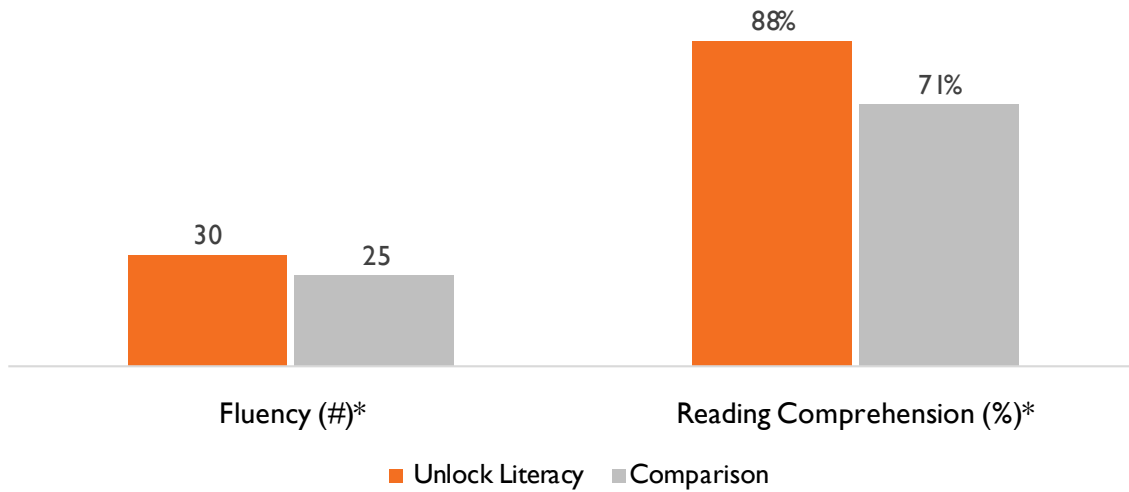
	Fluency (#)*	Reading Comprehension (%)*
Unlock Literacy	30	88%
Comparison	25	71%

Additionally, UL students with the least HLE engagement in the home were predicted to score significantly higher on nearly every measure than their peers in comparison schools (see Figure 31).

Figure 31: Predicted Endline Scores for Lowest HLE Activities by UL Status

	Lower Letter Identification*	Upper Letter Identification~	Readers*	Fluency (#)*	Reading Comprehension*	Listening Comprehension~
Unlock Literacy	96%	95%	86%	27	85%	70%
Comparison	90%	90%	71%	23	68%	57%

Finally, as shown in Figure 32, UL is having a positive impact on girls with heavy choreloads. These girls who attend schools with UL programming are predicted to score significantly higher than their comparison peers on nearly every measure.

Figure 32: Predicted Endline Scores for Girls who Work by UL Status

	Most Used Words~	Readers~	Accuracy*	Fluency (#)*	Reading Comprehension*
Unlock Literacy	87%	88%	94%	32	73%
Comparison	75%	73%	90%	24	62%

The results of this equity analysis further stress the importance of UL activities that target pupils at all levels of ability and encourage their parents and caregivers to increase engagement in reading activities in the home. Continued programming must ensure no children, regardless of ability, are left behind, and provide literate and nonliterate caregivers alike strategies for creating a culture of reading in the home.

Conclusion

This report details the results of an evaluation of the ILRE programme, funded by World Vision Germany, and implemented by World Vision Burundi in Cankuzo Province. The results of this evaluation are summarized here, in direct response to the research questions posed at the start of the evaluation:

1. Was the project implemented with fidelity?
    a. Did WV Burundi focus equal effort on all aspects of the project model? Did certain project model components have more engagement from NO staff?
    b. What were any additions/changes to the traditional UL project design? Do staff feel these components were beneficial? (infrastructure, CVA, etc.)

All components of the project were evaluated and categorized in to either school-based interventions or communitybased interventions. The WVB team implemented all project activities that were specified in their project plan, with equal attention to both school-based and community-based interventions. There were gaps, however, in the frequency, scope, and adaptability of these activities which impacted overall program effectiveness.

Within school-based interventions, the programme successfully trained 299 teachers in UL methodology as well as ▮▮▮▮▮▮▮▮▮ and ▮▮▮▮▮▮▮▮ in UL coaching methodology. However, implementation has been challenged by high teacher turnover, such that only 51% of teachers observed had completed the UL teacher training package. Furthermore ▮▮▮▮▮▮▮▮▮ no longer carry out observation and coaching in schools, ▮▮▮▮▮▮▮▮▮▮. The project didn't correct its strategy for this intervention, thus not achieving its target of teachers being observed once every school term.

All SMCs were trained and supported in school improvement planning, with schools receiving training 2 or 3 times throughout the project. However, this support has not translated in to action, as only 58.3% of intervention schools have a school improvement plan. This does not even start to address whether that improvement plan is actually being implemented.

In terms of teaching and learning materials, WVB worked with 37 schools to establish reading corners and distributed 3,011 textbooks. This evaluation found that 19 schools are maintaining reading corners and more than 70% of classrooms have less than half the textbooks required.

Over the life the project, 153 reading camps have been established, supported by 309 trained RCFs. At any given time, approximately one-third of grade 1-3 children were attending reading camps, compared with the project model standard of 75%. The project procured and distributed 12,865 books to book banks. No data exists on titles purchased or how they were distributed to reading camps. A calculation of the most likely arrangement for reading camps in Kigamba commune indicates that reading camps only have about half the titles needed to achieve the project model standard of at least 100 titles in a book bank. Parents and RCFs expressed concern regarding the sustainability of the book banks.

Finally, 494 parents/caregivers took part in reading awareness workshops that were delivered in clusters of 3-4 schools, covering seven modules over seven months. While these sessions were organized in line with the project model documentation, less than 3% of parents targeted for RAWs attended the sessions. This is far short of the project model standard of at least 30% and has ultimately challenged the effectiveness of community action programming.

The traditional UL project design does not include support of school improvement planning, which was added in to this ILRE project. As stated above, this component was not successfully implemented. However, given the impact analysis results that show school environment is highly correlated with reading achievement, it is encouraged that the National Office refine and improve this component.

A strong build-out to the core UL project design was the addition of LBMs. Across UL programme sites, National Offices have struggled to retain and effectively engage volunteers. However, the Burundi team has successfully engaged these LBMs and the LBMs have shown very strong support for the programme, illustrated by the very low attrition rates.

Additionally, the project had a very impressive storybook creation mechanism. Burundi's work in storybook creation certainly stands out when compared to other UL implementation sites and should be shared with more children through more effective procurement and distribution to schools and communities.

2. What can the endline assessment tell us about pupils' reading skills?

Literacy skills of pupils within the evaluation sample showed divergence. Children were either performing well or were very much struggling. There was little in between. Among Cankuzo and Kigamba pupils, 20-26% of Grade 3 pupils were either non-readers or beginning readers. Furthermore, one-third of Grade 3 pupils could not accurately identify all letters and 42% were unable to accurately read the 20 most used words. On the other end, 76.9% of intervention students were readers with comprehension. Within those students who completed the reading comprehension sub-test (readers), students struggled the most with summary comprehension questions and inferential comprehension questions, while performing quite well on literal and evaluative comprehension questions. This is encouraging, as strong learners are able to excel at higher-level comprehension. However, this is only among those strong learners and it is concerning that struggling learners are being left behind. This diverging pattern among students differed by child background, with those falling behind tending to be the most marginalised students.

3. Has Unlock Literacy had an impact on reading with comprehension among Grade 3 pupils?
   a. For which types of pupils was impact the greatest/least?
   b. Does this impact result in more equitable outcomes for traditionally disadvantaged groups (Gender, SES, ECD attendance, HLE, chore load)?

Multilevel regression analysis controlling for student background variables and school environment variables reveal UL programming had an impact on advanced reading skills but not on basic reading skills. That impact was isolated to strong pupils, no impact was observed for children who are struggling to become readers. The program successfully contributes to the proportion of pupils reading with comprehension, 77% of interventions students were categorized as readers with comprehension, significantly more than the 53% of comparison pupils.

Within World Vision Burundi implementation sites, grade repetition and age were negatively associated with reading outcomes. The presence of classroom reading corners, and the physical school environment were positively associated with reading outcomes.

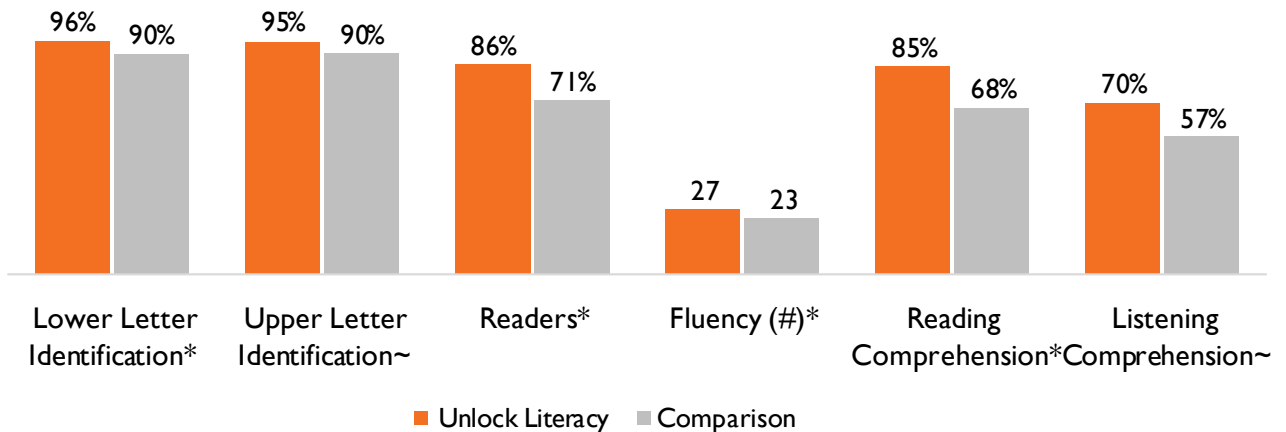There were no differences in impact when examining gender or home literacy environment. The equity analysis did find that among students with the lowest socioeconomic status, those in UL were predicted to score significantly higher on advanced reading skills, including fluency and reading comprehension scores. This is in encouraging and shows that Unlock Literacy is having some impact decreasing inequities among the lowest SES students, in particular.
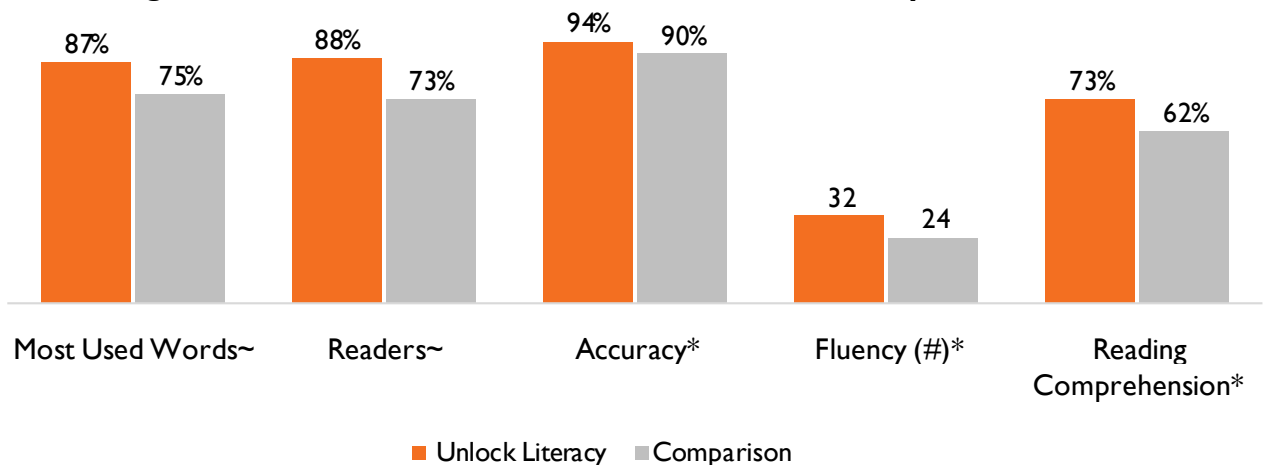
Additionally, UL students with the least HLE engagement in the home were predicted to score significantly higher on nearly every measure than their peers in comparison schools. Finally, UL was found to be having a positive impact on girls with heavy choreloads. These girls who attend schools with UL programming are predicted to score significantly higher than their comparison peers on nearly every measure.

4. Has there been uptake of Unlock Literacy teaching practice in UL schools?
   a. Does any uptake of teaching practice seem sustainable?

As per the results of the fidelity of implementation, the majority of teachers (51%) observed had not actually completed Unlock Literacy training. Interestingly, however, 69.9% of the teachers observed (across both intervention and comparison sites) demonstrated Unlock Literacy best practices. There were no significant differences between teacher best practices in intervention and comparison sites. Furthermore, there were no significant differences between teacher best practices among teachers that had been trained and those that had not. Further investigation is needed to explain this situation. There are a few possible reasons, including the observation tool was not sufficiently calibrated to identify differences in teacher skills or the UL teacher training was not sufficiently targeted to local teaching requirements.

Regarding other Unlock Literacy teaching practices, all teachers interviewed as part of the evaluation said they used formative assessment in their teaching practice to gauge student learning, and to adjust their instruction accordingly. While this is encouraging, the classroom observation found that teachers were not effectively using formative assessment to adjust teaching to meet the needs of children. Further support is needed to ensure these teachers are able to adapt to the ever-changing needs of their pupils.

Regarding classroom materials, there was significant impact found when comparing the presence of letter charts, wall charts, and other wall hangings in intervention schools to comparison schools. Slightly more than half of intervention classrooms observed had these print materials, compared to zero of the comparison classrooms observed. However, there is still room for significant improvement as *all* intervention classrooms should have these print materials to ensure a high-quality learning environment for children.

Unlock Literacy teaching practice has several challenges when it comes to sustainability. First and foremost, the high turnover and grade shifts among teachers has made it so that most currently practicing teachers have not completed training. These shifts will continue and there is no plan to re-train or continue training for teachers to account for these shifts. Secondly, an important component for ongoing support is the coaching and mentoring that was to be provided by ███████████. Since ███████████████ has changed, teachers are not being coached and mentored by provincial and commune officials. While head teachers are visiting teachers in classrooms, it is unclear what tasks they are undertaking specific to improving UL teaching methodologies.

5. What can the endline assessment tell us about participation in UL activities?
   a. Did participation differ by learner background?

Of the intervention students asked about attendance at Reading Camps (comparison school students were not asked the Community Action questions), 50.1% said they ever attended Reading Camps, and 74.4% of those said they attended Reading Camp last week. There were no differences between pupils from the two intervention communes, nor differences in participation between the sexes.

While at Reading Camp, pupils should be given the opportunity to create a Make-and-Take object that is used to assist in building reading skills at home. Among the students who attend Reading Camp, 48.9% said they made a Make-andTake object the previous week. There was a significant difference[73] between the intervention sites, with 61.9% of Cankuzo pupils reporting taking part in the activity while only 35.1% of Kigamba pupils said the same.

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[73] $p < 0.05$

Only 48.6% of pupils said they ever borrow books from the Book Bank. Of these, 75.6% said they did so in the last week. There were no significant differences between the intervention communes for Book Bank participation nor any significant difference in borrowing habits between boys and girls.

On average, 81.7% of children said they had a Reading Buddy, and 76.6% of those children with Reading Buddies said they met with them in the last week. On average, children met with their Buddies 2.5 times in the last week. There were no significant differences between the intervention communes as it relates to participation with Reading Buddies.

In general, these participation rates are low.

6. Has Unlock Literacy had an impact on repetition/drop-out rates?
    a. Grade 1 to 3
    b. Is repetition and dropout inequitably distributed to sub-groups in the population?

A positive development of the support to school improvement plans includes the partnership with the ▮▮▮▮▮▮ During an interview with ▮▮▮▮▮▮▮, the ▮▮▮▮▮▮▮ emphasised the strong partnership with World Vision, saying they plan together, implement together and evaluate together. An illustration of this work together concerned addressing the issue of school dropout. With it continuing to be persistently high in 2015, a joint planning meeting was held between different ▮▮▮▮▮▮▮▮ and WV. Objectives were set out for 2016 to undertake an education campaign in the province, targeting enrolment and school dropout. It was conducted by the ▮▮▮▮▮▮▮▮ ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮ visited every commune, initiating a new strategy to advise parents that children must be in school and if they are not, they will be punished. WV provided some funding for the campaign. As displayed in Table 6[74], school dropout has been significantly reduced in WVs target communes.

While improved enrolment and retention rates are an important change in Cankuzo province and showed positive planning initiative at provincial level, it was harder to determine changes brought to schools as a result of capacity building of SMCs for school planning. Observations of schools showed significant gaps in school plans for basic infrastructure improvements or maintenance, availability of teaching and learning materials, teacher professional development, and the cleanliness of the schools. SMC Training should be adjusted to more adaptable for the needs of the schools.

7. What do the research findings mean for continuing UL programming in this area?

The evaluation found strong evidence of impact and project uptake. This impact was *despite* low levels of coverage and participation in programming activities. Among project participants that actively participated in the programme, impact was greater. This goes to show that if the project was implemented with greater fidelity, there could be great impact on educational outcomes in Burundi. The project must also be adapted to meet the needs of struggling pupils as well as the changing context in Burundi.

Based on these findings, the evaluation team recommends the following next steps.

Next steps:

1. Provide teacher training to all teachers in the schools, to ensure that teachers have received Unlock Literacy training despite shifting grades.
2. Train, mentor and monitor Head Teachers to ensure they are fully equipped to effectively observe and coach teachers, consistent with UL methodologies, replacing the role within the project that was previously held by DPE/DCE officials.
3. Strengthen SMC training and support to ensure school improvement plans are created, relevant to the context and acted upon to improve the school environment.

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[74] Provincial Education Data

4. Provide more storybooks (a variety of titles and sufficient copies) to ensure that book banks meet project standards of 100 titles and 2 copies/title per book bank.

5. Teaching and learning materials should be strengthened, ensuring all children have textbooks. Given this is a big task and usually the responsibility of government, it may be a worthwhile activity for CVA or national level advocacy.

6. Ensure sufficient supplementary reading materials in the reading corners in schools and book banks in the community, complemented by a sustainability plan to maintain and replenish these resources.

7. Encourage greater participation in reading camps by adjusting the schedule to account for school shifts so all grade 1-3 children have the opportunity to attend.

8. Facilitate new parent awareness workshops, ensuring that at least 30% of target children have at least 1 parent attend the sessions.

9. The programme needs to create and implement a strategy across all interventions that addresses struggling students, ensuring that these struggling students are able to perform at a level comparable to their peers. This should be done while also challenging and encouraging strong learners to continue in their development.

APPENDIX A: INTER-RATER RELIABILITY

To test inter-rater reliability, approximately 2 pupils from each school were assessed by two enumerators simultaneously. Long one-way ANOVA techniques were used to calculate the intra-class correlation within pairs of assessors for a measure of reliability. Using Fleiss' benchmarks for excellent (ICC>0.75), good or fair (0.75>=ICCA>0.4), and poor (0.4>=ICC) we find that all the literacy outcomes variables exhibited excellent interrater reliability.

The table below shows the ICC between the raters:

Literacy Skill Sub-Test	Inter-Rater Reliability	Rating
Lowercase Letter Knowledge	0.988	Excellent
Uppercase Letter Knowledge	0.995	Excellent
Most Used Words	0.997	Excellent
Fluency	0.978	Excellent
Accuracy	0.992	Excellent
Listening Comprehension	0.988	Excellent
Reading Comprehension	0.974	Excellent
Reader or Nonreader	1.000	Excellent

There was excellent inter-rater reliability on every measure. Raters had near perfect agreement on scoring of all other measures. In general, inter-rater reliability was very high, and we can be confident that the internal validity of the scores is good.

APPENDIX B: ENDLINE BACKGROUND CHARACTERISTICS

	N	Intervention	Comparison	Sig Diff?	Cankuzo	Kigamba	Mishiha
N Schools	-	24	12	-	12	12	12
N Pupils	-	623	312	-	312	311	312
Age - Avg (Yrs)	935	10.0	10.8	Y***	10.0	10.1	10.8
Number in Household Household (Avg)	934	50.2%	20.6%	Y***	62.2%	38.3%	20.6%
Attended Preschool (%)	935	4.8	4.8	N	4.7	4.8	4.8
Grade 1 Repetition (% Rpt)	935	31.9%	59.3%	Y***	33.3%	30.5%	59.3%
Grade 2 Repetition (% Rpt)	933	21.4%	26.0%	N	23.1%	19.7%	26.0%
Grade 3 Repetition (% Rpt)	935	20.2%	23.4%	N	16.3%	24.1%	23.4%
Home Items (% Possess at Home)							
Radio	935	51.7%	46.5%	N	56.4%	46.9%	46.5%
Electricity	935	8.5%	4.2%	Y**	14.4%	2.6%	4.2%
Refrigerator	935	0.6%	0.0%	Y*	1.0%	0.3%	0.0%
Bicycle	935	47.4%	53.5%	N	40.1%	54.7%	53.5%
Latrine	935	97.4%	96.5%	N	97.1%	97.7%	96.5%
Television	935	3.0%	0.6%	Y**	4.8%	1.3%	0.6%
Mobile Phone	935	65.0%	54.2%	Y**	71.8%	58.2%	54.2%
Motorbike	935	4.2%	2.6%	N	7.4%	1.0%	2.6%
Car	935	0.8%	0.6%	N	1.6%	0.0%	0.6%
N - Home materials (9 possible)	935	2.8	2.6	Y*	2.9	2.6	2.6
Animals (% Possess at Home)							
Cows	935	38.4%	25.0%	Y***	34.0%	42.8%	25.0%
Goats	935	73.7%	61.9%	Y***	75.3%	72.0%	61.9%
Sheep	935	16.1%	8.0%	Y***	17.0%	15.1%	8.0%
Pigs	935	20.1%	28.2%	Y**	11.9%	28.3%	28.2%
N - Types of Animals (4 possible)	935	1.5	1.2	Y***	1.4	1.6	1.2
Other possessions							
No possessions	935	0.6%	1.0%	N	1.3%	0.0%	1.0%
Good roof	935	77.8%	77.9%	N	78.2%	77.2%	77.9%
Good wall	935	3.2%	1.9%	N	3.2%	3.2%	1.9%
Good floor	935	14.8%	11.5%	N	18.9%	10.6%	11.5%
Choreload							
Does Chores (Y/N)	935	99.7%	100.0%	N	99.7%	99.7%	100.0%
Fetch Firewood	935	76.7%	68.3%	Y**	67.6%	85.9%	68.3%
Fetch Water	935	93.4%	90.7%	N	90.7%	96.1%	90.7%
Wash Clothes	935	18.3%	14.7%	N	18.6%	18.0%	14.7%
Wash Dishes	935	26.5%	26.3%	N	30.4%	22.5%	26.3%
Cook	935	74.3%	74.4%	N	72.8%	75.9%	74.4%
Sweep	935	34.8%	31.1%	N	35.9%	33.8%	31.1%
Tends Livestock	935	43.5%	28.8%	Y***	48.1%	38.9%	28.8%
Farming	935	26.2%	29.8%	N	22.8%	29.6%	29.8%
Care for siblings	935	15.1%	8.0%	Y***	17.6%	12.5%	8.0%
Other chores	935	4.7%	9.3%	Y*	5.4%	3.9%	9.3%
N – Total Chores (10 possible)	935	4.1	3.8	Y**	4.1	4.2	3.8

Time spent doing chores / homework each day							
Chores: Short period of time	923	51.5%	40.5%	Y**	57.8%	45.1%	40.5%
Chores: Long period of time	923	48.5%	59.5%	Y**	42.2%	54.9%	59.5%
Studying: Short period of time	930	53.1%	59.5%	Y~	46.3%	60.0%	59.5%
Studying: Long period of time	930	39.0%	25.2%	Y***	48.9%	29.0%	25.2%
Studying: No time	930	7.9%	15.2%	Y**	4.8%	11.0%	15.2%
Has enough time to study? (Y/N)	935	80.6%	77.9%	N	85.9%	75.2%	77.9%

APPENDIX C: BACKGROUND CHARACTERISTICS BASELINE TO ENDLINE BY COMMUNE

	Cankuzo			Kigamba		
	Baseline	Endline	Sig Diff?	Baseline	Endline	Sig Diff?
N Schools	14	12	-	19	12	-
N Pupils	192	312	-	364	311	-
Age - Avg (Yrs)	10.5	10.0	Y***	9.6	10.1	Y*
Number in Household Household (Avg)	9.9%	62.2%	Y***	10.4%	38.3%	Y**
Attended Preschool (%)	4.9	4.7	Y~	7.1	4.8	Y***
Grade 1 Repetition (% Rpt)	57.8%	33.3%	Y***	50.6%	30.5%	Y**
Grade 2 Repetition (% Rpt)	38.0%	23.1%	Y***	20.6%	19.7%	N
Grade 3 Repetition (% Rpt)	2.4%	16.3%	Y***	NA	24.1%	NA
Home Items (% Possess at Home)						
Radio	59.4%	56.4%	N	57.1%	46.9%	Y~
Electricity	3.6%	14.4%	Y***	1.1%	2.6%	N
Refrigerator	0.5%	1.0%	N	0.0%	0.3%	N
Bicycle	38.5%	40.1%	N	53.3%	54.7%	N
Latrine	99.5%	97.1%	Y*	94.5%	97.7%	Y~
Television	3.1%	4.8%	N	0.3%	1.3%	N
Mobile Phone	39.1%	71.8%	Y***	41.8%	58.2%	Y**
Motorbike	2.1%	7.4%	Y**	2.8%	1.0%	N
Car	1.6%	1.6%	N	0.3%	0.0%	N
N - Home materials (9 possible)	2.5	2.9	Y***	2.5	2.6	N
Animals (% Possess at Home)						
Cows	28.6%	34.0%	N	42.3%	42.8%	N
Goats	69.8%	75.3%	N	75.3%	72.0%	N
Sheep	6.8%	17.0%	Y***	14.8%	15.1%	N
Pigs	2.6%	11.9%	Y***	23.1%	28.3%	N
N - Types of Animals (4 possible)	1.1	1.4	Y***	1.6	1.6	N
Other possessions						
No possessions	0.0%	1.3%	Y*	0.3%	0.0%	N
Good roof	44.3%	78.2%	Y***	69.3%	77.2%	N
Good wall	6.3%	3.2%	N	1.9%	3.2%	N
Good floor	8.3%	18.9%	Y***	5.8%	10.6%	N
Chore load						
Does Chores (Y/N)	99.7%	99.5%	N	96.4%	99.7%	Y*
Fetch Firewood	67.6%	70.2%	Y**	78.9%	85.9%	N
Fetch Water	90.7%	92.1%	N	93.4%	96.1%	N
Wash Clothes	18.6%	4.2%	N	4.7%	18.0%	Y***
Wash Dishes	30.4%	9.4%	N	6.6%	22.5%	Y**
Cook	72.8%	68.1%	N	78.0%	75.9%	N
Sweep	35.9%	19.9%	N	21.7%	33.8%	Y*
Tends Livestock	48.1%	44.5%	Y***	40.1%	38.9%	N
Farming	22.8%	7.9%	N	24.7%	29.6%	N
Care for siblings	17.6%	7.3%	Y***	5.8%	12.5%	Y*
Other chores	5.4%	0.0%	Y*	4.7%	3.9%	N

N – Total Chores (10 possible)	4.1	3.2	Y**	3.5	4.2	Y**
Time spent doing chores / homework each day						
Chores: Short period of time	57.8%	50.5%	Y**	96.4%	45.1%	N
Chores: Long period of time	42.2%	49.5%	Y**	78.9%	54.9%	N
Studying: Short period of time	46.3%	51.0%	Y~	93.4%	60.0%	N
Studying: Long period of time	48.9%	37.5%	Y***	4.7%	29.0%	N
Studying: No time	4.8%	11.5%	Y**	6.6%	11.0%	Y~
Has enough time to study? (Y/N)	85.9%	89.1%	N	78.0%	75.2%	N

APPENDIX D: ENDLINE BACKGROUND CHARACTERISTICS BY SEX

	N	Male	Female	Sig Diff?
N Schools	-	-	-	-
N Pupils	-	463	472	-
Age - Avg (Yrs)	935	10.5	10.1	N
Number in Household Household (Avg)	934	38.9%	41.8%	N
Attended Preschool (%)	935	4.8	4.8	N
Grade 1 Repetition (% Rpt)	935	43.4%	38.8%	N
Grade 2 Repetition (% Rpt)	933	24.6%	21.3%	N
Grade 3 Repetition (% Rpt)	935	20.5%	22.0%	N
Home Items (% Possess at Home)				
Radio	935	48.6%	51.3%	N
Electricity	935	6.1%	8.1%	N
Refrigerator	935	0.2%	0.6%	N
Bicycle	935	45.8%	53.0%	N
Latrine	935	96.8%	97.5%	N
Television	935	2.4%	2.1%	N
Mobile Phone	935	60.7%	62.1%	N
Motorbike	935	3.5%	3.8%	N
Car	935	0.4%	1.1%	N
N - Home materials (9 possible)	935	2.6	2.8	N
Animals (% Possess at Home)				
Cows	935	31.3%	36.4%	N
Goats	935	69.8%	69.7%	N
Sheep	935	14.0%	12.7%	N
Pigs	935	21.8%	23.7%	N
N - Types of Animals (4 possible)	935	1.4	1.4	N
Other possessions				
No possessions	935	1.1%	0.4%	N
Good roof	935	76.9%	78.6%	N
Good wall	935	2.4%	3.2%	N
Good floor	935	13.6%	13.8%	N
Choreload				
Does Chores (Y/N)	935	99.8%	99.8%	N
Fetch Firewood	935	67.2%	80.5%	Y*
Fetch Water	935	92.7%	92.4%	N
Wash Clothes	935	9.5%	24.6%	Y***
Wash Dishes	935	17.9%	34.8%	Y*
Cook	935	62.0%	86.4%	Y***
Sweep	935	16.2%	50.6%	Y***
Tends Livestock	935	51.8%	25.6%	Y**
Farming	935	27.9%	26.9%	N
Care for siblings	935	6.1%	19.3%	Y**
Other chores	935	8.2%	4.2%	N
N – Total Chores (10 possible)	935	3.6	4.5	Y***
Time spent doing chores/homework				
Chores: Short period of time	923	52.0%	43.7%	N
Chores: Long period of time	923	48.0%	56.3%	N
Studying: Short period of time	930	56.3%	54.3%	N
Studying: Long period of time	930	34.2%	34.6%	N
Studying: No time	930	9.5%	11.1%	N
Has enough time to study? (Y/N)	935	82.5%	76.9%	N

APPENDIX E: ENDLINE HOME LITERACY ENVIRONMENT CHARACTERISTICS

	N	Intervention	Comparison	Sig Diff?	Cankuzo	Kigamba	Mishiha
Books in the Home							
Textbooks	935	37.9%	20.2%	Y***	47.8%	28.0%	20.2%
Religious Books	935	68.4%	53.8%	Y***	70.2%	66.6%	53.8%
Newspapers	935	2.1%	1.0%	N	2.2%	1.9%	1.0%
Storybooks	935	29.2%	6.7%	Y***	34.6%	23.8%	6.7%
Comics	935	10.3%	3.8%	Y***	8.7%	11.9%	3.8%
Booklets	935	19.7%	7.4%	Y***	23.4%	16.1%	7.4%
No reading materials	935	16.1%	34.3%	Y***	9.6%	22.5%	34.3%
Total reading materials (6 possible)	935	1.7	0.9	Y***	1.9	1.5	0.9
Frequency of Reading Activities in the Home							
See Read (Y/N)	935	87.5%	76.9%	Y***	90.4%	84.6%	76.9%
See Read (#)	935	2.6	2.0	Y***	3.0	2.3	2.0
See Read (%)	935	33.1%	24.5%	Y***	37.3%	28.9%	24.5%
Help Study (Y/N)	935	79.1%	70.2%	Y**	87.5%	70.7%	70.2%
Help Study (#)	935	2.2	1.6	Y***	2.6	1.8	1.6
Help Study (%)	935	27.5%	19.5%	Y***	32.7%	22.3%	19.5%
Read to You (Y/N)	935	74.6%	62.2%	Y***	82.1%	67.2%	62.2%
Read to You (#)	935	2.0	1.4	Y***	2.4	1.6	1.4
Read to You (%)	935	24.8%	17.1%	Y***	29.5%	19.8%	17.1%
Tell You a Story (Y/N)	935	65.8%	54.2%	Y***	73.1%	58.5%	54.2%
Tell You a Story (#)	935	1.7	1.1	Y***	2.0	1.3	1.1
Tell You a Story (%)	935	20.7%	13.4%	Y***	25.3%	16.0%	13.4%
Sings Songs to You (Y/N)	935	97.3%	93.9%	Y*	97.4%	97.1%	93.9%
Plays Games with You (Y/N)	935	90.5%	81.1%	Y***	90.4%	90.7%	81.1%
Other Activities							
Exchange books with family?	934	55.5%	26.3%	Y***	66.3%	44.5%	26.3%
Exchange books with community member?	934	50.9%	21.5%	Y***	62.2%	39.5%	21.5%
Read books with family?	933	52.8%	24.5%	Y***	59.9%	45.7%	24.5%
Read books with community member?	933	44.2%	17.4%	Y***	52.2%	36.1%	17.4%

APPENDIX F: ENDLINE HOME LITERACY ENVIRONMENT BY SEX

	N	Male	Female	Sig Diff?
Books in the Home				

Textbooks	935	33.9%	31.1%	N
Religious Books	935	64.4%	62.7%	N
Newspapers	935	2.2%	1.3%	N
Storybooks	935	21.0%	22.5%	N
Comics	935	8.4%	7.8%	N
Booklets	935	16.9%	14.4%	N
No reading materials	935	21.8%	22.5%	N
Total reading materials (6 possible)	935	1.5	1.4	N
Frequency of Reading Activities in the Home				
See Read (Y/N)	935	84.7%	83.3%	N
See Read (#)	935	2.4	2.4	N
See Read (%)	935	30.2%	30.2%	N
Help Study (Y/N)	935	73.9%	78.4%	N
Help Study (#)	935	1.9	2.0	N
Help Study (%)	935	24.2%	25.4%	N
Read to You (Y/N)	935	68.0%	72.9%	N
Read to You (#)	935	1.7	1.8	N
Read to You (%)	935	21.3%	23.1%	N
Tell You a Story (Y/N)	935	58.8%	65.0%	N
Tell You a Story (#)	935	1.3	1.6	N
Tell You a Story (%)	935	16.4%	20.1%	N
Sings Songs to You (Y/N)	935	95.5%	96.8%	N
Plays Games with You (Y/N)	935	84.2%	90.5%	N
Other Activities				
Exchange books with family?	934	45.6%	45.9%	N
Exchange books with community member?	934	41.7%	40.6%	N
Read books with family?	933	42.1%	44.7%	N
Read books with community member?	933	35.1%	35.5%	N

APPENDIX G: ENDLINE COMMUNITY ACTION PARTICIPATION

	N	Cankuzo	Kigamba	Sig Diff?
Reading Camp				
Do you attend Reading Camps?	623	51.3%	48.9%	N
If yes, did you attend last week?	312	82.4%	66.0%	N
How many times did you attend last week?	233	2.2	2.2	N
Favourite activity at Reading Camp is activity time	306	22.2%	29.7%	N
Favourite activity at Reading Camp is free time	306	5.7%	8.1%	N
Favourite activity at Reading Camp is journaling	306	4.4%	0%	Y*
Favourite activity at Reading Camp is make-and-take	306	0.6%	0.7%	N
Favourite activity at Reading Camp is singing	306	10.8%	10.8%	N

Favourite activity at Reading Camp is story time	306	53.2%	50.0%	N
Does the Reading Camp facilitator ask you questions?	312	100%	99.3%	N
Child likes male Reading Camp facilitator the most	309	19.0%	21.9%	N
Child likes female Reading Camp facilitator the most	309	25.3%	24.5%	N
Child likes both male and female Reading Camp facilitators equally	309	55.7%	53.6%	N
Child likes Reading Camp facilitator because s/he is friendly	312	0.6%	1.3%	N
Child likes Reading Camp facilitator because s/he is fun	312	5.6%	17.8%	Y*
Child likes Reading Camp facilitator because s/he is a good teacher	312	90.0%	85.5%	N
Book Banks				
Have you borrowed a book from the Book Bank?	622	46.8%	50.3%	N
Did you borrow a book last week?	311	78.7%	72.7%	N
How many times did you borrow last week?	230	2.3	2.1	N
Can child name title of their favourite book from the Book Bank?	303	91.2%	93.6%	N
Is there a book you would like to read from the Book Bank?	302	37.4%	61.9%	Y~
Is the Book Bank ever empty when you visit?	303	19.7%	17.3%	N
Do you ever visit and there are no copies of the book you want?	303	39.5%	34.6%	N
Reading Buddies				
Do you have a Reading Buddy?	622	82.4%	81.0%	N
If yes, do you know the name of your Reading Buddy?	515	97.3%	98.8%	N
Was your Reading Buddy assigned by a Reading Camp facilitator?	509	27.5%	22.3%	N
Did you meet with your Reading Buddy last week?	509	77.1%	76.1%	N
If yes, how many times did you meet with your Reading Buddy last week?	390	2.5	2.5	N
Make and Take				
In the last week, have you made and taken home a reading material?	311	61.9%	35.1%	Y*
If yes, does this activity happen *sometimes* at Reading Camp?	153	48.0%	41.5%	N
If yes, does this activity happen *always* at Reading Camp?	153	52.0%	58.5%	N
Child *never* uses make and take activity at home	150	1.0%	5.7%	N
Child *sometimes* uses make and take activity at home	150	52.6%	45.3%	N
Child *often* uses make and take activity at home	150	46.4%	49.1%	N
Read-a-Thon				
Did you participate in the Read-a-Thon?	623	25.3%	18.0%	N
If yes, how many books did you read during the Read-a-Thon?	135	2.3	2.4	N
Total Community Action Activities (out of 5)	623	2.0	1.7	N

APPENDIX H: ENDLINE READING SKILLS SCORES

N	Intervention	Comparison	Sig Diff?	Cankuzo	Kigamba	Mishiha

	N			Sig Diff?			
Lowercase Letter Knowledge							
Total Number of Letters (23)	935	21.7	21.2	Y~	21.9	21.5	21.2
Percent Total Lowercase Letters	935	94.2%	92.2%	Y~	95.1%	93.3%	92.2%
Students Scoring 0 for Lowercase Letters	935	0.3%	0.6%	N	0.3%	0.3%	0.6%
Uppercase Letter Knowledge							
Total Number of Letters (23)	935	21.6	21.2	N	22.0	21.3	21.2
Percent Total Uppercase Letters	935	94.1%	92.3%	N	95.7%	92.5%	92.3%
Students Scoring 0 for Uppercase Letters	935	0.5%	0.3%	N	0.3%	0.6%	0.3%
Most Used Words							
Total Number of Words (20)	935	17.9	17.2	Y~	18.4	17.4	17.2
Percent Total Most Used Words	935	89.6%	86.2%	Y~	92.2%	87.0%	86.2%
Students Scoring 0 for Most Used Words	935	3.7%	4.8%	N	0.6%	6.8%	4.8%
Readers							
Number of Readers	783	538	245	Y**	275	263	245
Percent of Readers	935	86.4%	78.5%	Y**	88.1%	84.6%	78.5%
Accuracy							
Total Number of Words Read (86)	783	82.0	80.0	Y***	81.7	82.4	80.0
Percent Accuracy	783	95.4%	93.1%	Y***	95.0%	95.8%	93.1%
Fluency							
Words Per Minute Correct	783	28.8	23.2	Y***	28.4	29.2	23.2
Reading Comprehension							
Total Questions Answered Correctly (10)	783	8.6	7.0	Y***	8.1	9.2	7.0
Percent Answered Correctly	783	86.4%	69.8%	Y***	81.0%	91.9%	69.8%
Listening Comprehension							
Total Questions Answered Correctly (10)	152	6.7	5.8	Y*	7.1	6.4	5.8
Percent Answered Correctly	152	66.8%	58.4%	Y*	70.5%	64.0%	58.4%
Reader with Comprehension Tiers							
Percent Nonreader	935	13.6%	21.5%	Y**	11.9%	15.4%	21.5%
Percent Beginner	935	9.5%	26.0%	Y***	14.1%	4.8%	26.0%
Percent Reader with Comprehension	935	76.9%	52.6%	Y***	74.0%	79.7%	52.6%

APPENDIX I: ENDLINE READING SKILLS SCORES BY SEX

	N	Male	Female	Sig Diff?
Lowercase Letter Knowledge				
Total Number of Letters (23)	935	21.6	21.4	N
Percent Total Lowercase Letters	935	94.0%	93.1%	N
Students Scoring 0 for Lowercase Letters	935	0.4%	0.4%	N
Uppercase Letter Knowledge				

	935			
Total Number of Letters (23)	935	21.6	21.4	N
Percent Total Uppercase Letters	935	94.0%	92.9%	N
Students Scoring 0 for Uppercase Letters	935	0.4%	0.4%	N

Most Used Words

Total Number of Words (20)	935	17.8	17.6	N
Percent Total Most Used Words	935	88.9%	88.1%	N
Students Scoring 0 for Most Used Words	935	2.8%	5.3%	N

Readers

Number of Readers	783	381	402	N
Percent of Readers	935	82.3%	85.2%	N

Accuracy

Total Number of Words Read (86)	783	80.8	82.0	Y~
Percent Accuracy	783	93.9%	95.4%	Y~

Fluency

Words Per Minute Correct	783	24.8	29.2	Y*

Reading Comprehension

Total Questions Answered Correctly (10)	783	8.2	8.1	N
Percent Answered Correctly	783	81.8%	80.6%	N

Listening Comprehension

Total Questions Answered Correctly (10)	152	6.4	6.2	N
Percent Answered Correctly	152	63.7%	62.4%	N

Reader with Comprehension Tiers

Percent Nonreader	935	17.7%	14.8%	N
Percent Beginner	935	13.6%	16.3%	N
Percent Reader with Comprehension	935	68.7%	68.9%	N

APPENDIX J: MULTIVARIATE REGRESSION

Variables	Lowercase Letters	Uppercase Letters	Most Used Words	Reader	Accuracy	Fluency	Reading Comp	Listening Comp	Read with Comp Tiers
Phase (1=LB; 2=Comparison)	-0.134	-0.384	-0.569	-0.00595	0.0217*	3.793**	0.181***	-0.0484	0.189
	(0.754)	(0.725)	(1.082)	(0.0700)	(0.00802)	(1.337)	(0.0357)	(0.0573)	(0.140)
Sex	-0.198	-0.276	-0.275	0.0194	0.0123**	4.789***	-0.0137	-0.00776	0.0196
	(0.234)	(0.212)	(0.229)	(0.0198)	(0.00362)	(1.070)	(0.0123)	(0.0362)	(0.0362)
SES Terciles	0.199	0.281	0.278	0.00897	-0.00142	-1.449**	-0.00563	-0.0123	0.00462
	(0.219)	(0.225)	(0.285)	(0.0182)	(0.00222)	(0.516)	(0.00766)	(0.0295)	(0.0357)
HLE Habits (Avg)	0.569	0.250	0.305	0.0432	0.0135	4.353	-0.0281	0.139	-0.0551
	(0.912)	(0.832)	(0.977)	(0.0693)	(0.0160)	(3.457)	(0.0513)	(0.157)	(0.156)
HLE Materials (wght)	0.0262	0.0357	0.116	0.00743	0.000981	0.175	0.00646~	0.0178	0.0199
	(0.0865)	(0.0829)	(0.106)	(0.00692)	(0.00106)	(0.207)	(0.00362)	(0.0144)	(0.0142)

Choreload	0.466	0.694	1.803	0.0779	-0.0175	-2.403	0.0752	0.0410	0.214
	(0.913)	(0.965)	(1.450)	(0.0847)	(0.0117)	(2.528)	(0.0672)	(0.0955)	(0.184)
Master chore	-0.236	-0.264	-0.416	-0.0188	0.00637	0.259	-0.00129	0.00569	-0.0368
	(0.252)	(0.260)	(0.365)	(0.0214)	(0.00378)	(0.895)	(0.0164)	(0.0348)	(0.0477)
Teacher Best Practice	0.164	0.317	0.380	0.0166	0.00547	2.058**	0.0188	-0.0130	0.0384
	(0.215)	(0.249)	(0.353)	(0.0224)	(0.00448)	(0.601)	(0.0174)	(0.0268)	(0.0477)
Classroom Materials	0.194	0.00100	-0.0707	-0.00575	-0.00822*	0.524	-0.0453*	0.0396	-0.0633
	(0.249)	(0.235)	(0.384)	(0.0288)	(0.00386)	(0.719)	(0.0177)	(0.0323)	(0.0596)
ECD Attendance	-0.309	-0.224	-0.220	0.0214	-0.00757	0.337	-0.00848	0.0260	0.0262
	(0.281)	(0.267)	(0.318)	(0.0301)	(0.00469)	(0.950)	(0.0117)	(0.0643)	(0.0545)
Age	-0.173	-0.252~	-0.355	-0.0324*	-0.00309~	0.370	0.0163*	0.00425	-0.0480~
	(0.141)	(0.134)	(0.220)	(0.0132)	(0.00177)	(0.372)	(0.00602)	(0.0165)	(0.0242)
Repeat Grade 1	-0.551	-0.743*	-0.889*	-0.0717*	-0.00859~	-1.542	-0.0182	0.00524	-0.154**
	(0.335)	(0.355)	(0.427)	(0.0311)	(0.00443)	(0.925)	(0.0152)	(0.0362)	(0.0553)
Repeat Grade 2	-1.286***	-1.224**	-1.745***	-0.108**	-0.00342	-1.074	0.00566	-0.0418	-0.202**
	(0.352)	(0.355)	(0.426)	(0.0312)	(0.00519)	(1.273)	(0.0174)	(0.0468)	(0.0660)
Repeat Grade 3	-0.380	-0.466	-0.630	-0.00874	-0.00728	-1.026	-0.00353	0.0248	-0.00995
	(0.319)	(0.396)	(0.585)	(0.0393)	(0.00727)	(1.159)	(0.0146)	(0.0431)	(0.0685)
# Household Members	-0.132	-0.103	-0.0829	0.00579	-0.00137	0.0726	-0.00259	-0.0162	0.000749
	(0.0979)	(0.102)	(0.128)	(0.00878)	(0.00168)	(0.406)	(0.00642)	(0.0176)	(0.0205)
Ate Breakfast	-0.0153	0.147	0.331	0.00294	-0.00401	-0.778	-0.0169	0.0896	-0.0347
	(0.381)	(0.389)	(0.422)	(0.0283)	(0.00482)	(0.842)	(0.0181)	(0.0649)	(0.0508)
Treat water	0.122	0.0185	-0.394	0.00345	0.00315	1.731~	0.0384*	0.0913*	0.0935~
	(0.270)	(0.308)	(0.394)	(0.0239)	(0.00342)	(0.940)	(0.0164)	(0.0408)	(0.0516)
School has electricity	-1.217~	-1.181	-1.769~	-0.118	0.0230**	5.352**	0.103*	-0.0325	-0.0607
	(0.709)	(0.703)	(1.006)	(0.0736)	(0.00802)	(1.619)	(0.0408)	(0.102)	(0.144)
School has water source	1.110*	1.069*	1.513*	0.111*	0.00862	3.253**	-0.00434	-0.0510	0.185~
	(0.457)	(0.441)	(0.684)	(0.0466)	(0.00612)	(0.942)	(0.0360)	(0.0533)	(0.0984)
School has std. latrines	-0.620	-0.808	-1.134	-0.0632	0.000965	-0.270	-0.0166	-0.102	-0.162
	(0.705)	(0.662)	(0.928)	(0.0554)	(0.00791)	(1.397)	(0.0307)	(0.0816)	(0.129)
School has library	-0.248	-0.0799	-0.0801	-0.0410	-0.0115	-4.886**	-0.0107	0.168~	0.0343
	(0.843)	(0.752)	(1.206)	(0.0846)	(0.0112)	(1.454)	(0.0438)	(0.0873)	(0.160)
School has reading corners	1.041*	1.005*	1.386*	0.104*	0.0151*	3.506**	0.0728**	0.199**	0.249**
	(0.501)	(0.478)	(0.678)	(0.0468)	(0.00570)	(1.118)	(0.0225)	(0.0548)	(0.0836)
Commune Supervision visits	-0.789	-0.882	-0.919	-0.0499	0.000991	-0.737	-0.0317	-0.102	-0.0997
	(0.741)	(0.707)	(1.048)	(0.0672)	(0.00643)	(1.501)	(0.0300)	(0.0607)	(0.143)
Provincial Supervision Visits	-0.175	0.224	0.466	-0.0290	0.00223	-1.035	0.0112	0.0429	-0.0551
	(0.860)	(0.790)	(1.200)	(0.0693)	(0.00727)	(1.124)	(0.0285)	(0.0651)	(0.136)
Constant	23.84***	24.42***	20.31***	1.075***	0.978***	17.28***	0.490**	0.586*	2.816***
	(2.055)	(1.905)	(2.703)	(0.159)	(0.0274)	(4.589)	(0.143)	(0.267)	(0.360)
Observations	904	904	904	904	765	765	765	139	904
R-squared	0.097	0.100	0.125	0.122	0.114	0.141	0.262	0.243	0.144
~p<0.1; *p<0.05; **p<0.01; ***p<0.001									