



Roots to Rise: Summary of Pilot Results

Overview

From June to December 2018, Building Tomorrow piloted a foundational learning initiative called Roots to Rise, which involves grouping students according to their learning level and teaching basic reading and math skills. Based on the Teaching at the Right Level approach pioneered and rigorously evaluated by Indian NGO Pratham, Roots to Rise deploys a unique model which unites school and community actors in pursuit of better learning outcomes.

Before the Roots to Rise literacy intervention, Building Tomorrow found that 85% of students were unable to read basic words. However, after only 25 days of lessons, 78% of students moved up at least one literacy level, and 25% achieved the ability to read and comprehend a short story. In the numeracy pilot, 52% of students were unable to perform basic addition and subtraction at the baseline assessment. However, after the numeracy intervention, 95% of students had moved up at least one numeracy level, and 56% had achieved competency in all operations, including addition, subtraction, multiplication, and division.

Based on the success of this pilot, Building Tomorrow is working to scale up Roots to Rise, bringing this effective and powerful tool to many more Ugandan classrooms.

The Problem

As of 2017, UNESCO Institute for Statistics (UIS) estimates that more than 617 million children do not achieve minimum proficiency levels in reading and mathematics¹. Globally, two-thirds of children are in school and will reach the last grade of primary, but will not achieve minimum proficiency levels in reading². These statistics point to a global learning crisis in which children are spending years in school without learning foundational skills.

The global learning crisis is evident in Uganda, where millions of children are leaving primary school without the crucial ability to read or perform basic math. A study by Uwezo Uganda found that 61% of Ugandan students in P3-P7 couldn't read a simple story and 48% couldn't perform basic math operations³. When students are attending school but aren't learning basic skills, both students and their parents form negative perceptions about the value of education. In fact, only 53% of learners complete a full cycle of primary school, while nearly half drop out without mastering the essential foundations of learning (World Bank)⁴.

¹ UNESCO Institute for Statistics (UIS) Fact Sheet No. 48, February 2018, p. 12.

² UNESCO Institute for Statistics (UIS) Fact Sheet No. 46, September 2017, p.10.

³ Uwezo Uganda. 2016. Are Our Children Learning: Five Stories on the State of Education. The Fifth Uwezo Annual Learning Assessment Report.

⁴ World Bank DataBank, 2016. <https://data.worldbank.org/indicator/SE.PRM.CMPT.ZS?locations=UG>

These results are partially due to overcrowded classrooms, where teachers must manage a wide range of ages and abilities. Struggling students are consistently left behind as teachers work to address the variety of learning levels within their cramped classrooms. Compounding the problem, many Ugandan teachers rely on a static teaching style, where students sit at their desk and receive didactic lectures. Furthermore, teachers are tasked with covering an over-ambitious, uniform curriculum which incentivizes them to teach to the top of the class, leaving struggling students behind. As an unfortunate consequence, many students are automatically promoted to the next class despite an inability to master foundational learning skills.

Roots to Rise Implementation Model

Roots to Rise is a core element of Building Tomorrow's Thriving Schools Program, a community-centered initiative led by Building Tomorrow Fellows and teams of Community Education Volunteers (CEVs) aimed at providing primary school students with access to an inclusive, transformative education. Through the Thriving Schools Program, Building Tomorrow recruits and trains recent Ugandan university graduates as Fellows and deploys them to rural communities, where they aim to transform underserved schools into Thriving Schools. Fellows achieve change through partnership with CEVs—local leaders who work to enroll out-of-school children while also providing targeted support to classroom learning.

Roots to Rise is facilitated by teachers and CEVs, who begin by assessing students one-on-one using a simple test and grouping them based on their learning level (see Appendix 1 for the literacy assessment and Appendix 3 for the numeracy assessment). Teachers and CEVs then facilitate targeted lessons over the course of 25 school days, during one-hour blocks specifically devoted to Roots to Rise. Each week, students are re-assessed and re-grouped as they move up through higher learning levels. By grouping students and targeting lessons to their abilities, Roots to Rise promotes differentiated instruction to address the varying learning needs of students within a classroom. This approach enables facilitators to maximize every students' growth, while also recognizing that every student learns at their own pace.

Lessons are taught in the area's local language and are based on engaging, interactive activities introduced to facilitators during their initial training period. Roots to Rise employs a child-centric approach, where students are free to explore activities for themselves and manipulate locally-made learning aids which demonstrate key concepts. In each lesson, facilitators lead children in interactive games which make learning fun and keep minds engaged.

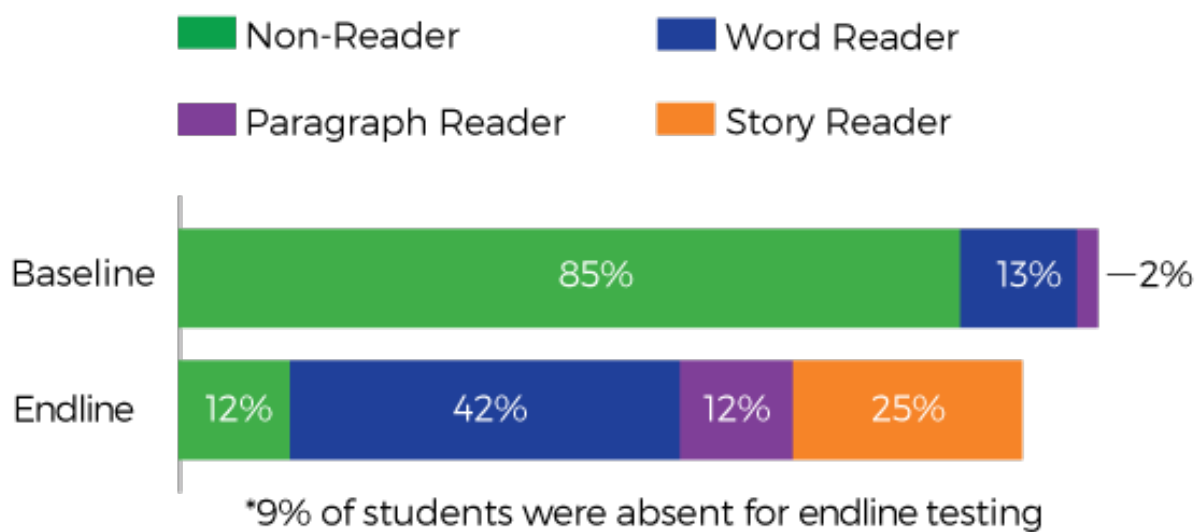
In order to promote high quality implementation, the Roots to Rise model integrates several additional stakeholders who ensure the initiative is carried out successfully. At the school level, head teachers supervise lessons and monitor CEV and teacher attendance. Government-employed teacher trainers known as Center Coordinating

Tutors (CCTs) play a crucial mentoring role, and are responsible for regularly visiting schools to guide facilitators in effective teaching methods. Finally, Fellows oversee all of these participants, solving any problems which may arise and ensuring that everyone is fulfilling their role. By integrating CEVs, teachers, head teachers, and CCTs, Roots to Rise employs a sustainable, community-led approach which can continue even after a Fellow has completed their two-year term of support.

Literacy Pilot

From June to July 2018, Building Tomorrow piloted a Roots to Rise literacy intervention at ten schools in Kiboga and Kyankwanzi Districts, including nine Building Tomorrow schools and one non-Building Tomorrow government partner school. In total, 494 students in P2 and P3 participated in the intervention, while lessons were carried out by 59 facilitators. Teachers, CEVs, Fellows, head teachers, and CCTs received five days of training which reviewed each participants' role and explained how to assess and group students, carry out lessons, and collect data.

After only 25 days of lessons, the literacy pilot resulted in significant improvements in students' reading capabilities:

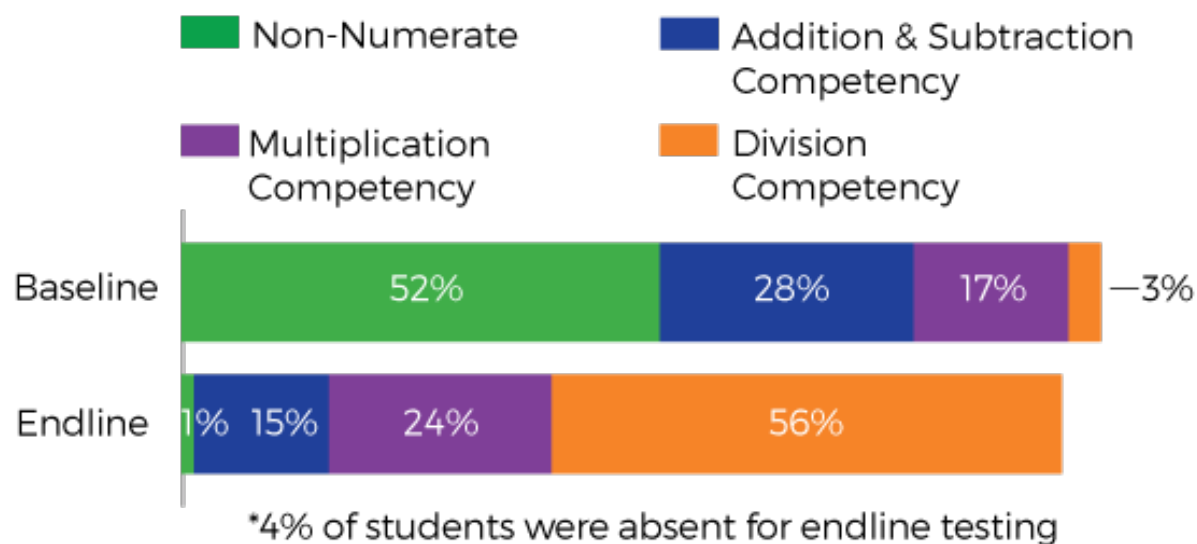


At baseline, 85% of students were unable to read basic words, thereby classifying them as Non-Readers. However, by the end of the intervention, 78% of students had moved up at least one literacy level and 25% achieved the ability to read and comprehend a short story. These results demonstrate enormous potential for Roots to Rise to improve students' foundational literacy skills in a very short period of time.

Numeracy Pilot

From October to December 2018, Building Tomorrow conducted a Roots to Rise numeracy pilot, through which the intervention was implemented at 15 schools in Kiboga and Kyankwanzi Districts, including nine Building Tomorrow schools and six non-Building Tomorrow government partner schools. In total, 683 P2 and P3 students participated in Roots to Rise numeracy lessons, while 85 facilitators were trained to deliver lessons, including 56 CEVs and 29 teachers. Similar to the literacy pilot, all participants received a five-day training enabling them to carry out the numeracy intervention.

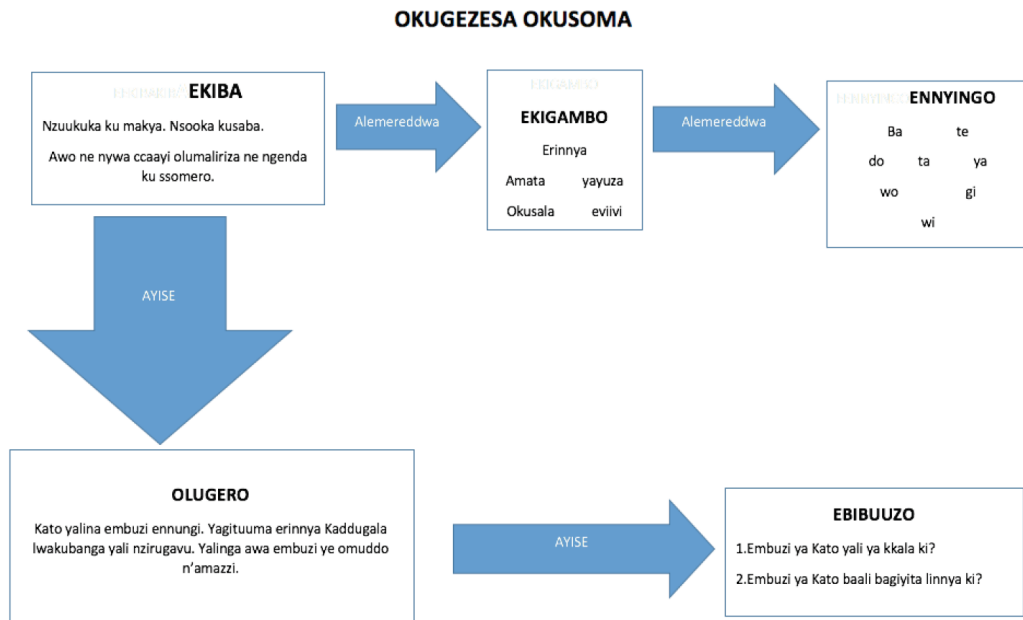
Ultimately, the numeracy pilot led to significant improvements in students' ability to perform basic mathematics operations:



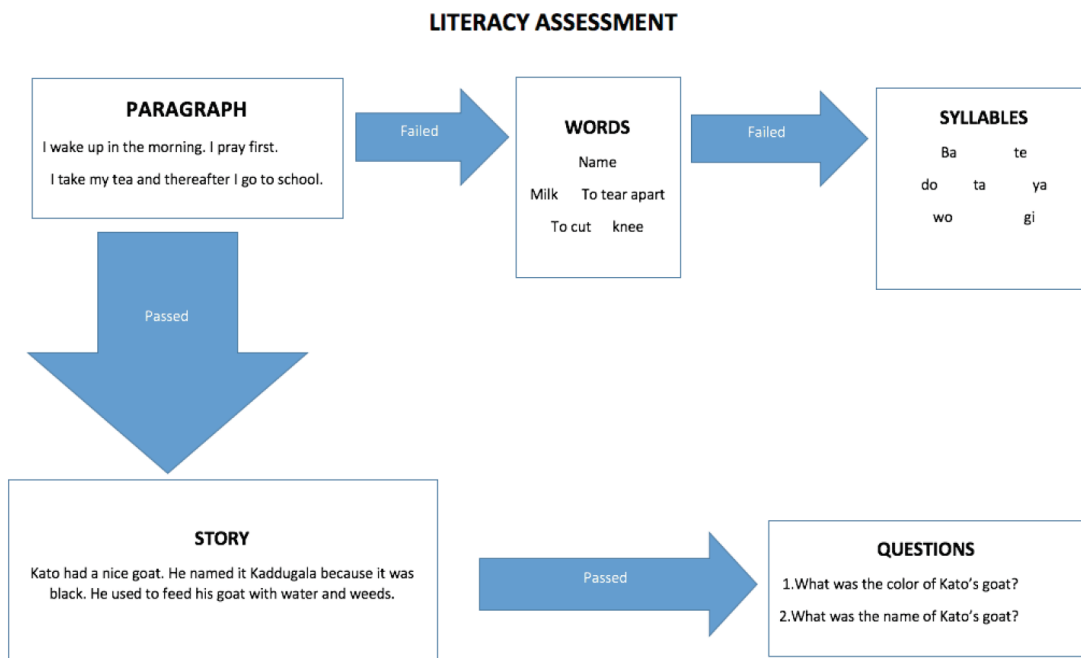
At baseline, 52% of students were non-numerate, meaning they were unable to perform basic addition and subtraction and only 3% were able to perform all operations including addition, subtraction, multiplication and division. However, after 25 days of targeted lessons, 95% of students moved up at least one numeracy level and 56% achieved competency in all operations.

Based on these promising results, Building Tomorrow is working to refine and scale Roots to Rise so it can reach even more Ugandan students with improvements in foundational learning outcomes.

Appendix 1: Literacy Assessment Tool (Luganda)



Appendix 2: Literacy Assessment Tool (English Translation)



Appendix 3: Numeracy Assessment Tools

Number Recognition Tool

Level - 1	Level - 2	Level - 3
5 3	59 24	118 809
8 6	12 30	797 304
4 1	95 67	480 673

Operations Assessment Tool
