ALL CHILDREN READING:
GRAND CHALLENGE FOR DEVELOPMENT

UnrestriCTed Challenge
YUMI READ TOGETHER (YRT)

Project Evaluation

Prepared for All Children Reading: A Grand Challenge for Development
by School-to-School International

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Yumi Read Together (YRT)

Project Evaluation

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Abbreviations

ACR GCD	All Children Reading: A Grand Challenge for Development
AAM	Assessor Accuracy Measures
ACR GCD	All Children Reading: A Grand Challenge for Development
CSNU	Callan Services for Persons with Disabilities National Unit
EdTech	Educational Technology
EGRA	Early Grade Reading Assessment
EP	Elementary Preparatory Grade
FGD	Focus Group Discussions
IEP	Individualized Education Plan
ITT	Indicator Tracking Table
KAP	Knowledge, Attitudes, and Practices
LwD	Learners with Disabilities
MERL	Monitoring, Evaluation, Research, and Learning
NDoE	National Department of Education
ORF	Oral Reading Fluency
PCG	Primary Caregivers
PDoE	Provincial Division of Education
PNG ADP	Papua New Guinea Assembly of Disabled Persons
SAT	Scalability Assessment Tool
SES	Socioeconomic Status
SIL LEAD	SIL Language, Education, and Development
StC	Save the Children
STS	School-to-School International
ToT	Training of Trainers
UDL	Universal Design for Learning
USAID	United States Agency for International Development
USG	United States Government
YRT	Yumi Read Together

Executive Summary

All Children Reading: A Grand Challenge for Development (ACR GCD), established in 2011 as a partnership between the United States Agency for International Development (USAID), World Vision, and the Australian Government, advances EdTech innovation and research to improve reading outcomes for marginalized children in low-resource contexts. In 2020, ACR GCD launched the UnrestrICTed Challenge, a global competition calling on local and global solvers to provide the best Information and Communications Technology (ICT) solutions to ensure children with disabilities benefit from language, literacy, and learning support grounded in Universal Design for Learning (UDL) at home and school.

Implemented by Save the Children (StC), the Yumi Read Together (YRT) project is one of three winners under the UnrestrICTed Challenge and the only winner in Papua New Guinea. The project targeted Papua New Guinea's remote Western Province, which has historically performed poorly in literacy outcome measures. The project focused on inclusive education and reading for children identified as having a hearing, visual, learning, or language impairment. This included distribution of microSD cards with teaching and learning materials on them and/or mobile phones to teachers and primary caregivers (PCGs). It also included training in the use of Bloom Reader, an app that provides free digital stories for those with access to the app, as well as creation of stories for Learners with Disabilities (LwD) in Bloom Reader. StC implemented YRT from June 2022 to April 2023 with consortium partners SIL Language, Education, and Development (SIL LEAD), Callan Services for Persons with Disabilities National Unit (CSNU), and the Papua New Guinea Assembly of Disabled Persons (PNG ADP).

School-to-School International (STS), ACR GCD's monitoring, evaluation, research, and learning (MERL) partner, conducted the evaluation of YRT. In collaboration with project staff, STS conducted a baseline and endline evaluation of learners to better understand YRT's effectiveness in achieving its goals, as well as its contributions to ACR GCD's Learning Agenda questions. In addition to measuring effectiveness, the evaluation also provided feedback on what worked well and what did not, with the intention of enabling StC to improve YRT's design, better achieve YRT's overarching goal, and improve its scalability. For the baseline evaluation in May to June 2022, STS measured learners' reading and language levels before they received support from YRT; surveyed teachers' knowledge, attitudes, and practices (KAP); and captured learner demographic information through a learner survey. For the endline evaluation in April 2023, STS measured learners' reading and language levels and readministered the teacher and learner surveys approximately 10 months after the baseline was conducted. Participants received a maximum of 10 months of exposure to YRT, though exposure varied widely due to procurement and distribution challenges. STS also conducted a survey and focus group with PCGs at endline.

The evaluation includes notable findings from 40 project schools assessed at endline. The sample did not include all schools that participated in the intervention due to the infeasibility of reaching schools deemed "very remote" or "extremely remote" by YRT staff.

Key Findings Related to YRT's Implementation

- **Of the 111 learners surveyed at endline, 48.8 percent reported using Bloom Reader at school and 39.5 percent reported using it at home.**
  When asked about usage at school, most learners reported using Bloom Reader at least once a week, and 27.0 percent said they used it daily. However, more than half of the learners who reported using Bloom Reader at home did not respond or answered "don't know" when asked how frequently they used it, potentially indicating a lack of familiarity with the EdTech. Among those who did not use Bloom Reader, the most frequently cited reasons for lack of engagement were not knowing how to use the device on which Bloom Reader was installed (37.9 percent) and being unable to see the device (22.7 percent).
- **Most teachers were "moderately" or "very" satisfied with the EdTech and UDL training provided by YRT (28.6 percent and 45.7 percent, respectively).**
  When asked what could be done to improve training, teachers mentioned more frequent and longer training, more hands-on training with devices and microSD cards, and training focused on sign language.
- **PCGs' engagement with the project was low. Only 35.4 percent of the 79 PCGs surveyed reported that they had attended at least one YRT training; only 8.9 percent attended more than one training.**
  Of the seven trainings for PCGs offered by YRT, only two were attended by more than 10 percent of the PCGs sampled— "Community Promoters Flip Book" and "Using Bloom Reader by Callan." PCGs who identified as having a disability attended one more session, on average, compared with their peers; they were also more likely to have attended "Creating eBooks with PNG ADP and SIL."
- **Despite low engagement rates, PCGs who attended trainings were satisfied with them.**
  More than 95 percent of PCGs who attended trainings reported being very or moderately satisfied with the trainings (60.7 percent and 35.7 percent, respectively). PCGs who reported being "very satisfied" attended more trainings on average than those who reported moderate satisfaction or dissatisfaction. Among the very satisfied PCGs, 82.3 percent attended YRT's training on "Community Promoters Flip Book."
- **PCGs were overwhelmingly satisfied with the EdTech solutions introduced by the project, but most had challenges using it.**
  A combined 96.0 percent of PCGs reported being very or moderately satisfied (48.0 percent each), but most PCGs who received EdTech from YRT also reported at least one challenge using it. The most common challenges were not having a device to access the materials on the microSD cards (40.0 percent) and that their device was broken or not charged (36.0 percent)

Key Findings Related to YRT's Impact

- **The proportion of teachers who reported that their knowledge on the ways they can adapt their classrooms, their curriculum, and their assessments for learners with disabilities significantly increased from baseline.**
  At endline, more than half of teachers in the sample responded that they used all the curriculum adaptations listed in the survey.
- **At endline, 93.2 percent of PCGs agreed that the EdTech provided by YRT, specifically Bloom Reader, could help their children learn to read.**
  A similarly high percentage (92.5 percent) of PCGs agreed or strongly agreed that they felt confident using technologies like Bloom Reader in their home. However, only 54.4 percent indicated that they had used Bloom Reader with their child for reading. PCGs who had attended a training were significantly more likely to report using Bloom Reader with their child.
- **Despite agreeing with the important role families play in learning, less than half (46.8 percent) of PCGs felt prepared to support the language and literacy skills of their children with disabilities.**
  Those who felt they could support their children said they did so by proving large print reading materials (78.5 percent), making the home better lit (76.0 percent), and offering encouragement (70.9 percent).
- **Learners who reported using Bloom Reader at school showed statistically significant gains in oral reading and familiar word reading.**
  Oral reading fluency and accuracy scores on an Early Grade Reading Assessment (EGRA) were statistically significantly higher among learners who reported using Bloom Reader compared with those who did not. Additionally, the proportion of learners receiving zero scores on the oral reading subtask was statistically significantly lower among learners who reported using Bloom Reader than those who did not. Finally, accuracy scores on the familiar word reading subtask were also statistically significantly higher among learners who reported using Bloom Reader compared to those who did not.
- **Socioeconomic status (SES) was a strong indicator of learners' likelihood to use the EdTech provided by YRT.**
  For each additional SES indicator item monitored by YRT, the likelihood that a learner would report using Bloom Reader at school increased by 32.5 percentage points. By comparison, the difference between a learner who reported using a smartphone "a lot" versus "a little" was only 11.3 percentage points higher.

Summary, Conclusions, and Recommendations

YRT brought new education supports in the form of Bloom Reader and teaching and learning materials to Western Province in Papua New Guinea, an area that has received little support for education in general, especially for learners with disabilities. The project's goals of distributing technology and delivering training to teachers and PCGs seemed attainable during planning but proved to be remarkably challenging in an inaccessible region with limited infrastructure.

Despite these challenges, results indicate that the project had some successes. EGRA results of learners showed improvement and learners appeared to enjoy using Bloom Reader. PCGs were similarly pleased with the project. However, many also indicated that they lacked the technological skills and access to devices to fully use the materials on microSD cards and Bloom Readers.

Moving forward, STS recommends the following actions:

- **Assess digital literacy and infrastructure for technology before planning interventions.** Understand challenges to technology use, including lack of access to electricity for charging and users' foundational knowledge to design appropriate technological interventions before the program starts.
- **Better plan the procurement and distribution of devices.** Ensure that the distribution and supply chains are mapped and planned before implementing the project to address any distribution and timeline issues. Implement more frequent tech monitoring checks to ensure the technology is in good condition and usable.
- **Implement a cascade training model to reach teachers working closely with learners with disabilities, in addition to head teachers.** Conduct classroom observations and provide follow-up coaching to assess and improve the implementation of accommodations and adaptations to the curriculum using EdTech.
- **Start outreach efforts with a strong digital literacy component and provide continued support to enhance comfort levels with technology among PCGs.** Create community reading circles where PCGs and learners can read together and receive tech assistance as needed. Strengthen partnerships at the district level with other organizations involved in disability advocacy. Identify and empower champions among active PCGs to support community promoters and organizations working in remote areas through peer networks.
- **Track learner dosage closely.** Allow more time for engagement with EdTech to gain a clearer understanding of YRT's contribution to the significant gains observed in learners with learning disabilities.

Introduction

All Children Reading: A Grand Challenge for Development (ACR GCD), established in 2011 as a partnership between the United States Agency for International Development (USAID), World Vision, and the Australian Government, advances EdTech innovation and research to improve reading outcomes for marginalized children in low-resource contexts. ACR GCD is an ongoing series of competitions that leverages science and technology to source, test, and disseminate scalable solutions to improve the literacy skills of early-grade learners in developing countries. The global initiative focuses on sourcing new solutions, testing new ideas, and accelerating and scaling what works.

In 2020, ACR GCD launched the UnrestrICTed Challenge, which sought to scale information and communication technology (ICT) for education solutions that ensure children with disabilities benefit from language, literacy, and learning support grounded in Universal Design for Learning (UDL) at home and at school. The UnrestrICTed Challenge had three focus area-specific goals:

A. Children have access to and engage with ICT solutions, grounded in UDL principles, to develop language and literacy skills.

B. Teachers are better prepared to nurture language and literacy skills of children with disabilities through UDL principles and technologies.

C. Parents and communities have an increased understanding of how to support the language and literacy skills development of children with disabilities and have access to the tools to do so.

ACR GCD selected the Yumi Read Together (YRT) project, implemented by Save the Children (StC), as its grant awardee in Papua New Guinea. This report shares findings from the YRT evaluation.

Project Overview

Between 2022-2023, YRT aimed to distribute microSD cards with teaching and learning materials, as well as Bloom Reader[1] and accessible digital books to children with and without disabilities,[2] their primary caregivers (PCGs), and teachers. StC implemented the project in collaboration with consortium partners SIL Language, Education, and Development (SIL LEAD), Callan Services for Persons with Disabilities National Unit (CSNU), and the Papua New Guinea Assembly of Disabled Persons (PNG ADP). The project targeted Papua New Guinea's Western Province, which is one of the country's most disadvantaged in terms of remoteness and literacy outcomes. YRT built on the inclusive education and reading components of the Rapidly Improving Standards in Elementary (RISE PNG) Program, which was implemented between 2018-2021 by StC, SIL LEAD, and CSNU and three provincial divisions of education (PDoE).[3] YRT's primary EdTech solution was Bloom Reader, accessed on low-cost smartphones (see **Table 1**).

1 Bloom Reader is a free Android app that allows readers with Android devices to enjoy Bloom Reader books offline.

2 The project reached over 16,000 learners (both direct and indirect participants), of which approximately 2,000 were identified as having a disability. Over 1,600 children with disabilities received access to the EdTech solution, which was either a microSD card or a low-cost smartphone with the downloaded Bloom Reader app and library of accessible digital books.

3 More information about RISE can be found here: https://www.savethechildren.org.au/our-work/our-programs/international/rise-education-png

TABLE 1
Yumi Read Together EdTech Solution Description

EdTech Category	Description
Hardware	• Low-cost smartphones and microSD cards for teachers or PCGs
Software	• Bloom Reader
Content	• RISE levelled early grade books from the National Department of Education (NDoE) and YRT original books in English, Tok Pisin, and PNG Sign Language[4] • 120 NDoE school journals, accessible for children with disabilities

4 The YRT project had a total of 555 accessible digital books available on Bloom Reader. Approximately half of the books were in PNG Sign Language / English / Tok Pisin, and the other half were in English / Tok Pisin and included audio. Depending on learner needs, teachers, PCGs and students received microSD cards / smartphones with downloaded books in either English / Tok Pisin and audio, or with downloaded books in PNG Sign Language / English / Tok Pisin. The full catalog of digital books provided by YRT can be found here: https://bloomlibrary.org/All-Children-Reading/ACR-PapuaNewGuinea

YRT focused on children identified as having a hearing, visual, learning, or language impairment, but the trainings and materials were applicable to a wider learner population.[5] Children were identified as having disabilities by CSNU, in coordination with community promoters trained by CSNU to conduct screening activities. This included training on how to screen for visual disabilities using eye charts, screening for hearing disabilities using varying sound devices, basic questions to test intellectual abilities, observation of physical movements for physical disabilities, and screening for speech and language disabilities.

5 Program staff, IERC staff, health officials, or teachers identified learners as not having a disability or having a disability in hearing, vision, speech and language, physical/movement, and/or learning.

Evaluation Purpose

ACR GCD evaluated YRT's effectiveness in achieving its outcomes and impacts as defined by the ACR GCD Results Framework (see Appendix A: ACR GCD UnrestrICTed Results Framework Indicators and Appendix C: ACR GCD YRT Indicator Reference Sheets). The evaluation's findings contributed to project-level outcome and impact indicators and the ACR GCD Learning Agenda Questions (see Appendix B: ACR GCD Learning Agenda Questions).

In addition to measuring effectiveness, the evaluation also provided feedback on what worked well and what did not, with the intention of allowing StC to improve YRT's design, better achieve YRT's overarching goal, and improve its scalability. School-to-School International (STS), ACR GCD's monitoring, evaluation, research, and learning (MERL) partner, conducted the evaluation of YRT in collaboration with project and consortium partner staff.

Evaluation Questions

Questions for the YRT evaluation are grouped into two categories—**implementation** and **impact**. To answer the questions, STS and StC collected data twice during the project.

Implementation Evaluation Questions

1. **To what extent did learners receive the intended dosage of EdTech exposure?**
2. **What were learners' levels of satisfaction with the project's different EdTech solutions?**
   - a. What do learners believe could be improved about the project's EdTech solutions?
   - b. How well did the project's EdTech solutions meet learners' specific needs?
3. **To what extent did teachers receive the intended dosage of training?**
4. **What were teachers' levels of satisfaction with the project's trainings?**
   - a. What do teachers believe could be improved about the trainings?
   - b. How well did the trainings meet teachers' specific needs?
5. **To what extent did PCGs receive the intended dosage of training?**
6. **What were teachers' levels of satisfaction with the project's trainings?**
   - a. What do teachers believe could be improved about the trainings?
   - b. How well did the trainings meet teachers' specific needs?
7. **What were the teachers' and PCGs' levels of satisfaction with the project's EdTech solutions?**

Impact Evaluation Questions

Answered primarily from data collected at endline, the impact evaluation questions focus on measuring the project's higher-level outcomes and effects.

8 **To what extent did teachers change their knowledge, attitudes, and practices on EdTech and UDL for learners with disabilities?**

- **a.** Did teachers have increased knowledge and improved attitudes on how EdTech can support learners' reading and/or language skills development?
- **b.** How and to what extent did teachers utilize project EdTech solutions in their classrooms?
- **c.** Did teachers have increased knowledge and improved attitudes on how UDL principles can support learners' reading or language skills development?
- **d.** How and to what extent did teachers utilize UDL principles in their classrooms and with their learners?

9 **To what extent did PCGs change their knowledge, attitudes, and practices on EdTech for learners with disabilities?**

- **a.** Did PCGs have increased knowledge and improved attitudes on how EdTech can support learners' reading or language skills development?
- **b.** Did PCGs have increased knowledge and improved attitudes on how they can support learners' reading or language skills development?
- **c.** How and to what extent did PCGs utilize project EdTech solutions with their children at home?

10 **To what extent did learners' reading or language skills improve from baseline to endline?**

- **a.** What contextual factors—including geographic, demographic, and socioeconomic factors—were associated with learners' reading and/or language skills gains?
- **b.** To what extent did EdTech contribute to learners' reading or language skills gains?

11 **What contextual factors—including geographic, demographic, and socioeconomic factors—were associated with beneficiaries' use or non-use of the project's EdTech solutions?**

12 **How scalable is the project's model?**

YRT Indicators and ACR Learning Agenda

During the evaluation, STS also collected data for project indicators. These are listed in Appendix D: ACR GCD YRT Indicators and Appendix C: ACR GCD YRT Indicator Reference Sheets.

Methodology

To answer YRT's evaluation questions, STS analyzed quantitative and qualitative data collected during baseline and endline, as well as YRT MEL data collected by StC over the life of the project (see **Appendix E: YRT Evaluation Question and Tools Mapping**). The evaluation prioritized learners with low vision and learners with learning disabilities as a subset of the program sample. While the project reached a wider group of learners, the evaluation team could easily adapt existing learning assessment tools to these learner groups and thus prioritized understanding their learning outcomes.

The evaluation was conceptualized as a longitudinal study, meaning that the same respondents would participate in both the baseline and endline data collections.[6] Because of low recontact rates with baseline learners and the lack of a comparison group, longitudinal analysis of results was ultimately ruled out (see **Limitations** for further details).

For the baseline in May–June 2022, STS measured learners' reading and language skills before they received EdTech from YRT in September 2022; captured relevant demographic information on project participants from a learner survey; and collected data on teachers' knowledge, attitudes, and practices (KAP). For the endline in April 2023, STS again assessed learners' reading and language skills. It also collected data about learners' perceptions on EdTech with a learner survey. Teachers' KAP were reevaluated at endline to measure change over time. The endline evaluation added two tools to capture PCGs' KAP around EdTech and supporting learners with disabilities at endline—a short PCG survey and a focus group discussion (FGD). Finally, STS used project MEL data to answer evaluation questions related to scalability and further contextualize impact findings.

Sample

The YRT baseline sample consisted of 57 schools in Western Province's North, Middle, and South Fly districts. The sample prioritized schools that were accessible enough to visit during data collection. This requirement excluded schools that were included in the intervention but were categorized by YRT staff as either very remote or extremely remote (see Table 2). It is important to note that this limited sample affects the generalizability of this evaluation's data, as it does not include data on the most remote project participants.

6 The purpose of this design was two-fold. First, a longitudinal design allows for greater analytical power with a smaller sample size. Second, it allows for an equivalent panel of learners at baseline and endline, as there is substantial demographic and experiential diversity among learners with disabilities—including their age, grade, home language exposure, learning environment, starting learning levels, and classroom learning experience. Given YRT's target population, finding an equivalent panel of learners at baseline and endline in the absence of a longitudinal design would have been particularly difficult.

TABLE 2
Baseline and Endline School Target Sample

Remoteness	Schools supported by YRT	Baseline schools target	Endline schools target
Accessible	12	2	1
Moderately Accessible	27	17	17
Remote	40	38	21
Very Remote	3	0	0
Extremely Remote	9	0	0
Total	**91**	**57**	**40**

In total, data from only 40 of the 57 targeted schools were collected at baseline due to several factors, including one school being closed the day it was visited; 12 learners from four schools not assenting to participate in the study; and bad weather making the remaining 12 schools unreachable. At endline, the 40 schools from the baseline sample were slated to be revisited, but enumerators could not visit two of the 40 schools because of closures related to violence and piracy.

Learner Sample

The baseline sample only included early grade learners who have low vision and learners who have learning disabilities. The target sample was a census of 38 elementary preparatory grade (EP), E1, and E2 learners[7] who have low vision and 231 EP, E1, and E2 learners who have learning disabilities.[8] Table 3 outlines the actual learner samples achieved at baseline and endline. During baseline data collection, 12 learners did not assent to being surveyed, and, during the cleaning process, three records were dropped due to data quality issues.

At baseline, the evaluation reached 135 learners, and at endline the evaluation reached 129, most of whom were not the same as baseline learners. STS attempted to follow up with the same learners as much as possible but were only able to reach 45.9 percent of the same baseline learners. Many learners from baseline had transferred to new schools, moved on to E3, or did not attend school on the day when enumerators collected data. In addition, nine learners at endline did not assent to being surveyed. STS supplemented this high rate of attrition by including learners with the same disability type who received microSD cards and access to Bloom Reader.

7 Children are generally 6 years old in EP, 7 years old in E1, and 8 years old in E2.

8 The total number of learners with disabilities reached by the project was 2,073. However, only 1,666 received access to the YRT EdTech solution. Teachers were asked to identify learners with learning disabilities according to their own judgement.

TABLE 3
Baseline and Endline Learner Samples

Type of Learners	Target Sample	Baseline		Endline	
		Actual Sample	Percentage of Population Reached	Actual Sample	Percentage of Baseline Learners Retained
Learners who have Low Vision	38	25	65.8%	10	32.0% (n=8 of 25)
Learners who have a Learning Disability	231	110	47.6%	119	49.1% (n=54 of 110)
Total	**269**	**135**	**50.2%**	**129**	**45.9%**

Teacher Sample

At baseline, all teachers of learners who participated in the evaluation were surveyed. At endline, the teacher sample included all teachers at sample schools and prioritized teachers who had received EdTech through YRT to understand better the project's effects.[9] Teachers' identification information was not tracked between baseline and endline, so it is not known how many endline teachers were the same as baseline. Table 4 presents the baseline and endline teacher sample.

TABLE 4
Baseline and Endline Teacher Sample by Location and Sex

		Baseline Number	Baseline Percentage	Endline Number	Endline Percentage
District	Middle Fly	20	40.8%	14	40.0%
	North Fly	21	42.9%	13	37.1%
	South Fly	8	16.3%	8	22.9%
Sex	Male	32	65.3%	26	74.3%
	Female	17	34.7%	9	25.7%
Total		**49**	**100.0%**	**35**	**100.0%**

9 Because of the project's difficulties in distribution, not all teachers received EdTech.

Parent Caregiver Sample

The endline evaluation also included a sample of PCGs (see Table 5). At each school, enumerators selected the PCGs of three learners who participated in baseline, received a smartphone or microSD card from YRT, and participated in endline. If there were no PCGs of baseline learners who received smartphones or microSD cards, enumerators were instructed to select the PCGs of other learners who received smartphones or microSD cards.

TABLE 5
Endline Parent Caregiver Survey Sample by Location and Sex

		Endline Number	Endline Percentage
District	Middle Fly	43	54.4%
	North Fly	10	12.7%
	South Fly	26	32.9%
Sex	Male	41	51.9%
	Female	38	48.1%
Total		**79**	**100.0%**

STS also invited PCGs to participate in two FGDs—one in North Fly and one in Middle Fly. Participants in the FGDs were purposively selected based on recommendations from teachers, who were asked to identify families that had been very involved during the project. Three teachers and one school administrator were also selected to participate. FGD participants are shown in Table 6.

TABLE 6
Endline Focus Group Discussion Participants by Location, Sex, and Type

		Middle Fly (Balimo) FGD	North Fly (Kiunga) FGD
Relationship to Learner	PCG	5	3
	Teacher	2	1
	School Administrator	1	0
Sex	Male	5	1
	Female	3	3
Total		**8**	**5**

Data Collection Tools

The YRT evaluation used a variety of data collection tools administered at different evaluation points (see Table 7). A mapping of tools to evaluation questions can be found in **Appendix E: YRT Evaluation Question and Tools Mapping**.

TABLE 7
Yumi Read Together Data Collection Tools by Evaluation Point

Baseline tools	Endline tools
• Adapted EGRAs	• Adapted EGRAs
• Learner surveys	• Learner surveys
• Teacher surveys	• Teacher surveys
• Scalability assessment tool (self-administered by project)	• PCG surveys
	• PCG FGDs
	• Scalability assessment tool (self-administered by project)

In addition to the data collected by these tools, STS also incorporated project data shared through the project's Indicator Tracking Table (ITT) when answering evaluation questions.

Early Grade Reading Assessment

Staff from STS and YRT adapted an English-medium EGRA from pre-existing reading assessments previously administered in Papua New Guinea—an EGRA that the World Bank administered in 2011, and two Literacy Boost reading assessments that StC administered for the RISE project in the late 2010s. STS conducted a review of the two reading assessments used by RISE—one for E1 learners and the other for E2 learners—and revised the subtasks to align with EGRA best practices, including large print stimuli.

STS then remotely facilitated a one-day workshop to review the proposed EGRA tool and determine appropriate accommodations for learners with low vision or learning disabilities (see **Appendix H: EGRA Adaptations to RISE Tool**). Attendees at the workshop included staff from the three PDoE in Western Province, YRT, and consortium partners, including CSNU.

STS remotely led a three-day training of trainers from March 23–25, 2022, in anticipation of the enumerator training in April 2022. YRT staff then conducted an EGRA field test on March 29 and 30, 2022, at two schools in the North Fly District of Western Province. The purpose of the field test was to understand the appropriateness of the EGRA accommodations. The team administered the EGRA to five children with disabilities—one learner with learning disabilities and four learners with low vision—and conducted the teacher survey with two teachers. As a result of the field test, several formatting revisions were made.[10] The final EGRA for the YRT evaluation included five subtasks (Table 8).

10 Revisions included adding grid lines, adjusting alignment in grids, and organizing the oral reading fluency passage to have one sentence per line.

TABLE 8
YRT EGRA Subtasks

Subtask	Description	Number of Items	Autostop Rules
Letter name Identification	Measures ability to recognize uppercase and lowercase letters and accurately speak their name	50	After 10 letters
Familiar Word Reading	Measures ability to recognize and pronounce familiar words that learners are expected to be able to read at their grade level	40	After 5 words
Oral Reading Fluency	Measures ability to quickly and accurately read a short written passage	40	After 8 words
Reading Comprehension	Measures comprehension skills	5	N/A
Listening Comprehension	Measures receptive language skills	5	N/A

Learner Survey

STS developed a short learner survey, which was orally administered to each learner after completing the EGRA. The learner survey included questions about learners' family and household members; their levels of literacy; their experience using technology generally; and their access to, comfort with, and use of Bloom Reader specifically.

Teacher Survey

STS developed a teacher survey, which was orally administered to one teacher at each school at baseline and was administered to all teachers at each school who received EdTech at endline. The teacher survey included questions about teachers' family and household members; their levels of literacy; their experience using technology generally; their access to, comfort with, and use of Bloom Reader specifically. The survey also included questions about any previous training they received in teaching learners with disabilities to read; and their KAP around EdTech use in the classroom and supporting learners with disabilities.

PCG Survey

STS developed a PCG survey only used at endline. It was orally administered to PCGs of three randomly selected learners per school. Enumerators prioritized PCGs of learners who participated in both baseline and endline evaluations and had received smartphones or microSD cards. PCGs were asked about their family and household members; their levels of literacy; their experience using technology generally; their access to, comfort with, and use of Bloom Reader specifically. The survey also included questions about any previous training received in supporting their children with disabilities to read; and their KAP supporting their children with disabilities at home.

PCG FGD

STS developed a caregiver FGD, which was administered to five to six PCGs at one school per district. PCGs were asked questions about their participation in the project; their child, their reading skills, and the role EdTech may have played in their learning; and their opinions about EdTech for learning.

Scalability Assessment Tool

STS built upon previous scalability work conducted during ACR GCD's 2014 Grant Competition to develop a scalability assessment tool (SAT) for the 2020 Grant Competition. The 2020 SAT is a combination of quantitative measures and qualitative reflections, based on self-assessment, and grounded in current literature. The SAT requires that awardees critically examine the maturity of their solutions, intended pathway for scale, and scalability-enabling conditions across five dimensions: effectiveness, equitability, market demand, financial sustainability, and transferability. YRT completed the SAT self-assessment at both baseline and endline. (see **Appendix I: Scalability Assessment Tool**)

Data Collection

Enumerators and Enumerator Training

STS conducted remote enumerator training for the baseline evaluation in May 2022 and in-person enumerator training for the endline in April 2023 in Port Moresby and Western Province. YRT engaged 12 enumerators at baseline and 17 enumerators at endline, four of whom had also participated in the baseline. All enumerators also served as community promoters for the project.[11] At both timepoints, StC's local team in Papua New Guinea oversaw enumerator teams.

In April 2023, STS traveled to Port Moresby to lead an in-person training of trainers (ToT) to teach three StC staff and one CSNU representative on how to administer the YRT endline tools and prepare them for data collection. This training was intended to be conducted solely in person, but due to transportation issues, YRT trainers were delayed arriving from Western Province. As a result, ToT was delivered in a hybrid format, wherein half of the training was conducted remotely and half in person. Three YRT staff members supported STS, whose staff served as lead facilitators. The training included an overview of the EGRA subtasks and practice administering all subtasks in Tangerine®, software used to collect EGRA data. The training also included an introduction to SurveyCTO, software used to collect survey data from teachers and PCGs.

Following the ToT, StC, and CSNU staff traveled to North, Middle, and South Fly districts to conduct enumerator trainings. Due to travel delays, enumerator training started and ended at different times in each district. Trainers trained enumerators on all subtasks and data collection tools. Where possible, the training included one practice day for which enumerators visited a school not included in the endline sample to practice administering the EGRA, learner survey, and teacher survey.

11 Community promoters were local youth volunteers trained by YRT in the RISE community inclusion and literacy module as well as use and sharing of Bloom Reader. They were also trained by Callan to do basic screening and identification of different disabilities and do referrals to Callan services. Promoters were meant to visit communities surrounding schools at least twice during implementation.

Data Collection and Quality Assurance

Throughout data collection, STS and YRT staff followed the guidelines laid out in the Early Grade Reading Assessment (EGRA) Toolkit, Second Edition (RTI International, 2015). When power and internet access allowed, enumerators uploaded Tangerine® data, which were reviewed by YRT and STS staff to track data collection progress issues and identify any issues. STS then followed up with YRT staff to try to resolve any pending issues or discrepancies found.

STS's data analysts then applied disposition codes to categorize the various issues or problems that emerged during data collection. These codes were used to determine cleaning rules, which were incorporated into the dataset using syntax. These coding and flagging procedures ensured that the nuanced contexts of data collection were sufficiently cataloged and considered during the data cleaning, analysis, and reporting processes.

During baseline and endline data collection, enumerators faced many challenges, including bad weather, school closures due to safety and security concerns, and schools that were unable to be reached due to the threat of piracy en route to class . Additionally, nine learners refused to participate in the survey so data was not collected from these learners. STS also had challenges receiving updated data from enumerators during data collection due to the lack of internet access in many areas. Enumerators also were delayed in sending two sets of FGD notes after data collection. A third FGD was reportedly conducted in South Fly; however, STS never received notes from this discussion.

Data Cleaning and Analysis

Analysis of quantitative data was conducted using Stata version 16. The datasets underwent a rigorous cleaning process, following a standardized protocol and inclusion of disposition codes. After data cleaning was completed, all variables from the teacher, PCG, and learner datasets were analyzed using descriptive statistics. Composite scores were then created by combining different variables from the datasets that contributed to similar constructs established at the baseline. Final analyses were performed to address each evaluation question, including a cross-sectional comparison of baseline and endline EGRA scores for learners in each assessed disability group.

When feasible, responses from the teacher survey were tabulated and compared with baseline results and project monitoring data. For both cross-sectional learner samples and teachers, statistical comparisons between baseline and endline data were made using t-tests, chi-square tests, and ordinary least squares regression analysis. Analysts also examined heterogenous effects by comparing results disaggregated by age, district, gender, and other key variables of interest.

It is important to exercise caution when making statistical inferences from this study. While the sample size for learners with disabilities was adequate for conducting cross-sectional statistical comparisons between baseline and endline, it is not advisable to overinterpret any statistical changes observed. The sample size for learners with low vision was too small to facilitate meaningful statistical comparisons. Nevertheless, the collected data can still provide valuable observational information, which contributed to addressing the evaluation questions in this project.

11 Community promoters were local youth volunteers trained by YRT in the RISE community inclusion and literacy module as well as use and sharing of Bloom Reader. They were also trained by Callan to do basic screening and identification of different disabilities and do referrals to Callan services. Promoters were meant to visit communities surrounding schools at least twice during implementation.

Limitations

The following limitations should be considered when evaluating the results of the YRT evaluation.

First, the project evaluation was limited in its ability to make claims about the causality between outcomes and the project's dosage.

YRT provided limited and incomplete dosage data. As a result, it was difficult to understand the extent to which learners assessed received the intervention—including how frequently they used the EdTech once it was distributed and what specific materials were included on microSD cards. Without this information, the evaluation could not examine the difference in learning outcomes relative to the amount of the exposure and use of content on microSD cards and specific Bloom Reader usage. This limitation is critical when considering YRT's potential for scalability.

The evaluation design also posed three main challenges.

First, without a comparison group, it was not possible to isolate gains due to natural progression through schooling as compared to gains resulting from the intervention. Second, measurement of learning outcomes may include learning loss experienced during the school break between academic years.[12] Lastly, there were challenges in tracking learners from baseline to endline. Although the original evaluation design intended for the same learners to be evaluated at baseline and endline, logistics and time complicated the intended design. In total, 45.9 percent of learners at endline were recontacted at baseline. As a result, analysis only includes cross-sectional approaches, rather than longitudinal ones.

The evaluation also faced challenges related to enumerator training.

Specifically, a ToT model was used for enumerator training, with YRT staff members serving as master trainers. At baseline, the ToT training was conducted remotely, while the ToT training at endline was designed as a three-day, in-person training. However, the endline ToT was cut short to only two days, due to internal transportation issues and unexpected public holidays. STS facilitators conducted two assessor accuracy measures (AAMs) to better understand how consistently and accurately YRT staff members scored EGRAs. In the AAMs, YRT staff members watched a video simulation of an individual completing each EGRA subtask and marked the individual's responses. In the first AAM, all YRT staff members scored the EGRA more than 90 percent correctly—the acceptable cutoff for accurate scoring. In the second AAM, proficiency declined, as only two of the four YRT staff members scored more than 90 percent; in other words, half of the group scored below the cutoff. Additionally, YRT staff members reported challenges in printing stimuli correctly before the enumerator training, as customized formats were required for learners with low vision. In addition to issues with EGRA accuracy, travel challenges resulted in remote sessions about how to conduct FGDs. All of these challenges—including maintaining EGRA AAM standards across trainers, the lack of in-person training on FGDs, and the reported issues with enumerator training preparation—may indicate larger data quality issues.

12 The baseline took place in May-June 2022, and the endline took place just after the following academic year started, in April 2023.

Finally, the learning assessment exhibited a strong floor effect.

Baseline findings indicated that 81.1 percent of learners with learning disabilities and 56.0 percent of learners with low vision did not read a single familiar word correctly. As a result, it is possible that parts of the EGRA were not appropriate or valid for the learners in the YRT population. This possibility is further supported by the fact that the assessment tool was not specifically developed for or piloted with learners with disabilities. The assessment tool was adapted from previously administered PNG reading assessments. These tools were reviewed and combined to create the EGRA for YRT that complied with standard protocols (**see Appendix H: EGRA Adaptations to RISE Tool**). However, the YRT EGRA was neither piloted in Western Province, nor with learners with disabilities or learners in EP.

Findings

This section presents findings from endline data collection, beginning by describing the teacher, learner, and caregiver samples. The report then presents findings from the teacher survey, followed by the PCG survey, PCG FGD, SAT tool, EGRA with low vision learners with learning disabilities, and the learner survey. The findings' implications are discussed in detail in the **Discussion** section.

Note that all findings that are statistically significant are referred to as "significantly" higher or lower in the narrative.

Endline Sample Description

Teacher Sample

At baseline, the study included 49 teachers from North, Middle, and South Fly (Table 4). The 35 teachers surveyed at endline were distributed across districts, with 40.0 percent from Middle Fly, 37.1 percent from North Fly, and 22.9 percent from South Fly. The proportion of male and female teachers were well balanced across evaluations timepoints, with female teachers making up about 34.7 percent of baseline respondents and 25.7 percent of endline respondents. At baseline, 26.5 percent of teachers reported that they identified as a person with a disability. At endline, this proportion rose to 34.3 percent. This increase was not statistically significant.

Parent Caregiver Sample

The endline evaluation included a sample of 79 PCGs (Table 9). The sample was split nearly evenly between men (51.9 percent) and women (48.1 percent). Slightly more than half the sample came from the Middle Fly (54.4 percent), while 32.9 percent were from South Fly and 12.7 percent were from North Fly.

TABLE 9
Parent Caregiver Sample, by Sex and Location

Location	Male	Female	Total
North Fly	4	6	10
Middle Fly	27	16	43
South	10	16	26
Total	**41**	**38**	**79**

PCG education levels were low but likely comparable to education levels in Papua New Guinea.[13] The highest level of education reported by PCGs was secondary or vocational education (17.7 percent). All PCGs reported that at least one person in the household could read English and 89.6 percent reported that at least one person in the household could read Tok Pisin. Just over one in five PCGs considered themselves to have a disability (21.5 percent), most prevalently being blind or having low vision (10 PCGs).

Learner Sample

A total of 136 learners were sampled for baseline, and 111 learners were sampled for endline. They were categorized into two groups—learners with low vision (25 at baseline, 10 at endline) and learners with learning disabilities (111 at baseline, 101 at endline).

Learners with Learning Disabilities

At endline, 55.5 percent of learners with learning disabilities were male and 44.5 percent were female, which was similar to the proportions at baseline (50.0 and 50.0 percent, respectively). Also, the makeup of learners by grade was similar at baseline and endline. However, the distribution of learners with learning disabilities by district was statistically significantly different between baseline and endline, with a greater percentage of learners in South Fly at endline compared to baseline (see Table 10).

13 The UNESCO Institute of Statistics does not provide recent data on rates of adult education completion but indicates that Papua New Guinea's adult literacy rate for 2010 was 61.6%.

TABLE 10

Learners with Learning Disabilities Sample, by District and Grade

		Baseline Number	Baseline Percentage	Endline Number	Endline Percentage
District	Middle Fly*	46	41.8%	58	48.7%
	North Fly*	47	42.7%	32	26.9%
	South Fly*	17	15.5%	29	24.4%
Grade	EP	25	22.7%	19	16.0%
	E1	42	38.2%	41	34.5%
	E2	43	39.1%	59	49.6%
Total		**110**	**100.0%**	**119**	**100.0%**

Note: One asterisk (*) indicates that the distribution of learners across districts is statistically significantly different between baseline and endline at $p<0.05$.

At endline, 85.3 percent of learners indicated someone helps them with their homework and 85.7 percent indicated someone in the family can read English. The survey also measured learners' socioeconomic status (SES) in terms of access to computers and mobile phones at home. Learners who had access to both computers and mobile phones at home were categorized as having "higher" SES compared to all other learners. Fewer than half of learners (44.9 percent) had higher SES. Analysts also created a scale measuring the home reading practices that ranged from zero to five. It examined if learners read books or tell stories at home and if they do so using print materials, a tablet, a phone, or other means. Higher scores on the scale indicated a higher number of the aforementioned reading practices or resources, with five indicating that a learner read books or told stories at home, had stories in print materials, had stories in a tablet, had stories in a phone, and had stories in other means. Of endline learners, 46.6 percent had a score greater than one on the home reading practices scale, with one representing having at least one of the aforementioned resources or practices.

Learners with Low Vision

At both baseline and endline, 60.0 percent of learners with low vision were male and 40.0 percent were female. Baseline and endline proportions of learners by district and grade are presented in Table 11.

TABLE 11
Learners with Low Vision Sample, by District and Grade

		Baseline Number	Baseline Percentage	Endline Number	Endline Percentage
District	Middle Fly	8	32.0%	4	40.0%
	North Fly	11	44.0%	4	40.0%
	South Fly	6	24.0%	2	20.0%
Grade	EP	5	20.0%	2	20.0%
	E1	7	28.0%	0	0.0%
	E2	13	52.0%	8	80.0%
Total		**25**	**100.0%**	**10**	**100.0%**

At endline, 20.0 percent of learners with low vision indicated that they had a family member who was blind or had low vision. In terms of family education, 90.0 percent of learners with low vision indicated that someone in the family knows how to read English, and 80.0 percent said that someone at home helps them with their homework. Similarly, 90.0 percent scored higher than one on the home reading practices scale. Most low vision learners had higher SES compared to learners with disabilities, as 80.0 percent reported access to either a mobile phone or computer at home.

Teacher Survey Results

At baseline and endline, teachers of learners who participated in the evaluation responded to a survey. Teachers were asked questions about their demographics; their general experience using technology; any pre-or in-service training they may have received; participation in project trainings; their use of YRT materials and software; and their KAP related to EdTech use in the classroom and supporting learnings with disabilities. Teacher demographics have been outlined in the Teacher Sample section.

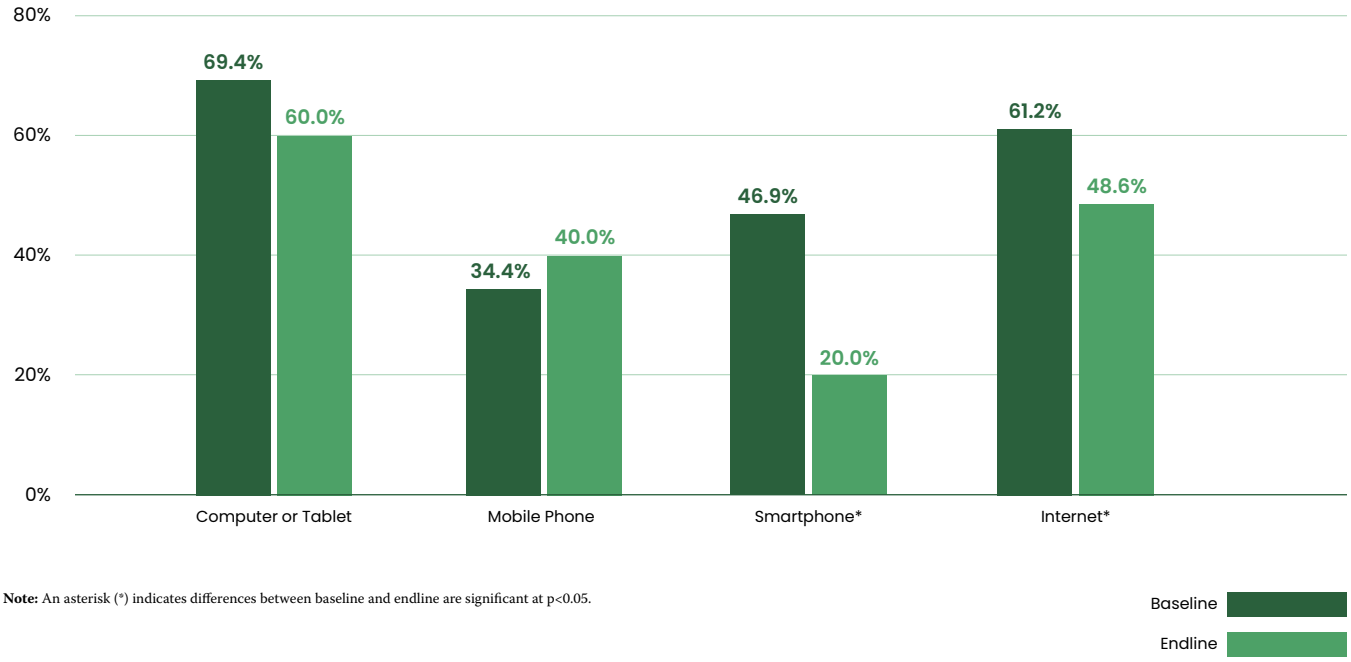
Access to Technology

The study sought to understand teachers' levels of access to and comfort using technology. Access to certain technology was relatively low at baseline, with more than 60 percent of teachers reporting that they did not have access to either a computer, a tablet, or the internet (see Figure 1). Most teachers, however, had access to a mobile phone or smartphone at both baseline and endline – for example, only 20.0 percent of teachers did not have access to a smartphone at endline.[14] The proportion of teachers who had a smartphone and the proportion with access to the internet increased statistically significantly from baseline to endline, which bodes well for accessing the digital books used in this intervention.

14 YRT distributed smartphones to some teachers, which may account for the drop in proportion of teachers without smartphones.

FIGURE 1

Proportion of Teachers without Access to Technology, by Type of Technology



Note: An asterisk (*) indicates differences between baseline and endline are significant at p<0.05.

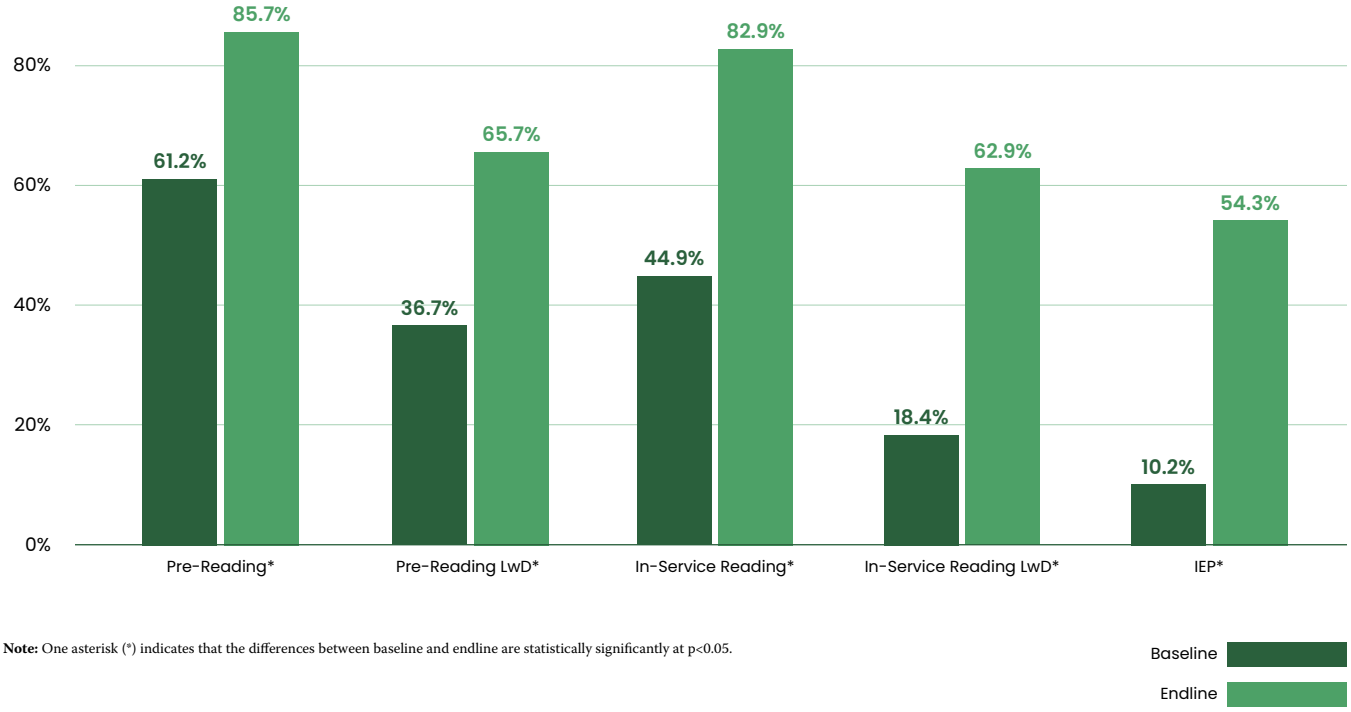
Despite having a varied range of access to the technology in this evaluation, the proportion of teachers who said they were comfortable or very comfortable using it remained relatively consistent from baseline to endline, including computers (48.6 percent at endline, compared to 42.9 at baseline), mobile phones (74.3 percent and 63.3 percent, respectively), smartphones (74.3 percent and 59.2 percent, respectively), and the internet (54.3 percent and 46.9 percent, respectively).

Pre-Service and In-Service Training

The proportion of teachers who reported receiving pre- or in-service training on teaching learners to read and teaching learners with disabilities to read increased statistically significantly from baseline to endline, as shown in Figure 2. There was also a statistically significant increase from baseline to endline in the proportion of teachers who reported receiving training on how to use an Individualized Education Plan (IEP).

FIGURE 2

Teacher Training, Baseline to Endline



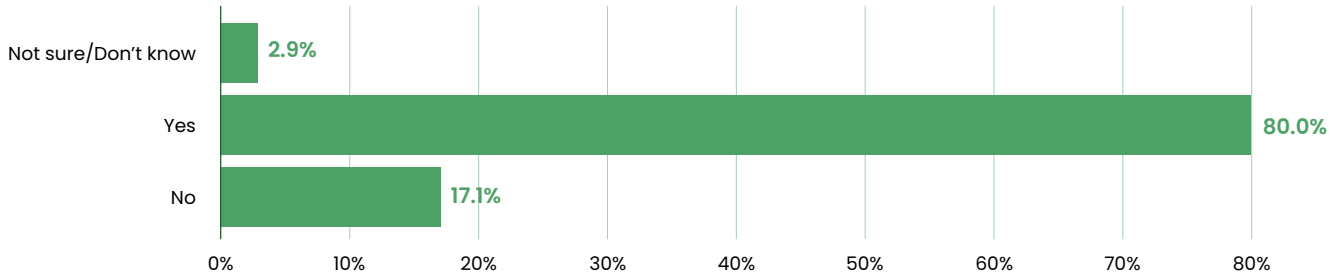
Note: One asterisk (*) indicates that the differences between baseline and endline are statistically significantly at p<0.05.

Participation in YRT trainings

Teachers were asked about their participation in and satisfaction with the teacher training they received from YRT. Exactly 80 percent of teachers reported attending a YRT training (see Figure 3).

FIGURE 3

Percentage of Teachers who Attended YRT Training

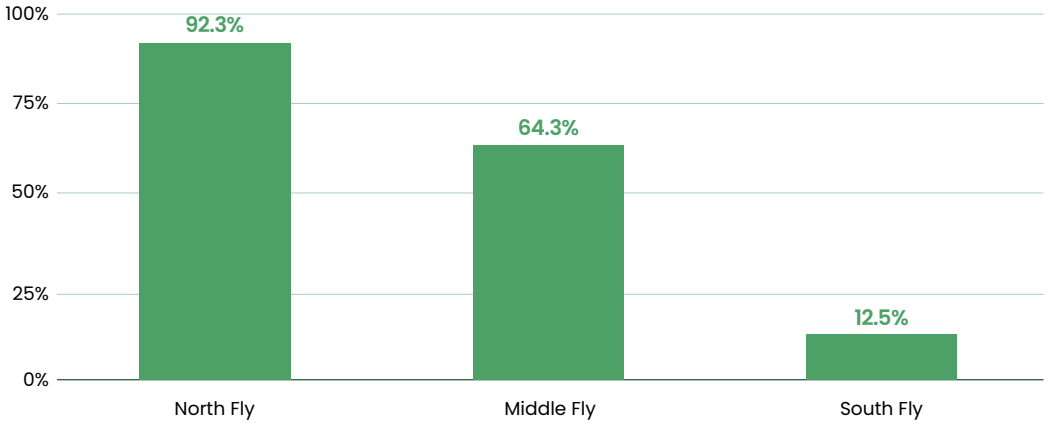


Additionally, most teachers expressed they were moderately (57.1 percent) or very satisfied (35.8 percent) with the training they received from YRT. When asked if anything about the trainings could be improved, teachers mentioned increasing the number and frequency of trainings or asked for more hands-on training, including more information on using the tablets and microSD cards provided by YRT. Comments were overall positive, indicating that teachers found YRT's trainings useful.

Use of YRT Materials and Software

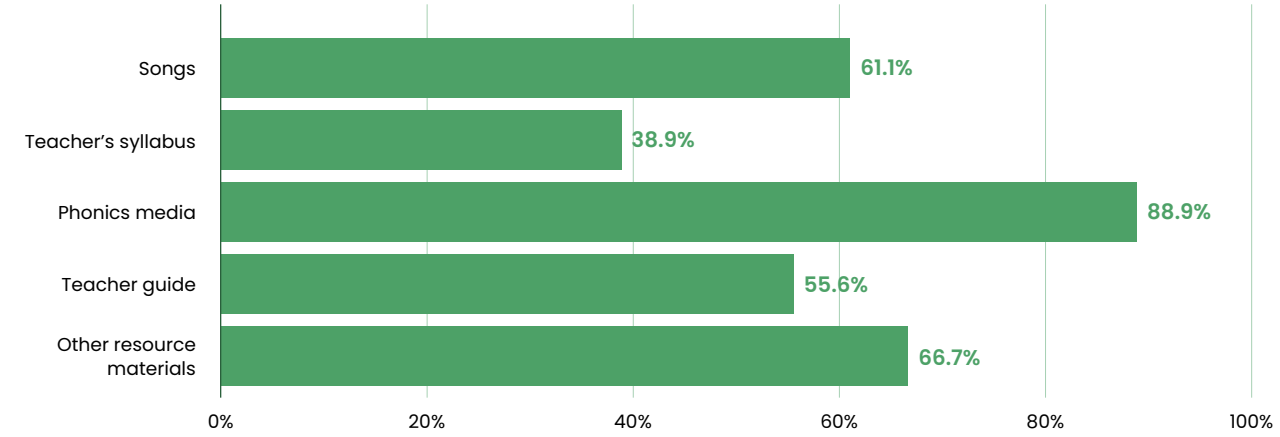
As part of the teacher survey, teachers were asked about the teaching and learning materials they received from YRT. At endline, 62.9 percent of teachers reported receiving a microSD card or smartphone that contained all the teaching and learning materials that YRT provided. As shown in Figure 4, distribution varied by region, with teachers in South Fly being significantly less likely to have received a microSD card than teachers in other districts.

FIGURE 4
Percentage of Teachers Reporting Receiving a MicroSD Card with Teaching and Learning Materials, by District



Teachers were also asked if they used the YRT materials, and, if so, to what extent (see Figure 5). The most frequently used materials were phonics media. Only one woman (out of the nine women sampled) from the endline sample reported using the materials, while all 26 men reported using the materials.

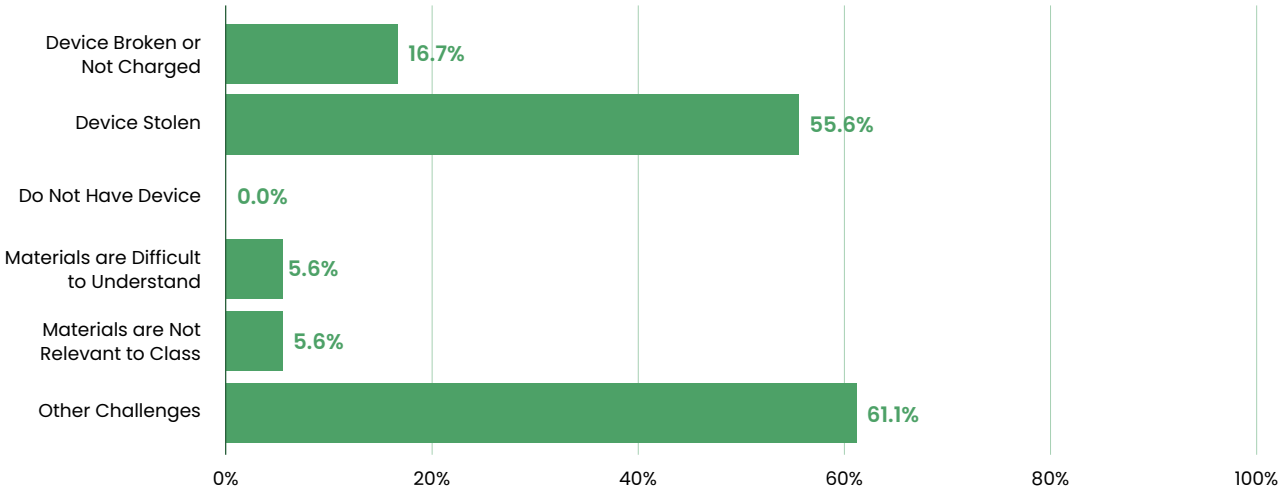
FIGURE 5
Teaching and Learning Materials Use, as Reported by Teachers



Teachers were also asked about their satisfaction using the teaching and learning materials. Overall, 50.0 percent of teachers said they were very satisfied with the materials and 31.8 percent were moderately satisfied.

When asked what challenges they faced using the YRT materials, the most common answer by teachers was "other challenges" (61.1 percent), while the second most reported challenge was theft of their device (55.6 percent) (see Figure 6).

FIGURE 6
Satisfaction with Materials, as Reported by Teachers

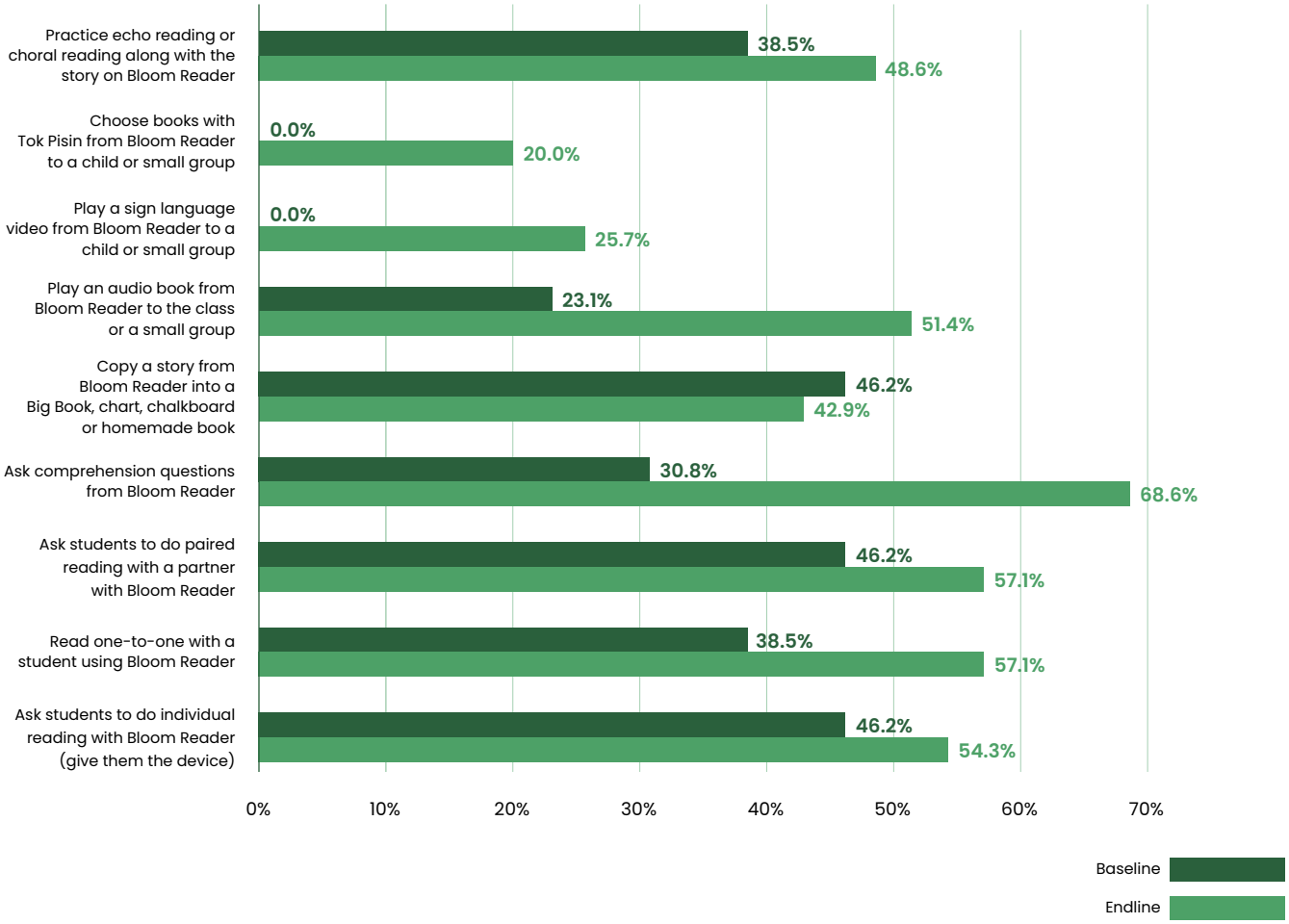


Bloom Reader Usage

Teachers also answered a series of questions about their use of and experience with Bloom Reader. Teachers were asked to report the number of activities they did with learners using Bloom Reader to improve reading at school during the previous week of class (see Figure 7). There was a statistically significant increase in the number of activities teachers reported doing between baseline and endline from an average of 0.7 activities at baseline to an average of 4.3 activities at endline—an average increase of 3.5 activities. The largest increase was in the proportion of teachers asking comprehension questions from Bloom Reader (from 30.8 percent to 68.6 percent). The proportion of teachers doing an activity decreased from baseline to endline for only one of the nine activities—copying stories from Bloom Reader into a Big Book, chart, chalkboard, or homemade book.

FIGURE 7

Percentage of Teachers Reporting Using Activities from Bloom Reader, by Timepoint



Teachers were also asked the extent to which they agreed with certain statements about Bloom Reader. These statements related to teachers' ease of use with Bloom Reader, including using it to read with individual learners or small groups of learners, finding books, and sharing the app with others. For the most part, the percentage of teachers who strongly agreed with these statements increased from baseline to endline (see Table 12), but no changes in rates of agreement were statistically significant between baseline and endline. Particularly strong areas of growth included using Bloom Reader to read with individual learners or small groups of learners (34.3 percent to 60.0 percent) and finding comprehension questions in Bloom Reader (38.5 percent to 62.9 percent).

TABLE 12
Teacher Ease of Use with Bloom Reader

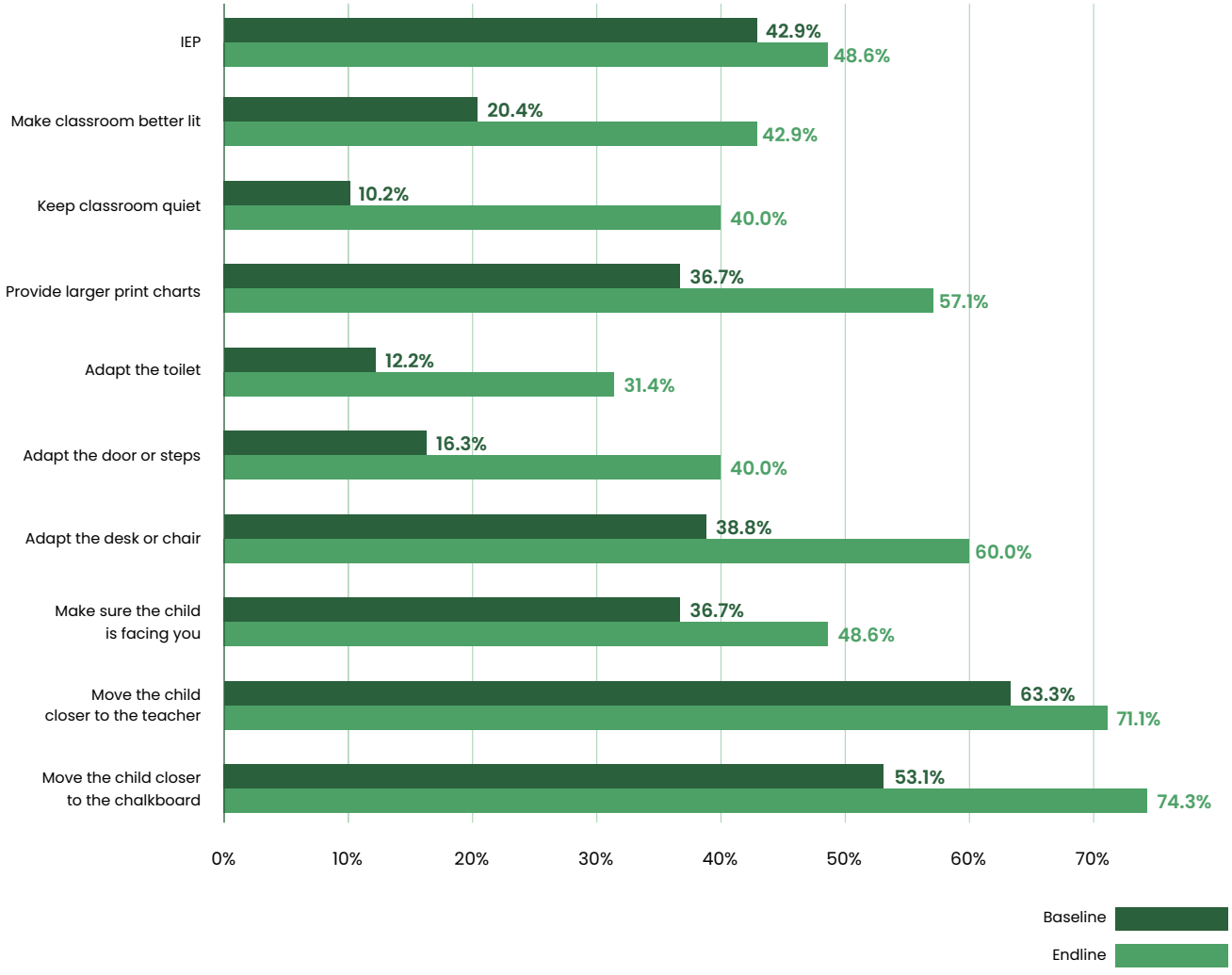
		Disagree	Agree	Strongly Agree
I can open and read or listen from the Bloom Reader app	Baseline	7.7	38.5	53.9
	Endline	0.0	34.3	65.7
I can find different books on Bloom Reader	Baseline	0.0	38.5	61.5
	Endline	8.6	31.4	60.0
I can find different languages (e.g., sign language or Tok Pisin) on Bloom Reader	Baseline	0.0	53.9	46.2
	Endline	8.6	37.1	54.3
I can share the Bloom Reader app and books with other people	Baseline	15.4	61.5	23.1
	Endline	14.3	37.1	48.6
I can use the Bloom Reader app to read with an individual or small group	Baseline	0.0	66.7	33.3
	Endline	5.7	34.3	60.0
I can find the comprehension questions in Bloom Reader	Baseline	0.0	61.5	38.5
	Endline	5.7	31.4	62.9

KAP in UDL and EdTech

Teachers were also asked questions about their teaching practices, both for learners with and without disabilities. When asked how they could adapt classrooms to help learners with disabilities learn, most teachers at both baseline and endline shared practices related to adapting the learners' seating location. The largest change in teachers' responses from baseline to endline was an increase in the percentage of teachers who reported keeping the classroom quiet. Additionally, the number of adaptations teachers shared significantly increased from baseline to endline (see Figure 8).

FIGURE 8

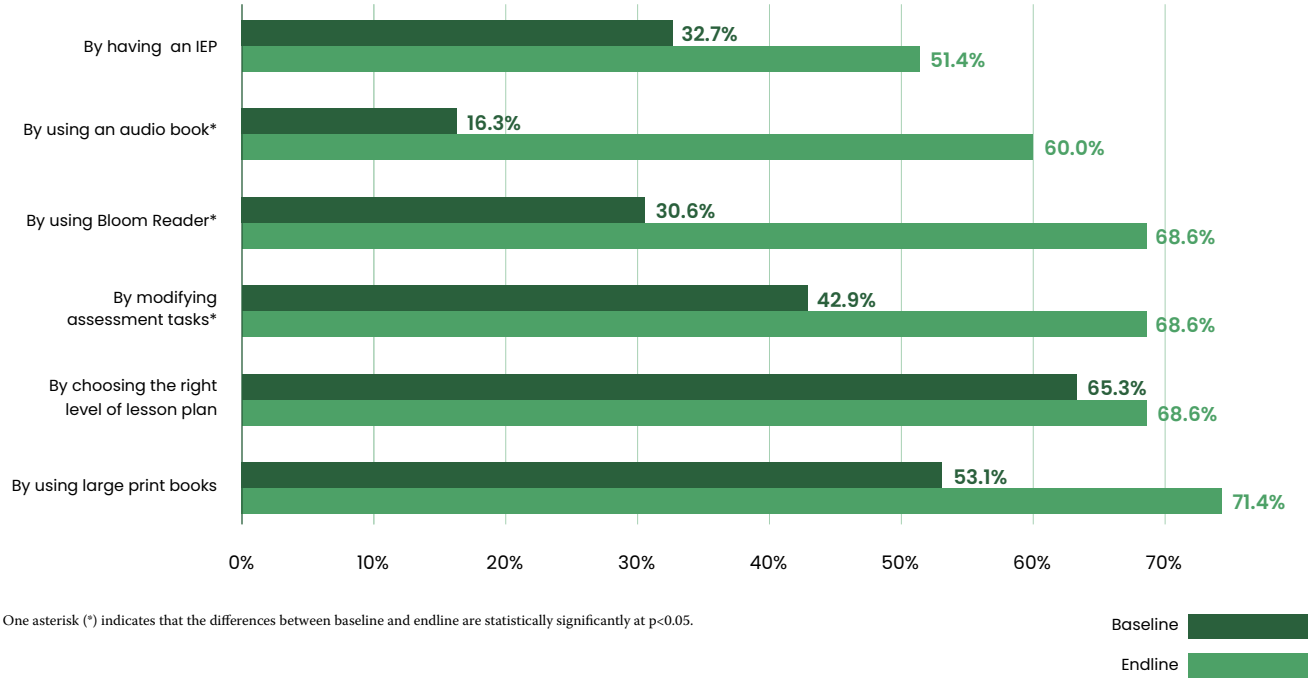
Ways to Adapt Classrooms for Learners with Disabilities, by Timepoint



Teachers were also asked how they adapted the curriculum to help learners with disabilities learn. At endline, more than one-quarter (28.6 percent) of teachers responded that they used all the curriculum adaptations listed on the survey. Additionally, the total number of curriculum adaptations teachers reported employing significantly increased from baseline to endline, even when controlling for gender and district. The largest changes from baseline to endline were observed in teachers' reported use of audiobooks (from 16.3 percent to 60.0 percent) and Bloom Reader (30.6 percent to 68.6 percent) (see Figure 9).

FIGURE 9

Percentage of Teachers Reporting Curriculum Adaptations, by Timepoint

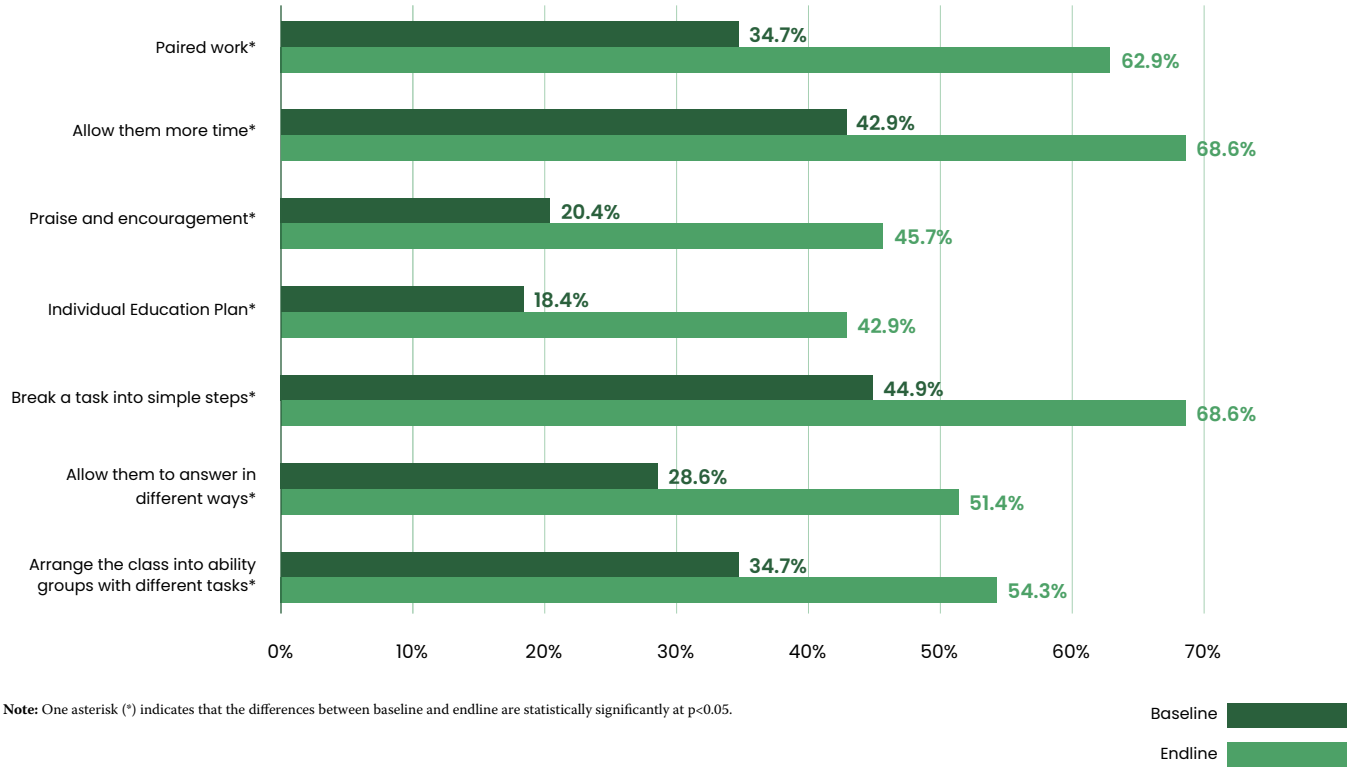


Note: One asterisk (*) indicates that the differences between baseline and endline are statistically significantly at p<0.05.

Teachers were also asked about how they adapted their teaching and learning assessments to help learners with disabilities learn. The total number of adaptations teachers reported when administering assessments statistically significantly increased from baseline to endline. The most frequent adaptations reported were breaking a task into simple steps (68.6 percent) and allowing learners more time (68.6 percent) (see Figure 10).

FIGURE 10

Percentage of Teachers Reporting Assessment Adaptations, by Timepoint

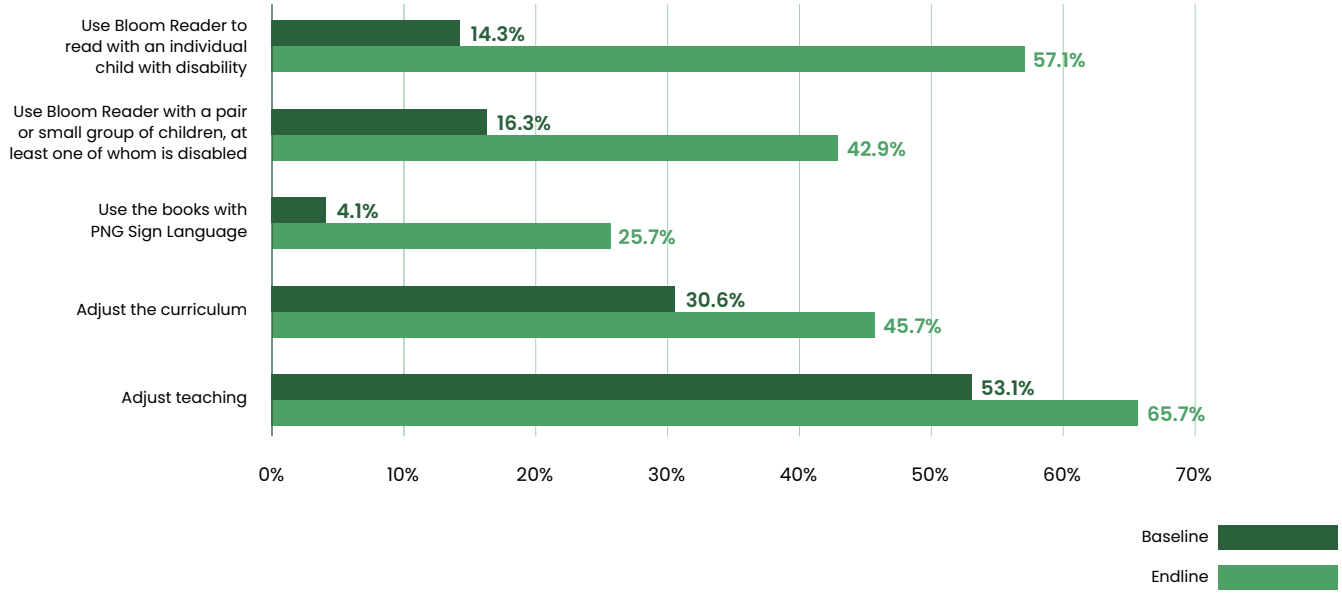


Note: One asterisk (*) indicates that the differences between baseline and endline are statistically significantly at $p<0.05$.

Teachers were also asked about activities they specifically implemented in their classroom to support learners with disabilities during the most recent week of class. Teachers reported a significant increase in the number of activities they implemented, with an average increase of 1.5 activities from baseline to endline. The greatest increase was found in the proportion of teachers who reported using Bloom Reader to read with an individual learner with disabilities (see Figure 11).

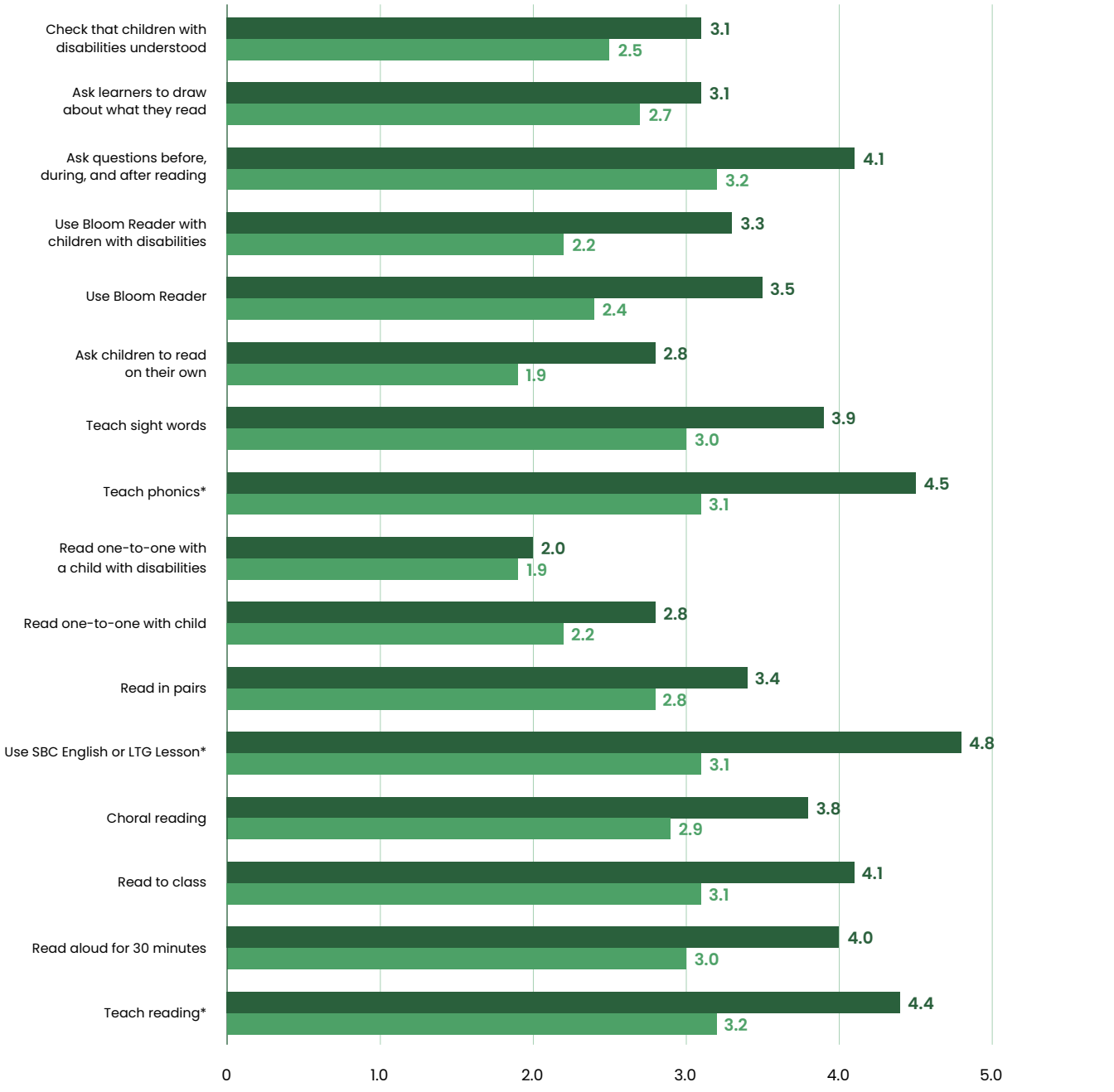
FIGURE 11

Percentage of Teachers Reporting Using Accommodations in the Last Week, by Timepoint



Teachers were then asked to report the number of days that they implemented 16 types of teaching practices to support learners during the most recent week of class, such as checking for understanding or paired reading. Teachers most frequently reported teaching phonics, teaching reading, and using Standards Based Curriculum (SBC) English or learner and teacher guide (LTG) lessons (Figure 12). However, there was a statistically significant decrease in the frequency of these behaviors from baseline to endline. The decline in frequency may be due to the time of year when endline was conducted—following a school break.

FIGURE 12
Number of Days Teachers Reporting Using Teaching Practices, by Timepoint



Note: One asterisk (*) indicates that the differences between baseline and endline are statistically significantly at p<0.05.

Finally, teachers were asked the extent to which they agreed about several statements related to teaching practices and supporting learners. The proportion of teachers strongly agreeing with the statements increased from baseline to endline (see Table 13).

TABLE 13
Teacher Agreement with Statements on Learning Practices

		Strongly Disagree	Disagree	Agree	Strongly Agree
If I adapt my teaching, children with disabilities can learn to read.*	Baseline	0.0%	2.0%	53.1%	44.9%
	Endline	0.0%	5.7%	31.4%	62.9%
Using technologies like Bloom Reader can help a diverse range of learners learn to read.*	Baseline	0.0%	0.0%	53.8%	46.2%
	Endline	0.0%	2.9%	31.4%	65.7%
I am confident using technologies like Bloom Reader in my classroom.*	Baseline	0.0%	0.0%	53.8%	46.2%
	Endline	0.0%	5.7%	31.4%	62.9%
Parents have to read with their child every day.*	Baseline	0.0%	0.0%	40.8%	59.2%
	Endline	0.0%	2.9%	31.4%	65.7%

Note: One asterisk (*) indicates that the differences between baseline and endline are statistically significantly at $p<0.05$.

PCG Survey Results

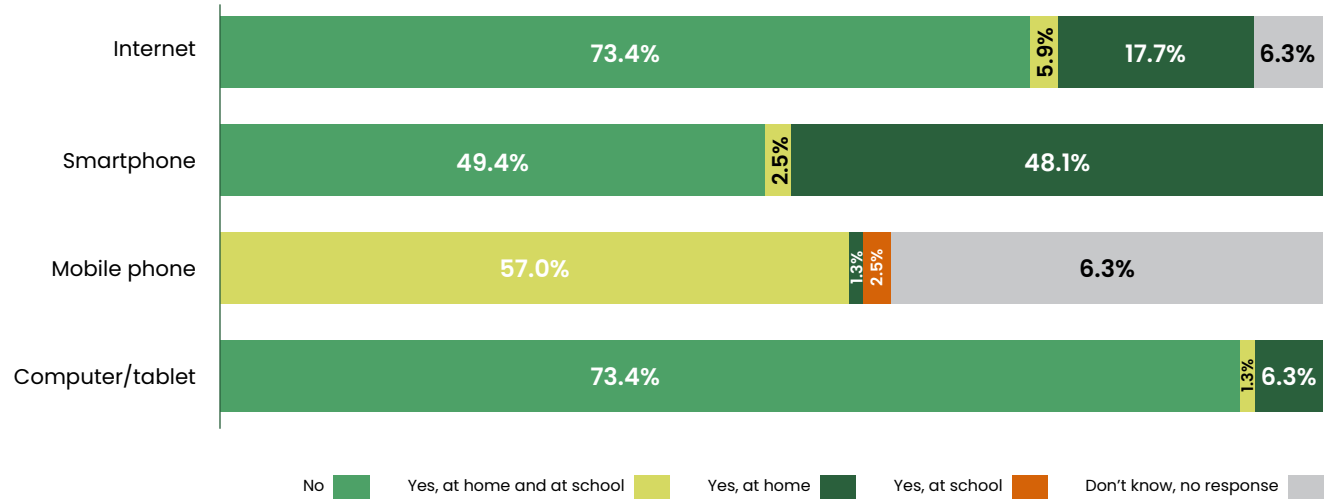
At endline, PCGs were given a survey that asked questions about their engagement with YRT and its materials, as well as their views on their child's reading and language skills. PCG demographics have been outlined in the PCG Sample section.

Access and Comfort with Technology

At baseline and endline, PCGs shared their levels of access to various types of technology to understand general levels of comfort with technology. At endline, the majority of PCGs reported not having access to computers/tablets and the internet, while about half of PCGs reported having access to a smartphone, as shown in Figure 13.[15]

15 YRT did not provide PCGs with access to computers, tablets, or the internet. PCGs received either microSD cards or smartphones with downloaded materials, so the internet was not required. Internet / hot spots were used by the project to upload usage data but was not required for participants to access the downloaded digital materials.

FIGURE 13
Primary Caregivers' Access to Technology



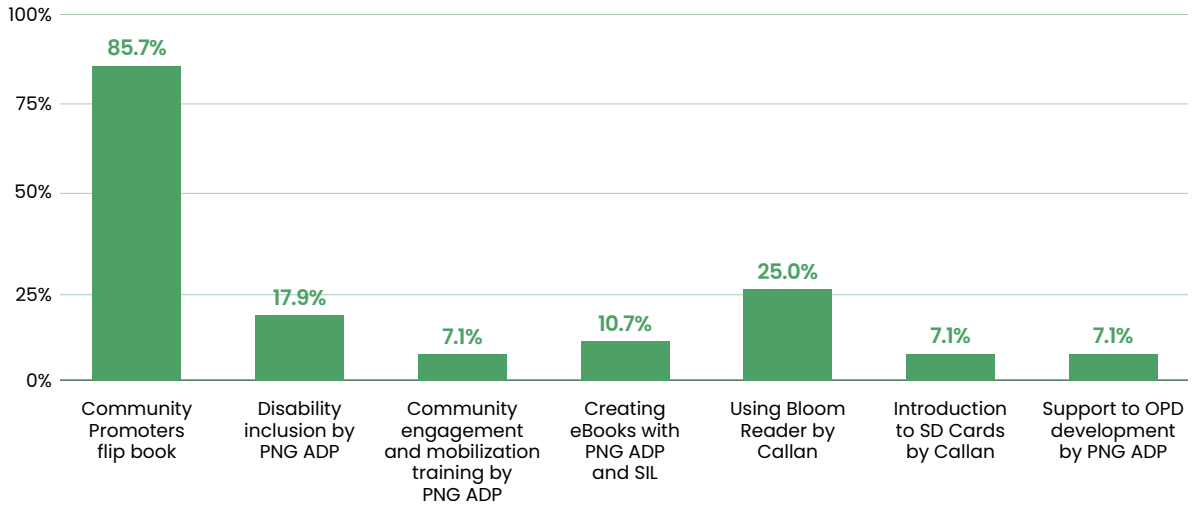
As for their proficiency using technology, 92.4 percent of PCGs reported that they were not at all or not very comfortable using a computer or tablet, 62.0 percent were not comfortable with mobile phones, 62.0 percent were not at all or not very comfortable with smartphones, and 92.4 percent were not at all or not very comfortable using the internet.

Participation in Training and Use of Project Materials

As part of the survey, PCGs were asked about their participation in trainings provided by YRT (see Figure 14). PCGs reported low levels of participation in training, especially for sessions that happened later in the activity. Only 35.4 percent of PCGs attended at least one training session and only 8.0 percent attended more than one training session. The training on "Community Partnership Flip Books" had the highest attendance rate overall. The low levels of participation in training suggest that interventions might need to find new and different ways to attract PCGs to trainings or reach them.

There were no significant differences in PCGs' attendance by gender or education level, but PCGs identifying as having a disability reported attending one additional training on average. The most frequently attended session for this group was "Creating eBooks with PNG ADP and SIL."

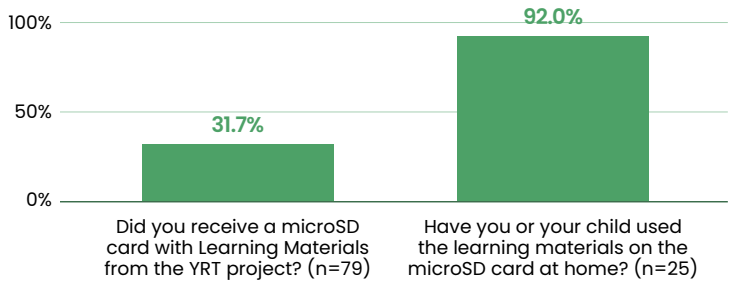
FIGURE 14
Primary Caregiver Participation in YRT Trainings, Overall



PCGs were asked about their receipt and use of microSD cards with their children (see Figure 15). Overall, less than one-third (31.7 percent) of PCGs reported receiving a microSD card. However, the proportions varied widely by district. PCGs in North Fly reported near total receipt and use of microSD cards (100.0 percent and 90.0 percent, respectively), compared with rates closer to one-quarter in Middle Fly (26 percent receipt and 23 percent use) and one-fifth in South Fly (15 percent receipt and use).

There were no significant differences in PCGs' receipt or use of microSD cards when disaggregated by sex or education level. However, PCGs identifying as having a disability were significantly less likely than their peers to report having used the materials with their children.

FIGURE 15
Primary Caregivers who Received and Used MicroSD Cards



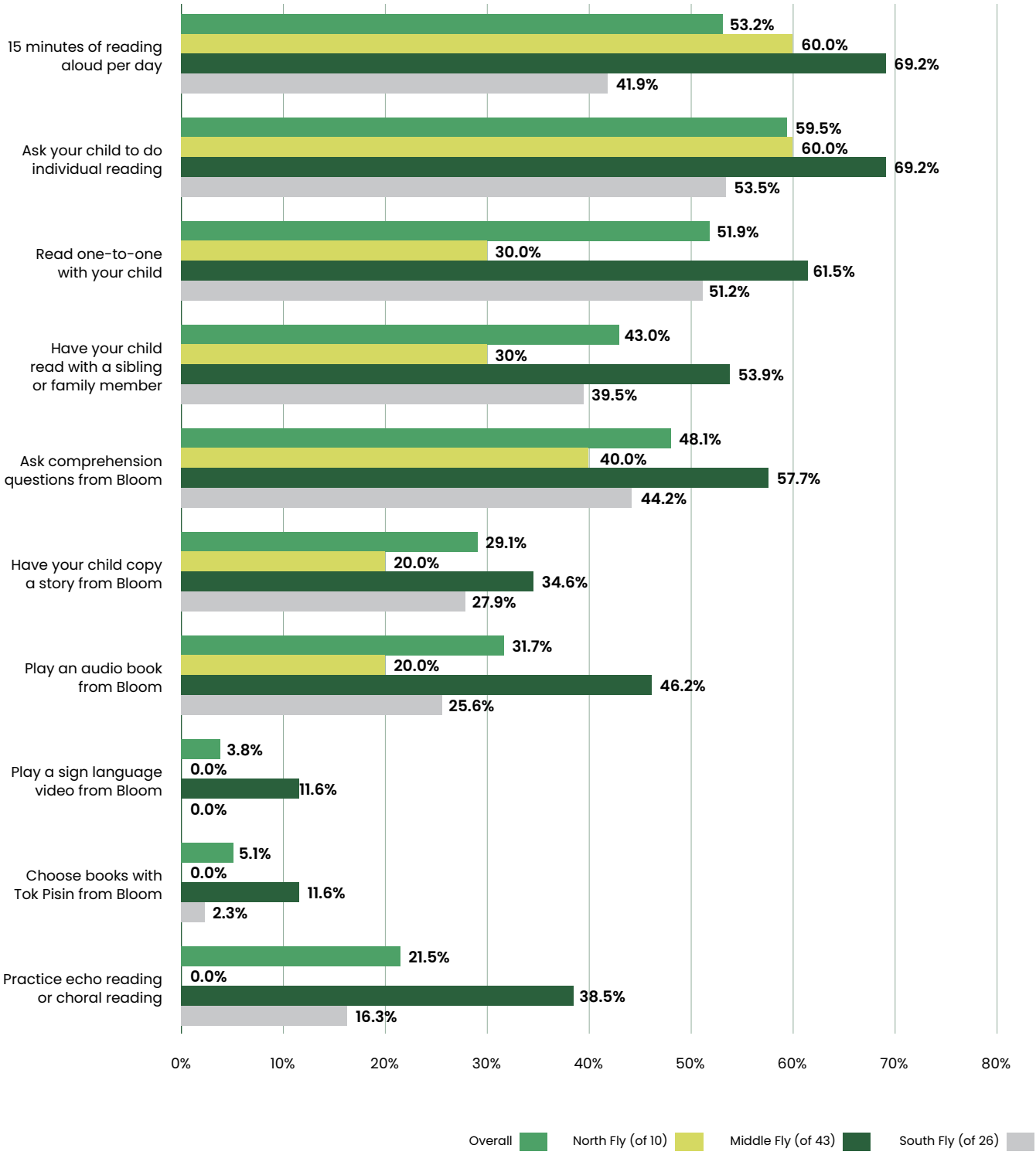
PCGs were also asked if they ever used Bloom Reader to read with their child at home. Overall, 56.6 percent of PCGs indicated that they did use Bloom Reader with their child. All 28 PCGs who reported attending a YRT training reported using Bloom Reader with their child, compared to 31.3 percent of the 48 PCGs who did not attend a YRT training using Bloom Reader with their child.

Finally, PCGs were asked if they did 10 activities to improve their child's reading using Bloom Reader, regardless of if they had received a smartphone or microSD card with Bloom Reader on it (see **Figure 16**). Overall, the most common activities were asking your child to do independent reading (59.5 percent), 15 minutes of reading aloud each day (53.2 percent), and reading one-to-one with their child (51.9 percent). At the district level, PCGs in Middle Fly and South Fly reported higher rates of use than did PCGs in North Fly. In Middle Fly, the most common activities were asking a child to do independent reading and 15 minutes of reading aloud each day (69.2 percent of PCG reported each). In South Fly, the most common activities were 15 minutes of reading aloud each day and reading one-to-one with a child (53.5 percent and 51.2 percent, respectively).

There were no significant differences in PCGs' reported activities using Bloom Reader when disaggregated by sex, education level, or disability status.

FIGURE 16

Primary Caregiver Use of Bloom Reader with Child, Overall and by District



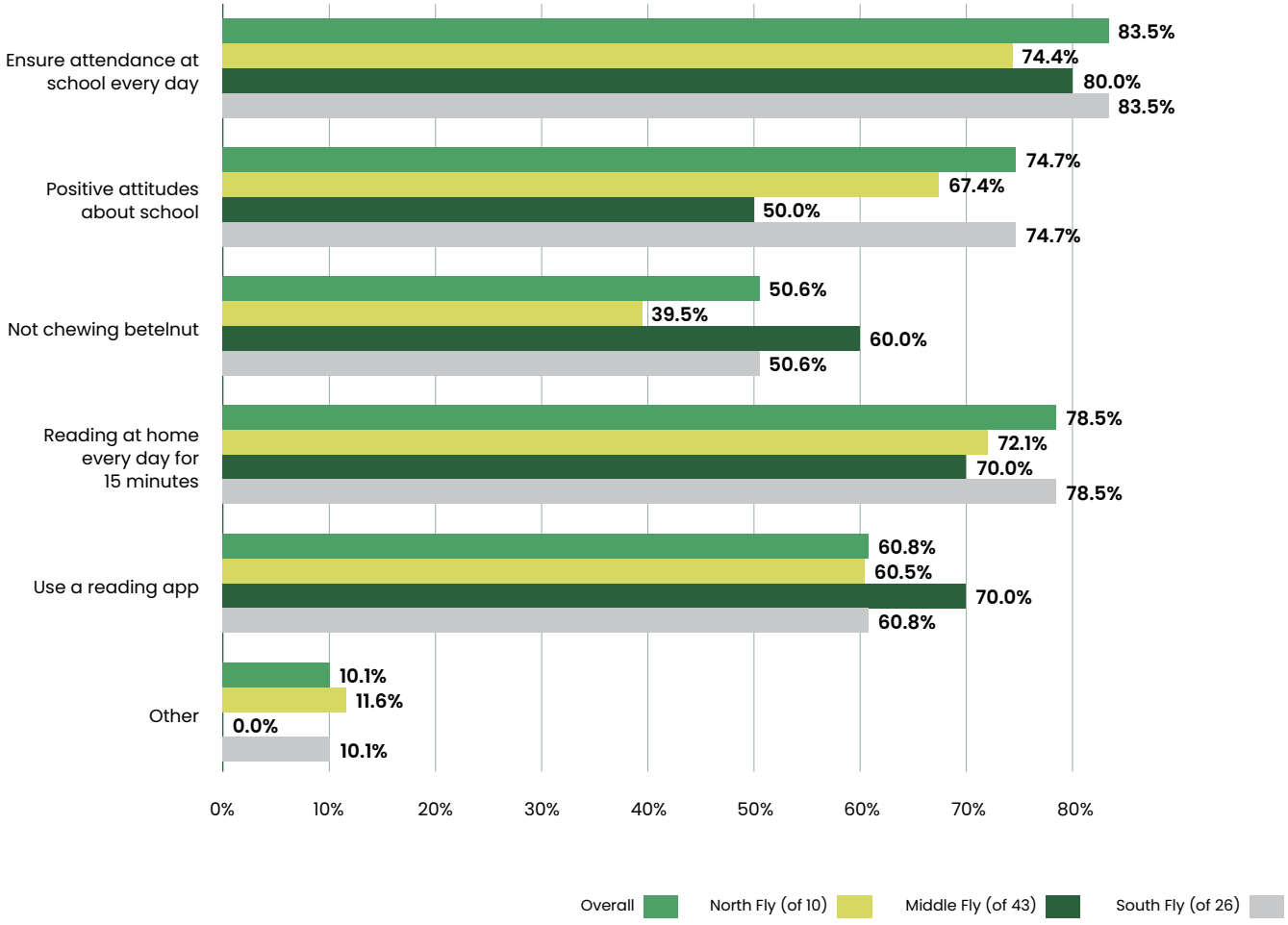
Views on Supporting Children's Reading

As part of the PCG survey, PCGs were asked about their views on the roles families can play in supporting their child's reading, literacy, and learning development. When PCGs were asked, "What can families do to improve their child's reading outcomes?" the most common response was to "ensure attendance at school every day" (see Figure 17). This Views on Supporting Children's Reading response was the most common one overall (83.5 percent) and in each district. Other common answers were to have a "positive attitude about school" and "reading at home every day for 15 minutes" (74.7 percent and 78.5 percent, respectively).

There were no statistically significant differences in PCGs' responses when disaggregated by district, sex, or disability status.

FIGURE 17

Percentage of Primary Caregivers Responding to Suggestions to How Families can Improve Reading Outcomes, Overall and by District

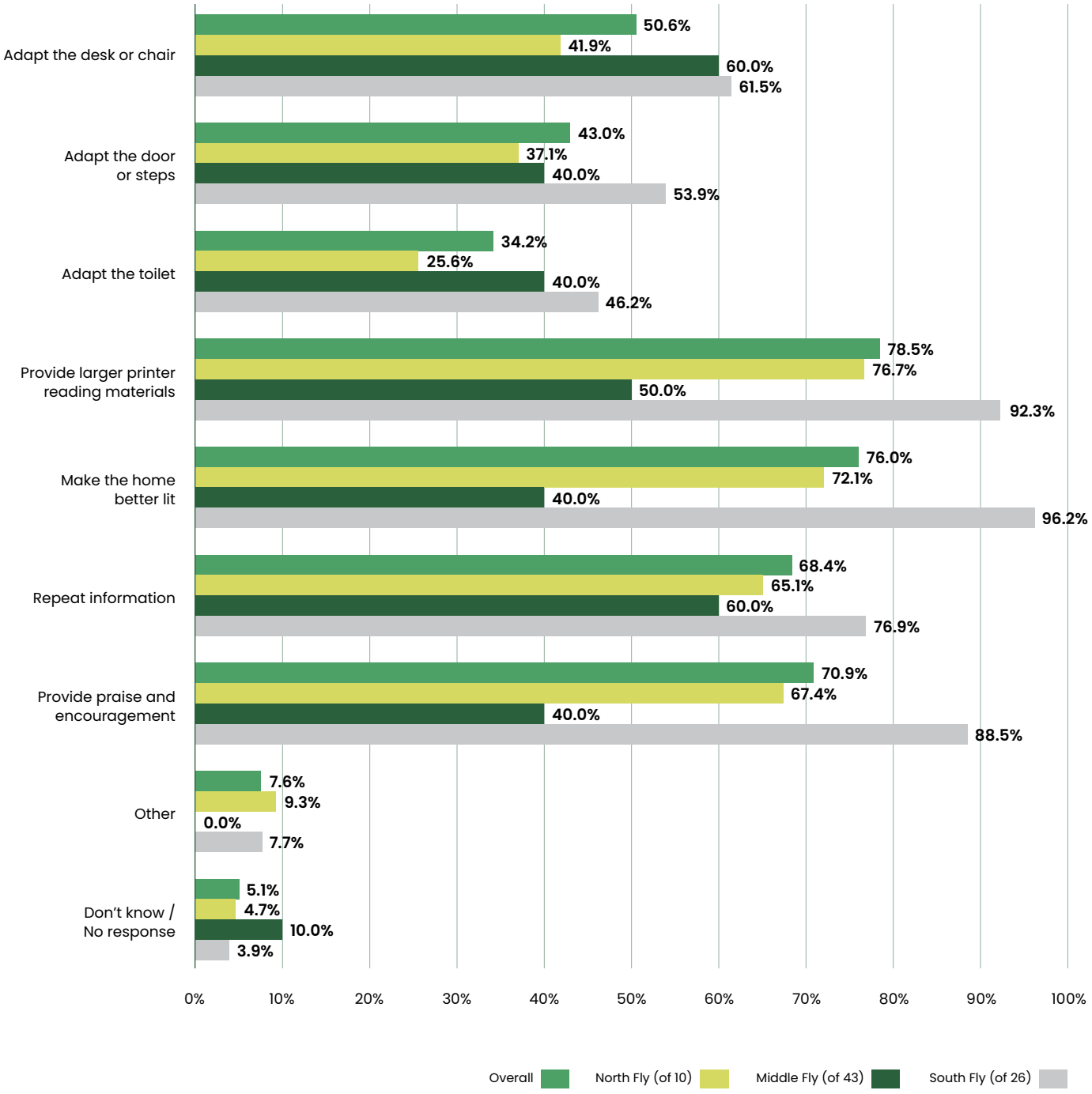


When PCGs were asked, "What can families do for children with disabilities to help them learn?" the most common response overall was to "provide larger print reading materials," as seen in Figure 18 (78.5 percent). Other common answers overall were to "make the home better lit," "provide praise and encouragement ," and "repeat information" (76.0 percent, 70.9 percent, and 68.4 percent, respectively).

There were no significant differences in PCGs' responses when disaggregated by sex or disability status overall. However, PCGs in South Fly mentioned significantly more approaches than PCGs in other districts, and overall, PCGs with only an elementary level education mentioned significantly fewer approaches than did PCGs with higher levels of education.

FIGURE 18

Percentage of Primary Caregivers Responding to Suggestions to How Families with Children with Disabilities can Help them Learn, Overall and by District

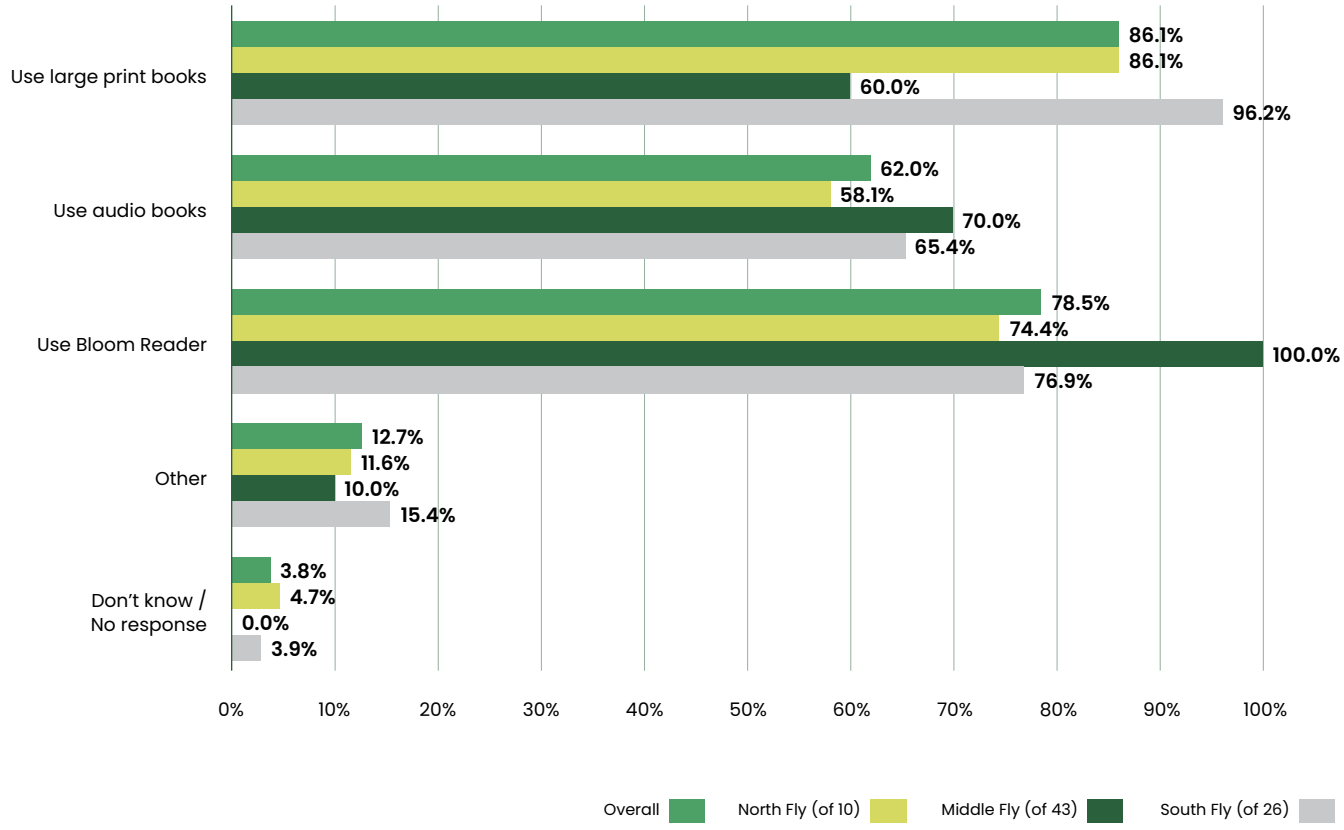


Finally, PCGs were asked, "What kinds of learning materials can families or teachers use with children with disabilities to help them learn?" (see Figure 19). The most common responses overall were to "use large print books" and "use Bloom Reader" (86.1 percent and 78.5 percent, respectively).

There were no statistically significant differences in PCGs' responses when disaggregated by district, sex, education level, or disability status.

FIGURE 19

Percentage of Primary Caregivers Responding to Suggestions on Learning Materials that Families or Teachers Can Use to Help Children with Disabilities Learn, Overall and by District



PCG Focus Group Discussions Results

Participation and Satisfaction with YRT Trainings and Materials

PCGs noted that their children had started participating in the project in 2022.[16] Of the eight PCGs who participated in FGDs, seven stated that they had attended trainings provided by YRT; one PCG was not aware of any YRT trainings. Although most PCGs surveyed had not participated in trainings (as was discussed earlier), most PCGs in the FGDs had participated in trainings because they were purposefully selected for the FGDs to gain insight into the perceived quality of trainings. Those who had attended a training described learning how to manage the software (Bloom Reader) and hardware (smartphone), as well as learning skills to teach their children at home. PCGs noted that the training was important because most had not had experience with smartphones. "It was my first time to use a touch screen phone, so everyone laughed at me during the training session, but now I can handle the phone without difficulty," explained an FGD participant.

In addition to expressing satisfaction with the trainings, FGD participants also expressed limitations of the technology provided by YRT. When asked if they used the EdTech at home, PCGs said that it depended on the smartphone's battery power. PCGs mentioned difficulties with charging the smartphones due to:

- **Lack of solar power**
- **Power banks not able to charge sufficiently**
- **USB cables of poor quality that were damaged quickly**

The uneven distribution of technology was another limitation that PCGs described. One PCG mentioned that they had two children in the YRT-supported school sharing a single smartphone, which led to conflict.

Satisfaction with Children's Reading and Language Skills

Generally, PCGs expressed satisfaction with their children's reading progress. They mentioned that children can read more fluently and that they have improved skills related to writing, drawing, singing songs, and spoken English and Tok Pisin.

A head teacher in attendance noted that the phonics being taught on the smartphone helped children to identify words and read on their own.

When asked what additional supports would be beneficial, PCGs mentioned the following:

- **More trainings and refresher trainings for PCGs**
- **Provision of smartphones and microSD cards to all children in the project schools**
- **Provision of smartphones to every teacher in the project schools, rather than one smartphone per school**

16 In one FGD, PCGs said their children started last year; in another FGD, the PCGs specifically said their children started mid-year 2022.

- **Books in Bloom Reader from elementary to primary levels**
- **Bible in Bloom Reader**
- **Printed books for children**
- **A4-sized paper to write questions along with markers and colored pencils**
- **Solar lighting system for children to learn at night**
- **Solar lighting system at school to charge smartphones**
- **Bigger smartphones, tablets, or projectors with solar-charging capabilities**

Scalability Assessment Tool Results

As part of the ACR GCD 2020 Grant Competition, STS developed a SAT that combined quantitative measures and qualitative reflections. All awardees used this tool to critically examine the maturity of their solutions, intended pathway for scale, and scalability-enabling conditions across five dimensions—effectiveness, equitability, market demand, financial sustainability, and transferability. In each dimension, projects would answer a series of questions where they could rate themselves on a scale of 0 (not at all) to 3 (to a large extent). YRT staff completed the SAT at the project's baseline and endline, though some staff were different due to turnover. (see **Appendix I: Scalability Assessment Tool**)

Dimension 1: Effectiveness

The effectiveness dimension evaluates the extent that the existing evidence base proves a solution's ability to reach its intended results, considering stakeholders' and beneficiaries' perceptions of the solution's benefits, as well as evidence of favorable cost-benefit and cost-efficiency ratios. For this dimension, the project's self-evaluated score (out of 15) went from 10 at baseline to 12 at endline. The biggest change from baseline to endline centered on evidence that the solution's unit cost per beneficiary would be maintained or reduced if scaled (see **Appendix I: Scalability Assessment Tool**). On its impact, YRT shared :

> *The solution is effective in improving the reading/language skills of the children. However, it would have been better if the solutions were standardized (e.g., phones only) rather than phones to others and microSD cards to others. Evidence from similar projects (e.g., WEP/RISE) confirms effectiveness of this solution for improving reading/language skills.*

Dimension 3: Market Demand

The SAT's market demand dimension assesses if there is market demand for the solution or product, both from individual users as well as governmental or stakeholder perspectives. YRT's self-assessment of this dimension did not change from baseline to endline, remaining at a total score of 6 (out of 6) (see Appendix I: Scalability Assessment Tool). At endline, YRT shared progress in their rationale for this category, saying:

> *The solutions have attracted a lot of demand from other non-participating schools. As a result, , distributions of solutions were done to those out of the project scope. Local partners (Ok Tedi Development Foundation) have also seen the high need area to be addressed and have come on board to support.*

Dimension 5: Transferability

The SAT's transferability dimension examines if the characteristics of the solution are conducive to implementation with a larger or different audience. Specifically, transferability assesses if scale-up requires modifications that change the solution's effectiveness, the complexity of the solution, the adaptability of the solution's components to pre-existing systems, and the organizational infrastructure needed to implement the solution.

For this dimension, the project's self-evaluation score (out of 18) went from 11 at baseline to 13 at endline (see **Appendix I: Scalability Assessment Tool**). Most of these gains were related to the solution being effective as a scaled-up solution, as well as the solution being feasible for scale-up by other organizations. On these aspects, YRT shared, "The solutions are user-friendly and have been accessible. However, tech illiteracy level has been the impediment for the good and full use of the solutions."

EGRA Results for Learners with Low Vision

This section presents cross-sectional changes in EGRA scores for learners with low vision. Because the learner sample was so small at both timepoints (25 learners at baseline, 10 learners at endline), this section will not discuss changes in terms of statistical significance.

As shown in Table 14, endline fluency and accuracy scores for learners with low vision were slightly higher than at baseline. However, it should be noted that scores were still quite low. In letter naming fluency—a foundational reading skill—learners could still only identify 25.5 letters (out of 50 on average) correctly per minute at endline. This is likely because of the very early grade levels of the learners, as those just starting EP likely would not have begun to learn much English in school yet.

TABLE 14
Fluency and Accuracy Scores at Baseline and Endline for Learners with Low Vision

	Subtask	Baseline	Endline
Fluency	Letter Naming (correct letters per minute)	20.6	25.5
	Familiar Word (correct familiar words per minute)	1.9	3.2
	Oral Reading (correct words per minute)	6.3	6.6
Accuracy	Letter Naming (of 50)	55.4%	65.4%
	Familiar Word (of 40)	9.6%	20.3%
	Oral Reading (of 40)	18.4%	32.5%
	Reading Comprehension (of 5)	4.0%	22.0%
	Listening Comprehension (of 5)	16.0%	36.0%

Note: Statistical significance not indicated due to low sample size.

Similarly, endline zero scores—a proportional measure of the learners who were not able to answer any items correctly in a subtask—were lower than baseline, indicating that learners could engage with more of the assessment material at endline (see Table 15). Indeed, there were no zero scores in letter naming at endline, and the percentage of learners who received a zero score on the oral reading fluency subtask decreased from 56.0 percent at baseline to 10.0 percent at endline.

TABLE 15

Zero Scores for Learners with Low Vision, Baseline and Endline

	Subtask	Baseline	Endline
Zero Scores	Letter Naming	16.0%	0.0%
	Familiar Word	56.0%	40.0%
	Oral Reading	56.0%	10.0%
	Reading Comprehension	80.0%	40.0%
	Listening Comprehension	72.0%	30.0%

Note: Statistical significance not indicated due to low sample size.

EGRA Results for Learners with Learning Disabilities

This section presents results from a cross-sectional analysis of baseline and endline scores.

Learners with learning disabilities showed improvement from baseline to endline on all EGRA subtasks (see Table 16). These improvements were statistically significant for familiar word fluency, as well as accuracy scores on all five subtasks, with the greatest increase seen in reading comprehension accuracy. Learners with learning disabilities went from answering 4.5 percent of five reading comprehension questions correctly at baseline to 18.7 percent at endline. It should be noted that this level of accuracy is quite low—less than one question correct on average.

TABLE 16
Overall Baseline and Endline Scores for Learners with Disabilities

	Subtask	Baseline	Endline	Effect Size
Fluency	Letter Naming (correct letters per minute)	13.8	15.8	N/A
	Familiar Word (correct familiar words per minute)*	1.0	2.3	0.31
	Oral Reading (correct words per minute)	3.1	5.4	N/A
Accuracy	Letter Naming (of 50)*	51.3%	58.5%	0.24
	Familiar Word (of 40)*	6.9%	15.3%	0.42
	Oral Reading (of 40)*	14.4%	27.2%	0.45
	Reading Comprehension (of 5)*	4.5%	18.7%	0.63
	Listening Comprehension (of 5)*	16.0%	26.7%	0.35

Note: An asterisk (*) indicates baseline and endline results are significantly different at p<0.05. Effect size calculated using multivariate regression controlling for sex, grade, and district with standard errors clustered by school.

To help interpret these results, analysts also calculated the effect size for statistically significant differences. Effect size is a measure that indicates practical significance, meaning if the difference is large enough to be practical in the real world. Effect size coefficients range from 0 to 1, with larger effect sizes denoting greater practical significance, with general guidelines indicating that 0.2 is a small effect, 0.5 is a moderate effect, and 0.8 is a large effect. Thus, although the increase in familiar word fluency was statistically significantly from 1.0 correct word per minute at baseline to 2.3 correct words per minute at endline, the effect size (0.31) was rather small, which indicates a small practical significance to this finding.

Analysts also examined the change in zero scores between baseline and endline for learners with learning disabilities (see Table 17). Decreases in the proportion of zero scores were statistically significant for all subtasks but letter naming, for which zero score proportions were already relatively low at baseline (18.2 percent).

TABLE 17
Zero Scores for Learners with Learning Disabilities at Baseline and Endline

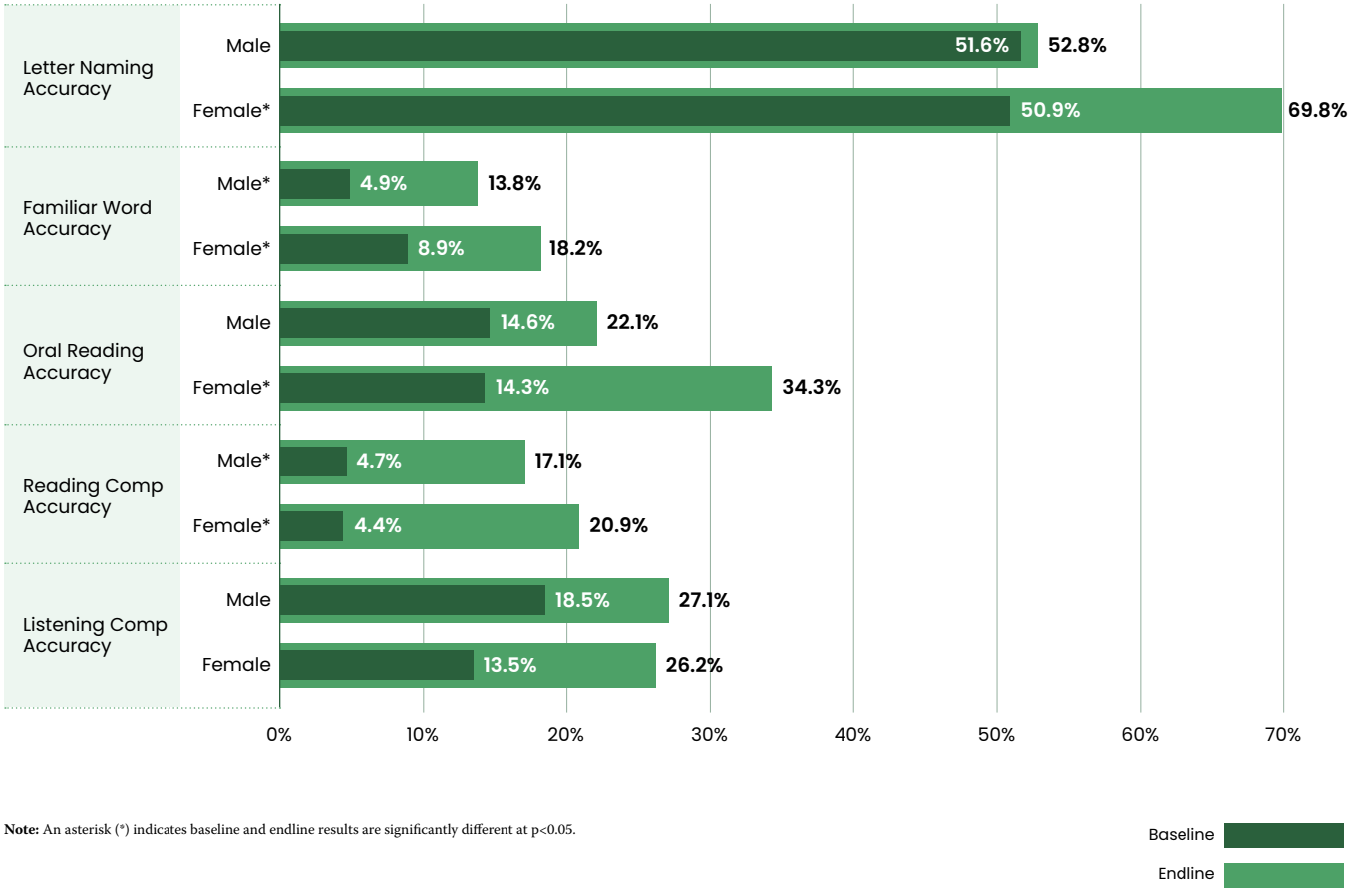
	Subtask	Baseline	Endline	Effect Size
Zero Scores	Letter Naming	18.2%	10.9%	N/A
	Familiar Word*	72.7%	48.7%	0.45
	Oral Reading*	63.6%	37.8%	0.56
	Reading Comprehension*	85.5%	63.9%	0.53
	Listening Comprehension*	61.8%	42.9%	0.39

Note: An asterisk (*) indicates baseline and endline results are significantly different at p<0.05. Effect size calculated using multivariate regression controlling for sex, grade, and district with standard errors clustered by school.

Analysts also examined how scores changed between baseline and endline for boys and girls. As shown in Figure 20, boys statistically significantly improved their accuracy from baseline to endline on the familiar word reading and reading comprehension subtasks. Similarly, girls' accuracy scores statistically significantly increased between baseline to endline in all subtasks except listening comprehension. In addition, in terms of fluency, girls had a significantly higher endline familiar word fluency score compared to baseline. On average, girls read 2.9 familiar words correctly per minute at endline, compared to 1.1 familiar words at baseline.

FIGURE 20

Percentage of Accuracy for Learners with Learning Disabilities, by Sex

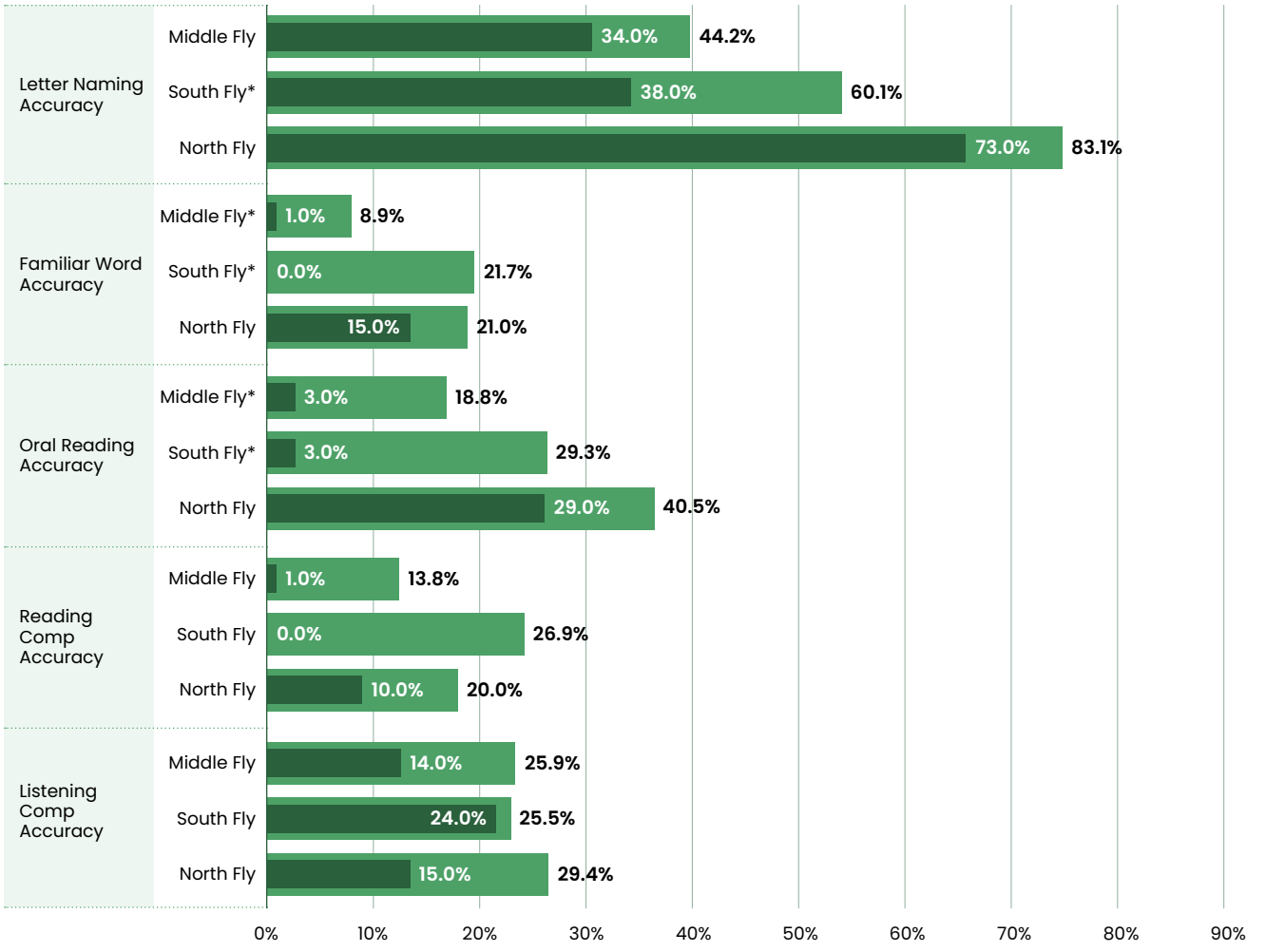


Note: An asterisk (*) indicates baseline and endline results are significantly different at $p<0.05$.

Analysts also examined scores by district. Learners in Middle Fly and South Fly had higher rates of improvement than their peers in North Fly, as shown in Figure 21. However, this finding may be driven by learners' comparatively lower scores in Middle Fly and South Fly at baseline, which allowed more room for improvement.

FIGURE 21

Percentage of Accuracy for Learners with Learning Disabilities, by District



Note: An asterisk (*) indicates baseline and endline results are significantly different at p<0.05.

Baseline

Endline

Learner Survey Results

At baseline and endline, learners were given a survey after completing the EGRA. The learner survey included questions about learners' family and household members; reading habits; their general access to technology; and their access to, comfort with, and use of Bloom Reader. Learner demographics were reported above in the Learner Sample Description.

Reading Habits

Learners were asked about their reading habits and resources at home at both baseline and endline, as shown in Table 18. The availability of resources showed statistically significant increases from baseline to endline. However, these increases are likely due to the drop in the proportion of learners responding "I don't know" to each question.

TABLE 18
Learners' Reading Resources at Baseline and Endline

		Baseline	Endline
Read book or listen/tell stories using	Print	25.9%	36.0%
	Tablet	1.5%	11.2%
	Phone	5.9%	26.4%
Have newspapers/magazines at home		26.7%	34.7%
Have books at home		57.0%	51.2%

Access to Technology

Learners were asked about their access to technology at home and school. At baseline, very few learners had access to computers at home or school, and this low proportion did not change at endline. Since the project did not include provision of computers, the low level of access is not unexpected. However, the proportion of learners who had access to smartphones—either at home or school—increased significantly from baseline to endline (see Table 19).

TABLE 19

Learners' Access to Technology at Home and School

	Baseline	Endline
Computer at home	4.4%	4.8%
Computer at school	5.2%	3.9%
Smartphone at home*	15.6%	46.8%
Smartphone at school*	12.6%	26.4%

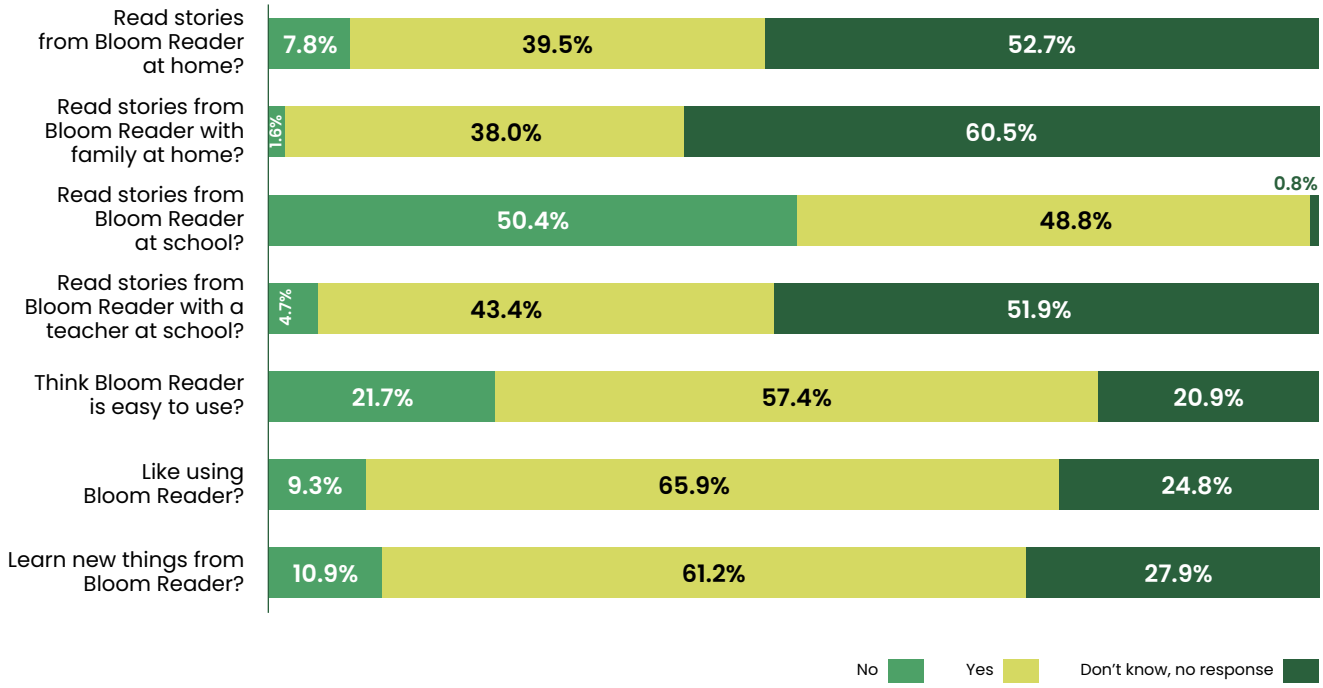
Note: An asterisk (*) indicates differences between baseline and endline are statistically significant at p<0.05.

Access to and Use of Bloom Reader

Learners were asked about their access and usage of Bloom Reader. Overall, 39.5 percent of them indicated they used Bloom Reader to read stories at home, and 48.8 percent reported that they used Bloom Reader to read stories at school. Learners were statistically significantly more likely to report using Bloom Reader at school than at home. It is notable that 52.7 percent of learners did not respond to the question about Bloom Reader usage at home, but all learners responded to the question regarding Bloom Reader usage at school. Additionally, more than half of learners shared that Bloom Reader was easy to use (57.6 percent), that they liked using the app (65.9), and that they learned new things from using the app (61.2 percent) (see Figure 22).

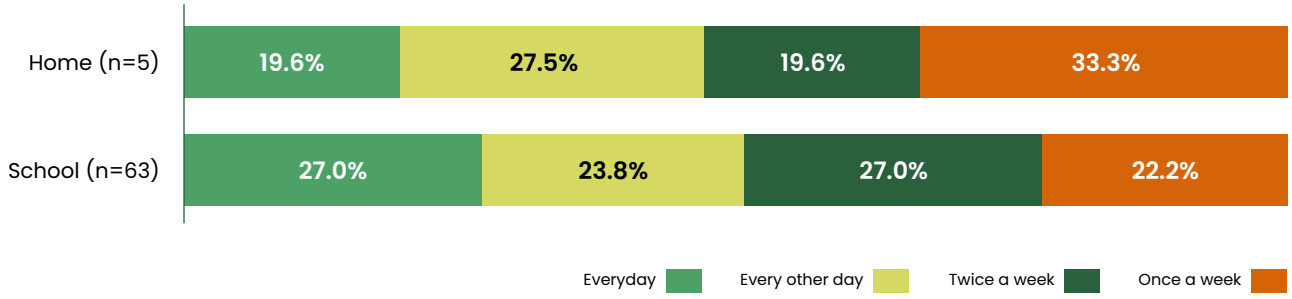
FIGURE 22

Learner Use and Perspective about Bloom Reader



In terms of usage frequency, 19.6 percent of learners who reported using Bloom Reader at home said they did so every day. Similarly, 27.0 percent reported using it at school every day (see Figure 23).

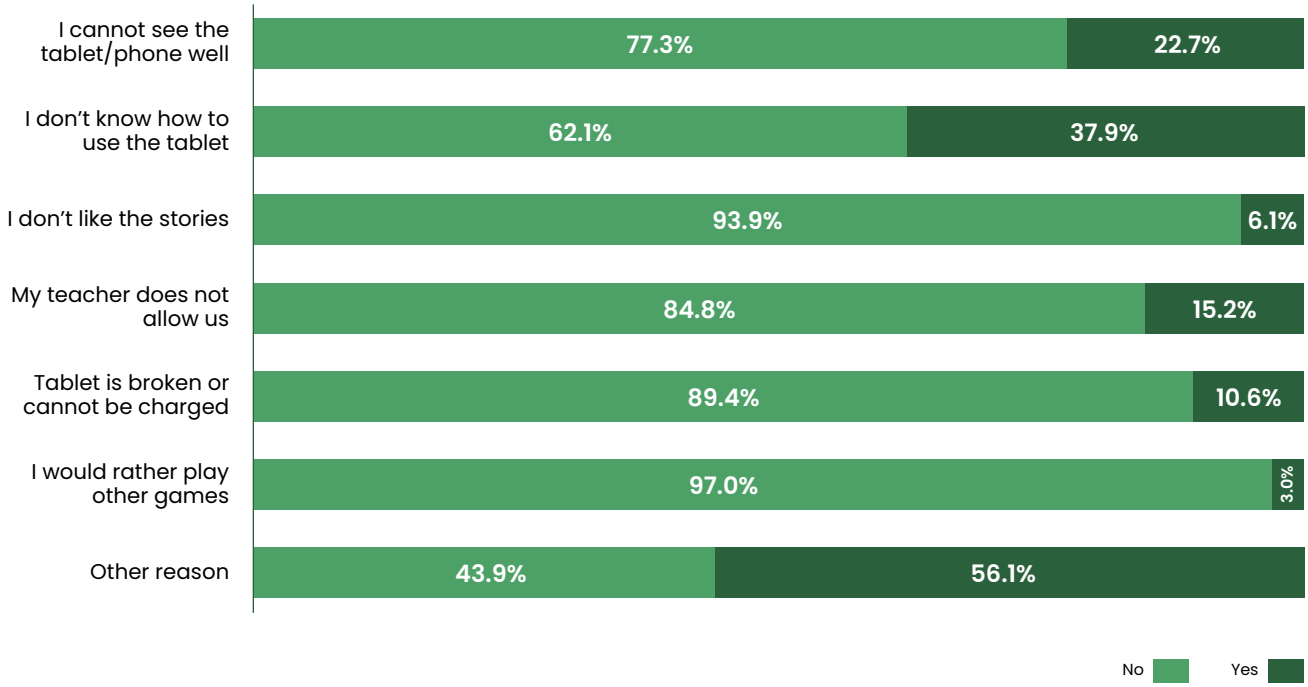
FIGURE 23
Frequency of Reading Stories from Bloom Reader at Home and School



When asked why they did not use Bloom Reader at school, 56.1 percent of learners gave "other reason" as their reason. In addition, 37.9 percent reported that they did not know how to use the device and 22.7 percent reported that they could not see the device well (see Figure 24). Considering the answers that were given, the major barriers were related to issues accessing the device, rather than issues with the app itself. For instance, only 6.1 percent mentioned not liking the stories and even fewer (3.0 percent) said they preferred to play other games.

FIGURE 24

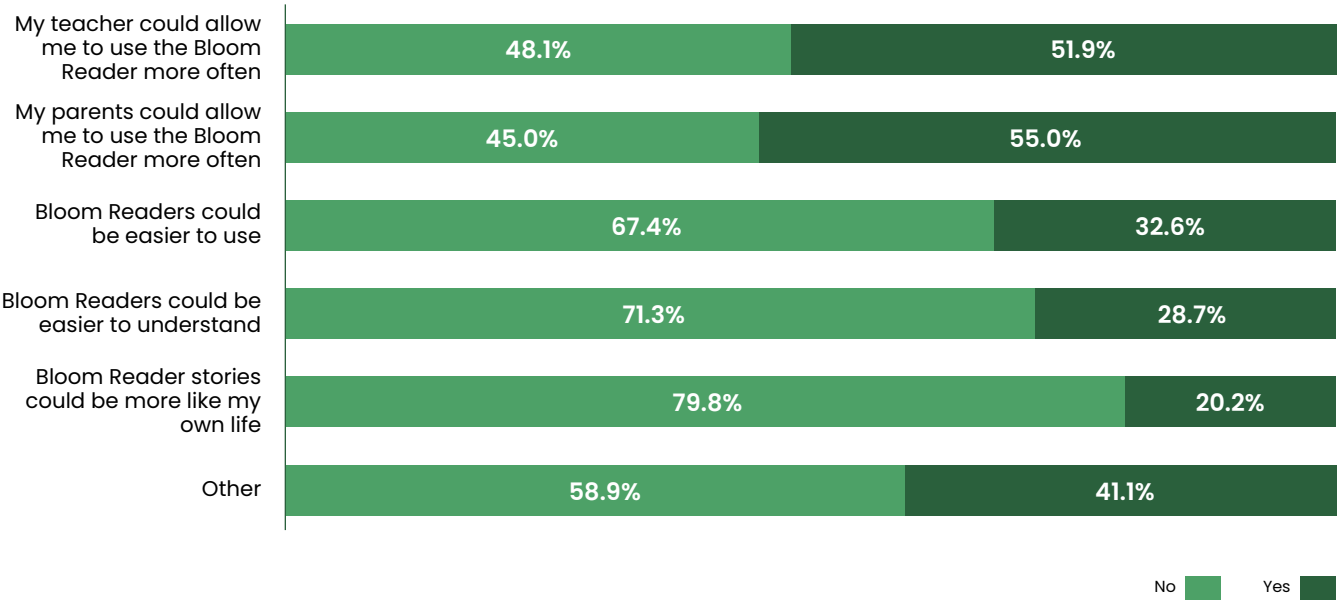
Learners' Reasons for not Using Bloom Reader at School



Finally, learners were asked for ideas for improvements to Bloom Reader (see Figure 25). More than half of learners reported that they would be more satisfied if their teacher or parent would let them use Bloom Reader more often (51.9 percent related to teachers and 55.0 percent related to parents). Additionally, 32.6 percent of learners reported that Bloom Reader could be easier to use and 28.7 percent reported that it could be easier to understand.

FIGURE 25

Learners' Suggestions for Improving Bloom Reader



Evaluation Questions Discussion

This section discusses findings presented in the previous section in relation to the program's evaluation questions.

Evaluation Question 1

To what extent did learners receive the intended dosage of EdTech exposure?

YRT's intended dosage for learners was to use Bloom Reader 15 minutes per day five days per week. The project's ITT reports that during the life of the project, 11.4 percent of learners used the EdTech as intended.[17]

To triangulate this information, the endline survey asked about learners' use of Bloom Reader at home and at school. Of the learners who reported using Bloom Reader, 39.5 percent reported using it at home and 48.8 percent at school. Frequency of use varied, with roughly one-third of learners using the app at least twice a week (26.5 percent at home and 38.0 percent at school). Only 27.0 percent of learners indicated they read Bloom Reader stories at school every day and only 19.6 percent read stories at home every day.

Beyond these low usage rates, approximately 20 to 60 percent of learners did not respond to individual questions on the learner survey related to Bloom Reader use. This low response rate may indicate a lack of familiarity among learners with Bloom Reader and it certainly should be considered when contextualizing trends among those learners who did respond.

Evaluation Question 2

What were learners' levels of satisfaction with the project's EdTech solutions?

A majority of learners appeared to enjoy Bloom Reader. At endline, 65.9 percent of learners responded that they liked using Bloom Reader and 57.4 percent said the app was easy to use. Similarly high proportions of learners responded that they learned things from Bloom Reader (61.2 percent). Further, the major barriers to use were unrelated to satisfaction; only small minorities of learners reported not liking the stories (6.1 percent) or preferring to play other games (3.0 percent). The two most common reasons for not using Bloom Reader at school were because learners could not see the tablet/phone well (22.7 percent) and because they didn't know how to use the tablet (37.9 percent). In sum, learners' levels of satisfaction with the project's EdTech solution were high, with a majority reporting satisfaction.

17 This figure is based on Bloom Reader analytics from 272 devices.

Evaluation Question 2a

What do learners believe could be improved about the project's EdTech solutions?

All learners were asked to agree or disagree with specific elements that might improve Bloom Reader use, which were read aloud to learners. Among respondents, 79.8 percent said the EdTech should include content that relates to the learner's life; 71.3 percent agreed that the EdTech content should be easier to understand; 67.4 percent agreed that the tech itself should be easier to use; 48.1 percent agreed that the teacher should allow them to use the EdTech more; and 45.0 percent felt that their PCGs should allow more time.

Evaluation Question 2b

What do learners believe could be improved about the project's EdTech solutions?

Enumerators asked the 51.2 percent of learners who reported that they did not use Bloom Reader at school why they did not use the app. The most common reasons were "I don't know how to use the tablet" (37.9 percent), followed by "I cannot see the phone well" (22.7 percent). Based on these responses, learners may need more explicit instruction and practice using tablets/phones (see the section on **Evaluation Question 11** for supporting detail). Alternatively, some learners may need special solutions to better see content displayed on tablets/phones.

Evaluation Question 3

To what extent did teachers receive the intended dosage of training?

ITT data indicate 204 teachers were trained in UDL and the EdTech solutions over the course of the project. To triangulate these data, the endline teacher survey asked teachers if they had been trained in using technology to support learners with disabilities. Of the 35 teachers surveyed at endline, 80.0 percent reported participating in these trainings, which were attended equally well by male and female teachers (80.7 percent and 77.8 percent, respectively). The proportion of the 80.0 percent of teachers who attended training was slightly higher among teachers who had received EdTech solutions—in the form of a microSD card— from YRT (86.0 percent). Participation rates varied slightly by district. Teachers in South Fly reported the highest rate of participation (87.5 percent), followed by teachers in Middle Fly (78.6 percent) and North Fly (76.9 percent).

While endline data indicate high rates of training participation, teachers who received EdTech solutions were specifically targeted for endline sampling and therefore were more likely to have reported participation in EdTech training. The sample was also limited to less remote schools. It is possible that dosage rates in more remote areas differed significantly. In sum, the data suggest that most teachers received the intended dosage of training, with variation by geography.

Evaluation Question 4

What were teachers' levels of satisfaction with the project's trainings?

Endline survey results suggest that teachers were satisfied with YRT trainings, although nearly one-fifth of teachers in the sample did not answer questions related to trainings. More than three-quarters of teachers reported that they were moderately or very satisfied with the trainings YRT provided on EdTech (45.7 percent and 28.6 percent, respectively). Only one teacher reported moderate dissatisfaction with the training.

Overall, these rates of satisfaction are high, although rates of moderate satisfaction were higher than rates of "very satisfied," which indicates that there is room to improve training content for teachers.

Evaluation Question 4a

What do teachers believe could be improved about the trainings?

While respondents were relatively satisfied with the trainings themselves, teachers identified key areas for improvement. Five of the teachers who participated in the endline survey indicated that increasing the number and frequency of trainings would be an improvement. An additional five teachers asked for more hands-on training, including more information on using the devices and microSD cards provided by YRT. Other suggestions for improvement included offering refresher workshops, including constant coaching or mentoring, as well as providing sign language training so that teachers can communicate with learners who are deaf or hard of hearing.

Evaluation Question 4b

How well did the project's trainings meet teachers' specific needs?

No teachers mentioned ways in which the trainings failed to meet their individual or specific needs.

Evaluation Question 5

To what extent did parents/caregivers receive the intended dosage of training?

Overall, PCGs had low participation rates in the seven trainings offered by YRT and consortium partners. Only 35.4 percent of PCGs surveyed attended at least one training session and only 8.9 percent attended more than one. The training on "Community Promoters Flip Book" had the highest attendance rate and was the only training that more than 20 percent of respondents attended. In sum, parents/caregivers did not receive the intended dosage of training.

Evaluation Question 6

What were parents/caregivers' levels of satisfaction with the project's trainings?

Endline survey results suggest that PCGs were satisfied with the few YRT trainings they did attend. Nearly 95 percent of the 76 PCGs surveyed reported that they were very or moderately satisfied with the trainings YRT provided (60.7 percent and 35.7 percent, respectively). Only one PCG responded that they were moderately dissatisfied with the training. On average, those PCGs who were very satisfied with the trainings also reported having attended more trainings than those who were only moderately satisfied (1.7 trainings compared to 1.4 trainings).

Four out of five (82.3 percent) PCGs who were very satisfied had attended the "Community Promoters Flip Book" training and one-quarter (23.5 percent) had attended PNG ADP's trainings on disability inclusion. All the PCGs who reported being moderately satisfied with YRT's trainings had participated in the Community Promoter flip books training.

One PCG indicated that they were moderately dissatisfied with YRT trainings. This person reported attending two trainings administered by CSNU —one introducing Bloom Reader and one introducing microSD cards.

Evaluation Question 6a

What do parents/caregivers believe could be improved about the trainings?

When the one PCG who had indicated dissatisfaction with the trainings was asked what could be improved, they simply responded that they "need more training." During FGDs, PCGs mentioned that they would prefer more frequent trainings and refresher trainings.

Evaluation Question 6b

How well did the project's trainings meet parents/caregivers' specific needs?

No needs assessment was conducted to understand PCGs' needs at baseline and PCGs did not comment on the project's ability to meet their needs on the endline survey. Still, 46.8 percent of PCGs who responded to project monitoring surveys indicated that they feel more prepared to support their children's reading and language skills because of YRT.

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Evaluation Question 7

What were the teachers' and parents/caregivers' levels of satisfaction with the project's EdTech solutions?

Teachers

On the endline teacher survey, 50.0 percent of teachers reported that they were very satisfied with the teaching and learning materials on microSD cards provided by YRT. An additional 31.8 percent were moderately satisfied. Only 18.2 percent were moderately or very dissatisfied. Of those who shared challenges, just over half (55.6 percent) reported that the device was stolen. When asked for more information on these challenges, teachers noted that the device was too small for teaching and learning, charging the device was a challenge, and that paired reading with only one device was difficult.

Parents/Caregivers

As part of the PCG survey, PCGs were asked about their satisfaction with the teaching and learning materials provided by YRT. Overall, 48.0 percent of PCGs were very satisfied with the teaching and learning materials provided and 48.0 percent were moderately satisfied. Only one person responded that they were not sure.

Additionally, the survey asked if there were any challenges with using the provided materials. Exactly 80.0 percent of PCGs who received EdTech from YRT reported encountering at least one challenge with using it. The most common challenge was that PCGs did not have a device to access the materials on the microSD cards (40.0 percent) or that their device was broken or not charged (36.0 percent). These challenges mirrored what PCGs shared in FGDs about how their use of EdTech at home depended on the level of their smartphone battery. Two PCGs reported in the survey that their device with materials was stolen and an additional two reported that the materials were hard to understand. One parent shared that they had received a microSD card but did not have a smartphone with which to use it. In comments, PCGs noted that power and battery issues were a common problem.

Evaluation Question 8

To what extent did teachers change their knowledge, attitudes, and practices on EdTech and UDL for learners with disabilities?

Teachers' knowledge on the ways they could adapt their classrooms, their curriculum, and their assessments significantly increased from baseline to endline. Additionally, the number of adaptations teachers shared significantly increased from baseline to endline. Finally, the comfort in using Bloom Reader for various activities also increased significantly from baseline to endline.

At endline, more than half of teachers in the sample responded that they used all the curriculum adaptations listed in the survey. The most frequent adaptations reported were breaking a task into simple steps and allowing learners more time.

When asked about their teaching practices at endline, 97.1 percent of the teachers agreed that it was important to allow learners to express their knowledge in various ways. Additionally, about 88.6 percent of teachers agreed that it was important to motivate and engage learners in various ways. Even more (94.3 percent) teachers reported that they could use a variety of assessments strategies for their learners.

Evaluation Question 9

To what extent did parents/caregivers change their knowledge, attitudes, and practices on EdTech for learners with disabilities?

Overall, some evidence suggests that PCGs' knowledge and attitudes increased with regard to EdTech use with learners with disabilities. However, it is not clear the extent to which moderate improvements in knowledge and attitudes translated into practice through the use of EdTech at home. PCGs' actual at-home use of Bloom Reader with their children was limited, meaning that learners likely did not receive the intended dosage of Bloom Reader at home.

Evaluation Question 9a

Did parents/caregivers have increased knowledge and improved attitudes on how EdTech can support learners' reading and/or language skills development?

Overall, PCGs generally expressed some knowledge on how to use Bloom Reader— both use of the app itself and use of the app to support reading and language skills. Specifically, project ITT data indicate that 46.8 percent of PCGs had improved knowledge of how EdTech solutions could support the reading and language skills of children with disabilities. On an efficacy scale from 0–18 constructed from items on the endline PCG survey related to PCG knowledge of how to use Bloom Reader, the median score was 10.[18] This score indicates moderate knowledge about how to use Bloom Reader software.

PCGs' knowledge of how to use Bloom Reader varied. Specifically, nearly half (48.8 percent) of PCGs strongly agreed that they could open, read, or listen to books on Bloom Reader, and another 39.5 percent strongly agreed that they could find different books on Bloom Reader. The skills that the fewest PCGs reported being comfortable with were finding books in different languages on Bloom Reader (18.6 percent strongly agreed they could do this) and sharing the Bloom Reader app and books with other people (23.3 percent strongly agreed they could do this). Endline PCG FGDs illustrated that learning how to use Bloom Reader and hardware was a benefit of the project, as the PCGs had not previously used smartphones or apps.

Nevertheless, PCGs' comfort levels with common technology were low at endline. The majority of PCGs reported being not at all comfortable or not very comfortable using a computer/laptop (92.4 percent), a mobile phone or smartphone (62.0 percent), and the internet (92.4 percent).

Despite mixed results related to PCGs' knowledge about how to use EdTech generally and Bloom Reader specifically, about half of PCGs strongly agreed that using technology like Bloom Reader can help different children learn to read. Only 6.9 percent of PCGs disagreed with that statement. This measure, however, is relatively limited in its ability to uncover the nuance of PCGs' attitudes on EdTech and its ability to support learners' reading and language.

18 Items comprising the efficacy scale include, I can open and read or listen from the Bloom Reader app; I can find different books on Bloom Reader; I can find different languages on Bloom Reader; I can share the Bloom Reader app and books with other people; I can use the Bloom Reader app to read with an individual or small group; I can find the comprehension questions in Bloom Reader.

Evaluation Question 9b

Did parents/caregivers have increased knowledge and improved attitudes on how they can support learners' reading and/or language skills development?

Results around PCGs' increases in knowledge and attitudes on supporting learners' reading and language skills were mixed. According to project ITT data, only 46.8 percent of PCGs felt more prepared to support their children's reading and language skills. When asked how they could support children with disabilities to learn to read and develop language skills on the PCG survey, a majority listed using large print books (86.1 percent), using Bloom Reader (78.5 percent), and using audiobooks (62.0 percent). PCGs also mentioned that they could help support their learners by making their home better lit (76.0 percent) and by encouraging their children (70.9 percent).

It is clear that PCGs felt it was part of their responsibility to support their children's reading and language development at home. The vast majority of PCGs agreed that it was their responsibility to adapt their home for children with disabilities and that if they read with their children, then their children could learn (94.9 percent for both statements).

Evaluation Question 9c

How and to what extent did parents/caregivers utilize project EdTech solutions with their children at home?

Endline data indicate that PCGs did not utilize Bloom Reader at home as intended. Whereas nearly all PCGs (92.5 percent) said they felt confident using technology like Bloom Reader in their home, PCGs' actual use of Bloom Reader at home was more limited, with only 54.4 percent of PCGs reporting they had used Bloom Reader with their child. This finding is generally consistent with project ITT data, which indicate that only 43.6 percent of PCGs used the project's EdTech as intended—15 minutes per day five times per week. In addition, PCGs identifying as having a disability were significantly less likely than their peers to report having used YRT-provided materials with their children. However, the program did contribute to increased use of Bloom Reader at home, as PCGs who had attended a YRT training were significantly more likely to report using Bloom Reader with their child.

Low usage rates of Bloom Reader at home may be due to hardware-related limitations. During FGDs, PCGs listed several challenges with using the smartphones, namely difficulty with charging the battery. Additionally, FGD participants described uneven distribution of EdTech. Some PCGs received a microSD card and no smartphone, and another PCG described that having only one smartphone in the home for two children caused conflict. Of the 25 PCGs who indicated they had received a microSD card with learning materials from YRT, 92.0 percent indicated that they used the materials at home to support their child's learning. PCGs with a disability may have struggled with low digital literacy and tech-related challenges more than others, contributing to the low usage found in this group.

In sum, PCGs reported feeling confident using Bloom Reader at home and expressed in FGDs that YRT trainings helped them understand how to use EdTech. However, PCGs' remarkably low comfort levels at endline with using common technology—such as computers/laptops, smartphones, and the internet—point towards a need for more digital literacy as a precursor to EdTech use at home.

Evaluation Question 10

To what extent did learners' reading and/or language skills improve from baseline to endline?

This section discusses findings around changes in learners' reading outcomes overall and in relation to contextual factors.

Evaluation Question 10a

What contextual factors—including geographic, demographic, and socioeconomic factors—were associated with learners' reading and/or language skills gains?

For learners with learning disabilities, sex and district were associated with reading skill gains. Girls' literacy skills improved from baseline to endline in more subtasks than boys', though both saw gains. No statistically significant differences were found between boys' and girls' scores at baseline, but girls had a significantly higher endline score than boys on three EGRA measures—letter naming fluency, letter naming accuracy, and oral reading zero scores.

Additionally, the vast majority of literacy score improvement was concentrated in Middle Fly and South Fly. However, this finding may be related to the fact that North Fly had significantly higher scores than Middle Fly and South Fly at baseline, and therefore less room for improvement.

Because of the small sample sizes for learners with low vision (10 at endline), contextual factors could not be explored for this group.

Evaluation Question 10b

To what extent did EdTech contribute to learners' reading and/or language skills gains?

Limited sample sizes and scant data on EdTech usage make it difficult to parse the extent to which the project's EdTech influenced reading outcomes. The extent of EdTech's influence on the outcomes of learners with low vision is not possible to determine, as the sample size was too small to draw meaningful conclusions.

However, for learners with learning disabilities, examination of scores by Bloom Reader usage at school provides some indication of association between gains in scores and dosage. Less than half (45.8 percent) of learners with learning disabilities said they read stories on Bloom Reader at school. Table 20 shows that for the familiar word reading and oral reading fluency subtasks, learners who said they read stories on Bloom Reader had significantly improved scores compared to those who said they did not. These findings represent some limited additional evidence that Bloom Reader may have contributed to the improvement of certain literacy skills among learners with learning disabilities, though these results should be interpreted with considerable caution.

TABLE 20

Endline Scores for Learners with Learning Disabilities who Responded Yes and No to "Did You Read Stories from Bloom Reader at School?"

Subtask	No (54%)	Yes (46%)	Effect Size
Oral Reading Fluency (correct words per minute)	4.3	6.4	0.39
Familiar Word Accuracy*	9.3%	21.6%	0.37
Oral Reading Accuracy*	19.8%	35.0%	0.35
Oral Reading Zero Scores*	53.1%	20.4%	0.72

Note: An asterisk (*) indicates baseline and endline results are significantly different at $p<0.05$. Effect size calculated using multivariate regression controlling for sex, grade, and district; with standard errors clustered by school.

Evaluation Question 11

What contextual factors—including geographic, demographic, and socioeconomic factors—were associated with beneficiaries' use or non-use of YRT EdTech solutions?

To explore this evaluation question, learners' endline responses to questions about their self-reported use of and perspective on Bloom Reader were examined (for both learners with low vision and learners with learning disabilities together). Unfortunately, a high proportion of learners did not answer many of the questions about Bloom Reader. Furthermore, findings indicate that less than half of the learners reported using Bloom Reader at home or at school. This low rate of usage was in part likely due to the challenges the project faced in delivering the EdTech in a timely way.

To better understand what factors may have influenced learners' use of Bloom Reader, the study examined the influence of disability type, SES, home smartphone use, home reading, grade, sex, and district on various aspects of Bloom Reader usage. Table 21 shows that SES was the most common factor associated with Bloom Reader usage. This finding is relatively unsurprising, as each additional SES indicator item (smartphone or computer) would be another way for learners to access the Bloom Reader app. Similarly, a learner who reported using a smartphone "a lot" was more likely to report using Bloom Reader at school, compared to learners who reported using smartphones "a little."

TABLE 21

Positive Correlates with Learner Self-Reported Use and Perspective on Bloom Reader from Multivariate Regression

Question	Disability	SES	Home smartphone use	Home reading	Grade	Sex	District
Do you read stories from the Bloom Reader when you are at home? (n=53)				More books/ways of reading*			Middle Fly
Do you read stories from the Bloom Reader with family at home? (n=45)							
Do you read stories from Bloom Reader at school? (n=107)	Low vision	More possessions*	More frequent*				
Do you read from Bloom Reader with a teacher when you are at school? (n=56)							
Do you think Bloom Reader is easy to use? (n=88)	Low vision		More frequent*		E1 and E2*		Middle Fly*
Do you like using the Bloom Reader? (n=85)		More possessions	More frequent*				
Do you learn new things from the Bloom Reader? (n=83)	Low vision	More possessions				Females	

Note: One asterisk (*) indicates baseline and endline results are significantly different at $p<0.05$. Factors significant at $p<0.1$ are included without asterisks. Although speaking Tok Pisin most often outside of school was not significantly associated with any of the use or perspective of Bloom Reader, Tok Pisin was significantly associated with being in the learning disability sample as well as with lower SES and reading at home indices.

Evaluation Question 12

Data from the SAT indicates that the YRT model does have the potential for scaling across local regions or provinces. The project has successfully raised awareness of the possibility of EdTech for supporting literacy, and YRT's Bloom Reader has created interest and demand from schools not currently participating in the project. The project has formed critical local networks with schools and local partners, who have pledged their support for future scaling. However, YRT also indicated in their SAT that there were two main barriers to scaling up their model. One barrier relates to financial sustainability—without additional funding from partners, these activities will not be able to continue. Additionally, technological illiteracy continues to be a barrier, with some teachers and parents unable to use the provided technology without assistance.

Conclusions

YRT brought new education supports in the form of Bloom Reader and teaching and learning materials to Papua New Guinea's Western Province. This remote area of Papua New Guinea has generally received little support for education, especially for learners with disabilities. The project's goals of distributing technology and delivering training to teachers and PCGs seemed attainable during planning but proved to be remarkably challenging due to the province's remoteness, limited infrastructure, and inaccessible terrain. These challenges affected the project's ability to quickly deliver materials and the ability of partner staff with disabilities to travel to remote areas for advocacy trainings. The project was also subject to external factors delaying activities, such as local election violence that affected the baseline and project start-up, as well as delays in receiving imported hardware, which limited the amount of time teachers, PCGs, and learners had to use the EdTech.

Despite these challenges, results indicate that the project had some successes in providing teachers with new tools to serve the most marginalized learners. Teachers cited more adaptations and modifications to support learners with disabilities in the classroom at endline than baseline. The largest increase was in the number of teachers asking comprehension questions from Bloom Reader. This finding indicates the project provided a key support to teachers in literacy instruction, as comprehension is the most complex reading skill to teach.

Similarly, early grade reading results of learners with learning disabilities show statistically significant improvement in reading comprehension accuracy from baseline to endline. Indeed, learners also appeared to enjoy using Bloom Reader, according to learner survey results. However, while learning outcomes improved, it is not possible to know to what degree the project's EdTech supported reading gains because dosage data could not be linked to reading scores.

The project also provided PCGs with new ways to support their children's learning through Bloom Reader, although it seems that only half of PCGs were able to do so. Whereas nearly all PCGs (92.5 percent) said they felt confident using technology like Bloom Reader in their home, PCGs' actual use of Bloom Reader at home was more limited. Specifically, only 54.4 percent of PCGs said they had used Bloom Reader with their child. Endline results indicate that PCGs had moderate knowledge about how to use Bloom Reader's software functions, although survey and FGD results also indicate that PCGs had relatively low levels of comfort with technology. These findings perhaps explain why PCGs' most cited use of Bloom Reader was for children's individual reading, rather than reading together.

Recommendations

STS recommends the following actions moving forward.

EdTech

Assess the enabling environment, including digital literacy, existing technology, and infrastructure, for technology. Many PCGs said they received microSD cards but did not have a smartphone with which to use it. PCGs frequently indicated that challenges around accessing EdTech were related to charging the devices as well as upkeep. A stronger focus on digital literacy as a component of teacher and PCG trainings would lay a stronger foundation for trainings on using the EdTech itself.

In addition to understanding the context and resources available in areas targeted for EdTech distribution, future projects should map and plan distribution with supply chains at the project's outset to mitigate any issues affecting distribution and timelines. The project should also engage in more frequent monitoring through community promoters or other partners to ensure that technology is in good shape and usable.

Teachers

Leverage community structures to train and observe teachers. YRT records indicate that only head teachers were trained, which meant trainings passed over the teachers who work closest with learners with disabilities. Future iterations of the project might consider implementing a cascade training model to ensure that teachers in classrooms with learners with disabilities are reached. In addition, teachers reported new knowledge of accommodations and adaptations to curriculum at endline for learners with disabilities. The next step is to understand how well teachers might be implementing these accommodations and adaptations. Future projects should conduct classroom observations with follow-up coaching for teachers to better understand what EdTech use looks like in the classroom.

Community Engagement

Begin program outreach with a strong digital literacy component and provide continued follow-up. Levels of comfort using technology among PCGs was very low, and understanding this at the beginning of the program might have helped create more accessible interventions and support to PCGs. This support might include creating community reading circles where PCGs and learners can come read together and get technology help as needed from community promoters. The project also had some successes in building partnerships at district levels. YRT should leverage the foundations this project has laid and continue building relationships locally with other organizations working on disability advocacy. To do so, YRT might identify champions among active PCGs to support community promoters and organizations, like CSNU, in providing services to learners with disabilities in the most remote areas through peer networks.

Learning Outcomes

Learners with learning disabilities had statistically significant gains in scores from baseline to endline. Closer tracking of learner dosage and longer time to engage with EdTech would provide a clearer picture of how YRT may have contributed to these gains.

Appendices

Appendix A

ACR GCD UnrestrICTed Results Framework Indicators

	Number	Indicator	Type	Source	Additional Disaggregates
Focus Area 1 Objective: Children with disabilites benefit from reading and/or language support provided through context appropriate EdTech solutions grounded in Universal Design for Learning (UDL).	FA1.1	Percentage of children who demonstrate increased reading and/or language outcomes*	Impact		
	FA1.2	Percentage of learners with a disability targeted for United States Government (USG) assistance who attain a minimum grade-level proficiency in reading at the end of grade 2*	Impact	USAID ES.1–47	
	FA1.3	Number of children with improved educational experiences as a result of access to EdTech solutions*	Impact		
	FA1.4	Number of children with improved educational experiences as a result of access to UDL in the classroom*	Impact		
Goal A: Children have access to and engage with EdTech solutions grounded in UDL principles to develop reading and/or language skills.	FA1.A.1	Number of learners in primary schools or equivalent non-school based settings reached*	Output	USAID ES.1–3	
	FA1.A.2	Number of children with disabilities who have access to EdTech solutions*	Output		
	FA1.A.3	Number of teaching and learning materials (TLMs) provided using EdTech solutions*	Output		New / Not New
	FA1.A.4	Percentage of children who use EdTech solutions as intended*	Outcome		
	FA1.A.5	Percentage of children who report that EdTech solutions meet their needs	Outcome		

* sample specific only to learners who are blind/low vision, deaf or hard of hearing, or have a cognitive disability

	Number	Indicator	Type	Source	Additional Disaggregates
Goal B: Teachers use EdTech solutions to nurture the reading and/or language skills of children with disabilities through UDL principles.	FA1.B.1	Number of teachers who are trained on UDL principles*	Output		
	FA1.B.2	Number of teachers who are trained on EdTech solutions*	Output		
	FA1.B.3	Percentage of teachers who use EdTech solutions as intended*	Outcome		
	FA1.B.4	Percentage of teachers who increase the number of UDL principles they use in their classroom (practice)*	Outcome		
	FA1.B.5	Percentage of teachers who demonstrate increased knowledge of UDL principles (knowledge)*	Outcome		
	FA1.B.6	Percentage of teachers who show improved beliefs about the ability of UDL to support the reading and/or language skills of children with disabilities (attitude)	Outcome		
	FA1.B.7	Percentage of teachers who show improved beliefs about the ability of EdTech solutions to support the reading and/or language skills of children with disabilities (attitude)	Outcome		
Goal C: Parents and communities understand how to use EdTech solutions to support the reading and/or language skills of children with disabilities.	FA1.C.1	Number of parents and community members who are trained to use EdTech solutions*	Output		
	FA1.C.2	Number of parents and community members trained to support the reading and/or language skills of children with disabilities*	Output		
	FA1.C.3	Percentage of parents and community members who use EdTech solutions as intended*	Outcome		
	FA1.C.4	Percentage of parents and community members who feel more prepared to support the reading and/or language skills of children with disabilities (attitude)	Outcome		
	FA1.C.5	Percentage of parents and community members who show improved beliefs about the ability of UDL to support the reading and/or language skills of children with disabilities (attitude)	Outcome		
	FA1.C.6	Percentage of parents and community members who have improved knowledge of how EdTech solutions support the reading and/or language skills of children with disabilities (knowledge)*	Outcome		

Appendix B

ACR GCD Learning Agenda Questions

	Learning Question
Impact: Do children benefitting from EdTech have improved reading and language skills?	**1. Do ACR GCD-funded EdTech solutions impact learning outcomes?** a. What do reading and/or language outcomes tell us about ACR GCD-funded EdTech solutions? b. Under what circumstances do EdTech solutions improve reading and/or language outcomes? i. What do ACR GCD awardees identify as examples of success within their projects? ii. How do ACR GCD awardees see the technology contributing to project outcomes? iii. Are there any common characteristics of successful ACR GCD awardees? iv. What contextual factors are associated with success?
	2. To what extent are ACR GCD-supported teachers able to identify their students' functional difficulties? a. Can the Child Functioning Module-Teacher Version (CFM-TV) provide valid data on children's disability status/functional difficulties when compared with disability medical evaluations and the Child Functioning Module (CFM)?
Influence: Has ACR GCD catalyzed action to scale context-appropriate EdTech solutions that improve children's reading and language skills?	**3. Have the ACR GCD partnership and awardees adapted throughout the Round 3 initiative (2020 Competition)?** a. What knowledge was gained, or which circumstances changed, over the Round 3 initiative? b. What were ACR GCD Partners' and awardees' responses to changing knowledge or circumstances? c. Did ACR GCD Partners' and awardees' responses successfully address the changing knowledge or circumstances?
	4. Has the ACR GCD partnership built capacity to sustain the types of EdTech solutions financed in this round? a. Did ACR GCD support the capacity-building needs of ACR GCD awardees, other implementers, or stakeholders? b. What types of capacity building processes do ACR GCD awardees feel were most impactful? c. What actions is ACR GCD taking to support the creation of conditions to sustain ACR GCD-funded EdTech solutions? d. What actions have the ACR GCD partnership and awardees taken to support changes attitudes or mindsets of parents, teachers, or ministry officials in relation to children's education?
	5. Are ACR GCD awardees preparing to scale their EdTech solutions? a. What activities are ACR GCD awardees undertaking to improve: effectiveness, equitability, market demand, financial sustainability, and transferability? b. What is helping or hindering ACR GCD awardees' progress in scaling their solutions?
	6. Has ACR GCD catalyzed collaboration to promote EdTech solutions? a. What activities or products are most effective in catalyzing collaboration? b. What is helping or hindering progress in catalyzing collaboration? c. How did ACR GCD's collaboration efforts succeed in promoting EdTech solutions?

Appendix C

ACR GCD YRT Indicator Reference Sheets

Focus Area 1 Objective:

Children with disabilities benefit from reading and/or language support provided through context-appropriate EdTech solutions grounded in Universal Design for Learning (UDL)

Indicator #: FA1.1

Percentage of children who demonstrate increased reading and/or language outcomes

Phase: Scale

Description

Definition: Impact indicator: This indicator measures children who have increased learning outcomes from baseline to endline. This indicator counts direct beneficiaries, from all grades, that are included in the solution. Children are counted if they achieve an increase in scores on pre-identified subtasks from baseline to endline. Children do not need to meet a specific benchmark to be counted under this indicator.

Unit: Percent

Method of Calculation: (Number of children with increased reading and/or language outcomes)/ (Total number of children) x 100

Disaggregated by: Sex, grade, disability (status)

Analysis

Data Collection Method: Adapted EGRA (English); one-to-one assessment. Panel sampling

Data Source: EGRA tool

Baseline Required: Yes

Frequency: Baseline and endline

Responsible: STS

Indicator #: FA1.2

Percentage of learners with a disability targeted for USG assistance who attain a minimum grade-level proficiency in reading at the end of grade 2

Phase: Scale

Description

Definition: Impact indicator. A learner with a disability targeted for USG assistance is one who is in a grade-2 classroom, or its non-formal equivalent, in which a USG reading, or educational intervention is planned for the future (at baseline) or has already occurred (later years--e.g., midline and endline, of the same intervention).

A learner is an individual who is enrolled in an education program for the purpose of acquiring basic education skills. Learners who are enrolled in formal primary school or the non-formal equivalent of primary school can be counted towards this indicator. This includes, but is not limited to, learners enrolled in government schools, NGO-run schools, religious schools, accelerated or alternative learning programs, so long as the school or program is designed to provide an education equivalent to the accepted primary-school curriculum and leveled at grade 2.

The 2018 USAID Education Policy defines children and youth with disabilities as those who have long-term physical, mental, intellectual, or sensory impairments that in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others.

Reading ability must be measured to report on the percent of learners who have attained a minimum grade-2-level proficiency in reading. Reading ability should be measured through grade-2-level assessments that are appropriately adapted, as needed, to be accessible for learners with disabilities; have satisfactory psychometric validity and reliability; and are not subject to corruption, cheating, or score inflation. Assessment adaptations must consider student-focused accessibility needs, on a case-by-case basis, such as: accessible format (i.e., Braille, large-print, easy-to-read/plain language formats); language of use for comprehension and expression (i.e. local sign languages); extra time for completion; and provision of assistive technology (i.e. screen readers, slate and stylus, pencil grips and holders).

Minimum proficiency is defined according to reading proficiency standards set by host country governments, preferably aligned with international standards. The benchmark used for measuring minimum grade-level proficiency in reading at the end of grade 2 should be tailored to the language, context, and assessment utilized. USAID has developed global standards for proficiency in reading skills in correlation with the UNESCO Institute of Statistics.

Unit: Percentage

Method of Calculation: Numerator: Sample-based estimate of number of learners with disabilities who attain a minimum grade-level proficiency at end of grade 2 or equivalent. Denominator: Total number of grade 2 or equivalent learners with disability targeted with USG reading or education interventions.

Disaggregated by: Sex, disability (type)

Analysis

Data Collection Method: Adapted EGRA (English); one-to-one assessment. Panel sampling

Data Source: EGRA tool

Baseline Required: Yes

Frequency: Baseline and endline

Responsible: STS

Indicator #: FA1.3

Number of children with improved educational experiences as a result of access to EdTech solutions

Phase: Scale

Description

Definition: Impact indicator. This indicator aggregates outcome indicators related to children's improved educational experience as a result of access to ACR GCD-funded EdTech solution. This indicator's calculation assumes that EdTech solutions will be available and accessed by the two beneficiary types: children (and their parents/caregivers) and teachers.

For this indicator, ACR GCD assumes that EdTech solutions, accessed by the two beneficiary types and used as intended, will provide an improved educational experience. To count under this indicator, the child must use the EdTech solution as intended (FA1.A.4) and the child's teacher must use the EdTech solution as intended (FA1.B.3).

Unit: Number

Method of Calculation: Sum of children with disabilities who meet both criteria

Disaggregated by: Sex, grade, disability (type)

Analysis

Data Collection Method: Data Collection Method: Each child assigned a unique ID. Value of 1 for each variable from FA1.A4 and FA1.B3. Children with score of 2 are counted towards FA1.3.

Data Source: A4 (analytics) and B3 (analytics)

Baseline Required: No

Frequency: Quarterly and endline

Responsible: SCA (Inclusive Education)

Indicator #: FA1.4

Number of children with improved educational experiences as a result of access to UDL in the classroom

Phase: POC / Scale

Description

Definition: Impact indicator. This indicator aggregates outcome indicators related to children's improved educational experience as a result of the implementation of UDL practices in the classroom. This indicator's calculation assumes that teachers who implement UDL practices in the classroom will provide an improved educational experience to all children in their classroom. Specifically, this indicator relates to FA1.B.4.

Unit: Number

Method of Calculation: Sum of children whose teachers increase the number of UDL principles they use in their classroom

Disaggregated by: Sex, grade, disability (status)

Analysis

Data Collection Method: Data Collection Method Proportion of teachers who meet the criteria for B4 multiplied by the mean number of students per teacher

Data Source: B4 (lesson observation)

Frequency: Baseline (for B4) and endline

Responsible: MEAL Coordinator

Focus Area 1 Goal A:

Children have access to and engage with EdTech solutions grounded in UDL principles to develop reading and/or language skills.

Indicator #: FA1.1

Number of learners in primary schools or equivalent non-school based settings reached

Phase: POC / Scale

Description

Definition: Output indicator. A learner is an individual who is enrolled in an education program for the purpose of acquiring academic basic education skills or knowledge. Learners who are enrolled in formal primary school (Grade 1 or 2), as defined by government policy, or the non-formal equivalent of primary school can be counted towards this indicator. Learners enrolled in kindergarten should NOT be included under this indicator regardless of whether kindergarten is accepted and funded by the government as an integrated component of primary education. Learners should be counted if they are enrolled in primary or primary-equivalent education (as defined above), and they directly benefit from USG education assistance designed to support student acquisition of academic basic education skills and knowledge.

This indicator should report all individual learners who were reached during the year being reported, even if some of these learners may also have been counted in previous years. In other words, if a student was counted towards this indicator in previous fiscal year, the student can be counted towards the indicator again in the current fiscal year.

Unit of Measure: Number

Method of Calculation: Sum of children

Disaggregated by: Sex, grade, disability (status)

Analysis

Data Collection Method: Activity report detailing children reached through project, through trainings, through access to technologies, and/or through receipt of TLMs produced by the project.

Awardees should avoid double counting within this indicator. When calculating this indicator, each learner should be counted only once for the year being reported. In other words, if a learner benefits from two overlapping reading programs or a reading program and a math program and each meets the criteria outlined here, the learner should be counted only once. If double counting is unavoidable, awardees should note estimates of the proportion of double counting included in their reporting.

Data Source: School visit report (student attendance)

Baseline Required: No

Frequency: Quarterly

Responsible: MEAL Coordinator

Indicator #: FA1.A2

Number of children with disabilities who have access to EdTech solutions

Phase: POC / Scale

Description

Definition: Output indicator. This indicator measures the number of Grade 1 & 2 children with disabilities who have access to Bloom Reader that is provided through ACR GCD funding.

A learner is an individual who is enrolled in an education program for the purpose of acquiring basic education skills. Learners who are enrolled in formal primary school or the non-formal equivalent of primary school can be counted towards this indicator. This includes, but is not limited to, learners enrolled in government schools, NGO-run schools, religious schools, accelerated or alternative learning programs, so long as the school or program is designed to provide an education equivalent to the accepted primary-school curriculum and leveled at grade 2.

The 2018 USAID Education Policy defines children and youth with disabilities as those who have long-term physical, mental, intellectual, or sensory impairments that in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others.

Unit of Measure: Number

Method of Calculation: Sum of children with disabilities

Disaggregated by: Sex, grade, disability (type)

Analysis

Data Collection Method: Awardees should solicit or compile records on the number of children with disabilities with access to EdTech solutions. Awardees should keep records of distribution, including the number of children reached. Awardees should document any other mechanisms through which their intervention has reached primary school-aged children beyond those with access to ICT platforms and those who received TLM distributions.

Awardees should avoid double counting within this indicator. If double counting is unavoidable, awardees should note estimates of the proportion of double counting included in their reporting.

Data Source: Family intake form

Baseline Required: No

Frequency: Quarterly

Responsible: MEAL Coordinator

Indicator #: FA1.A.3

Number of teaching and learning materials (TLMs) provided

Phase: POC / Scale

Description

Definition: Output indicator. Textbooks, storybooks, and other teaching and learning materials (TLMs) are the aids used by educators to help in teaching/instructing effectively and the aids used by the learner/student to help in learning more effectively.

For Yumi Read Together: i) Devices with Bloom Reader, ii) SD cards with Bloom Reader, iii) Digital books (new), iv) Digital books (not new), v) Training Handouts, vi) Training Videos, vii) Flipbook.

Examples of TLMs include, but are not limited to, the following: textbooks; reading materials; student workbooks; supplementary reading books; educational CDs; library books; reference material in paper or electronic formats; support material for educational radio and TV broadcasts (Note: these should be counted the year they are first disseminated not later years in which they may be accessed); teacher manuals and guides; manuals and guides for coaches and teacher trainers; etc.

This indicator captures the number of unique TLMs created. For example, if an awardee creates 10 new storybooks and adapts 10 storybooks into a new language, they have created 20 TLMs. For sign language books that have captions, the book can be counted in each unique caption. For example, if a book is created in Filipino Sign Language, with a version with Filipino captions and a version with English captions, the book may be counted as two different books.

For an awardee that has created a training package that is distributed in multiple volumes or modules, the awardee can count each volume/module as one TLM created. For example, if an awardee creates a training manual for facilitators that is split into 6 modules, they have created 6 TLMs.

Unit: Number

Method of Calculation: Sum of TLMs using EdTech solutions

Disaggregated by: Type of material, language, new/not new, medium of provision

Analysis

Data Collection Method: Sum of TLMs distributed. Expected types of materials: i. Books Bloom digital books, ii. Teaching materials for teachers Teacher's Handout, iii. Manuals and guides for coaches/trainers TOT Manuals (x2), Trainer's Guide, Promoter's Guide & Flipbook, iv. Instructional ICT materials Training videos as Bloom books, v. Accessible materials for CWD Devices with Bloom Reader.

Data Source: School visit report (Distribution form)

Baseline Required: No

Frequency: Quarterly

Responsible: MEAL Coordinator

Indicator #: FA1.A.3a

Number of teaching and learning materials (TLMs) created

Phase: POC / Scale

Description

Definition: Output indicator. Textbooks, storybooks and other teaching and learning materials (TLMs) are the aids used by educators to help in teaching/instructing effectively and the aids used by the learner/student to help in learning more effectively.

For Yumi Read Together: i) Devices with Bloom Reader, ii) SD cards with Bloom Reader, iii) Digital books (new), iv) Digital books (not new), v) Training Handouts, vi) Training Videos, vii) Flipbook.

Examples of TLMs include, but are not limited to, the following: textbooks; reading materials; student workbooks; supplementary reading books; educational CDs; library books; reference material in paper or electronic formats; support material for educational radio and TV broadcasts (Note: these should be counted the year they are first disseminated not later years in which they may be accessed); teacher manuals and guides; manuals and guides for coaches and teacher trainers; etc.

This indicator captures the number of unique TLMs created. For example, if an awardee creates 10 new storybooks and adapts 10 storybooks into a new language, they have created 20 TLMs. For sign language books that have captions, the book can be counted in each unique caption. For example, if a book is created in Filipino Sign Language, with a version with Filipino captions and a version with English captions, the book may be counted as two different books.

For an awardee that has created a training package that is distributed in multiple volumes or modules, the awardee can count each volume/module as one TLM created. For example, if an awardee creates a training manual for facilitators that is split into 6 modules, they have created 6 TLMs.

Unit: Number

Method of Calculation: Sum of TLMs using EdTech solutions

Disaggregated by:

- Type of material: Books/supplemental reading materials for learners; teaching materials for teachers; manuals and guides for coaches; manuals and guides for teacher trainers; instructional ICT materials; accessible materials for learners with disabilities
- Language
- New; not new: New indicates that the TLM is an original creation by the awardee; not new means the awardee has adapted the TLM, such as into a new language or into an accessible format
- Medium of provision: EdTech; non-EdTech

"Accessible materials" are materials that have been designed or adapted to be usable by children with disabilities. Accessibility features can include broad application of universal design principles; the availability of readers in alternate formats (i.e., Braille, large-print, audio); and electronic readers with built in accessibility features (i.e. text-to-voice, contrast and color accessibility, bilingual text in written and signed languages).

Analysis

Data Collection Method: Awardees should keep records of TLMs created and adapted, the languages of the TLMs, and the types of TLMs.

Data Source: Project records

Baseline Required: No

Frequency: Quarterly

Responsible: MEAL Coordinator

Indicator #: FA1.A.3b

Number of teaching and learning materials (TLMs) distributed

Phase: POC / Scale

Description

Definition: Output indicator. Textbooks, storybooks, and other teaching and learning materials (TLMs) are the aids used by educators to help in teaching/instructing effectively and the aids used by the learner/student to help in learning more effectively.

For Yumi Read Together: i) Devices with Bloom Reader, ii) SD cards with Bloom Reader, iii) Digital books (new), iv) Digital books (not new), v) Training Handouts, vi) Training Videos, vii) Flipbook.

Examples of TLMs include, but are not limited to, the following: textbooks; reading materials; student workbooks; supplementary reading books; educational CDs; library books; reference material in paper or electronic formats; support material for educational radio and TV broadcasts (Note: these should be counted the year they are first disseminated not later years in which they may be accessed); teacher manuals and guides; manuals and guides for coaches and teacher trainers; etc.

This indicator captures the number of individual TLMs distributed, both in print copies and via EdTech. Each printed copy of a TLM that is distributed should count as one TLM. For TLMs distributed through EdTech (gadgets), TLMs should be counted as the number that are put on each unique gadget. For example,

an awardee that distributes 50 printed copies of a parent training guide and puts 50 digital storybooks on 50 gadgets should count 50 manuals and guides for parents and 2,500 books/supplemental reading materials for learners.

For an awardee that has created a training package that is distributed in multiple volumes or modules, the awardee can count each volume/module as one TLM distributed.

Unit of Measure: Number

Method of Calculation: Sum of TLMs using EdTech solutions

Disaggregated by:

- Type of material: Books/supplemental reading materials for learners; teaching materials for teachers; manuals and guides for coaches; manuals and guides for teacher trainers; instructional ICT materials; accessible materials for learners with disabilities
- Language
- New; not new: New indicates that the TLM is an original creation by the awardee; not new means the awardee has adapted the TLM, such as into a new language or into an accessible format
- Medium of provision: EdTech; non-EdTech

"Accessible materials" are materials that have been designed or adapted to be usable by children with disabilities. Accessibility features can include broad application of universal design principles; the availability of readers in alternate formats (i.e., Braille, large-print, audio); and electronic readers with built in accessibility features (i.e. text-to-voice, contrast and color accessibility, bilingual text in written and signed languages).

Analysis

Data Collection Method: Awardees should keep records of type of TLMs distributed, the languages of the TLMs, and the medium of provision of TLMs.

Data Source: Project records

Baseline Required: No

Frequency: Quarterly

Responsible: MEAL Coordinator

Indicator #: FA1.A.4

Percentage of children who use EdTech solutions as intended

Phase: POC / Scale

Description

Definition: Outcome indicator. This indicator measures implementation fidelity. "As intended" must be defined by an awardee and describe how often (frequency) and for how long (dosage) children should use the EdTech solution, which will result in a total dosage threshold.

This information is particularly useful to understand how different levels of exposure to the Edtech solution impact intended learning outcomes. Data for this indicator may also provide critical formative information to the awardee on how the project is being implemented, so any necessary learning and adapting can take

place to improve implementation fidelity.

The dosage threshold is a minimum of 15 minutes per day x 5 days a week (for at least 3 of the 4 last weeks) to be tested under the POC.

Unit of Measure: Percent

Method of Calculation: 15 mins per day x 5 days per week in three of the four last weeks

Disaggregated by: Sex, disability (type)

Analysis

Data Collection Method: Linked to FA1.3. As per that indicator, each child would be assigned a unique ID and then assigned a 1 if the reach the intended dosage.

Data Source: Analytics

Baseline Required: No

Frequency: Quarterly

Responsible: SCA (Inclusive Education)

Indicator #: FA1.A.5

Percentage of children who report that EdTech solutions meet their needs
Phase: POC / Scale

Description

Definition: Outcome indicator. This indicator measures perceptions whether or not Bloom Reader and the digital books are meeting needs. This is important to understand, as children's usage of the EdTech solution is likely dependent on how beneficial, engaging, and useful it is to them. It is also important to better understand an EdTech solution's potential for scale. Solutions that are perceived as beneficial and useful to users have a better chance to be scaled.

Data for this indicator may also provide critical formative information to the awardee, so any necessary learning and adapting can take place to improve the way children experience the EdTech solution.

Unit of Measure: Percent

Method of Calculation: (Number of children who report that EdTech solutions meet their needs)/ (Total number of children) x 100

Disaggregated by: Sex, disability (type)

Analysis

Data Collection Method: Interviews with a representative sample of students who are receiving the devices using a child-friendly questionnaire

Data Source: Student survey

Baseline Required: No

Frequency: Quarterly

Responsible: MEAL Coordinator

Focus Area 1 Goal B:

Teachers use EdTech solutions to nurture the reading and/or language skills of children with disabilities through UDL principles.

Indicator #: FA1.B.1

Number of teachers who are trained on UDL principles
Phase: POC / Scale

Description

Definition: Examples of individuals who should not be counted as educators include but are not limited to: school administrators such as principals (unless principals also teach), ministry officials, supervisors, and teacher trainers (if these teacher trainers are not also teachers).

To be counted under this indicator, teachers should receive training on UDL and inclusive education. For Yumi Read Together at least three hours training on Individual Education Plans and effective instructional practices to adapt their curriculum, classroom and teaching to support children with disabilities.

Training on inclusion education and how to support children with disabilities in classroom needs to go beyond introducing basic concepts and benefits of inclusive education to also focus on effective instructional approaches, including techniques to support literacy acquisition. It is important that teacher training also reflect the local reality of teachers within a country and avoid importing training without adapting it to the local context. It is vital that teacher training be followed up with hands-on experience for teachers to use the skills they have learned related to literacy acquisition and slowly build confidence in their ability to provide inclusive education (Hayes and Bulat, 2017).

Subjects: individualized education plans (includes literacy goals, documenting student strengths/challenges, details what accommodations might be effective, social, and behavioral considerations); teacher attitudes, inclusive education and effective instructional approaches.

Unit of Measure: Number

Method of Calculation: Sum of teachers trained. When calculating the total numbers of educators, each educator should be counted only once (regardless of how many professional development activities he or she successfully completed).

Disaggregated by: Sex

Analysis

Data Collection Method: An educator who has been trained is any teacher who has participated a minimum of one time in training but can have participated in multiple trainings. Systems in place to ensure teachers who participate in training multiple times will not be double counted.

Data Source: School visit report (Training attendance register)

Baseline Required: No

Frequency: Quarterly

Responsible: MEAL Coordinator

Indicator #: FA1.B.2

Number of teachers who are trained on EdTech solutions
Phase: POC / Scale

Description

Definition: Output indicator. Teachers are individuals whose professional activity involves the transmitting of knowledge, attitudes, and skills that are stipulated in curriculum directly to students participating in a formal or non-formal educational opportunity. Teachers may work in formal or non-formal settings and institutions. They may be employed by public organizations (e.g., school) or private organization (e.g. school, NGO, for-profit organization). Examples include, but are not limited to, the following: teachers, teaching assistants, instructors, etc. 'Educators' can include librarians who are involved in transmitting knowledge, attitudes, and skills that are stipulated in the curriculum directly to students.

Professionals who work in the education sector but whose primary function is not to transmit knowledge directly to students should not be counted as educators. Examples of individuals who should not be counted as educators include but are not limited to: school administrators such as principals (unless principals also teach), ministry officials, supervisors, and teacher trainers (if these teacher trainers are not also teachers).

For Yumi Read Together, teachers should receive at least 3 hours of training on how to use Bloom Reader to improve literacy for CWD and their classmates.

Unit of Measure: Number

Method of Calculation: Sum of teachers

When calculating the total numbers of educators, each educator should be counted only once (regardless of how many professional development activities he or she successfully completed).

Disaggregated by: Sex

Analysis

Data Collection Method: An educator who has been trained is any teacher who has participated a minimum of one time in training but can have participated in multiple trainings. Systems in place to ensure teachers who participate in training multiple times will not be double counted.

Data Source: School visit report (Training attendance register)

Baseline Required: No

Frequency: Quarterly

Responsible: MEAL Coordinator

Indicator #: FA1.B.3

Percentage of teachers who use EdTech solutions as intended
Phase: POC / Scale

Description

Definition: Outcome indicator. This indicator measures implementation fidelity. "As intended" must be defined by an awardee and describe how often (frequency) and for how long (dosage) teachers should use the EdTech solution, which will result in a total dosage threshold.

This information is particularly useful to understand how different levels of exposure to the Edtech solution impact intended learning outcomes. Data for this indicator may also provide critical formative information to the awardee on how the project is being implemented, so any necessary learning and adapting can take place to improve implementation fidelity.

For Yumi Read Together the threshold for teachers trained by the project in Bloom Reader and who received a device who used it for at least 30 mins per day x 5 days per week in 3 of the last 4 weeks.

Unit of Measure: Percent

Method of Calculation: (Number of teachers meeting dosage threshold)/(Total number of teachers given a device with Bloom Reader) x 100

Disaggregated by: Sex

Analysis

Data Collection Method: Analytics. Measured as 30 minutes use of the app per day x 5 days per week in 3 of the last 4 weeks.

Data Source: Analytics

Baseline Required: No

Frequency: Quarterly

Responsible: SCA (Inclusive Education)

Indicator #: FA1.B.4

Percentage of teachers who increase the number of UDL principles they use in their classroom (practice)
Phase: Scale

Description

Definition: Outcome indicator. This indicator measures teachers' application of UDL principles in their classroom. Using a Knowledge Attitude Practices (KAP) approach, this indicator looks at practice. This indicator will allow awardees to understand if the training provided on UDL principles and practices have been adopted and implemented by teachers.

The UDL principles that should be considered for this indicator are:

- Multiple means of engagement
- Multiple means of representation
- Multiple means of action and expression

Unit of Measure: Percent

Method of Calculation: (Number of teachers meeting dosage threshold)/(Total number of teachers given a device with Bloom Reader) x 100

Disaggregated by: Sex

Analysis

Data Collection Method: Lesson observation on a sample of teachers who received a smartphone

Data Source: Lesson observation

Baseline Required: Yes

Frequency: Baseline and endline

Responsible: MEAL Coordinator

Indicator #: FA1.B.5

Percentage of teachers who demonstrate increased knowledge of UDL principles (knowledge)
Phase: Scale

Description

Definition: Outcome indicator. This indicator measures teachers' knowledge of UDL principles. This indicator will allow awardees to understand if the training provided on UDL principles and practices have been understood by teachers.

The UDL principles that should be considered for this indicator are:

- Multiple means of engagement
- Multiple means of representation
- Multiple means of action and expression

Unit of Measure: Percent

Method of Calculation: (Number of teachers demonstrating increased knowledge of UDL principles)/ (Total number of teachers) x 100

Disaggregated by: Sex

Analysis

Data Collection Method: Baseline and endline KAP questionnaire with a sample of teachers

Data Source: Teacher KAP questionnaire

Baseline Required: Yes

Frequency: Baseline and endline

Responsible: MEAL Coordinator

Indicator #: FA1.B.6

Percentage of teachers who show improved beliefs about the ability of UDL to support the reading and/or language skills of children with disabilities (attitude)

Phase: Scale

Description

Definition: Outcome indicator. This indicator measures teachers' beliefs about how UDL principles can support the learning outcomes of children with disabilities. Using a Knowledge Attitude Practices (KAP) approach, this indicator looks at attitude. This indicator will allow awardees to understand if the training provided on UDL principles and practices have changed teachers' attitudes about the capacities of their students.

The UDL principles that should be considered for this indicator are:

- Multiple means of engagement
- Multiple means of representation
- Multiple means of action and expression

Unit of Measure: Percent

Method of Calculation: (Number of teachers showing improved beliefs about the ability of UDL to support the reading and/or language skills of children with disabilities)/ (Total number of teachers) x 100

Disaggregated by: Sex

Analysis

Data Collection Method: Baseline and endline KAP questionnaire with a sample of teachers

Data Source: Teacher KAP questionnaire

Baseline Required: Yes

Frequency: Baseline and endline

Responsible: MEAL Coordinator

Indicator #: FA1.B.7

Percentage of teachers who show improved beliefs about the ability of EdTech solutions to support the reading and/or language skills of children with disabilities (attitude)

Phase: Scale

Description

Definition: Outcome indicator. This indicator measures teachers' beliefs about how EdTech can support the learning outcomes of children with disabilities. Using a Knowledge Attitude Practices (KAP) approach, this indicator looks at attitude. This indicator will allow awardees to understand if provision of and training on Bloom Reader have changed teachers' attitudes about the capacities of their students.

Unit of Measure: Percent

Method of Calculation: (Number of teachers showing improved beliefs about the ability of EdTech to support the reading and/or language skills of children with disabilities)/ (Total number of teachers) x 100

Disaggregated by: Sex

Analysis

Data Collection Method: Baseline and endline KAP questionnaire with a sample of teachers

Data Source: Teacher KAP questionnaire

Baseline Required: Yes

Frequency: Baseline and endline

Responsible: MEAL Coordinator

Focus Area 1 Goal C:

Parents and communities understand how to use EdTech solutions to support the reading and/or language skills of children with disabilities.

Indicator #: FA1.C.1

Number of parents and community members who are trained to use EdTech solutions

Phase: POC / Scale

Description

Definition: Outcome indicator. This indicator measures teachers' beliefs about how EdTech can support the learning outOutput indicator. "Parents" are defined as parents or guardians of children benefiting from USAID-funded education programming. "Community members" are defined as individuals residing in communities where children affected by USAID-funded programming live. Examples may include youth volunteers, members of faith-based organizations, community leaders, members of community-based organizations, among others. Parents or community members who benefit from services or training delivered by other trainees as part of a deliberate service delivery strategy (e.g., cascade training) are counted. In this project, community members include provincial education officers, provincial education officers, inclusive education staff, teacher trainer lecturers and DPO, NGO and health promoters.

The types of trainings on use of EdTech solutions include Bloom Reader promotion. To be counted under this indicator, parents or community members should receive a minimum of one training module (minimum of 2 hours) on how to use the ACR GCD-funded EdTech solutions.

Unit of Measure: Number

Method of Calculation: Sum of parents or community members

Disaggregated by: Sex, Type (parent or community member)

Analysis

Data Collection Method: Training registers. Person to be registered and counted only once, no matter how many trainings they undertake.

Data Source: Training attendance register

Baseline Required: No

Frequency: Quarterly

Responsible: MEAL Coordinator

Indicator #: FA1.C.2

Number of parents and community members trained to support the reading and/or language skills of children with disabilities

Phase: POC / Scale

Description

Definition: Output indicator: Training of parents or community members to support the reading and/or language skills of children with disabilities can include efforts to promote participation of parents (or guardians) and other community members in after-school activities, reading or math clubs, tutoring services, community reading/storytelling events, community-based learning assessment efforts, advocacy and school accountability efforts, and/or sponsorship or fundraising initiatives for supplemental educational materials. Training activities counted under this indicator must include explicit linkages to supporting reading and/or language skill of children with disabilities.

"Parents" are defined as parents or guardians of children benefiting from USAID-funded education programming. "Community members" are defined as individuals residing in communities where children affected by USAID-funded programming live. Examples may include youth volunteers, members of faith-based organizations, community leaders, members of community-based organizations, among others. In this project, community members include provincial education officers, provincial education officers, inclusive education staff, teacher trainer lecturers and DPO, NGO and health promoters. Parents or community members who benefit from services or training delivered by other trainees as part of a deliberate service delivery strategy (e.g., cascade training) are counted.

The types of trainings on supporting the reading and/or language skills of children with disabilities include [detail]. To be counted under this indicator, parents or community members should receive training on how to use the ACR GCD-funded EdTech solutions.

Unit of Measure: Number

Method of Calculation: (Sum of parents or community members

Disaggregated by: Sex, Type (parent or community member)

Analysis

Data Collection Method: Training registers. Person to be registered and counted only once, no matter how many trainings they undertake.

Data Source: Training attendance register

Baseline Required: No

Frequency: Quarterly

Responsible: MEAL Coordinator

Indicator #: FA1.C.3

Percentage of parents and community members who use EdTech solutions as intended

Phase: POC / Scale

Description

Definition: Outcome indicator. This indicator measures implementation fidelity. "As intended" must be defined by an awardee and describe how often (frequency) and for how long (dosage) parents/caregivers and community members should use the EdTech solution, which will result in a total dosage threshold.

This information is particularly useful to understand how different levels of exposure to the Edtech solution impact intended learning outcomes. Data for this indicator may also provide critical formative information to the awardee on how the project is being implemented, so any necessary learning and adapting can take place to improve implementation fidelity.

In Yumi Read Together, this data field will be the same as the child dosage use (15 mins per day x 5 days per week). FA1.C.3 will NOT be used to calculate the impact indicator as this will be double-counting data. It will be used for global ACR reporting.

Unit of Measure: Percent

Method of Calculation: (Number of parents dosage threshold)/ (Total number of parents and community members) x 100

Disaggregated by: Sex

Analysis

Data Collection Method: Training registers. Person to be registered and counted only once, no matter how many trainings they undertake.

Data Source: Training attendance register

Baseline Required: No

Frequency: Quarterly

Responsible: SCA (Inclusive Education)

Indicator #: FA1.C.4

Percentage of parents and community members who feel more prepared to support the reading and/or language skills of children with disabilities (attitude)

Phase: Scale

Description

Definition: Outcome indicator. This indicator measures parents' and community members' beliefs about their preparedness to support support the reading and/or language skills of children with disabilities. Using a Knowledge Attitude Practices (KAP) approach, this indicator looks at attitude. This indicator will allow awardees to understand if trainings provided to parents and community members on reading and/or language skills support have changed their attitudes.

Unit of Measure: Percent

Method of Calculation: (Number of parents and community members who feel more prepared)/ (Total number of parents and community members) x 100

Disaggregated by: Sex, Type (parent or community member)

Analysis

Data Collection Method: Parent KAP interview with a sample of parents of children whose families receive a smartphone

Data Source: Parent KAP questionnaire

Baseline Required: Yes

Frequency: Baseline and endline

Responsible: STS

Indicator #: FA1.C.5

Percentage of parents and community members who show improved beliefs about the ability of UDL to support the reading and/or language skills of children with disabilities (attitude)

Phase: Scale

Description

Definition: Outcome indicator. This indicator measures parents' and community members' beliefs about how EdTech can support the learning outcomes of children with disabilities. Using a Knowledge Attitude Practices (KAP) approach, this indicator looks at attitude. This indicator will allow awardees to understand if provision of and training on EdTech solutions have changed parents' and community members' attitudes about the capacities of their students.

Unit of Measure: Percent

Method of Calculation: (Number of parents and community members who show improved beliefs)/ (Total number of parents and community members) x 100

Disaggregated by: Sex, Type (parent or community member)

Analysis

Data Collection Method: Parent KAP interview

Data Source: Parent KAP questionnaire

Baseline Required: Yes

Frequency: Baseline and endline

Responsible: STS

Indicator #: FA1.C.6

Percentage of parents and community members who have improved knowledge of how EdTech solutions support the reading and/or language skills of children with disabilities (knowledge)

Phase: Scale

Description

Definition: Outcome indicator. This indicator measures parents' and community members' knowledge about how EdTech can support the learning outcomes of children with disabilities. Using a Knowledge Attitude Practices (KAP) approach, this indicator looks at knowledge. This indicator will allow awardees to understand if provision of and training on EdTech solutions have changed parents' and community members' knowledge about the capacities of their students.

Unit of Measure: Percent

Method of Calculation: (Number of parents and community members who show improved knowledge)/ (Total number of parents and community members) x 100

Disaggregated by: Sex, Type (parent or community member)

Analysis

Data Collection Method: Parent KAP interview with a sample of parents of children whose families receive a smartphone

Data Source: Parent KAP questionnaire

Baseline Required: Yes

Frequency: Baseline and endline

Responsible: MEAL Coordinator

Focus Area 1 Goal B

Teachers use EdTech solutions to nurture the reading and/or language skills of children with disabilities through UDL principles.

Indicator #: FA1.B.1

Number of teachers who are trained on UDL principles

Phase: POC/Scale

Description

Definition: Teachers are individuals whose professional activity involves the transmitting of knowledge, attitudes, and skills that are stipulated in curriculum directly to students participating in a formal or non-formal educational opportunity. Teachers may work in formal or non-formal settings and institutions. They may be employed by public organizations (e.g. school) or private organization (e.g. school, NGO, for-profit organization). Examples include, but are not limited to, the following: teachers, teaching assistants, instructors, etc. 'Educators' can include librarians who are involved in transmitting knowledge, attitudes, and skills that are stipulated in the curriculum directly to students.

Professionals who work in the education sector but whose primary function is not to transmit knowledge directly to students should not be counted as educators. Examples of individuals who should not be counted as educators include, but are not limited to: school administrators such as principals (unless principals also teach), ministry officials, supervisors, and teacher trainers (if these teacher trainers are not also teachers).

To be counted under this indicator, teachers should receive training on UDL and inclusive education.

Training on inclusion education and how to support children with disabilities in classroom needs to go beyond introducing basic concepts and benefits of inclusive education to also focus on effective instructional approaches, including techniques to support literacy acquisition. It is important that teacher training also reflect on the local reality of teachers within a country and avoid importing training without adapting it to the local context. It is vital that teacher training be followed up with hands-on experience for teachers to use the skills they have learned related to literacy acquisition and slowly build confidence in their ability to provide inclusive education (Hayes and Bulat, 2017).

Subjects: individualized education plans (includes literacy goals, documenting student strengths/challenges, details what accommodations might be effective, social and behavioral considerations); teacher attitudes, inclusive education and effective instructional approaches.

Unit of Measure: Teachers

Method of Calculation: Sum of teachers

Disaggregated by: Sex (male; female); Age (exact); Age (over age, under age, appropriate grade age); Disability status; School type (if RC/SS, then disability category); Province

Analysis

Data Collection Method: Training attendance collected for each day/session of training by LEARN M&E staff. Each teacher will be counted only once for the life of the project, regardless of the number of training activities he/she participates in.

Data Source: Attendance records

Baseline Required: No

Frequency: Annual (Quarterly if major updates)

Responsible: LEARN M&E Officer; OPD M&E Officers

Indicator #: FA1.B.2

Number of teachers who are trained on EdTech solutions

Phase: POC/Scale

Description

Definition: Teachers are individuals whose professional activity involves the transmitting of knowledge, attitudes, and skills that are stipulated in curriculum directly to students participating in a formal or non-formal educational opportunity. Teachers may work in formal or non-formal settings and institutions. They may be employed by public organizations (e.g. school) or private organization (e.g. school, NGO, for-profit organization). Examples include, but are not limited to, the following: teachers, teaching assistants, instructors, etc. 'Educators' can include librarians who are involved in transmitting knowledge, attitudes, and skills that are stipulated in the curriculum directly to students.

Professionals who work in the education sector but whose primary function is not to transmit knowledge directly to students should not be counted as educators. Examples of individuals who should not be counted as educators include, but are not limited to: school administrators such as principals (unless principals also teach), ministry officials, supervisors, and teacher trainers (if these teacher trainers are not also teachers).

Unit of Measure: Teachers

Method of Calculation: Sum of teachers

Disaggregated by: Sex (male; female); Age (exact); Age (over age, under age, appropriate grade age); Disability status; School type (if RC/SS, then disability category); Province

Analysis

Data Collection Method: Training attendance collected for each day/session of training by LEARN M&E staff. Each teacher will be counted only once for the life of the project, regardless of the number of training activities he/she participates in.

Data Source: Attendance records

Baseline Required: No

Frequency: Annually (Quarterly if major updates)

Responsible: LEARN M&E Officer; OPD M&E Officers

Indicator #: FA1.B.3

Percentage of teachers who use EdTech solutions as intended

Phase: POC/Scale

Description

Definition: This indicator measures implementation fidelity.

"As intended" will vary by ICT and context, and will be defined by a combination of teacher training guidance (to be developed by LEARN), IEPs for individual students, and use plans at the school and/or classroom level.

This information is particularly useful to understand how different levels of exposure to the Edtech solution impact intended learning outcomes. Data for this indicator may also provide critical formative information to the awardee on how the project is being implemented, so any necessary learning and adapting can take place to improve implementation fidelity.

Unit of Measure: Percent of teachers

Method of Calculation: (Number of teachers meeting dosage threshold) / (Total number of teachers) x 100

Disaggregated by: Sex (male; female); Age (exact); Age (over age, under age, appropriate grade age; Disability status; School type (if RC/SS, then disability category); Province

Analysis

Data Collection Method: Classroom observation conducted by LEARN M&E staff (As feasible, COVID permitting); Teacher action research diaries; Teacher KAP survey conducted by LEARN M&E staff before training, at midpoint and at end of project

Data Source: Classroom observation records; Teacher action research diaries; teacher KAP survey

Baseline Required: No

Frequency: Annually (Quarterly if major updates)

Responsible: LEARN M&E Officer; OPD M&E Officers

Indicator #: FA1.B.4

Percentage of teachers who increase the number of UDL principles they use in their classroom (practice)
(This indicator was phased out)

Phase: POC/Scale

Description

Definition: This indicator measures teachers' application of UDL principles in their classroom. Using a Knowledge Attitude Practices (KAP) approach, this indicator looks at practice. This indicator will allow awardees to understand if the training provided on UDL principles and practices have been adopted and implemented by teachers.

The UDL principles that should be considered for this indicator are:

- Multiple means of engagement
- Multiple means of representation
- Multiple means of action and expression

Unit of Measure: Percent of teachers

Method of Calculation: (Number of teachers who increase the number of UDL principles they use in their classroom) / (Total number of teachers) x 100

Disaggregated by: Sex (male; female); School type (if RC/SS, then disability category); Province

Analysis

Data Collection Method: Teacher KAP survey conducted by LEARN M&E staff before training, at midpoint and at end of project

Data Source: Teacher KAP survey; training pre- and post- survey

Baseline Required: Yes

Frequency: Annually (Quarterly if major updates)

Responsible: LEARN M&E Officer; OPD M&E Officers

Indicator #: FA1.B.5

Percentage of teachers who demonstrate increased knowledge of UDL principles (knowledge)
(This indicator was phased out)

Phase: Scale

Description

Definition: This indicator measures teachers' application of UDL principles in their classroom. Using a Knowledge Attitude Practices (KAP) approach, this indicator looks at practice. This indicator will allow awardees to understand if the training provided on UDL principles and practices have been adopted and implemented by teachers.

The UDL principles that should be considered for this indicator are:

- Multiple means of engagement
- Multiple means of representation
- Multiple means of action and expression

Unit of Measure: Percent of teachers

Method of Calculation: (Number of teachers who increase the number of UDL principles they use in their classroom) / (Total number of teachers) x 100

Disaggregated by: Sex (male; female); School type (if RC/SS, then disability category); Province

Analysis

Data Collection Method: Teacher KAP survey conducted by LEARN M&E staff before training, at midpoint and at end of project

Data Source: Teacher KAP survey; training pre- and post- survey

Baseline Required: Yes

Frequency: 3 times: baseline, midline, endline

Responsible: LEARN M&E Officer; OPD M&E Officers

Indicator #: FA1.B.6

Percentage of teachers who show improved beliefs about the ability of UDL to support the reading and/or language skills of children with disabilities (attitude) *(This indicator was phased out)*

Phase: POC/Scale

Description

Definition: This indicator measures teachers' knowledge of UDL principles. This indicator will allow awardees to understand if the training provided on UDL principles and practices have been understood by teachers.

The UDL principles that should be considered for this indicator are:

- Multiple means of engagement
- Multiple means of representation
- Multiple means of action and expression

Unit of Measure: Percent of teachers

Method of Calculation: (Number of teachers showing improved beliefs about the ability of UDL to support the reading and/or language skills of children with disabilities) / (Total number of teachers) x 100

Disaggregated by: Sex (male; female); School type (if RC/SS, then disability category); Province

Analysis

Data Collection Method: Teacher KAP survey conducted by LEARN M&E staff before training, at midpoint and at end of project

Data Source: Teacher KAP survey; training pre- and post- survey

Baseline Required: Yes

Frequency: 3 times: baseline, midline, endline

Responsible: LEARN M&E Officer; OPD M&E Officers

Indicator #: FA1.B.7

Percentage of teachers who show improved beliefs about the ability of EdTech solutions to support the reading and/or language skills of children with disabilities (attitude) *(This indicator was phased out)*

Phase: POC/Scale

Description

Definition: This indicator measures teachers' beliefs about how UDL principles can support the learning outcomes of children with disabilities. Using a Knowledge Attitude Practices (KAP) approach, this indicator looks at attitude. This indicator will allow awardees to understand if the training provided on UDL principles and practices have changed teachers' attitudes about the capacities of their students.

The UDL principles that should be considered for this indicator are:

- Multiple means of engagement
- Multiple means of representation
- Multiple means of action and expression

Unit of Measure: Percent of teachers

Method of Calculation: Number of teachers showing improved beliefs about the ability of EdTech to support the reading and/or language skills of children with disabilities) / (Total number of teachers) x 100

Disaggregated by: Sex (male; female); School type (if RC/SS, then disability category); Province

Analysis

Data Collection Method: Teacher KAP survey conducted by LEARN M&E staff before training, at midpoint and at end of project

Data Source: Teacher KAP survey; training pre- and post- survey

Baseline Required: Yes

Frequency: 3 times: baseline, midline, endline

Responsible: LEARN M&E Officer; OPD M&E Officers

Focus Area 2 Objective

Books provided through EdTech solutions enable marginalized children to learn in languages they use and understand.

Indicator #: FA2.B.4

Number of TLM views on ACR GCD supported digital platforms

Phase: POC / Scale

Description

Definition: Output indicator: This indicator measures access and reach of awardee TLMs but is less strict than FA2.B.1 and FA2.B.2. Specifically, this indicator tracks the number of views, clicks, reads, and/or downloads of TLMs hosted on awardee digital platforms. The metric (views, clicks, reads, downloads, etc.) will depend on how an awardee's platform tracks interaction; this should be defined in the awardee's MEL Plan.

Unit of Measure: Number

Method of Calculation: Sum of views + downloads

Disaggregated by: Type of access (view or download)

Analysis

Data Collection Method: Bloom Library analytics per quarter

Data Source: Bloom website

Baseline Required: No

Frequency: Quarterly

Responsible: SIL LEAD

Influence Goal B

ACR GCD convenes its key audiences to catalyze collaboration, share knowledge, and encourage usage and scale-up of EdTech solutions.

Indicator #: B1

Number of key audience members who attend ACR GCD events (virtual or in-person)

Phase: POC / Scale

Description

Definition: Output indicator: Key audience members are defined as:

- Partner HQ and field staff: Staff working in a HQ or field office
- Doers: Innovators and education implementers
- Policymakers and Ministries of Education: Staff of an MoE in a developing country
- Partners/Collaborators: Partners that provide subject matter credibility, funding, or scaling opportunities/platforms

ACR GCD events are defined as: In-person and virtual events hosted by ACR GCD where ACR GCD messaging, and innovations are the primary focus.

Unit of Measure: Number

Method of Calculation: Sum of attendees of live or virtual events

Disaggregated by: Sex, Type of organization

Analysis

Data Collection Method: Attendance register for virtual or face-to-face knowledge sharing events about Yumi Read Together or All Children Reading

Data Source: Attendance register

Baseline Required: No

Frequency: Quarterly

Responsible: Project Coordinator

Indicator #: B5

Number of key audience members who report collaborating with ACR GCD awardees

Phase: POC / Scale

Description

Definition: Output indicator: Key audience members are defined as:

- Partner HQ and field staff: Staff working in a HQ or field office
- Doers: Innovators and education implementers
- Policymakers and Ministries of Education: Staff of an MoE in a developing country
- Partners/Collaborators: Partners that provide subject matter credibility, funding, or scaling opportunities/platforms

Collaborating with ACR GCD is defined as contacting an ACR GCD awardee to use, contextualize, scale or provide further funding or enhancement to their ACR GCD-funded project/solution.

Unit of Measure: Number

Method of Calculation: Sum of key audience members who have collaborated or report collaborating with YRT

Disaggregated by: Type of collaboration

Analysis

Data Collection Method: Quarterly survey of project team and key audience members

Data Source: Quarterly report

Baseline Required: No

Frequency: Quarterly

Responsible: Project Coordinator

Influence Goal D

ACR GCD awardees leverage their award to expand the reach of their EdTech solutions.

Indicator #: D1

Evidence that awardees receive additional investment to scale their EdTech solutions (quantitative & qualitative)

Phase: POC / Scale

Description

Definition: Outcome indicator: This qualitative indicator is used to present nuanced evidence of the additional investments that ACR GCD awardees acquire that is used to scale their EdTech solutions. Awardees are any ACR GCD-funded organization or solution. Additional investment includes contextualizing/translating, replication, scaling, funding, or research.

Unit of Measure: USD

Method of Calculation: Sum of USD received

Disaggregated by: None

Analysis

Data Collection Method: Quarterly report

Data Source: Quarterly report

Baseline Required: No

Frequency: Quarterly

Responsible: Project Coordinator

Appendix D

ACR GCD YRT Indicators

Goal	Indicator Number	Indicator Name	Disaggregate	Unit	Baseline (if applicable)	POC Total FY 2021	SUP Total FY 2022-2023	Endline triangulation
FA1	**FA1.1**	Percentage of children who demonstrate increased reading and/or language outcomes	Total		0%	NA	35.5% (n=45)	Endline value is indicator value. Calculated as the proportion of learners who had a higher oral fluency score than the baseline mean of 3.7 correct words per minute
			Sex	Girls	0%	NA	51.0%	
				Boys			44.4%	
			Grade	Prep	0%	NA	22.5%	
				Grade 1	0%	NA	46.7%	
				Grade 2	0%	NA	57.7%	
			Disability Status	Girls with disabilities	0%	NA	51.0%	
				Boys with disabilities	0%	NA	44.4%	
FA1	**FA1.A.1**	Number of learners in primary schools or equivalent non-school based settings reached	General School Enrollment Data			6,937	9,757	NA
			Sex	Girls	NA	3,411	4,717	
				Boys		3,526	5,040	
			Grade	Prep	NA	2,541	3,398	
				Grade 1	NA	2,177	3,284	
				Grade 2	NA	2,219	3,075	
			Disability Status	Girls with disabilities	NA	451	478	
				Boys with disabilities	NA	512	693	

Goal	Indicator Number	Indicator Name	Disaggregate	Unit	Baseline (if applicable)	POC Total FY 2021	SUP Total FY 2022-2023	Endline triangulation
FA1	**FA1.A.1**	Number of learners in primary schools or equivalent non-school based settings reached	Actual CWD Registration Data		NA	918	1,155	
			Sex (with Disability)	Girls	NA	429	480	
				Boys		489	675	
			Grade	Prep	NA	259	338	
				Grade 1	NA	282	426	
				Grade 2	NA	377	391	
			Disability Status	Girls with disabilities	NA	429	480	
				Boys with disabilities	NA	489	675	
FA1	**FA1.A.2**	Number of learners with disabilities who have access to EdTech solutions	EdTech Devices			50	1,616	NA
			Sex (EdTech Devices)	Girls	NA	25	620	
				Boys		25	996	
			Devices with BR (Phones & SD Cards)			50	1,616	
			Grade (Phones)	Prep	NA	0	72	
				Grade 1	NA	0	81	
				Grade 2	NA	48	91	
				OOSC		2	0	
			SD Cards	SL	NA	0	179	
				AU	NA	0	1,193	

Goal	Indicator Number	Indicator Name	Disaggregate	Unit	Baseline (if applicable)	POC Total FY 2021	SUP Total FY 2022–2023	Endline triangulation
FA1	**FA1.A.2**	Number of learners with disabilities who have access to EdTech solutions	Disability Type (Phone recipients' data only)	Vision	NA	8	39	
				Hearing	NA	9	35	
				Speech and language/ communication	NA	11	18	
				Movement	NA	6	4	
				Learning	NA	35	178	
FA1	**FA1.A.3**	Number of teaching and learning materials provided[19]	Digital / Print			395	415	NA
			Type of Material	Books (Digital books)	NA	287	0	
				Teaching materials for teachers (Teacher Handout)	NA	30	210	
				Manuals and guides for coaches/trainers (TOT, Module 1, Module 2 Guides)	NA	78	205	
				Instructional ICT materials (videos)	NA	0	0	
				Accessible materials for learners with disabilities		96	609	
				Devices with Bloom Reader (Phones)	NA	96	137	
				SD Card – SL	NA	0	104	
				SD Card – AU	NA	0	368	

19 There were some inconsistencies in program reporting on number of teaching and learning materials provided and number of teaching and learning materials created.

Goal	Indicator Number	Indicator Name	Disaggregate	Unit	Baseline (if applicable)	POC Total FY 2021	SUP Total FY 2022-2023	Endline triangulation
FA1	**FA1.A.3**	Number of teaching and learning materials provided[19]	Language	English	NA	280	560	
				Tok Pisin	NA	280	560	
				PNG Sign Language	NA	37	259	
			New / Not New	New	NA	26	471	
				Not new	NA	0	316	
			Medium of Provision	EdTech	NA	0	103	
				Non-EdTech	NA	0	60	
FA1	**FA1.A.3a**	Number of teaching and learning materials (TLMs) created	Books/supplemental reading materials for learners			0	0	NA
			Teaching materials for teachers or facilitators	Teacher handbook		0	0	
			Manuals and guides for parents	Flipbooks, TOT2 Manual, TOT2 Guide		0	0	
			Manuals and guides for teachers or facilitators	TOT1 Manual, TOT1 Guide		0	0	
			Instructional ICT materials			0	0	
			Accessible materials for learners with disabilities	YRT Student Smartphones / SD Cards		96	0	
			English			280	555	

Goal	Indicator Number	Indicator Name	Disaggregate	Unit	Baseline (if applicable)	POC Total FY 2021	SUP Total FY 2022-2023	Endline triangulation
FA1	**FA1.A.3a**	Number of teaching and learning materials (TLMs) created	Tok Pisin			124	134	NA
			PNG Sign Language			0	97	
			New			26	726	
			Not new			571	336	
FA1	**FA1.A.3b**	Number of teaching and learning materials (TLMs) distributed	Books/supplemental reading materials for learners			0	0	NA
			Teaching materials for teachers or facilitators	Teacher handbook		38	142	
			Manuals and guides for parents	Flipbooks, TOT2 Manual, TOT2 Guide		62	278	
			Manuals and guides for teachers or facilitators	TOT1 Manual, TOT1 Guide		47	77	
			Instructional ICT materials			0	0	
			Accessible materials for learners with disabilities	YRT Student Smartphones / SD Cards		50	1,616	
			English	(Bloom Library)		14,000		
			Tok Pisin	(Bloom Library)		6,200	220,162	
			PNG Sign Language	(Bloom Library)		0	161,311	
			EdTech			50	1,616	
			Non-EdTech (print)			0	0	

Goal	Indicator Number	Indicator Name	Disaggregate	Unit	Baseline (if applicable)	POC Total FY 2021	SUP Total FY 2022-2023	Endline triangulation
FA1	**FA1.A.4**	Percentage of learners who use EdTech solutions as intended (Numbers)	Total			2%	11%	17.8% (n=23), triangulation calculated as proportion of learners using Bloom Reader at school or at home every day
			Sex and Type	Girls	NA	6%	17%	24.5%
				Boys	NA	0%	6%	16.1%
			Disability Type (by Numbers)	Vision	NA	1	2	0.0%
				Hearing	NA	0	3	NA
				Speech and language / communication	NA	0	2	NA
				Movement	NA	0	0	NA
				Learning	NA	0	24	19.3%
FA1	**FA1.A.5**	Percentage of learners who report that EdTech solutions meet their needs (Numbers)	Total			36%	79%	65.9% (n=85) Triangulation calculated as proportion of learners who say they like using Bloom Reader
			Sex	Girls	NA	33%	70%	71.4%
				Boys	NA	38%	85%	65.4%
			Disability Type (by Numbers)	Vision	NA	0	42	100%
				Hearing	NA	0	51	NA
				Speech and language / communication	NA	0	33	NA
				Movement	NA	0	6	NA
				Learning	NA	9	184	63.0%

Goal	Indicator Number	Indicator Name	Disaggregate	Unit	Baseline (if applicable)	POC Total FY 2021	SUP Total FY 2022-2023	Endline triangulation
FA1.B	**FA1.B.1**	Number of teachers who are trained on UDL principles	Total			104	204	Triangulation: 80.0% (n=28) of teachers reported participating in YRT trainings
			Sex	Female	NA	80	75	
				Male	NA	24	129	
FA1.B	**FA1.B.2**	Number of teachers who are trained to use EdTech solutions				104	204	
			Sex	Female	NA	80	75	
				Male	NA	24	129	
FA1.B	**FA1.B.3**	Percent of teachers who use EdTech solutions as intended	Total			37%	52%	Triangulation: 15.5% of teachers (n=13) reported using Bloom Reader to reach with children every day in the last week
			Total	Female	NA	33%	76%	
				Male	NA	29%	37%	
FA1.B	**FA1.B.5**	Percent of teachers who demonstrate increased knowledge of UDL principles (knowledge)	Total			0%	75%	NA
			Sex	Female	NA	0%	74%	
				Male	NA	0%	75%	
FA1.B	**FA1.B.7**	Percent of teachers who show improved beliefs about the ability of EdTech solutions to support the language and/or literacy skills of learners with disabilities (attitude)	Total			0%	77%	NA
			Sex	Female	NA	0%	74%	
				Male	NA	0%	75%	

Goal	Indicator Number	Indicator Name	Disaggregate	Unit	Baseline (if applicable)	POC Total FY 2021	SUP Total FY 2022-2023	Endline triangulation
FA1.C	**FA1.C.1**	Number of parents and community members who are trained to use EdTech solutions	Total			68	240	Triangulation: 28 of 79 PCGs reported they had been trained by YRT
			Sex and Type	Female Parent	NA	22	81	14
				Male Parent	NA	8	127	14
				Female Community Member	NA	7	4	NA
				Male Community Member	NA	31	28	
FA1.C	**FA1.C.2**	Number of parents and community members who are trained on how to support the language and/or literacy skills of children with disabilities	Total			68	225	See triangulation above.
			Sex and Type	Female Parent	NA	22	75	NA
				Male Parent	NA	8	118	
				Female Community Member	NA	7	4	
				Male Community Member	NA	31	28	
FA1.C	**FA1.C.3**	Percentage of parents and community members who use EdTech solutions as intended	Total			60%	43%	Triangulation: 53.2% of PCGs report reading with children for 15 minutes per day with Bloom Reader
			Sex	Female Parent	NA	33%	51%	57%
				Male Parent	NA	100%	39%	48.8%

Goal	Indicator Number	Indicator Name	Disaggregate	Unit	Baseline (if applicable)	POC Total FY 2021	SUP Total FY 2022-2023	Endline triangulation
FA1.C	**FA1.C.4**	Percentage of parents and community members who feel more prepared to support the language and/or literacy skills of children with disabilities (attitude)	Total			40%	40%	NA
			Sex and Type	Female Parent	NA	33%	52%	
				Male Parent	NA	50%	38%	
				Female Community Member	NA	0%	0%	
				Male Community Member	NA	0%	0%	
FA1.C	**FA1.C.6**	Percentage of parents and community members who have improved knowledge of how EdTech solutions support the language and/or literacy skills of children with disabilities (knowledge)	Total			40%	43%	NA
			Sex and Type	Female Parent	NA	33%	52%	
				Male Parent	NA	50%	38%	
				Female Community Member	NA	0%	0%	
				Male Community Member	NA	0%	0%	

Goal	Indicator Number	Indicator Name	Disaggregate	Unit	Baseline (if applicable)	POC Total FY 2021	SUP Total FY 2022–2023	Endline triangulation
	FA2.B.4	Percentage of parents and community members who feel more prepared to support the language and/or literacy skills of children with disabilities (attitude)	Total				277,606	NA
			Type of Access Downloads	Views	NA	0	247,500	
				Downloads	NA	0	30,106	
	B.1.	Number of key audience members who attend ACR GCD events (virtual or in-person)				0	7	NA
			Sex	Female	NA	0	4	
				Male	NA	0	3	
			Type of Organization	Partner HQ and field staff	NA	0	0	
				Doers	NA	0	0	
				Policymakers & Ministries of Education	NA	0	5	
				Partners / collaborators (including funders)	NA	0	2	
	B.5.	Number of key audience members who report collaborating with ACR GCD awardees				0	4	NA
			Type of Collaboration	Use	NA	0	0	
				Contextualize	NA	0	0	
				Scale	NA	0	0	
				Provide further funding or enhancement	NA	0	4	
	D.1.	Evidence that awardees receive additional investment to scale their EdTech solutions (quantitative & qualitative)	Total				116,903	NA
					NA	0	116,903	

Appendix E

YRT Evaluation Question and Tools Mapping

Evaluation Question	Associated MEL Indicator	Project MEL Tools								Evaluation Tools					
		Bloom Reader	Family intake	Lesson observati	Parent KAP	School Visit	Learner survey	Teacher KAP	Training attention	Learner survey	Teacher survey	Parent / caregiver	EGRA	Stakehol der KII/	SAT
1. To what extent did learners receive the intended dosage of EdTech exposure?	FA1.A.4	X													
2. What were learners' levels of satisfaction with the project's EdTech solutions?	N/A						X			X					
a. What do learners believe could be improved about the project's EdTech solutions?	N/A						X			X					
b. How well did the project's EdTech solutions meet learners' specific needs?	FA1.A.5						X			X	X	X			
3. To what extent did teachers receive the intended dosage of training?	FA1.B.1 FA1.B.2					X									
4. What were teachers' levels of satisfaction with the project's trainings?	N/A										X				
a. What do teachers believe could be improved about the trainings?	N/A										X				
b. How well did the trainings meet teachers' specific needs?	N/A										X				

Evaluation Question	Associated MEL Indicator	Project MEL Tools								Evaluation Tools					
		Bloom Reader	Family intake	Lesson observati	Parent KAP	School Visit	Learner survey	Teacher KAP	Training attention	Learner survey	Teacher survey	Parent / caregiver	EGRA	Stakeholder KII/	SAT
5. To what extent did parents/caregivers receive the intended dosage of training?	FA1.C.3	X										X			
6. What were parents/caregivers' levels of satisfaction with the project's trainings?	N/A								X			X			
a. What do parents/caregivers believe could be improved about the trainings?	N/A											X			
b. How well did the trainings meet parents/caregivers' specific needs?	N/A											X			
7. What were the teachers' and parents/caregivers' levels of satisfaction with the project's EdTech solutions?	N/A										X	X			
8. To what extent did teachers change their knowledge, attitudes, and practices on use of EdTech and UDL for learners with disabilities?	N/A			X				X			X				
a. Did teachers have increased knowledge and improved attitudes on how EdTech can support learners' reading and/or language skills development?	FA1.B.7							X			X				
b. What do learners believe could be improved about the project's EdTech solutions?	FA1.B.3	X		X							X				
c. How well did the project's EdTech solutions meet learners' specific needs?	FA1.B.5 FA1.B.6							X			X				
d. How well did the project's EdTech solutions meet learners' specific needs?	FA1.B.4			X							X				

Evaluation Question	Associated MEL Indicator	Project MEL Tools								Evaluation Tools					
		Bloom Reader	Family intake	Lesson observati	Parent KAP	School Visit	Learner survey	Teacher KAP	Training attention	Learner survey	Teacher survey	Parent / caregiver	EGRA	Stakehol der KII/	SAT
9. To what extent did parents/caregivers change their knowledge, attitudes, and practices on use of EdTech for learners with disabilities?	N/A				X							X			
a. Did parents/caregivers have increased knowledge and improved attitudes on how EdTech can support learners' reading and/or language skills development?	FA1.C.6				X							X			
b. Did parents/caregivers have increased knowledge and improved attitudes on how they can support learners' reading and/or language skills development?	FA1.C.4				X							X			
c. c. How and to what extent did parents/caregivers utilize project EdTech solutions with their children at home?	FA1.C.3	X			X							X			
10. Did learners' reading and/or language skills improve from baseline to endline?	FA1.1												X		
a. What contextual factors–including geographic, demographic, and socioeconomic factors–were associated with learners' reading and/or language skills gains?	N/A									X		X	X		
b. To what extent did EdTech contribute to learners' reading and/or language skills gains?	FA1.A.4									X		X	X		
11. What contextual factors–including geographic, demographic, and socioeconomic factors–were associated with beneficiaries' use or non-use of the project's EdTech solutions?	FA1.A.4									X		X			
12. How scalable is the project's model?	D.1													X	X

Appendix F

YRT Evaluation Questions Mapping with ACR MEL Materials

Evaluation Question	ACR GCD Indicator	ACR GCD Learning Agenda Question	Reported at endline?
1. To what extent did learners receive the intended dosage of intervention (use of EdTech) based on the project's model?	FA1.A.2-4	Q1	Yes
2. What were learners' levels of satisfaction with the project's different EdTech solutions?	FA1.3	Q1, Q2, Q3	Yes
3. To what extent did teachers receive the intended dosage of intervention (training) based on the project's model?	FA1.A.5	Q1	Yes
4. What were teachers' levels of satisfaction with the project's trainings?	FA1.B.1-3	Q3	Yes
5. What were teachers' levels of satisfaction with the process of using IEPs to match learners with specialized learning materials delivered using EdTech?		Q3	Yes
6. To what extent did parents/caregivers receive the intended dosage of intervention (training) based on the project's model?	FA1.C.1-3	Q1	No
7. What were parents/caregivers' levels of satisfaction with the project's trainings?		Q3	No
8. To what extent did YRT teachers change their knowledge, attitudes, and practices on use of EdTech and UDL for learners with disabilities?	FA1.B.4-7	Q1, Q2, Q3	Yes
9. To what extent did YRT parents/caregivers change their knowledge, attitudes, and practices on use of EdTech for learners with disabilities?	FA1.A.4-6	Q1, Q2, Q3	No
10. Did YRT learners' reading and/or language skills improve from baseline to endline?	FA1.1-4	Q1	Yes
11. What contextual factors–including geographic, demographic, and socioeconomic factors–were associated with beneficiaries' use or non-use of YRT EdTech solutions?	FA1.A.4 FA1.B.3 FA1.C.3	Q3	Yes
12. How scalable is the YRT model?	D.1	Q1, Q2, Q3	Yes

Appendix G

Endline Tools

Master EGRA – English

This master version of the EGRA tool should be updated continuously as changes are made to the tool items and instructions. It should serve as the final documentation of the EGRA tool. The final paper and Tangerine versions of the EGRA, as well as the final stimuli, should reflect the content in this document.

The document provides templates for a variety of subtasks. These templates can be deleted or duplicated as needed based on the subtasks included in the EGRA.

Introduction

Student Dialogue (use **bold** to indicate instructions that should be read aloud to student)

Good morning. My name is ___ and I live in ____. I'd like to tell you a little bit about myself. [Number and ages of children; favorite sport, radio or television program, etc.]

1. What do you like to do when you are not in school?

[Wait for response; if child is reluctant, ask question 2, but if they seem comfortable continue to oral assent].

2. What games do you like to play?

Assent

Student Dialogue (use **bold** to indicate instructions that should be read aloud to student)

- **Let me tell you why I am here today. I work with Save the Children and we are trying to understand how children learn to read. You were picked by chance.**
- **We would like your help in this. But you do not have to take part if you do not want to.**
- **We are going to play a reading game. I am going to ask you to read letters, words, and a short story out loud.**
- **Using this tablet, I will see how long it takes you to read.**
- **This is NOT a test and it will not affect your grade at school.**
- **I will also ask you other questions about your family, like what language your family uses at home and some of the things your family has.**
- **I will NOT write down your name so no one will know these are your answers.**

• Once again, you do not have to participate if you do not wish to. Once we begin, if you would rather not answer a question, that's all right, we can move on.

Do you have any questions? Are you ready to get started?

Task 1. Letter Name Identification

Enumerator Help

Show the child the sheet of letters as you read the instructions.

Start the timer when the child reads the first letter.

Follow along on your tablet and mark any incorrect letters by touching that letter on the screen—it will turn blue. If you make a mistake and mark a letter incorrect, you can correct the mistake by touching the letter again. It will turn white again.

Correct letters are: 1) the letter name in the home language or language of instruction, 2) any sound that is acceptable in the home or instructional language, or 3) a response which says "it begins like..." giving a word for which the letter is the initial letter.

Stay quiet, except if the child stops on a letter for 5 seconds. Then point to the next letter and say, "Please go on." Mark the skipped letter as incorrect.

If the timer reaches 0 seconds before the student reads the last item, the screen will flash red, and the timer will stop. The subtask is over. Ask the child to stop. Mark the final letter read by touching it. The final letter read will be outlined in orange. Then press "Next."

If the child reads the last item before the timer reaches 0, stop the timer when the child reads the last letter. The last letter will be automatically outlined in orange. Then press "Next."

Early stop rule: If the child does not provide a single correct response for the first 10 letters (the first line), the screen will flash red, and the timer will stop. Say, "Thank you!" and go on to the next subtask.

Student Dialogue (use **bold** to indicate instructions that should be read aloud to student)

Here is a page full of letters of the English alphabet. Please tell me the names of as many letters of the alphabet as you can.

For example, the name of this letter [point to the letter F] **is /f/.**

Let's practice: Tell me the name of this letter [point to the letter m]:

[If the child responds correctly, say:] **Good, the name of this letter is /m/.**

[If the child does not respond correctly or after 3 seconds of nonresponse, say:] **The name of this letter is /m/.**

Now try another one: Tell me the name of this letter [point to the letter O]:

[If the child responds correctly say:] **Good, the name of this letter is /o/.**

[If the child does not respond correctly or after 3 seconds of nonresponse, say:] **The name of this letter is /o/.**

When I say "Begin," start here [point to first letter] **and go across the page** [slide your finger to the right] **line by line. Point to each letter and tell me the name of that letter in a loud voice. Read as quickly and carefully as you can. If you come to a letter you do not know, go on to the next letter. Put your finger on the first letter. Ready? Begin.**

Examples F m O

1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	
w	K	V	Q	M	t	z	W	H	F	*10*
c	O	U	j	B	R	S	Z	J	i	*20*
D	q	y	a	E	h	P	Y	f	x	*30*
s	X	r	v	d	g	T	p	A	b	*40*
m	N	u	L	G	n	C	e	o	K	*50*

Autostop Yes, after 10 letters Time Allowed 2:00

Task 2. Familiar Word Identification

Enumerator Help

Show the child the sheet of words as you read the instructions.

Start the timer when the child reads the first word.

Follow along on your tablet and mark any incorrect words by touching that word on the screen—it will turn blue. If you make a mistake and mark a word incorrect, you can correct the mistake by touching the word again. It will turn white again.

Stay quiet, except if the child stops on a word for 5 seconds. Then point to the next word and say, "Please go on." Mark the skipped word as incorrect.

If the timer reaches 0 seconds before the student reads the last item, the screen will flash red, and the timer will stop. The subtask is over. Ask the child to stop. Mark the final word read by touching it. The final word read will be outlined in orange. Then press "Next."

If the child reads the last item before the timer reaches 0, stop the timer when the child reads the last word. The last word will be automatically outlined in orange. Then press "Next."

Early stop rule: If the child does not provide a single correct response for the first 5 words (the first line), the screen will flash red, and the timer will stop. Say, "Thank you!" and go on to the next subtask.

Student Dialogue (use **bold** to indicate instructions that should be read aloud to student)

Here are some words in English. I would like you to read as many words as you can. Do not spell the words, but read them. For example, this word is: "cat."

Let's practice: Please read this word [point to the word "sun"]:

[If the child responds correctly say:] **Good, this word is "sun."**

[If the child does not respond correctly or after 3 seconds of nonresponse say:] **This word is "sun."**

Now try another one: Please read this word [point to the word "man"]:

[If the child responds correctly say:] **Good, this word is "man."**

[If the child does not respond correctly or after 3 seconds of nonresponse say:] **This word is "man."**

When I say "Begin," start here [point to first word] **and go across the page** [slide your finger to the right] **line by line. Point to each word and read it in a loud**

voice. Read as quickly and carefully as you can. If you come to a word you do not know, go on to the next word. Put your finger on the first word.

Ready? Begin.

Examples: cat sun man

1	*2*	*3*	*4*	*5*	
to	and	us	say	for	*5*
how	ran	play	sat	fast	*10*
car	took	red	home	let	*15*
made	did	after	eat	under	*20*
cold	radio	lived	tea	queen	*25*
ever	most	same	easy	salt	*30*
stopped	about	must	use	fell	*35*
book	grandfather	cook	town	stick	*40*

Autostop Yes, after 5 words Time Allowed 2:00

Task 3. Oral Reading Fluency

Enumerator Help

Show the child the sheet of words as you read the instructions.

Start the timer when the child reads the first word.

Follow along on your tablet and mark any incorrect words by touching that letter on the screen—it will turn blue. If you make a mistake and mark a word incorrect, you can correct the mistake by touching the word again. It will turn white again.

Stay quiet, except if the child stops on a word for 10 seconds. Then point to the next word and say, "Please go on." Mark the skipped word as incorrect.

If the timer reaches 0 seconds before the student reads the last item, the screen will flash red, and the timer will stop. The subtask is over. Ask the child to stop. Mark the final word read by touching it. The final word read will be outlined in orange. Then press "Next."

If the child reads the last item before the timer reaches 0, stop the timer when the child reads the last word. The last word will be automatically outlined in orange. Then press "Next."

Early stop rule: If the child does not provide a single correct response for the first 8 words (the first two sentences), the screen will flash red, and the timer will stop. Say, "Thank you!" and go on to the next subtask.

Student Dialogue (use **bold** to indicate instructions that should be read aloud to student)

Here is a short story. I want you to read it aloud, quickly but carefully. When you finish, I will ask you some questions about what you have read. When I say "Begin," read the story as best as you can. If you come to a word you do not know, go on to the next word. Put your finger on the first word. Ready? Begin.

1	*2*	*3*	*4*	*5*	
Piggy	is	a	big	pig.	*5*
He	is	pink.	Piggy	lives	*10*

in	a	house.	He	sits	*15*
in	the	hot	mud.	Piggy	*20*
runs	in	the	grass.	He	*25*
likes	to	eat	yams.	Piggy	*30*
digs	for	worms.	Piggy	is	*35*
a	big,	fat,	happy	pig.	*40*

Autostop Yes, after 8 words Time Allowed 2:00

Task 4. Reading Comprehension

Enumerator Help

Do not remove the story after the child finishes reading it.

Ask the child all the questions on the screen. The child is allowed to look back at the story to answer a question.

Repeat a question once if a student does not respond after 15 seconds or asks you to repeat it. If the student responds incorrectly after the first time you ask the question, mark it as "incorrect" and move on to the next question.

A child can respond in any language.

If the student does not respond, mark the item as "no response." If the student says they do not know the answer, mark the item as "incorrect." If a student responds with an answer similar to one provided on the tablet, mark the item as "correct."

Student Dialogue (use **bold** to indicate instructions that should be read aloud to student)

Now I am going to ask you a few questions about the story you just read. Try to answer the questions as well as you can. You can provide your answers in whichever language you prefer.

#	Text	Word Count	Question	Answer
1	Piggy is a big pig. He is pink.	8	What color is Piggy?	pink
2	Piggy lives in a house.	13	Where does Piggy the pig live?	house
3	He sits in the hot mud. Piggy runs in the grass. He likes to eat yams.	29	What does Piggy like to eat?	yams
4	Piggy digs for worms.	33	How does Piggy find worms?	he digs
5	Dan is a big, fat, happy pig.	40	Why does Piggy look for worms?	to eat/for food/etc.

Task 5. Listening Comprehension

Enumerator Help

Read the directions to the child. This is NOT a timed subtask. Read the entire passage aloud to the child TWO TIMES. Read slowly (about 1 word per second).

Ask all of the questions. Do not allow the child to look at the passage or the questions.

Repeat a question one time if the student does not respond after 10 seconds or if the student asks you to repeat it. If the student responds incorrectly after the first time you ask the question, mark it as "incorrect" and move on to the next question.

A child can respond in any language.

If the student does not respond, mark the item as "no response." If the student says they do not know the answer, mark the item as "incorrect." If a student responds with an answer similar to one provided on the tablet, mark the item as "correct."

Student Dialogue (use **bold** to indicate instructions that should be read aloud to student)

I am going to read you a short story aloud TWICE and then ask you some questions. Please listen carefully and answer the questions as best as you can. You can answer the questions in whichever language you prefer. Ready? Let's begin.

Tim has a garden.
He has peanuts and beans in it.
He works in his garden every morning.
Tim has a chicken.
It catches grasshoppers in the garden.
Yesterday the chicken pulled out some plants.
Tim was sad.
Tim will make a small chicken house to keep his chicken in.

#	Question	Answer
1	Who has a garden?	Tim
2	What does he have in his garden?	peanuts and beans
3	When does Tim work in the garden?	every morning / the morning
4	Why was he sad?	The chicken pulled out some plants
5	Why did Tim build a chicken house?	To keep the chicken away from his garden; to stop the chicken pulling out plants, to protect his garden; to stop the chicken from escaping; any other plausible answer

Learner Survey

Question	Response
Outside of school, what language do you use most often? Wanem tokples yu save usim taim yu no skul?	English English
	Pidgin Tok Pisin
	Motu Motu
	Tok Ples Tok Ples
	Papua New Guinean Sign Language Sain Tok ples blong yau pas lon PNG
	Other: _____ Narapela tokples
Do you know how to read braille?	Yes Yes
	No No
	Don't know / no response Yu no save / nogat bekim
Where did you first learn to read braille?	At home/with family
	At school
	Other
	Don't know / no response
Are any of your family members blind or have low vision? Insait long pamili bilong yu, igat sampela aipas o ai bilong ol i bagarap tu o nogat?	Yes Yes
	No No
	Don't know / no response Yu no save / nogat bekim

Question	Response
Which family members are blind or have low vision? Husait long pamili bilong yu i aipas o ai bilong em I bagarap?	Mother Mama
	Father Papa
	Sisters / Brothers Susa / barata
	Aunty / Uncle Anti / Ankol
	Grandmother / Grandfather Tumbuna meri / Tumbuna man
	Others Narapela
	Don't know / no response Yu no save / nogat bekim
Does anyone in your family know how to read braille? Igat sampela pamili memba bilong yu i save long ritim raiting blo ol aipas ol i kolim brail o nogat?	Yes Yes
	No No
	Don't know / no response Yu no save / nogat bekim
When you have homework, does someone at home/in your family help you with it? Taim yu kisim skulwok igo long haus, husait long pamili bilong yu save halivim yu?	Yes Yes
	No No
	Don't know / no response Yu no save / nogat bekim
Who helps you with your homework? Husait i save halivim yu long wokim skulwok long haus?	Mother Mama
	Father Papa
	Sisters / Brothers

Question	Response
	Susa / barata
	Aunty / Uncle Anti / Ankol
	Grandmother / Grandfather Tumbuna meri / Tumbuna man
	Others Narapela
	Don't know / no response Yu no save / nogat bekim
Does anyone in your family know how to read English? Igat sampela pamili memba bilong yu i save long ritim English o nogat?	Yes Yes
	No No
	Don't know / no response Yu no save / nogat bekim
Who knows how to read English? Husait save long ritim English?	Mother Mama
	Father Papa
	Sisters / Brothers Susa / barata
	Aunty / Uncle Anti / Ankol
	Grandmother / Grandfather Tumbuna meri / Tumbuna man
	Others Narapela
	Don't know / no response Yu no save / nogat bekim
Do you have any books at home/outside of school?	Yes Yes

Question	Response
Yu gat sampela buk bilong rit long haus o autsait long skul ples o nogat?	No No
	Don't know / no response Yu no save / nogat bekim
Do you read story books or listen or tell stories at home? Yu save ritim stori buk o harim o tokim ol stori long haus blo yu o nogat?	Yes Yes
	No No
	Don't know / no response Yu no save / nogat bekim
If yes, using what? Sapos yu save rit, yu save usim wanem long ritim o tokim stori?	Print Stori ol raitim lon pepa
	Tablet Stori insait lon tablet
	Phone Stori insait lon pon
	Others Stori wantaim narapela samtin
Do you have any newspapers or magazines at home/outside of school? Igat sampela nuspepa o magasin long haus bilong yu o autsait long skul ples o nogat?	Yes Yes
	No No
	Don't know / no response Yu no save / nogat bekim
Do you have a computer or tablet at home/outside of school? Igat komputa o tablet long haus bilong yu o autsait long skul ples o nogat?	Yes Yes
	No No
	Don't know / no response Yu no save / nogat bekim
	A lot

Question	Response
How much do you use the computer or tablet at home/outside of school? Hamaspela taim yu save usim komputa o tablet long haus bilong yu o autsait long skul ples?	Planti taim
	A little Liklik taim
	Never Yu no save laik
	Don't know / no response ogat taim olgeta
Do you use a computer or tablet at school? Yu save usim komputa o tablet long skul o nogat?	Yes Yes
	No No
	Don't know / no response Yu no save / nogat bekim
How much do you like using the computer or tablet? Sapos yu save laik long usim komputa o tablet hamaspela taim yu save laik long usim?	A lot Planti taim
	A little Liklik taim
	Never Yu no save laik
	Don't know / no response ogat taim olgeta
Do you have a smart phone or android phone at home/outside of school? Yu gat tats skrin pon o android pon long haus bilong yu o autsait long skul o nogat?	Yes Yes
	No No
	Don't know / no response Yu no save / nogat bekim
How much do you use the smart phone or android phone at home/outside of school? Hamaspela taim yu save usim tats skrin pon o android pon long haus bilong yu o autsait long skul bilong yu?	A lot Planti taim
	A little Liklik taim

Question	Response
	Never Yu no save laik
	Don't know / no response ogat taim olgeta
Do you use a smart phone or android phone at school? Yu save usim tats skrin pon o android pon long skul bilong yu o nogat?	Yes Yes
	No No
	Don't know / no response Yu no save / nogat bekim
How much do you like using the smart phone or android phone? Sapos yu save laik long usim tats skrin pon o android pon, hamaspela taim yu save laik long usim?	A lot Planti taim
	A little Liklik taim
	Never Yu no save laik
	Don't know / no response ogat taim olgeta
Do you read stories from Bloom Reader on a phone or a tablet when you are at home?	Yes Yes
	No No
	Don't know / no response Yu no save / nogat bekim
Do you read from Bloom Reader with a parent or family member when you are at home?	Yes Yes
	No No
	Don't know / no response Yu no save / nogat bekim
	Every day

Question	Response
How often do you read stories from Bloom Reader when you are at home?	Every other day
	Twice a week
	Once a week
Do you read stories from Bloom Reader on a phone or a tablet when you are at school?	Yes Yes
	No No
	Don't know / no response Yu no save / nogat bekim
Do you read from Bloom Reader with a teacher when you are at school?	Yes Yes
	No No
	Don't know / no response Yu no save / nogat bekim
How often do you read stories from Bloom Reader when you are at school?	Every day
	Every other day
	Twice a week
	Once a week
Do you think Bloom Reader is easy to use?	Yes Yes
	No No
	Don't know / no response Yu no save / nogat bekim
Do you like the stories you can read in Bloom Reader?	Yes Yes
	No No
	Don't know / no response Yu no save / nogat bekim

Question	Response
Do you learn new things from the stories in Bloom Reader?	Yes Yes
	No No
	Don't know / no response Yu no save / nogat bekim
What do you think could make the Bloom Readers and stories on Bloom Readers better? [select all that apply]	My teacher could allow me to use the Bloom Readers more often
	My parents/family could allow me to use the Bloom Readers more
	Bloom Readers could be simpler to use
	The stories on Bloom Reader could be easier to understand
	The stories on Bloom Reader could be more like my own life
	Other
Those are all the questions I have. Thank you so much for sharing with me. Do you have any questions for me?	

Teacher Survey

Hello, my name is _____. I am working with School-to-School International, a non-governmental organization based in the United States, and SAVE THE CHILDREN PNG, who is running YUMI READ TOGETHER. We are conducting research to understand how YUMI READ TOGETHER is impacting your teaching and your learners.

For our research, we are speaking with different people participating in YUMI READ TOGETHER. You have been selected to participate in our research because of your experience with the project. We would like to ask you some questions about your background, your experience with digital technologies, and your attitudes and beliefs about teaching. We expect the interview will last about thirty minutes.

The results of our research will be used to help understand how YUMI READ TOGETHER is working and to help it improve. Although you may not see any direct benefits from your participation, we hope that, by participating in our research, YUMI READ TOGETHER can better reach its goal of improving the learning outcomes of children with disabilities in your community.

Your participation is completely voluntary. There will be no negative consequences if you choose not to participate. If you choose to participate, you can choose not to answer certain questions or end the interview at any time. Your responses will be confidential, and the results of this research will only be used in ways that do not identify you or other participants. Please let us know if there is anything we discuss during our conversation that you would not like written down or reported. The anonymized data – meaning without any personal information – from this research study may be used by other researchers with School-to-School International's approval.

Do you have any questions?

Question	Response
Do you consent to participate in the study?	Yes
	No
What language do you use most often at home/outside of the classroom?	English
	Pidgin
	Papua New Guinean Sign Language
	Other: _____
How long have you been a teacher?	Less than one year (this is first year teaching)
	1 year
	2 years
	3 years
	4 years
	5 years
	6-10 years
	11-15 years
	More than 15 years
What is your highest level of academic education?	No academic education
	Preparatory completed
	Some elementary
	Elementary completed
	Some primary
	Primary completed
	Some secondary / vocational
	Secondary / vocational completed
	Bachelor's degree completed
	Master's degree completed
	PhD completed
	Other: _____
	Don't know/no response
	E Prep
What grades do you teach? (Select all that apply)	E1
	E2
Do you have learners in your classroom with any of the following types of disabilities or difficulties:	

Question	Response
Deaf or hard of hearing?	Yes
	No
	Don't know / no response
Blind or low vision?	Yes
	No
	Don't know / no response
Communication or speech disabilities or difficulties?	Yes
	No
	Don't know / no response
Learning or intellectual disabilities or difficulties?	Yes
	No
	Don't know / no response
Physical or mobility disabilities or difficulties?	Yes
	No
	Don't know / no response
Other disabilities or difficulties?	Yes
	No
	Don't know / no response
Learners with multiple disabilities?	Yes
	No
	Don't know / no response
Do you engage with the parents or caregivers of the learners in your classroom?	Yes, often
	Yes, sometimes
	Rarely
	Never
Which best describes the type of class(es) you teach?	Class in a "special school" (segregated)
	Special education or resource class in a mainstream school (integrated)
	Mainstream class with learners with disabilities and without disabilities together (inclusive)
	Don't know / no response
What subjects do you teach?	English

Question	Response
	Math
	Language
	Culture and community
During your pre-service training, did you receive any training on how to teach reading to early grade learners?	Yes
	No
	Don't know / no response
During your pre-service training, did you receive any training on how to teach reading to early grade learners with disabilities?	Yes
	No
	Don't know / no response
Have you ever received any in-service training on how to teach reading to early grade learners?	Yes
	No
	Don't know / no response
When was the last time you received in-service training on how to teach reading to early grade learners?	Within past year
	1-2 years ago
	3-4 years ago
	5-10 years ago
	More than 10 years ago
	Don't know / no response
Have you ever received any in-service training on how to teach reading to early grade learners with disabilities?	Yes
	No
When was the last time you received in-service training on how to teach reading to early grade learners with disabilities?	Don't know / no response
	Within past year
	1-2 years ago
	3-4 years ago
	5-10 years ago
	More than 10 years ago
	Don't know / no response
Have you ever received training about IEPs (individual education plans)?	Yes
	No
	Don't know / no response
Do you have access to the Whole Child Checklist to screen children with disabilities?	Yes
	No

Question	Response
	Don't know / no response
Do you know how to use the Whole Child Checklist to screen for children with disabilities?	Yes
	No
	Don't know / no response
Have you ever received training on how to use technologies to support learners with disabilities from the YRT project?	Yes
	No
	Don't know / no response
If yes, which trainings did you attend?	Training 1
	Training 2
	Training 3
If yes, how satisfied were you with the quality of YRT trainings you attended?	Very satisfied
	Somewhat satisfied
	Neither satisfied nor dissatisfied
	Somewhat dissatisfied
	Very dissatisfied
[If response is anything except somewhat/very satisfied] What could be improved about the trainings?	(open response)
Have you ever received training on how to accommodate and engage learners with different types of disabilities in your classroom, from YRT or otherwise?	Yes
	No
	Don't know / no response
Do you consider yourself to have a disability?	Yes
	No
	Don't know / no response
What kind of disability?	Deaf or hard of hearing
	Blind or low vision
	Communication or speech
	Learning or intellectual
	Physical or mobility
	Other:
How would you describe your skills in Papua New Guinean Sign Language? Would you say, very good, good, poor, or do not know Papua New Guinean Sign Language?	Very good
	Good
	Poor
	Do not know Papua New Guinean Sign Language

Question	Response
	Don't know / no response
Have you ever received training or taken formal lessons to learn Papua New Guinean Sign Language?	Yes
	No
	Don't know / no response
Have you ever received training on how to teach Papua New Guinean Sign Language?	Yes
	No
	Don't know / no response
How would you describe your skills in reading braille? Would you say, very good, good, poor, or do not know how to read braille?	Very good
	Good
	Poor
	Do not know how to read Braille
	Don't know / no response
Have you ever received training or taken formal lessons to learn to read braille?	Yes
	No
	Don't know / no response
Have you ever received training on how to teach learners to read braille?	Yes
	No
	Don't know / no response
Now I'll ask you some questions about different technologies, for example, computers or phones, that you might have access to in your home or at school.	
Do you have access to a computer or tablet at home or at school?	Yes, at home
	Yes, at school
	Yes, at home and at school
	No
	Don't know / no response
During the last three months, how often did you use a computer or tablet at school? That is, for preparation or for in-class instruction.	Almost every day
	At least once a week
	Less than once a week
	Not at all
How would you describe your level of comfort in using a computer or tablet?	Very comfortable
	Comfortable
	Not very comfortable
	Not at all comfortable

Question	Response
Do you have access to a mobile feature phone at home or at school?	Yes, at home
	Yes, at school
	Yes, at home and at school
	No
	Don't know / no response
During the last three months, how often did you use a mobile feature phone at school? That is, for preparation, for in-class instruction, or with students.	Almost every day
	At least once a week
	Less than once a week
	Not at all
How would you describe your level of comfort in using a mobile feature phone?	Very comfortable
	Comfortable
	Not very comfortable
	Not at all comfortable
Do you have access to a smart phone at home or at school?	Yes, at home
	Yes, at school
	Yes, at home and at school
	No
	Don't know / no response
During the last three months, how often did you use a smart phone at school? That is, for preparation, for in-class instruction, or with students.	Almost every day
	At least once a week
	Less than once a week
	Not at all
How would you describe your level of comfort in using a smart phone?	Very comfortable
	Comfortable
	Not very comfortable
	Not at all comfortable
Do you have access to the internet at home or at school?	Yes, at home
	Yes, at school
	Yes, at home and at school
	No
	Don't know / no response
	Almost every day
	At least once a week

Question	Response
During the last three months, how often did you use the internet at school? That is, for preparation, for in-class instruction, or with students.	Less than once a week
	Not at all
How would you describe your level of comfort in using the internet?	Very comfortable
	Comfortable
	Not very comfortable
	Not at all comfortable
Have you ever used Bloom Reader for reading with your students?	Yes
	No
	Not sure
(If not sure - read description of Bloom Reader and ask question again)	
Did you receive a microSD card with Teaching and Learning Materials from the YRT project?	Yes
	No
	Not sure
(If yes) Have you used the teaching and learning materials in your lessons?	Yes
	No
	Not sure
(If yes) Which teaching and learning materials have you used in your lessons?	Teacher's syllabus
	Teacher guide
	Phonics media
	Other resource materials
How satisfied are you with the teaching and learning materials provided by YRT?	Very satisfied
	Somewhat satisfied
	Neither satisfied nor dissatisfied
	Somewhat dissatisfied
	Very dissatisfied
What are some challenges you faced in trying to use the teaching and learning materials provided by YRT in your lessons?	Do not have a device to access the materials
	Device to access the materials is broken/not charged
	Device to access the materials was stolen

Question	Response
	Materials are difficult to understand
	Materials are not relevant to my class
	Other
The next questions I'll ask you are about teaching practices.	
What can a teacher do to improve student reading outcomes? (Do not read response options)	Reading with the class every day
	Reading for 30 minutes a day
	Teaching phonemic awareness and phonics
	Teaching sight words
	Asking lots of comprehension questions
	Children reading in pairs or individually every day
	Reading at the right level (e.g. graded books)
	Starting to read in the child's own language
	Following the SBC Teacher Guide daily lesson plans and assessment
	Using the SBC Teacher Guide assessments
	Well-trained teacher/attend training
	Good teacher attendance
	Adapt their teaching for children with disabilities
	Screening children for disabilities
	Using different reading strategies (e.g. choral reading, echo reading, whole class reading)
	Classroom libraries/big books
	Other (please state)
	Don't know / no response
What can families do to improve their child's reading outcomes? (Do not read response options)	Attendance at school every day
	Positive attitudes
	Not chewing betelnut

Question	Response
	Reading at home every day for 15 minutes
	Use a reading app
	Other (please state)
	Don't know / no response
How can a teacher adapt their classroom for children with disabilities to help them learn? (Do not read response options)	Move the child closer to the chalkboard
	Move the child closer to the teacher
	Make sure the child is facing you
	Adapt the desk or chair
	Adapt the door or steps
	Adapt the toilet
	Provide larger print charts
	Keep the classroom quieter
	Make the classroom better lit
	Individual Education Plan
	Other (please state)
	Don't know / no response
How can a teacher adapt their curriculum for children with disabilities to help them learn? (Do not read response options)	Choose the right level of lesson plan from the Teacher Guide
	Use large print books
	Use audio books
	Modify the assessment tasks
	Use Bloom Reader
	Individual Education Plan
	Other (please state)
	Don't know / no response
How can a teacher adapt their teaching and assessment for children with disabilities to help them learn? (Do not read response options)	Break a task into simple steps
	Work one-to-one with the child
	Paired work
	Checking they understand the tasks
	Allow them more time
	Allow them to answer in different ways (e.g. by pointing or acting)

Question	Response
	Arrange the class into ability groups with different tasks
	Modify the assessment tasks
	Repeat tasks
	Praise and encouragement
	Individual Education Plan
	Other (please state)
	Don't know / no response
Think back to last week. If you didn't teach a full week last week, think about the last full week of teaching that you did. I will tell you a teaching practice, and I want you to tell me how many days of that week you did that practice. You can say every day (five days), 3-4 days, 2 days, one day, or never.	
Teach reading	Every day / 5 days
	3-4 days out of 5 days
	2 days
	One day
	Never
	Don't know / no response
Make sure my students read aloud for at least 30 minutes a day	Every day / 5 days
	3-4 days out of 5 days
	2 days
	One day
	Never
	Don't know / no response
Read to my class	Every day / 5 days
	3-4 days out of 5 days
	2 days
	One day
	Never
	Don't know / no response
Use choral reading or echo reading	Every day / 5 days
	3-4 days out of 5 days
	2 days

Question	Response
	One day
	Never
	Don't know / no response
Use the SBC English or Language Teacher Guide lesson plans	Every day / 5 days
	3-4 days out of 5 days
	2 days
	One day
	Never
	Don't know / no response
Ask children to read in pairs	Every day / 5 days
	3-4 days out of 5 days
	2 days
	One day
	Never
	Don't know / no response
Read one-to-one with a child	Every day / 5 days
	3-4 days out of 5 days
	2 days
	One day
	Never
	Don't know / no response
Read one-to-one with a child with disabilities	Every day / 5 days
	3-4 days out of 5 days
	2 days
	One day
	Never
	Don't know / no response
Read with a child or small group using Bloom Reader	Every day / 5 days
	3-4 days out of 5 days
	2 days
	One day
	Never
	Don't know / no response

Question	Response
Use Bloom Reader with children with disabilities	Every day / 5 days
	3-4 days out of 5 days
	2 days
	One day
	Never
	Don't know / no response
Teach phonics	Every day / 5 days
	3-4 days out of 5 days
	2 days
	One day
	Never
	Don't know / no response
Teach sight words	Every day / 5 days
	3-4 days out of 5 days
	2 days
	One day
	Never
	Don't know / no response
Ask children to read on their own and choose their own books	Every day / 5 days
	3-4 days out of 5 days
	2 days
	One day
	Never
	Don't know / no response
Ask questions before, during , and after reading	Every day / 5 days
	3-4 days out of 5 days
	2 days
	One day
	Never
	Don't know / no response
Ask students to write or draw about what they have read	Every day / 5 days
	3-4 days out of 5 days
	2 days

Question	Response
	One day
	Never
	Don't know / no response
Check the children with disabilities understand the task	Every day / 5 days
	3-4 days out of 5 days
	2 days
	One day
	Never
	Don't know / no response
Hit or smack students	Every day / 5 days
	3-4 days out of 5 days
	2 days
	One day
	Never
	Don't know / no response
Shout at students	Every day / 5 days
	3-4 days out of 5 days
	2 days
	One day
	Never
	Don't know / no response
What activities did you do with your students to improve reading at school using Bloom Reader during the last full week of class? (Do not read response options)	30 minutes of reading aloud per day
	Ask students to do individual reading with Bloom Reader (give them the device)
	Read one-to-one with a student using Bloom Reader
	Ask students to do paired reading with a partner with Bloom Reader
	Ask comprehension questions from Bloom Reader
	Copy a story from Bloom Reader into a Big Book, chart, chalkboard or homemade book

Question	Response
	Play an audio book from Bloom Reader to the class or a small group
	Play a sign language video from Bloom Reader to a child or small group
	Choose books with Tok Pisin from Bloom Reader for students who face difficulty in language
	Practice echo reading or choral reading along with the story on Bloom Reader
	Other, specify _____
What activities did you do in your classroom to accommodate the needs of children with disabilities during the last full week of class? (Do not read response options)	Use Whole Child Checklist for screening children with disabilities
	Develop Individual Education Plan
	Help/speak to their parents
	Adjust teaching
	Adjust the curriculum
	Adjust the classroom
	Use the books with PNG Sign Language
	Use Bloom Reader to read with an individual child with disability
	Use Bloom Reader with a pair or small group of children, at least one of whom has a disability
	Refer a student to the IERC to get more assessment or support or an assistive device
	Other, specify _____
Please tell me how much you agree with the following statements related to Bloom Reader. You can strongly agree, agree, disagree, or strongly disagree. If you don't have an opinion or don't know, you can also say that.	
I can open and read or listen from the Bloom Reader app	Strongly agree
	Agree
	Disagree
	Strongly disagree

Question	Response
	Neutral / Don't know / no response
I can find different books on Bloom Reader	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
I can find different languages (e.g. sign language or Tok Pisin) on Bloom Reader	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
I can share the Bloom Reader app and books with other people	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
I can use the Bloom Reader app to read with an individual or small group	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
I can find the comprehension questions in Bloom Reader	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
How much do you agree with the following statements on teaching practices and supporting learners. You can strongly agree, agree, disagree, or strongly disagree. If you don't have an opinion or don't know, you can also say that.	
I am confident reading a story to the class (e.g. from a big book, chalkboard or Bloom Reader)	Strongly agree
	Agree
	Disagree
	Strongly disagree

Question	Response
	Neutral / Don't know / no response
I am confident using echo reading	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
I am confident using choral reading	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
I am confident using paired reading	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
I am confident using the daily lesson plans from the SBC Teacher Guides	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
I am confident using the Whole Child Checklist to screen children for disabilities	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
I am confident writing an Individual Education Plan	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
I am confident teaching children with disabilities to read	Strongly agree
	Agree

Question	Response
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
I believe that it is important to present information to learners in a variety of ways	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
I believe that it is important to allow learners to express what they know in a variety of ways	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
I believe that it is important to motivate and engage learners in a variety of ways	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
I can use a variety of assessment strategies for my learners	Strongly agree
	Agree
	Strongly disagree
	Disagree
	Neutral / Don't know / no response
I can provide an alternative explanation or example when learners are confused	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
How much do you agree with the following statements. You can strongly agree, agree, disagree, or strongly disagree. If you don't have an opinion or don't know, you can also say that.	
All children – even those with disabilities - can learn to read	Strongly agree
	Agree

Question	Response
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
It is my responsibility to adapt my classroom for children with disabilities	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
It is my responsibility to adapt my curriculum and teaching for children with disabilities	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
It is my job to screen children who are struggling for disabilities	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
It is my job to write an Individual Education Plan for children with disabilities	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
Children need to read every day at school	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
If a child or teacher is absent, it harms their reading	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response

Question	Response
It is the teacher's job to teach a child to read	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
Parents have to read with their child every day	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
Children with disabilities should go to a special school, not a regular elementary school	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
If I adapt my teaching, children with disabilities can learn to read	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
Bloom Reader is an effective way to teach children to read	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
Using technologies like Bloom Reader can help a diverse range of learners learn to read	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
Having learners use technologies like Bloom Reader in the classroom is more of a distraction than a benefit	Strongly agree
	Agree
	Disagree

Question	Response
	Strongly disagree
	Neutral / Don't know / no response
I am confident using technologies like Bloom Reader in my classroom	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
Last week, how many days were you absent from the classroom?	1
	2
	3
	4
	5
What were the reason(s) you missed school?	Sick
	COVID
	Tired
	Attending training
	Meeting
	Did not get paid
	Traveled to town to get salary/paid
	Family member was sick
	Death in the family or community
	Cultural or family obligation
	Bad weather
	School closed
	School unsafe
	Fighting in the community
	Theft in the community
	Religious holiday or event
	Other, specify _____
	Prefer not to say /don't know / no response
Those are all the questions I have for you. Do you have any questions for me?	

Question	Response
Thank you so much for your time and your responses. Your thoughts and opinions are very valuable to us.	

Primary Caregiver (PCG) Survey

Hello, my name is _____. I am working with School-to-School International, a non-governmental organization based in the United States, and SAVE THE CHILDREN PNG, who is running YUMI READ TOGETHER. We are conducting research to understand how YUMI READ TOGETHER is impacting your teaching and your learners.

For our research, we are speaking with different people participating in YUMI READ TOGETHER. You have been selected to participate in our research because of your experience with the project. We would like to ask you some questions about your background, your experience with digital technologies, and your attitudes and beliefs about teaching. We expect the interview will last about thirty minutes.

The results of our research will be used to help understand how YUMI READ TOGETHER is working and to help it improve. Although you may not see any direct benefits from your participation, we hope that, by participating in our research, YUMI READ TOGETHER can better reach its goal of improving the learning outcomes of children with disabilities in your community.

Your participation is completely voluntary. There will be no negative consequences if you choose not to participate. If you choose to participate, you can choose not to answer certain questions or end the interview at any time. Your responses will be confidential, and the results of this research will only be used in ways that do not identify you or other participants. Please let us know if there is anything we discuss during our conversation that you would not like written down or reported. The anonymized data – meaning without any personal information – from this research study may be used by other researchers with School-to-School International's approval.

Do you have any questions?

Question	Response
Do you consent to participate in the study?	Yes
	No
What language do you use most often at home?	English
	Pidgin
	Papua New Guinean Sign Language
	Other: _____
What is your highest level of academic education?	No academic education
	Preparatory completed
	Some elementary
	Elementary completed
	Some primary
	Primary completed
	Some secondary / vocational
	Secondary / vocational completed
	Bachelor's degree completed
	Master's degree completed
	PhD completed
	Other: _____
	Don't know/no response
What is the name of your child?	[Enter child's tangerine ID]
Use the child's name, grade, and gender to look them up on your sample sheet. Enter the tangerine ID for the answer to this question	
Does anyone in your family - aside from your child - have any of the following disabilities?	
Deaf or hard of hearing?	Yes
	No
	Don't know / no response
Blind or low vision?	Yes
	No
	Don't know / no response
Communication or speech disabilities or difficulties?	Yes
	No
	Don't know / no response
Learning or intellectual disabilities or difficulties?	Yes

Question	Response
	No
	Don't know / no response
Physical or mobility disabilities or difficulties?	Yes
	No
	Don't know / no response
Other disabilities or difficulties?	Yes
	No
	Don't know / no response
Multiple disabilities?	Yes
	No
	Don't know / no response
Do you engage with the teacher of your child in the YRT program?	Yes, often
	Yes, sometimes
	Rarely
	Never
Do you consider yourself to have a disability?	Yes
	No
	Don't know / no response
What kind of disability?	Deaf or hard of hearing
	Blind or low vision
	Communication or speech
	Learning or intellectual
	Physical or mobility
	Other:
Who in your household can read English?	Child's mother
	Child's father
	Aunts/Uncles
	Grandparents
	Child's siblings
	Other
	No one
	Not sure/don't know
Who in your household can read Pidgin?	Child's mother

Question	Response
	Child's father
	Aunts/Uncles
	Grandparents
	Child's siblings
	Other
	No one
	Not sure/don't know
Now I'll ask you some questions about your experience with the YRT program.	
Have you ever received training on how to use technologies to support children with disabilities learn from the YRT project?	Yes
	No
	Don't know / no response
If yes, which trainings did you attend?	Training 1
	Training 2
	Training 3
If yes, how satisfied were you with the quality of YRT trainings you attended?	Very satisfied
	Somewhat satisfied
	Neither satisfied nor dissatisfied
	Somewhat dissatisfied
	Very dissatisfied
[If response is anything except somewhat/very satisfied] What could be improved about the trainings?	(open response)
Now I'll ask you some questions about different technologies, for example, computers or phones, that you might have access to in your home or at school.	
Do you have access to a computer or tablet at home?	Yes
	No
	Don't know / no response
During the last three months, how often did you use a computer or tablet to support your child's learning?	Almost every day
	At least once a week
	Less than once a week

Question	Response
	Not at all
How would you describe your level of comfort in using a computer or tablet?	Very comfortable
	Comfortable
	Not very comfortable
	Not at all comfortable
Do you have access to a mobile feature phone at home?	Yes
	No
	Don't know / no response
During the last three months, how often did you use a mobile feature phone to support your child's learning?	Almost every day
	At least once a week
	Less than once a week
	Not at all
How would you describe your level of comfort in using a mobile feature phone?	Very comfortable
	Comfortable
	Not very comfortable
	Not at all comfortable
Do you have access to a smart phone at home?	Yes
	No
	Don't know / no response
During the last three months, how often did you use a smart phone to support your child's learning?	Almost every day
	At least once a week
	Less than once a week
	Not at all
How would you describe your level of comfort in using a smart phone?	Very comfortable
	Comfortable
	Not very comfortable
	Not at all comfortable
Do you have access to the internet at home?	Yes
	No
	Don't know / no response
During the last three months, how often did you use the internet to support your child's learning?	Almost every day
	At least once a week

Question	Response
	Less than once a week
	Not at all
How would you describe your level of comfort in using the internet?	Very comfortable
	Comfortable
	Not very comfortable
	Not at all comfortable
Have you ever used Bloom Reader for reading with your child?	Yes
	No
	Not sure
(If not sure - read description of Bloom Reader and ask question again)	
Did you receive a microSD card with Learning Materials from the YRT project?	Yes
	No
	Not sure
(If yes) Have you or your child used the learning materials at home to support your child's learning?	Yes
	No
	Not sure
(If yes) Which learning materials have you or your child used?	Material 1
	Material 2
	Material 3
	Other
How satisfied are you with the learning materials provided by YRT?	Very satisfied
	Somewhat satisfied
	Neither satisfied nor dissatisfied
	Somewhat dissatisfied
	Very dissatisfied
What are some challenges you faced in trying to use the teaching and learning materials provided by YRT in your lessons?	Do not have a device to access the materials
	Device to access the materials is broken/not charged
	Device to access the materials was stolen
	Materials are difficult to understand

Question	Response
	Materials are not relevant to my class
	Other
The next questions I'll ask you are about learning practices.	
What can families do to improve their child's reading outcomes? *(Do not read response options)*	Ensure attendance at school every day
	Positive attitudes about school
	Not chewing betelnut
	Reading at home every day for 15 minutes
	Use a reading app
	Other (please state)
	Don't know / no response
What can families do for children with disabilities to help them learn? *(Do not read response options)*	Adapt the desk or chair
	Adapt the door or steps
	Adapt the toilet
	Provide larger print reading material
	Make the home better lit
	Repeat information
	Provide praise and encouragement
	Other (please state)
	Don't know / no response
What kinds of learning materials can families or teachers use with children with disabilities to help them learn? *(Do not read response options)*	Use large print books
	Use audio books
	Use Bloom Reader
	Other (please state)
	Don't know / no response
What activities did you do with child to improve reading at home using Bloom Reader during the last full week? *(Do not read response options)*	15 minutes of reading aloud per day with all your children
	Ask your child to do individual reading with Bloom Reader (give them the device)
	Read one-to-one with your child using Bloom Reader

Question	Response
	Have you child read with a sibling or friend with Bloom Reader
	Ask comprehension questions from Bloom Reader
	Have your child copy a story from Bloom Reader into a Big Book or homemade book
	Play an audio book from Bloom Reader to the child
	Play a sign language video from Bloom Reader to a child
	Choose books with Tok Pisin from Bloom Reader your child
	Practice echo reading or choral reading along with the story on Bloom Reader
	Other, specify _____
Please tell me how much you agree with the following statements related to Bloom Reader. You can strongly agree, agree, disagree, or strongly disagree. If you don't have an opinion or don't know, you can also say that.	
I can open and read or listen from the Bloom Reader app	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
I can find different books on Bloom Reader	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
I can find different languages (e.g. sign language or Tok Pisin) on Bloom Reader	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
	Strongly agree

Question	Response
I can share the Bloom Reader app and books with other people	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
I can use the Bloom Reader app to read with an individual or small group	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
I can find the comprehension questions in Bloom Reader	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
How much do you agree with the following statements. You can strongly agree, agree, disagree, or strongly disagree. If you don't have an opinion or don't know, you can also say that.	
All children – even those with disabilities - can learn to read	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
It is my responsibility to help my child with disabilities learn	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
Children need to read every day at school	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
If a child or teacher is absent, it harms their reading	Strongly agree
	Agree

Question	Response
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
It is the teacher's job to teach a child to read	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
Parents have to read with their child every day	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
Children with disabilities should go to a special school, not a regular elementary school	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
If I read with my child, they can learn to read	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
Bloom Reader is an effective way to teach children to read	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
Using technologies like Bloom Reader can help many different children learn to read	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response

Question	Response
Having learners use technologies like Bloom Reader in the classroom is more of a distraction than a benefit	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
I am confident using technologies like Bloom Reader in my home	Strongly agree
	Agree
	Disagree
	Strongly disagree
	Neutral / Don't know / no response
Those are all the questions I have for you. Do you have any questions for me?	
Thank you so much for your time and your responses. Your thoughts and opinions are very valuable to us.	

Primary Caregiver (PCG)
Focus Group Discussion (FGD) Guide

I. Instructions for Researcher Team

1. Purpose

You are conducting this Focus Group Discussion (FGD) to answer the following evaluation questions:

- To what extent did parents/caregivers receive the intended dosage of training?
    - What were parents/caregivers' levels of satisfaction with the project's trainings?
    - What do parents/caregivers believe could be improved about the trainings?
- How well did the trainings meet parents/caregivers' specific needs?
- How well did the project's EdTech solutions meet learners' specific needs?
- Did learners' reading and/or language skills improve from baseline to endline?
- What were the teachers' and parents/caregivers' levels of satisfaction with the project's EdTech solutions?

- To what extent did parents/caregivers change their knowledge, attitudes, and practices on use of EdTech for learners with disabilities?
- How and to what extent did parents/caregivers utilize project EdTech solutions with their children at home?

2. Participant characteristics

You should convene a group of 4-8 participants with the following characteristics:

- Participant is primary caregiver for the child in the YRT project;
- Participant is responsible for the child's learning at home;
- Participant should have received training and/or materials from the YRT project.

3. Consent

You must obtain verbal consent from all participants to participate in the discussion and to have the discussion audio recorded. If any participants do not consent, you should ask them to leave the discussion.

4. Roles and responsibilities

Facilitator: You are responsible for leading the discussion. Do your best to ensure a friendly and welcoming environment. It is your responsibility to determine when to ask follow-up questions, and which follow-up questions to ask, so that you get answers to all questions in this guide. Try to seek as much detail, examples, and stories as possible. You may have to manage those who dominate the discussion and those who are more reserved to ensure equitable participation.

Notetaker: You are responsible for recording live notes during the discussion with as much detail as possible. You should also record non-verbal observations (e.g., laughs, smiles, head nods, head shakes, crossed arms, etc.). You should assign each participant a number, and you should use that number to note their contributions. Do not write participants' names in your notes or other documents. Be objective and refrain from making judgments about what is said. You should capture any direct quotes from the participants in quotation marks. You are responsible for ensuring that the discussion is audio recorded.

II. Consent

Facilitator note: Read the following consent statement out loud and word-for-word. Then ask the three questions at the end of the consent. You must get consent from participants before moving on to the discussion.

Hello, my name is _____. I am working with School-to-School International, a non-governmental organization based in the United States, and SAVE THE CHILDREN PNG, who is running YUMI READ TOGETHER. We are conducting research to understand how YUMI READ TOGETHER is impacting your children's learning.

For our research, we are speaking with different people participating in YUMI READ TOGETHER. You have been selected to participate in our research because of your experience with the project. We would like to ask you some questions about your background, your experience with digital technologies, and your attitudes and beliefs about children's learning. We expect the interview will last about thirty minutes.

The results of our research will be used to help understand how YUMI READ TOGETHER is working and to help it improve. Although you may not see any direct benefits from your participation, we hope that, by participating in our research, YUMI READ TOGETHER can better reach its goal of improving the learning outcomes of children with disabilities in your community.

Your participation is completely voluntary. There will be no negative consequences if you choose not to participate. If you choose to participate, you can choose not to answer certain questions or end the interview at any time. Your responses will be confidential, and the results of this research will only be used in ways that do not identify you or other participants. Please let us know if there is anything we discuss during our conversation that you would not like written down or reported. The anonymized data – meaning without any personal information – from this research study may be used by other researchers with School-to-School International's approval.

Do you have any questions?

Contact Information
Stanley Kumasimba, Area Manager-Western Province
Kiunga 335 Western Province
Cell: CUG (675) 70096840 & Whatsapp #: (675) 70489283
WTL Building, Ground Floor,Kiunga, Western Province.

1. Do you have any questions about what I've just read? *(If YES, respond to questions; if NO, move to question 2)*
2. Do you voluntarily agree to participate in this discussion? *(If all participants respond YES, move to question 3; if any participant responds NO, ask her/him to leave the discussion and move to question 3)*
3. Do we have your permission to record this interview on our audio recorder? *(If all participants respond YES, move to question 3; if any participant responds NO, ask her/him to leave the discussion)*

****NOTE: Start audio recording after participants provide permission****

III. Introductions

Let's start by introducing ourselves. Please share your first name, age, and your relationship to the child in the YRT project – for example, mother, father, sister, or grandfather.

Notetaker note: Using the Notetaker Form, you should fill in the participant diagram and assign each participant a number. Then fill in the participant information table using that number.

IV. Background and Program Participation

The first questions I have are about your participation in the YRT project.

1. Tell me what you know about the YRT project. *[Probe: can list specific trainings PCGs may have attended, receipt of phone/sd card, use of Bloom reader, etc]*
2. Did you participate in any of the program trainings?
    a. If yes, which ones?
    b. If no, why not?
3. If you participated in a training, did you learn anything from that training?
    a. If yes, what did you learn? How satisfied were you with the training? What were some positive elements of the training that you liked?
    b. If no, why not? How satisfied were you with the training? What were some elements of the training that could've been improved?
4. What are some areas where your child who participates in the YRT program needs extra support in learning?

    a. To what extent does the YRT program help provide that support to your child, if at all?

5. What are some areas where you need support in helping your child learn?
    a. To what extent does the YRT program help provide that support to you, if at all?

V. Learning and EdTech Use

The next questions are specifically about your child, their learning, and the role that EdTech may or may not play in supporting your child's learning.

6. How long has your child been involved in the YRT program? Tell me more about their participation in the program.
7. Do you think there has been any change in your child's reading or language skills over the past year?
    a. If so, what kinds of changes have you noticed? How do you think the program may have contributed to that change?
    b. If not, what might be keeping your child from changing their learning level?
8. What do you think your child is capable of, in terms of reading or language skills learning?
9. What are your opinions about EdTech to support learning? That is, content like stories on phones/tablets, educational games, etc?
    a. In what ways could EdTech support learning in your opinion?
    b. In what ways might EdTech be an obstacle to learning in your opinion?
10. Do you use EdTech at home with your child to support their learning?
    a. If so, how?
    b. If not, why not?
11. Did you receive any EdTech from the YRT program?
    a. If yes, what did you receive?
    b. In what ways was it helpful in supporting your child's learning?

c. What kinds of challenges did you encounter in using EdTech to support your child's learning?

12. Do you think your opinion of EdTech and learning has changed in the past year? Why or why not?
    a. How might the YRT program have contributed to that change?

VI. Closing

Those are all the questions I had for you. In summary, here are some of the key points I've heard from our conversation today: *(Facilitator summarize key points.)*

13. Is there anything else you'd like to share about your child's education, the YRT project, or supporting children in schools in the future?

Thank you for participating and sharing your thoughts and experiences. They are very valuable to us, and they will help the YRT project better support your child's school, you, and your child.

Appendix H

EGRA Adaptations to RISE Tool

EGRA Best Practices	How RISE tool did not align	Revision Made to the Tool
Autostop: For all grid-based subtasks, if a learner does not answer a certain number of items correctly at the start of the subtask, then it is stopped automatically.	None of the grid-based subtasks, including letter identification, familiar word reading, and oral reading fluency, had autostop.	Autostop was added to the letter identification, familiar word reading, and Oral Reading Fluency (ORF) subtasks.
Timed subtasks: All grid-based subtasks are timed.	While the ORF subtask was timed, the letter identification and familiar word reading subtasks were not.	Time limits were added to the letter identification and familiar word reading subtasks.
Number of letter identification items: The letter identification subtask typically includes 100 items.	The letter identification subtask only included 26 items—all of the lower-case letters appearing one time.	The letter identification subtask was expanded to 50 items, including all lower-case and upper-case letters except for the lower case "l" and upper case "I" to avoid confusion.
Number of familiar word reading items: The letter identification subtask typically includes 50 items.	Each familiar word reading subtask (E1 and E2) included 20 words.	The familiar word reading subtask was expanded to 40 words by combining the 20 words from both the E1 and E2 subtasks. The familiar word reading subtask was not expanded to 50 words because it was not feasible to pilot possible items to add to the grid.
Examples in instructions to learners: Grid-based subtasks such as letter identification and familiar word reading contain three examples so learners understand the subtask.	The letter identification and familiar word reading subtasks did not have any examples.	The examples from the World Bank EGRA were added, and the instructions were updated to match instructions from the EGRA toolkit.
Listening comprehension: One of the core EGRA subtasks is listening comprehension, which measures receptive language skills.	The assessment did not include a listening comprehension subtask.	The World Bank listening comprehension subtask was added. Since the World Bank assessment was validated through its administration in PNG, there is no issue in combining it with the Save RISE assessment or any need to pilot it.
Reading comprehension questions linked to ORF passage: The number of reading comprehension questions asked to a learner depends on how many words a learner reads in the ORF passage. In other words, each reading comprehension question is linked to a certain number of words in the ORF passage.	Every learner is asked all five reading comprehension questions.	Since the five reading comprehension questions are arranged sequentially (i.e., the first question refers to the first sentence in the story, and so on), it was possible to link each of the five questions to a certain number of words in the ORF passage.

Appendix I
Scalability Assessment Tool

SAT

STS built upon previous scalability work conducted during ACR GCD's 2014 Grant Competition to develop a scalability assessment tool (SAT) for the 2020 Grant Competition. The 2020 SAT is a combination of quantitative measures and qualitative reflections, based in a self-assessment, and grounded in current literature. The SAT requires that awardees critically examine the maturity of their solutions, intended pathway for scale, and scalability-enabling conditions across five dimensions: effectiveness; equitability; market demand; financial sustainability; and transferability. YRT completed the SAT self-assessment at both baseline and endline.

Scalability Assessment Tool - Baseline

All Children Reading: A Grand Challenge for Development

Organization	Save the Children PNG
Solution name	Yumi Read Together
Description of the solution to be scaled and by whom	Bloom Reader App loaded with over 500 books including 120 PNGSL books to support children's learning at home and at school. Training for teachers and parents to use Bloom Reader and in UDL to support children with disabilities in their classrooms and at home.
Description of target population	1606 children with disabilities in remote Western Province.
Date completed	1st August 2021

1. Effectiveness	Not at all (0)	To a small extent (1)	Somewhat (2)	To a large extent (3)	Not Applicable (N/A)	Justification for N/A
1a. Is there compelling evidence (from the literature or elsewhere) to indicate that your solution is effective in addressing reading, language, and learning needs in the target population?				3		
1b. Is your solution's impact visible and tangible to casual observation?			2			
1c. Is there a clear emotional appeal to your solution's impact?				3		
1d. Is there evidence that the benefits of your solution exceeded its costs?		1				
1e. Is there evidence that your solution's unit cost per beneficiary will be maintained or reduced if scaled?		1				
Effectiveness subtotal	10					

Please describe the rationale and provide evidence for your **effectiveness** ratings:

Rating

Not at all (0): No empirical or anecdotal evidence exists

To a small extent (1): Empirical or anecdotal evidence exists; evidence does not exist for the context where the solution will be implemented; evidence exists for some—but not all—components of the solution

Somewhat (2): Empirical evidence exists; evidence exists for the context where the solution will be implemented; evidence exists for some—but not all—components of the solution

To a large extent (3): Empirical evidence exists; evidence exists for the context where the solution will be implemented; evidence exists for all components of the solution

2. Equitability	Not at all (0)	To a small extent (1)	Somewhat (2)	To a large extent (3)	Not Applicable (N/A)	Justification for N/A
2a. Does your solution benefit, or intend to benefit, individuals equitably regardless of gender?				3		
2b. Does your solution benefit, or intend to benefit, your target populations equitably regardless of sociocultural contexts?			2			
2c. Can your solution be accessed equitably by individuals regardless of disability status?		1				
2d. Does your solution benefit, or intend to benefit, individuals equitably regardless of disability status?				3		
Equitability subtotal	9					

Please describe the rationale and provide evidence for your **equitability** ratings:

Rating

Not at all (0): No empirical or anecdotal evidence exists

To a small extent (1): Empirical or anecdotal evidence exists; evidence does not exist for the context where the solution will be implemented; evidence exists for some—but not all—components of the solution

Somewhat (2): Empirical evidence exists; evidence exists for the context where the solution will be implemented; evidence exists for some—but not all—components of the solution

To a large extent (3): Empirical evidence exists; evidence exists for the context where the solution will be implemented; evidence exists for all components of the solution

3. Market demand	Not at all (0)	To a small extent (1)	Somewhat (2)	To a large extent (3)	Not Applicable (N/A)	Justification for N/A
3a. Is there evidence of actual and projected user demand for your solution?				3		
3b. Does your solution address an issue that is high on the policy agenda of relevant stakeholders, including national or local governments, multilateral organizations, or national or international NGOs?				3		
Market demand subtotal	6					

Please describe the rationale and provide evidence for your **market demand** ratings:

Rating

Not at all (0): No empirical or anecdotal evidence exists

To a small extent (1): Empirical or anecdotal evidence exists; evidence does not exist for the context where the solution will be implemented; evidence exists for some—but not all—components of the solution

Somewhat (2): Empirical evidence exists; evidence exists for the context where the solution will be implemented; evidence exists for some—but not all—components of the solution

To a large extent (3): Empirical evidence exists; evidence exists for the context where the solution will be implemented; evidence exists for all components of the solution

4. Financial sustainability	Not at all (0)	To a small extent (1)	Somewhat (2)	To a large extent (3)	Not Applicable (N/A)	Justification for N/A
4a. Does your solution have a credible plan for financial sustainability?		1				
4b. Is the level of resourcing required to implement your solution at scale sustainable?			2			
4c. Is the problem being addressed by your solution identified as important by funding agencies?			2			
4d. Will scaling your solution be strategically useful to funders or funding agencies?			2			
Financial sustainability subtotal	7					

Please describe the rationale and provide evidence for your **financial sustainability** ratings:

Rating

Not at all (0): No empirical or anecdotal evidence exists

To a small extent (1): Empirical or anecdotal evidence exists; evidence does not exist for the context where the solution will be implemented; evidence exists for some—but not all—components of the solution

Somewhat (2): Empirical evidence exists; evidence exists for the context where the solution will be implemented; evidence exists for some—but not all—components of the solution

To a large extent (3): Empirical evidence exists; evidence exists for the context where the solution will be implemented; evidence exists for all components of the solution

5. Transferability sustainability	Not at all (0)	To a small extent (1)	Somewhat (2)	To a large extent (3)	Not Applicable (N/A)	Justification for N/A
5a. How technically sophisticated are the products, components, and/or activities of your solution?			2			
5b. Can the products, components, and/or activities of your solution be easily added to existing systems?			2			
5c. Do you expect that the products, components, and/or activities of the scaled-up solution will be as effective in pre-scale implementation?		1				
5d. If the products, components, and/or activities of your solution will be changed or adapted during scale-up, do you expect that the solution will be as or more effective in addressing the problem in the target population?			2			
5e. Is your solution implementable at scale within your organization's existing infrastructure?				3		
5f. Are the infrastructure requirements of your solution feasible for scale-up by other organizations?		1				
Transferability sustainability subtotal	11					

Please describe the rationale and provide evidence for your **transferability** ratings:

Rating

Not at all (0): No empirical or anecdotal evidence exists

To a small extent (1): Empirical or anecdotal evidence exists; evidence does not exist for the context where the solution will be implemented; evidence exists for some—but not all—components of the solution

Somewhat (2): Empirical evidence exists; evidence exists for the context where the solution will be implemented; evidence exists for some—but not all—components of the solution

To a large extent (3): Empirical evidence exists; evidence exists for the context where the solution will be implemented; evidence exists for all components of the solution

Totals

Instructions: Input the subtotal for each dimension. Calculate the dimension score by dividing the dimension subtotal by the total number of points for the dimension. If any questions are marked as N/A, reduce the total number of dimension points by 3 per N/A before calculating the dimension score.

For example, the equitability dimension has 4 questions for a total of 12 points. If an awardee marks *N/A* on one question, *to a small extent* on one question, and *somewhat* on two questions. The dimension subtotal would be 5, the total dimension points would be 9, and the dimension score would be (5/9*100) = 55.6%.

Dimensions	Subtotal	Dimension Score (subtotal/total dimension points * 100%)
1. Effectiveness (out of 15)	**10**	
2. Equitability (out of 12)	**9**	
3. Market demand (out of 6)	**6**	
4. Financial sustainability (out of 12)	**7**	
5. Transferability (out of 18)	**11**	
SAT Total (out of 63)	**43**	

Scalability Assessment Tool - Endline

All Children Reading: A Grand Challenge for Development

Organization	Save the Children PNG
Solution name	Yumi Read Together
Description of the solution[20] to be scaled	Bloom Reader App loaded with over 500 books including 120 PNGSL books to support children's learning at home and at school. Training for teachers and parents to use Bloom Reader and in UDL to support children with disabilities in their classrooms and at home.
Description of target population	1606 children with disabilities in remote Western Province.
Date completed	30th June 2023

20 The solution may be a specific EdTech product–hardware and software–that they expect to scale following the end of ACR GCD Round 3 (2020 Competition), or it may be an intervention that includes one or more EdTech products, activities, and components.

Introduction

At what scaling stage would you currently rate your solution?[21] (select one)

- [x] **Proof of concept: When the intellectual concept behind a solution is field-tested to gain an early, "real world" assessment of its potential**
- [ ] Transition to scale: When solutions that have demonstrated small-scale success develop their model and attract partners to fill gaps in their capacity to scale
- [ ] Scaling: When a solution is in the process of replicating or adapting across large geographies or populations for transformational impact
- [ ] Sustainable scale: When a solution has wide-scale adoption or operation at the desired level of exponential growth and is sustained by an ecosystem of actors

Do you have a plan for scaling up your model? (select one)

- [ ] Yes, a mature plan
- [x] **Yes, an initial plan**
- [ ] No, no plan

What is the ultimate level of scale-up you are hoping to achieve?

- [ ] Across multiple sites within a region
- [x] **Across a local region or province**
- [ ] Across a large jurisdiction or state
- [ ] Across a nation or country
- [ ] Other :

What type of scale-up do you expect to pursue?[22] (select one)

- [x] **Vertical: Involves introducing a solution simultaneously across a whole system; results in change through policy, regulation, financing, political, or budgetary systems**
- [ ] Horizontal: Involves expansion and replication; introduces a solution across different sites or groups in a phased manner, often beginning with a pilot program, followed by stepwise expansion, and learning lessons to refine further expansion
- [ ] Diversification: Involves testing and adding a new solution to one that is in the process of being scaled; typically pursued when new needs are identified
- [ ] Spontaneous: May occur from individual to individual, community to community, or one service setting to another; most likely occurs when a solution addresses a clearly felt need or when a pivotal event draws attention to a need

Note: We anticipate that all types of scaling will occur and the project is prepared to support all types, but horizontal scaling is likely to be most prevalent.

21 International Development Innovation Alliance (2017)
22 World Health Organization & ExpandNet (2010), Milat et al. (2020)

1. Effectiveness	Not at all (0)	To a small extent (1)	Somewhat (2)	To a large extent (3)	Not Applicable (N/A)	Justification for N/A
1a. Is there compelling evidence (from the literature or elsewhere) to indicate that your solution is effective in addressing reading, language, and learning needs in the target population?				3		
1b. Is your solution's impact visible and tangible to casual observation?			2			
1c. Is there a clear emotional appeal to your solution's impact?			2			
1d. Is there evidence that the benefits of your solution exceeded its costs?			2			
1e. Is there evidence that your solution's unit cost per beneficiary will be maintained or reduced if scaled?				3		
Effectiveness subtotal	12					

Please describe the rationale and provide evidence for your **effectiveness** ratings:

The solution is effective in improving the reading/language skills of the children. However, it would have been better if the solutions were one standardized (e.g. Phones only) rather than phones to others and SD cards to others. Evidence from similar projects e.g. (WEP/RISE) confirms effectiveness of this solutions for improving reading/language skills.

Rating

Not at all (0): No empirical or anecdotal evidence exists

To a small extent (1): Empirical or anecdotal evidence exists; evidence does not exist for the context where the solution will be implemented; evidence exists for some—but not all—components of the solution

Somewhat (2): Empirical evidence exists; evidence exists for the context where the solution will be implemented; evidence exists for some—but not all—components of the solution

To a large extent (3): Empirical evidence exists; evidence exists for the context where the solution will be implemented; evidence exists for all components of the solution

2. Equitability	Not at all (0)	To a small extent (1)	Somewhat (2)	To a large extent (3)	Not Applicable (N/A)	Justification for N/A
2a. Does your solution benefit, or intend to benefit, individuals equitably regardless of gender?				3		
2b. Does your solution benefit, or intend to benefit, your target populations equitably regardless of sociocultural contexts?[23]				3		
2c. Can your solution be accessed equitably by individuals regardless of disability status?			2			
2d. Does your solution benefit, or intend to benefit, individuals equitably regardless of disability status?				3		
Equitability subtotal	11					

Please describe the rationale and provide evidence for your **equitability** ratings:

The solution has benefited a lot of children/teachers regardless of the gender/ages/status. Material distribution data also reflected in the ITT shows the number and groups of people who had access to the solutions.

Rating

Not at all (0): No empirical or anecdotal evidence exists

To a small extent (1): Empirical or anecdotal evidence exists; evidence does not exist for the context where the solution will be implemented; evidence exists for some—but not all—components of the solution

Somewhat (2): Empirical evidence exists; evidence exists for the context where the solution will be implemented; evidence exists for some—but not all—components of the solution

To a large extent (3): Empirical evidence exists; evidence exists for the context where the solution will be implemented; evidence exists for all components of the solution

23 Sociocultural context means the immediate physical and social settings in which people live. Examples include rural versus urban; high income versus low income; and different geographic or cultural locations. .

3. Market demand	Not at all (0)	To a small extent (1)	Somewhat (2)	To a large extent (3)	Not Applicable (N/A)	Justification for N/A
3a. Is there evidence of actual and projected user demand for your solution?				3		
3b. Does your solution address an issue that is high on the policy agenda of relevant stakeholders, including national or local governments, multilateral organizations, or national or international NGOs?				3		
Market demand subtotal	6					

Please describe the rationale and provide evidence for your **market demand** ratings:

The solutions have attracted a lot of demand from other non-participating schools. As a results distributions of solutions) were done to those out of the project scoop Local partners (OTDF) have also seen the high need area to be addressed and have come on board to support.

Rating

Not at all (0): No empirical or anecdotal evidence exists

To a small extent (1): Empirical or anecdotal evidence exists; evidence does not exist for the context where the solution will be implemented; evidence exists for some—but not all—components of the solution

Somewhat (2): Empirical evidence exists; evidence exists for the context where the solution will be implemented; evidence exists for some—but not all—components of the solution

To a large extent (3): Empirical evidence exists; evidence exists for the context where the solution will be implemented; evidence exists for all components of the solution

4. Financial sustainability	Not at all (0)	To a small extent (1)	Somewhat (2)	To a large extent (3)	Not Applicable (N/A)	Justification for N/A
4a. Does your solution have a credible plan for financial sustainability?			2			
4b. Is the level of resourcing required to implement your solution at scale sustainable?			2			
4c. Is the problem being addressed by your solution identified as important by funding agencies?			2			
4d. Will scaling your solution be strategically useful to funders or funding agencies?				3		
Financial sustainability subtotal	9					

Please describe the rationale and provide evidence for your **financial sustainability** ratings:

With the ending of the project and a project sustainability plan in place, funding depends on each respective partners to continue with the project activities. Financial constraint may be an impediment to the successful continuation of the solution.

Rating

Not at all (0): No empirical or anecdotal evidence exists

To a small extent (1): Empirical or anecdotal evidence exists; evidence does not exist for the context where the solution will be implemented; evidence exists for some—but not all—components of the solution

Somewhat (2): Empirical evidence exists; evidence exists for the context where the solution will be implemented; evidence exists for some—but not all—components of the solution

To a large extent (3): Empirical evidence exists; evidence exists for the context where the solution will be implemented; evidence exists for all components of the solution

5. Transferability	Not at all (0)	To a small extent (1)	Somewhat (2)	To a large extent (3)	Not Applicable (N/A)	Justification for N/A
5a. How technically sophisticated are the products, components, and/or activities of your solution?		1				
5b. Can the products, components, and/or activities of your solution be easily added to existing systems?			2			
5c. Do you expect that the products, components, and/or activities of the scaled-up solution will be as effective in pre-scale implementation?			2			
5d. If the products, components, and/or activities of your solution will be changed or adapted during scale-up, do you expect that the solution will be as or more effective in addressing the problem in the target population?				3		
5e. Is your solution implementable at scale within your organization's existing infrastructure?			2			
5f. Are the infrastructure requirements of your solution feasible for scale-up by other organizations?				3		
Transferability sustainability subtotal	13					

Please describe the rationale and provide evidence for your **transferability** ratings:

The solutions are user-friendly and accessible. However, tech illiteracy levels are an impediment for the good and full use of the solutions.

Rating

Not at all (0): No empirical or anecdotal evidence exists

To a small extent (1): Empirical or anecdotal evidence exists; evidence does not exist for the context where the solution will be implemented; evidence exists for some—but not all—components of the solution

Somewhat (2): Empirical evidence exists; evidence exists for the context where the solution will be implemented; evidence exists for some—but not all—components of the solution

To a large extent (3): Empirical evidence exists; evidence exists for the context where the solution will be implemented; evidence exists for all components of the solution

Totals

Instructions: Input the subtotal for each dimension. Calculate the dimension score by dividing the dimension subtotal by the total number of points for the dimension. If any questions are marked as N/A, reduce the total number of dimension points by 3 per N/A before calculating the dimension score.

For example, the equitability dimension has 4 questions for a total of 12 points. If an awardee marks *N/A* on one question, *to a small extent* on one question, and *somewhat* on two questions. The dimension subtotal would be 5, the total dimension points would be 9, and the dimension score would be (5/9*100) = 55.6%.

Dimensions	Subtotal	Dimension Score (subtotal/total dimension points * 100%)
1. Effectiveness (out of 15)	**12**	**80%**
2. Equitability (out of 12)	**11**	**92%**
3. Market demand (out of 6)	**6**	**100%**
4. Financial sustainability (out of 12)	**9**	**75%**
5. Transferability (out of 18)	**13**	**72%**
SAT Total (out of 63)	**51**	**81%**

Reflection

Instructions: Using the average scores by dimension, reflect upon areas of strength and areas for improvement. Describe what needs to be done to strengthen the scalability of your solution, including specific actions that should be taken. Also describe the type of technical assistance that ACR GCD could provide to help strengthen the scalability of your solution.

Effectiveness:

Solutions have been affective. Ed Tech illiteracy and network challenges has been one of the impediments of low usage by recipients.

Equitability:

Equitable too few in the project. Needs to be accessible by all regardless of status.

Market demand:

Highly demanded by all and is seen as a remedy to improve low learning standards.

Financial sustainability:

Financial limitations has been one setbacks to fully and continuously visit and provide assistance where needed.

Transferability:

The solutions are easily accessible and can be continued by any one organization.

Annex 1: Scalability Action Plan

Scalability Action Plan

Instructions: Using results of the SAT and your reflections, create at least one specific action item per dimension that will strengthen the scalability of your solution. Create a timeline during which the action will take place and describe any technical assistance needed to be able to complete the action item.

Dimension	Action item	Timeline (Start MM/YY-End MM/YY)	Technical Assistance Needs
Effectiveness	Ed Tech Literacy	June 2023 to December 2023	STC/other partners
Effectiveness	Accessibility	June 2023 to December 2024	Partners/Others
Equitability	Accessibility	June 2023 to December 2024	Partners/Others
Market demand	Accessibility	June 2023 to December 2024	Partners/Others
Financial sustainability	Financial capacity	June 2023 to December 2024	Partners/Others
Transferability	Reintegration with other existing solutions and practices	June 2023 to December 2024	Partners/Others

Appendix J

Results by Key Disaggregates

EGRA Results for Learners with Low Vision

Subtask	Baseline	Endline	p-value
n	25	10	
Correct Letter Name Per Minute	20.6	25.5	.525
Correct Familiar Word Per Minute	1.9	3.1	.352
Correct Word Per Minute	6.3	6.5	.962
Letter Name Percent Score	55.4	65.4	.514
Familiar Word Percent Score	9.6	20.2	.166
Oral Reading Fluency Percent Score	18.4	32.5	.222
Reading Comprehension Percent Score	4.0	22.0	.009
Listening Comprehension Percent Score	16.0	36.0	.099
Letter Name Zero Score	0.1	0.0	.189
Familiar Word Zero Score	0.5	0.4	.407
Oral Reading Fluency Zero Score	0.5	0.1	.012
Reading Comprehension Zero Score	0.8	0.4	.021
Listening Comprehension Zero Score	0.7	0.3	.022

	Boy		Girl	
Subtask	Baseline	Endline	Baseline	Endline
Correct Letter Name Per Minute	19.6	26.0	22.0	24.7
Correct Familiar Word Per Minute	2.6	2.2	0.8	4.5
Correct Word Per Minute	9.2	4.9	2.0	9.0
Letter Name Percent Score	46.6	55.3	68.6	80.5
Familiar Word Percent Score	13.3	11.2	4.0	33.7
Oral Reading Fluency Percent Score	24.0	24.5	10.0	44.3
Reading Comprehension Percent Score	2.6	13.3	6.0	35.0
Listening Comprehension Percent Score	9.3	20.0	26.0	60.0
Letter Name Zero Score	0.2	0.0	0.0	0.0
Familiar Word Zero Score	0.5	0.5	0.6	0.2
Oral Reading Fluency Zero Score	0.5	0.1	0.6	0.0
Reading Comprehension Zero Score	0.8	0.5	0.7	0.2
Listening Comprehension Zero Score	0.8	0.5	0.6	0.0

Subtask	Endline		
	Middle Fly	North Fly	South Fly
Correct Letter Name Per Minute	5.3	47.4	22.1
Correct Familiar Word Per Minute	1.5	6.0	0.7
Correct Word Per Minute	3.8	10.2	4.7
Letter Name Percent Score	30.5	94.0	78.0
Familiar Word Percent Score	18.7	30.0	3.7
Oral Reading Fluency Percent Score	23.7	45.6	23.7
Reading Comprehension Percent Score	15.0	30.0	20.0
Listening Comprehension Percent Score	10.0	45.0	70.0
Letter Name Zero Score	0.0	0.0	0.0
Familiar Word Zero Score	0.5	0.2	0.5
Oral Reading Fluency Zero Score	0.0	0.2	0.0
Reading Comprehension Zero Score	0.5	0.2	0.5
Listening Comprehension Zero Score	0.5	0.2	0.0

EGRA Results for Learners with Learning Disabilities

Subtask	Baseline	Endline	p-value
n	110	119	
Correct Letter Name Per Minute	13.8	15.8	.334
Correct Familiar Word Per Minute	0.9	2.2	.017
Correct Word Per Minute	3.1	5.4	.017
Letter Name Percent Score	51.3	58.5	.135
Familiar Word Percent Score	6.8	15.3	.003
Oral Reading Fluency Percent Score	14.4	27.2	.001
Reading Comprehension Percent Score	4.5	18.7	0
Listening Comprehension Percent Score	16	26.7	.003
Letter Name Zero Score	0.2	0.1	.119
Familiar Word Zero Score	0.7	0.5	0
Oral Reading Fluency Zero Score	0.6	0.4	0
Reading Comprehension Zero Score	0.9	0.6	0
Listening Comprehension Zero Score	0.6	0.4	.004

Subtask	Boy		Girl	
	Baseline	Endline	Baseline	Endline
Correct Letter Name Per Minute	12.8	13.6	14.8	19.2
Correct Familiar Word Per Minute	0.8	1.8	1.1	2.8
Correct Word Per Minute	2.8	3.9	3.4	6.0
Letter Name Percent Score	51.6	52.8	50.9	69.7
Familiar Word Percent Score	4.9	13.8	8.9	18.2
Oral Reading Fluency Percent Score	14.6	22.1	14.2	34.2
Reading Comprehension Percent Score	4.7	17.1	4.3	20.8
Listening Comprehension Percent Score	18.5	27.1	13.4	26.2
Letter Name Zero Score	0.2	0.1	0.2	0.1
Familiar Word Zero Score	0.8	0.46	0.6	0.5
Oral Reading Fluency Zero Score	0.6	0.46	0.6	0.2
Reading Comprehension Zero Score	0.9	0.70	0.8	0.5
Listening Comprehension Zero Score	0.5	0.48	0.6	0.3

Subtask	Endline		
	Middle Fly	North Fly	South Fly
Correct Letter Name Per Minute	9.4	26.6	16.5
Correct Familiar Word Per Minute	1.5	2.8	3.0
Correct Word Per Minute	2.9	9.3	6.1
Letter Name Percent Score	44.1	83.0	60.0
Familiar Word Percent Score	8.8	21.0	21.7
Oral Reading Fluency Percent Score	18.7	40.4	29.3
Reading Comprehension Percent Score	13.71	20	26.8
Listening Comprehension Percent Score	25.8	29.3	25.5
Letter Name Zero Score	0.1	0.0	0.1
Familiar Word Zero Score	0.6	0.2	0.4
Oral Reading Fluency Zero Score	0.4	0.2	0.4
Reading Comprehension Zero Score	0.7	0.5	0.5
Listening Comprehension Zero Score	0.4	0.3	0.5

Learner Survey Results

Are any of your family members blind or have low vision?

Response	Baselline		Endline	
	n	%	n	%
No	100	74.1%	111	86.05%
Yes	17	12.6%	12	9.3%
Don't know/No response	18	13.3%	6	4.65%
Total	135	100	129	100%

When you have homework, does someone at home/in your family help you with it?

Response	Baselline		Endline	
	n	%	n	%
No	37	27.41%	18	15.13%
Yes	82	60.74%	101	84.87%
Don't know/No response	16	11.85%	0	0%
Total	135	100%	119	100%

Does anyone in your family know how to read English?

Response	Baselline		Endline	
	n	%	n	%
No	23	17.0%	15	11.9%
Yes	91	67.4%	111	88.1%
Total	135	100%	126	100%

Do you have any books at home/outside of school?

Response	Baselline		Endline	
	n	%	n	%
No	39	28.89%	62	48.82%
Yes	77	57.04%	65	51.18%
Don't know/No response	19	14.07%	0	0%
Total	135	100%	127	100%

Do you read books or listen / tell stories at home?

Response	Baselline		Endline	
	n	%	n	%
No	39	28.9%	51	40.8%
Yes	77	57.04%	74	59.2%
Don't know/No response	19	14.07%	0	0%
Total	135	100.0%	125	100%

Read books or listen/tell stories at home using print

Response	Baselline		Endline	
	n	%	n	%
No	42	31.1%	51	40.8%
Yes	35	25.9%	74	59.2%
Don't know/No response	58	43.0%	0	0%
Total	135	100%	125	100%

Read books or listen/tell stories at home using tablet

Response	Baselline		Endline	
	n	%	n	%
No	75	55.56%	111	88.8%
Yes	2	1.48%	14	11.2%
Don't know/No response	58	42.96%	0	0%
Total	135	100%	125	100%

Read books or listen/tell stories at home using phone

Response	Baselline		Endline	
	n	%	n	%
No	69	51.11%	92	73.6%
Yes	8	5.93%	33	26.4%
Don't know/No response	58	42.96%	0	0%
Total	135	100%	125	100%

Read books or listen/tell stories at home - other

Response	Baselline		Endline	
	n	%	n	%
No	38	28.15%	96	76.8%
Yes	39	28.89%	29	23.2%
Don't know/No response	58	42.96%	0	0%
Total	135	100%	125	100%

Do you have any newspapers or magazines at home?

Response	Baselline		Endline	
	n	%	n	%
No	83	61.48%	83	65.35%
Yes	36	26.67%	44	34.65%
Don't know/No response	16	11.85%	0	0%
Total	135	100%	127	100%

Do you have a computer at home?

Response	Baselline		Endline	
	n	%	n	%
No	116	95.08%	119	95.2%
Yes	6	4.92%	6	4.8%
Total	122	100%	125	100%

How often do you use the computer or tablet at home?

Response	Baselline		Endline	
	n	%	n	%
Never	0	0%	2	40%
A little	5	100%	2	40%
A lot	0	0%	1	20%
Total	5	100%	5	100%

Do you have a computer/tablet at school?

Response	Baselline		Endline	
	n	%	n	%
No	114	94.21%	122	96.06%
Yes	7	5.79%	5	3.94%
Total	121	100%	127	100%

How much do you like using the computer/tablet at school?

Response	Baselline		Endline	
	n	%	n	%
Not at all	63	66.32%	0	0%
A little	25	26.32%	3	60%
A lot	7	7.37%	2	40%
Total	95	100%	5	100%

Do you have a smart phone at home?

Response	Baselline		Endline	
	n	%	n	%
No	99	82.5%	68	53.13%
Yes	21	17.5%	60	46.88%
Total	120	100%	128	100%

How often do you use the smart phone at home?

Response	Baselline		Endline	
	n	%	n	%
Not at all	114	85.71%	70	55.12%
A little	14	10.53%	43	33.86%
A lot	5	3.76%	14	11.02%
Total	133	100%	127	100%

Do you have a smart phone at school?

Response	Baseline		Endline	
	n	%	n	%
No	102	85.71%	92	73.02%
Yes	17	14.29%	34	26.98%
Total	119	100%	126	100%

How much do you like using the smart phone at school?

Response	Baseline		Endline	
	n	%	n	%
Not at all	56	54.37%	0	0%
A little	29	28.16%	17	53.13%
A lot	18	17.48%	15	46.88%
Total	103	100%	32	100%

Do you read stories from the Bloom Reader when you are at home?

Response	Baseline		Endline	
	n	%	n	%
No	-	-	10	7.75%
Yes	-	-	51	39.53%
Don't know/No response	-	-	68	52.71%
Total	n/a	n/a	129	100%

I don't use the Bloom Reader because I cannot see the tablet/phone well

Response	Baseline		Endline	
	n	%	n	%
No	-	-	4	40%
Yes	-	-	6	60%
Total	n/a	n/a	10	100%

I don't use the Bloom Reader at home because I don't like the stories

Response	Baselline		Endline	
	n	%	n	%
No	-	-	8	80%
Yes	-	-	2	20%
Total	n/a	n/a	10	100%

I don't use the Bloom Reader at home because my parent/ caregiver won't allow me

Response	Baselline		Endline	
	n	%	n	%
No	-	-	7	70%
Yes	-	-	3	30%
Total	n/a	n/a	10	100%

I don't use the Bloom Reader at home because the tablet is broke / cannot be charged

Response	Baselline		Endline	
	n	%	n	%
No	-	-	10	100%
Yes	-	-	0	0%
Total	n/a	n/a	10	100%

Other reason for not using Bloom Reader at home

Response	Baselline		Endline	
	n	%	n	%
No	-	-	8	80%
Yes	-	-	2	20%
Total	n/a	n/a	10	100%

Do you read stories from the Bloom Reader with family at home?

Response	Baselline		Endline	
	n	%	n	%
No	-	-	2	1.55%
Yes	-	-	49	37.98%
Don't know/No response	-	-	78	60.47%
Total	n/a	n/a	129	100%

How often do you read stories from Bloom Reader when you are at home?

Response	Baselline		Endline	
	n	%	n	%
Never	-	-	10	7.75%
Everyday	-	-	10	7.75%
Every other day	-	-	14	10.85%
Twice a week	-	-	10	7.75%
Once a week	-	-	17	13.18%
Not asked	-	-	68	52.71%
Total	n/a	n/a	129	100%

Do you read stories from Bloom Reader at school?

Response	Baselline		Endline	
	n	%	n	%
No	-	-	65	50.39%
Yes	-	-	63	48.84%
Don't know/No response	-	-	1	0.78%
Total	n/a	n/a	129	100%

I don't use the Bloom Reader at school because I cannot see the tablet/phone well

Response	Baselline		Endline	
	n	%	n	%
No	-	-	51	77.27%
Yes	-	-	15	22.73%
Total	n/a	n/a	66	100%

I don't use the Bloom Reader at school because I don't know how to use the tablet

Response	Baselline		Endline	
	n	%	n	%
No	-	-	41	62.12%
Yes	-	-	25	37.88%
Total	n/a	n/a	66	100%

I don't use the Bloom Reader at school because I don't like the stories

Response	Baselline		Endline	
	n	%	n	%
No	-	-	62	93.94%
Yes	-	-	4	6.06%
Total	n/a	n/a	66	100%

I don't use the Bloom Reader at school because my teacher does not allow us

Response	Baselline		Endline	
	n	%	n	%
No	-	-	56	84.85%
Yes	-	-	10	15.15%
Total	n/a	n/a	66	100%

I don't use the Bloom Reader at school because the tablet is broken or cannot be charged

Response	Baselline		Endline	
	n	%	n	%
No	-	-	59	89.39%
Yes	-	-	7	10.61%
Total	n/a	n/a	66	100%

I don't use the Bloom Reader at school because I would rather play other games

Response	Baselline		Endline	
	n	%	n	%
No	-	-	64	96.97%
Yes	-	-	2	3.03%
Total	n/a	n/a	66	100%

Other reason for not using Bloom Reader at school

Response	Baselline		Endline	
	n	%	n	%
No	-	-	29	43.94%
Yes	-	-	37	56.06%
Total	n/a	n/a	66	100%

Do you read from Bloom Reader with a teacher when you are at school?

Response	Baselline		Endline	
	n	%	n	%
No	-	-	6	4.65%
Yes	-	-	56	43.41%
Don't know/No response	-	-	67	51.94%
Total	n/a	n/a	129	100%

How often do you read stories from Bloom Reader at school?

Response	Baselline		Endline	
	n	%	n	%
Never	-	-	65	50.39%
Everyday	-	-	17	13.18%
Every other day	-	-	15	11.63%
Twice a week	-	-	17	13.18%
Once a week	-	-	14	10.85%
Not asked	-	-	1	0.78%
Total	n/a	n/a	129	100%

Do you think Bloom Reader is easy to use?

Response	Baselline		Endline	
	n	%	n	%
No	-	-	28	21.71%
Yes	-	-	74	57.36%
Don't know/No response	-	-	27	20.93%
Total	n/a	n/a	129	100%

Do you like using the Bloom Reader?

Response	Baselline		Endline	
	n	%	n	%
No	-	-	12	9.3%
Yes	-	-	85	65.89%
Don't know/No response	-	-	32	24.81%
Total	n/a	n/a	129	100%

Do you learn new things from the Bloom Reader?

Response	Baselline		Endline	
	n	%	n	%
No	-	-	14	10.85%
Yes	-	-	79	61.24%
Not asked	-	-	36	27.91%
Total	n/a	n/a	129	100%

Improvement - my teacher could allow me to use the Bloom Reader more often

Response	Baselline		Endline	
	n	%	n	%
No	-	-	62	48.06%
Yes	-	-	67	51.94%
Total	n/a	n/a	129	100%

Improvement - My parents could allow me to use the Bloom Reader more often

Response	Baselline		Endline	
	n	%	n	%
No	-	-	58	44.96%
Yes	-	-	71	55.04%
Total	n/a	n/a	129	100%

Improvement - Bloom Readers could be easier to use

Response	Baselline		Endline	
	n	%	n	%
No	-	-	87	67.44%
Yes	-	-	42	32.56%
Total	n/a	n/a	129	100%

Improvement - Bloom Readers could be easier to understand

Response	Baselline		Endline	
	n	%	n	%
No	-	-	92	71.32%
Yes	-	-	37	28.68%
Total	n/a	n/a	129	100%

Improvement - Bloom Reader stories could be more like my own life

Response	Baselline		Endline	
	n	%	n	%
No	-	-	103	79.84%
Yes	-	-	26	20.16%
Total	n/a	n/a	129	100%

Bloom Reader Improvement - Other

Response	Baselline		Endline	
	n	%	n	%
No	-	-	76	58.91%
Yes	-	-	53	41.09%
Total	n/a	n/a	129	100%

Teacher Survey Results

Do you have learners in your classroom that are blind or have low vision?

Response	Baselline		Endline	
	n	%	n	%
No	30	61.22%	23	65.71%
Yes	19	38.78%	10	28.57%
Not sure/Don't know	0	0%	2	5.71%
Total	49	100%	35	100%

Do you have learners in your classroom that have learning or intellectual disabilities or difficulties?

Response	Baselline		Endline	
	n	%	n	%
No	7	14.29%	3	8.57%
Yes	41	83.67%	31	88.57%
Not sure/Don't know	1	2.04%	1	2.86%
Total	49	100%	35	100%

Have you been trained on technologies to support learners with disabilities?

Response	Baselline		Endline	
	n	%	n	%
No	41	83.67%	6	17.14%
Yes	8	16.33%	28	80%
Not sure/Don't know	0	0%	1	2.86%
Total	49	100%	35	100%

Have you ever received training on how to accommodate and engage learners with different types of disabilities in your classroom, from YRT or otherwise?

Response	Baselline		Endline	
	n	%	n	%
No	38	77.55%	16	45.71%
Yes	11	22.45%	18	51.43%
Not sure/Don't know	0	0%	1	2.86%
Total	49	100%	35	100%

Were you trained (pre-service) on teaching learners with disabilities?

Response	Baselline		Endline	
	n	%	n	%
No	31	63.27%	12	34.29%
Yes	18	36.73%	23	65.71%
Total	49	100%	35	100%

Were you trained on how to teach reading to learners with disabilities?

Response	Baselline		Endline	
	n	%	n	%
No	40	81.63%	12	34.29%
Yes	9	18.37%	22	62.86%
Not sure/Don't know	0	0%	1	2.86%
Total	49	100%	35	100%

Have you ever received training on how to use an IEP?

Response	Baselline		Endline	
	n	%	n	%
No	44	89.8%	16	45.71%
Yes	5	10.2%	19	54.29%
Total	49	100%	35	100%

Do you have access to the Whole Child Checklist to screen for disabilities?

Response	Baselline		Endline	
	n	%	n	%
No	34	69.39%	15	42.86%
Yes	15	30.61%	20	57.14%
Total	49	100%	35	100%

Do you know how to use the Whole Child Checklist to screen for disabilities?

Response	Baselline		Endline	
	n	%	n	%
No	3	6.12%	3	8.57%
Yes	12	24.49%	17	48.57%
Not sure/Don't know	34	69.39%	15	42.86%
Total	49	100%	35	100%

Do you consider yourself to have a disability?

Response	Baselline		Endline	
	n	%	n	%
No	35	71.43%	23	65.71%
Yes	13	26.53%	12	34.29%
Not sure/Don't know	1	2.04%	0	0%
Total	49	100%	35	100%

How would you describe your level of comfort in using a computer or tablet?

Response	Baselline		Endline	
	n	%	n	%
Not at all comfortable	12	24.49%	7	20%
Not very comfortable	16	32.65%	11	31.43%
Comfortable	16	32.65%	12	34.29%
Very comfortable	5	10.2%	5	14.29%
Total	49	100%	35	100%

How would you describe your level of comfort in using a smart phone [touchscreen]?

Response	Baselline		Endline	
	n	%	n	%
Not at all comfortable	9	18.37%	2	5.71%
Not very comfortable	11	22.45%	7	20%
Comfortable	19	38.78%	17	48.57%
Very comfortable	10	20.41%	9	25.71%
Total	49	100%	35	100%

How would you describe your level of comfort in using a smart phone [touchscreen]? Grade: prep

Response	Baselline		Endline	
	n	%	n	%
No	21	42.86%	18	51.43%
Yes	28	57.14%	17	48.57%
Total	49	100%	35	100%

How would you describe your level of comfort in using a smart phone [touchscreen]? Grade 1

Response	Baselline		Endline	
	n	%	n	%
No	15	30.61%	19	54.29%
Yes	34	69.39%	16	45.71%
Total	49	100%	35	100%

How would you describe your level of comfort in using a smart phone [touchscreen]? Grade 2

Response	Baselline		Endline	
	n	%	n	%
No	14	28.57%	16	45.71%
Yes	35	71.43%	19	54.29%
Total	49	100%	35	100%

Do you have learners that are deaf or hard of hearing?

Response	Baselline		Endline	
	n	%	n	%
No	31	63.27%	16	45.71%
Yes	18	36.73%	18	51.43%
Not sure/Don't know	0	0%	1	2.86%
Total	49	100%	35	100%

Do you have learners with Communication or speech disabilities or difficulties?

Response	Baselline		Endline	
	n	%	n	%
No	20	40.82%	13	37.14%
Yes	29	59.18%	20	57.14%
Not sure/Don't know	0	0%	2	5.71%
Total	49	100%	35	100%

Learners with Physical or mobility disabilities or difficulties?

Response	Baselline		Endline	
	n	%	n	%
No	39	79.59%	26	74.29%
Yes	10	20.41%	8	22.86%
Not sure/Don't know	0	0%	1	2.86%
Total	49	100%	35	100%

Learners with Other disabilities or difficulties?

Response	Baselline		Endline	
	n	%	n	%
No	43	87.76%	28	80%
Yes	6	12.24%	6	17.14%
Not sure/Don't know	0	0%	1	2.86%
Total	49	100%	35	100%

Learners with Learners with multiple disabilities?

Response	Baselline		Endline	
	n	%	n	%
No	38	77.55%	22	62.86%
Yes	11	22.45%	11	31.43%
Not sure/Don't know	0	0%	2	5.71%
Total	49	100%	35	100%

Do you engage with the parents or caregivers of the learners in your classroom?

Response	Baselline		Endline	
	n	%	n	%
Never	9	18.37%	5	14.29%
Rarely	7	14.29%	3	8.57%
Sometimes	24	48.98%	21	60%
Often	9	18.37%	6	17.14%
Total	49	100%	35	100%

Were you trained (in-service) on teaching reading?

Response	Baselline		Endline	
	n	%	n	%
No	19	38.78%	5	14.29%
Yes	30	61.22%	30	85.71%
Total	49	100%	35	100%

When were you last trained (in-service) on teaching learners with disabilities?

Response	Baselline		Endline	
	n	%	n	%
Within past year	6	12.24%	8	22.86%
1-2 years ago	3	6.12%	7	20%
3-4 years ago	0	0%	5	14.29%
5-10 years ago	4	8.16%	7	20%
More than 10 years ago	4	8.16%	1	2.86%
5	4	8.16%	0	0%
Don't know / no response	28	57.14%	1	2.86%
n/a	0	0%	6	17.14%
Total	49	100%	35	100%

Were you trained on how to teach reading to learners with disabilities?

Response	Baseline		Endline	
	n	%	n	%
No	40	81.63%	12	34.29%
Yes	9	18.37%	22	62.86%
Not sure/Don't know	0	0%	1	2.86%
Total	49	100%	35	100%

Were you trained (in-service) on teaching learners with disabilities?

Response	Baseline		Endline	
	n	%	n	%
No	27	55.1%	6	17.14%
Yes	22	44.9%	29	82.86%
Total	49	100%	35	100%

How would you describe your skills in Papua New Guinean Sign Language?

Response	Baseline		Endline	
	n	%	n	%
Don't know how to do	0	0%	12	34.29%
Good	2	4.08%	16	45.71%
Very good	3	6.12%	7	20%
No response	44	89.8%	0	0%
Total	49	100%	35	100%

How would you describe your skills in reading Braille?

Response	Baseline		Endline	
	n	%	n	%
Don't know how to do	0	0%	17	48.57%
Poor	0	0%	1	2.86%
Good	8	16.33%	15	42.86%
Very good	2	4.08%	2	5.71%
No response	39	79.59%	0	0%
Total	49	100%	35	100%

Have you ever used Bloom Reader for reading with your students?

Response	Baseline		Endline	
	n	%	n	%
No	35	71.43%	5	14.29%
Yes	13	26.53%	30	85.71%
Don't know/No response	1	2.04%	0	0%
Total	49	100%	35	100%

Families can improve children's reading by enforcing daily school attendance

Response	Baseline		Endline	
	n	%	n	%
No	24	48.98%	15	42.86%
Yes	25	51.02%	20	57.14%
Total	49	100%	35	100%

Families can improve children's reading by not chewing betelnut

Response	Baseline		Endline	
	n	%	n	%
No	42	85.71%	24	68.57%
Yes	7	14.29%	11	31.43%
Total	49	100%	35	100%

Families can improve children's reading by reading at home everyday

Response	Baseline		Endline	
	n	%	n	%
No	11	22.45%	5	14.29%
Yes	38	77.55%	30	85.71%
Total	49	100%	35	100%

Families can improve children's reading by using reading app

Response	Baselline		Endline	
	n	%	n	%
No	31	63.27%	13	37.14%
Yes	18	36.73%	22	62.86%
Total	49	100%	35	100%

Classroom adapt: Move the child closer to the chalkboard

Response	Baselline		Endline	
	n	%	n	%
No	23	46.94%	9	25.71%
Yes	26	53.06%	26	74.29%
Total	49	100%	35	100%

Classroom adapt: Move the child closer to the teacher

Response	Baselline		Endline	
	n	%	n	%
No	18	36.73%	8	22.86%
Yes	31	63.27%	27	77.14%
Total	49	100%	35	100%

Classroom adapt: Make sure the child is facing you

Response	Baselline		Endline	
	n	%	n	%
No	31	63.27%	18	51.43%
Yes	18	36.73%	17	48.57%
Total	49	100%	35	100%

Classroom adapt: Adapt the desk or chair

Response	Baselline		Endline	
	n	%	n	%
No	30	61.22%	14	40%
Yes	19	38.78%	21	60%
Total	49	100%	35	100%

Classroom adapt: Adapt the door or steps

Response	Baselline		Endline	
	n	%	n	%
No	41	83.67%	21	60%
Yes	8	16.33%	14	40%
Total	49	100%	35	100%

Classroom adapt: Adapt the toilet

Response	Baselline		Endline	
	n	%	n	%
No	43	87.76%	24	68.57%
Yes	6	12.24%	11	31.43%
Total	49	100%	35	100%

Classroom adapt: Provide larger print charts

Response	Baselline		Endline	
	n	%	n	%
No	31	63.27%	15	42.86%
Yes	18	36.73%	20	57.14%
Total	49	100%	35	100%

Classroom adapt: Keep the classroom quieter

Response	Baselline		Endline	
	n	%	n	%
No	44	89.8%	21	60%
Yes	5	10.2%	14	40%
Total	49	100%	35	100%

Classroom adapt: Make the classroom better lit

Response	Baselline		Endline	
	n	%	n	%
No	39	79.59%	20	57.14%
Yes	10	20.41%	15	42.86%
Total	49	100%	35	100%

Classroom adapt: Individual Education Plan

Response	Baselline		Endline	
	n	%	n	%
No	28	57.14%	18	51.43%
Yes	21	42.86%	17	48.57%
Total	49	100%	35	100%

Classroom adapt: Other

Response	Baselline		Endline	
	n	%	n	%
No	0	0%	31	88.57%
Yes	0	0%	4	11.43%
Not selected	49	100%	0	0%
Total	49	100%	35	100%

Classroom adapt: Don't know/no response

Response	Baselline		Endline	
	n	%	n	%
No	0	0%	35	100%
Not selected	49	100%	0	0%
Total	49	100%	35	100%

Teachers can adapt curriculum by choosing the right level of lesson plan from the Teacher Guide

Response	Baselline		Endline	
	n	%	n	%
No	17	34.69%	11	31.43%
Yes	32	65.31%	24	68.57%
Total	49	100%	35	100%

Teachers can adapt curriculum by using large print books

Response	Baselline		Endline	
	n	%	n	%
No	23	46.94%	10	28.57%
Yes	26	53.06%	25	71.43%
Total	49	100%	35	100%

Teachers can adapt curriculum by using audio books

Response	Baselline		Endline	
	n	%	n	%
No	41	83.67%	14	40%
Yes	8	16.33%	21	60%
Total	49	100%	35	100%

Teachers can adapt curriculum by modifying assessment tasks

Response	Baselline		Endline	
	n	%	n	%
No	28	57.14%	11	31.43%
Yes	21	42.86%	24	68.57%
Total	49	100%	35	100%

Teachers can adapt curriculum by using Bloom Reader

Response	Baselline		Endline	
	n	%	n	%
No	34	69.39%	11	31.43%
Yes	15	30.61%	24	68.57%
Total	49	100%	35	100%

Teachers can adapt curriculum by having IEP

Response	Baselline		Endline	
	n	%	n	%
No	33	67.35%	17	48.57%
Yes	16	32.65%	18	51.43%
Total	49	100%	35	100%

Other ways teachers can adapt curriculum

Response	Baselline		Endline	
	n	%	n	%
No	42	85.71%	28	80%
Yes	7	14.29%	7	20%
Total	49	100%	35	100%

Teachers can adapt teaching by breaking a task into simple steps

Response	Baselline		Endline	
	n	%	n	%
No	27	55.1%	11	31.43%
Yes	22	44.9%	24	68.57%
Total	49	100%	35	100%

Teachers can adapt teaching by working one-to-one with the child

Response	Baselline		Endline	
	n	%	n	%
No	23	46.94%	12	34.29%
Yes	26	53.06%	23	65.71%
Total	49	100%	35	100%

Teachers can adapt teaching through paired work

Response	Baselline		Endline	
	n	%	n	%
No	32	65.31%	13	37.14%
Yes	17	34.69%	22	62.86%
Total	49	100%	35	100%

Teachers can adapt teaching by checking they understand the tasks

Response	Baselline		Endline	
	n	%	n	%
No	27	55.1%	17	48.57%
Yes	22	44.9%	18	51.43%
Total	49	100%	35	100%

Teachers can adapt teaching by allowing students more time

Response	Baselline		Endline	
	n	%	n	%
No	28	57.14%	11	31.43%
Yes	21	42.86%	24	68.57%
Total	49	100%	35	100%

Teachers can adapt teaching by allowing students to answer in different ways

Response	Baselline		Endline	
	n	%	n	%
No	35	71.43%	17	48.57%
Yes	14	28.57%	18	51.43%
Total	49	100%	35	100%

Teachers can adapt teaching by arranging class into ability groups

Response	Baselline		Endline	
	n	%	n	%
No	32	65.31%	16	45.71%
Yes	17	34.69%	19	54.29%
Total	49	100%	35	100%

Teachers can adapt teaching by modifying the assessment tasks

Response	Baselline		Endline	
	n	%	n	%
No	27	55.1%	16	45.71%
Yes	22	44.9%	19	54.29%
Total	49	100%	35	100%

Teachers can adapt teaching by repeating tasks

Response	Baselline		Endline	
	n	%	n	%
No	36	73.47%	19	54.29%
Yes	13	26.53%	16	45.71%
Total	49	100%	35	100%

Teachers can adapt teaching by using visuals

Response	Baselline		Endline	
	n	%	n	%
No	39	79.59%	19	54.29%
Yes	10	20.41%	16	45.71%
Total	49	100%	35	100%

Teachers can adapt teaching through Individual Education Pans to help children with disabilities

Response	Baselline		Endline	
	n	%	n	%
No	40	81.63%	20	57.14%
Yes	9	18.37%	15	42.86%
Total	49	100%	35	100%

Frequency: Teach reading

Response	Baselline		Endline	
	n	%	n	%
Never	0	0%	3	8.57%
One day	1	2.04%	2	5.71%
2 days	4	8.16%	2	5.71%
3-4 days out of 5 days	7	14.29%	7	20%
Every day (5 days)	37	75.51%	21	60%
Total	49	100%	35	100%

Frequency: Make sure my students read aloud for at least 30 minutes a day

Response	Baselline		Endline	
	n	%	n	%
Never	1	2.04%	1	2.86%
One day	3	6.12%	5	14.29%
2 days	5	10.2%	4	11.43%
3-4 days out of 5 days	8	16.33%	7	20%
Every day (5 days)	31	63.27%	18	51.43%
Don't know/No response	1	2.04%	0	0%
Total	49	100%	35	100%

Frequency: Read to my class

Response	Baselline		Endline	
	n	%	n	%
Never	0	0%	2	5.71%
One day	2	4.08%	5	14.29%
2 days	6	12.24%	2	5.71%
3-4 days out of 5 days	8	16.33%	5	14.29%
Every day (5 days)	33	67.35%	20	57.14%
Don't know / no response	0	0%	1	2.86%
Total	49	100%	35	100%

Frequency: Use choral reading

Response	Baselline		Endline	
	n	%	n	%
Never	2	4.08%	3	8.57%
One day	2	4.08%	3	8.57%
2 days	5	10.2%	6	17.14%
3-4 days out of 5 days	14	28.57%	6	17.14%
Every day (5 days)	26	53.06%	17	48.57%
Total	49	100%	35	100%

Frequency: Use the SBC English or Language Teacher Guide lesson plans

Response	Baselline		Endline	
	n	%	n	%
Never	0	0%	3	8.57%
One day	0	0%	4	11.43%
2 days	1	2.04%	1	2.86%
3-4 days out of 5 days	4	8.16%	4	11.43%
Every day (5 days)	44	89.8%	23	65.71%
Total	49	100%	35	100%

Frequency: Ask children to read in pairs

Response	Baselline		Endline	
	n	%	n	%
Never	4	8.16%	3	8.57%
One day	3	6.12%	4	11.43%
2 days	5	10.2%	4	11.43%
3-4 days out of 5 days	15	30.61%	9	25.71%
Every day (5 days)	22	44.9%	15	42.86%
Total	49	100%	35	100%

Frequency: Read one-to-one with a child

Response	Baselline		Endline	
	n	%	n	%
Never	7	14.29%	5	14.29%
One day	9	18.37%	10	28.57%
2 days	7	14.29%	3	8.57%
3-4 days out of 5 days	7	14.29%	8	22.86%
Every day (5 days)	19	38.78%	9	25.71%
Total	49	100%	35	100%

Frequency: Read one-to-one with a child with disabilities

Response	Baselline		Endline	
	n	%	n	%
Never	15	30.61%	10	28.57%
One day	8	16.33%	4	11.43%
2 days	5	10.2%	7	20%
3-4 days out of 5 days	11	22.45%	9	25.71%
Every day (5 days)	9	18.37%	5	14.29%
Don't know/No response	1	2.04%	0	0%
Total	49	100%	35	100%

Frequency: Read with a child or small group using Bloom Reader

Response	Baselline		Endline	
	n	%	n	%
Never	0	0%	6	17.14%
One day	1	2.04%	6	17.14%
2 days	3	6.12%	5	14.29%
3-4 days out of 5 days	3	6.12%	5	14.29%
Every day (5 days)	6	12.24%	13	37.14%
Don’t know / no response	36	73.47%	0	0%
Total	49	100%	35	100%

Frequency: Use Bloom Reader with children with disabilities

Response	Baselline		Endline	
	n	%	n	%
Never	0	0%	11	31.43%
One day	0	0%	2	5.71%
2 days	4	8.16%	5	14.29%
3-4 days out of 5 days	5	10.2%	4	11.43%
Every day (5 days)	4	8.16%	13	37.14%
Don't know / no response	36	73.47%	0	0%
Total	49	100%	35	100%

Frequency: Teach phonics

Response	Baselline		Endline	
	n	%	n	%
Never	0	0%	3	8.57%
One day	2	4.08%	3	8.57%
2 days	1	2.04%	2	5.71%
3-4 days out of 5 days	6	12.24%	5	14.29%
Every day (5 days)	40	81.63%	22	62.86%
Total	49	100%	35	100%

Frequency: Teach sight words

Response	Baselline		Endline	
	n	%	n	%
Never	3	6.12%	1	2.86%
One day	2	4.08%	6	17.14%
2 days	4	8.16%	4	11.43%
3-4 days out of 5 days	10	20.41%	6	17.14%
Every day (5 days)	30	61.22%	18	51.43%
Total	49	100%	35	100%

Frequency: Ask children to read on their own and choose their own books

Response	Baselline		Endline	
	n	%	n	%
Never	7	14.29%	8	22.86%
One day	4	8.16%	3	8.57%
2 days	10	20.41%	12	34.29%
3-4 days out of 5 days	14	28.57%	8	22.86%
Every day (5 days)	14	28.57%	4	11.43%
Total	49	100%	35	100%

Frequency: Ask questions before, during, and after reading

Response	Baselline		Endline	
	n	%	n	%
Never	0	0%	1	2.86%
One day	2	4.08%	3	8.57%
2 days	6	12.24%	6	17.14%
3-4 days out of 5 days	9	18.37%	4	11.43%
Every day (5 days)	32	65.31%	21	60%
Total	49	100%	35	100%

Frequency: Ask students to write or draw about what they have read

Response	Baselline		Endline	
	n	%	n	%
Never	2	4.08%	2	5.71%
One day	7	14.29%	5	14.29%
2 days	10	20.41%	5	14.29%
3-4 days out of 5 days	12	24.49%	11	31.43%
Every day (5 days)	18	36.73%	12	34.29%
Total	49	100%	35	100%

Frequency: Check that the children with disabilities understand the task

Response	Baselline		Endline	
	n	%	n	%
Never	5	10.2%	6	17.14%
One day	4	8.16%	5	14.29%
2 days	9	18.37%	4	11.43%
3-4 days out of 5 days	11	22.45%	4	11.43%
Every day (5 days)	19	38.78%	16	45.71%
Don't know/No response	1	2.04%	0	0%
Total	49	100%	35	100%

Frequency: Hit or smack students

Response	Baselline		Endline	
	n	%	n	%
Never	35	71.43%	22	62.86%
One day	5	10.2%	4	11.43%
2 days	4	8.16%	2	5.71%
3-4 days out of 5 days	3	6.12%	4	11.43%
Every day (5 days)	2	4.08%	0	0%
Don't know / no response	0	0%	3	8.57%
Total	49	100%	35	100%

Frequency: Shout at students

Response	Baselline		Endline	
	n	%	n	%
Never	16	32.65%	13	37.14%
One day	9	18.37%	10	28.57%
2 days	10	20.41%	5	14.29%
3-4 days out of 5 days	7	14.29%	2	5.71%
Every day (5 days)	7	14.29%	3	8.57%
Don't know / no response	0	0%	2	5.71%
Total	49	100%	35	100%

Bloom Reader activities: 15 minutes of reading aloud per day

Response	Baseline		Endline	
	n	%	n	%
No	0	0%	12	34.29%
Yes	0	0%	23	65.71%
Not sure/Don't know	49	100%	0	0%
Total	49	100%	35	100%

Bloom Reader activities: Students read individually

Response	Baseline		Endline	
	n	%	n	%
No	7	14.29%	16	45.71%
Yes	6	12.24%	19	54.29%
Not sure/Don't know	36	73.47%	0	0%
Total	49	100%	35	100%

Bloom Reader activities: Read one-to-one with a student

Response	Baseline		Endline	
	n	%	n	%
No	8	16.33%	15	42.86%
Yes	5	10.2%	20	57.14%
Not sure/Don't know	36	73.47%	0	0%
Total	49	100%	35	100%

Bloom Reader activities: Students read in pairs

Response	Baseline		Endline	
	n	%	n	%
No	7	14.29%	15	42.86%
Yes	6	12.24%	20	57.14%
Not sure/Don't know	36	73.47%	0	0%
Total	49	100%	35	100%

Bloom Reader activities: Ask comprehension questions

Response	Baselline		Endline	
	n	%	n	%
No	9	18.37%	11	31.43%
Yes	4	8.16%	24	68.57%
Not sure/Don't know	36	73.47%	0	0%
Total	49	100%	35	100%

Bloom Reader activities: Copy a story into a Big Book, chart, etc.

Response	Baselline		Endline	
	n	%	n	%
No	7	14.29%	20	57.14%
Yes	6	12.24%	15	42.86%
Not sure/Don't know	36	73.47%	0	0%
Total	49	100%	35	100%

Bloom Reader activities: Play an audio book

Response	Baselline		Endline	
	n	%	n	%
No	10	20.41%	17	48.57%
Yes	3	6.12%	18	51.43%
Not sure/Don't know	36	73.47%	0	0%
Total	49	100%	35	100%

Bloom Reader activities: Play a sign language video

Response	Baselline		Endline	
	n	%	n	%
No	13	26.53%	26	74.29%
Yes	0	0%	9	25.71%
Not sure/Don't know	36	73.47%	0	0%
Total	49	100%	35	100%

Bloom Reader activities: Choose books with Tok Pisin

Response	Baselline		Endline	
	n	%	n	%
No	13	26.53%	28	80%
Yes	0	0%	7	20%
Not sure/Don't know	36	73.47%	0	0%
Total	49	100%	35	100%

Bloom Reader activities: Practice echo or choral reading

Response	Baselline		Endline	
	n	%	n	%
No	8	16.33%	18	51.43%
Yes	5	10.2%	17	48.57%
Not sure/Don't know	36	73.47%	0	0%
Total	49	100%	35	100%

Accommodation activities: Whole Child Checklist for screening children with disabilities

Response	Baselline		Endline	
	n	%	n	%
No	36	73.47%	22	62.86%
Yes	13	26.53%	13	37.14%
Total	49	100%	35	100%

Accommodation activities: Individual Education Plan

Response	Baselline		Endline	
	n	%	n	%
No	35	71.43%	22	62.86%
Yes	14	28.57%	13	37.14%
Total	49	100%	35	100%

Accommodation activities: Use Bloom Reader with one child

Response	Baselline		Endline	
	n	%	n	%
No	42	85.71%	15	42.86%
Yes	7	14.29%	20	57.14%
Total	49	100%	35	100%

Accommodation activities: Use Bloom Reader with small group

Response	Baselline		Endline	
	n	%	n	%
No	41	83.67%	20	57.14%
Yes	8	16.33%	15	42.86%
Total	49	100%	35	100%

Accommodation activities: Refer a student to IERC for assessment

Response	Baselline		Endline	
	n	%	n	%
No	46	93.88%	32	91.43%
Yes	3	6.12%	3	8.57%
Total	49	100%	35	100%

I can open and read or listen from the Bloom Reader app

Response	Baselline		Endline	
	n	%	n	%
Disagree	1	2.04%	0	0%
Agree	5	10.2%	12	34.29%
Strongly agree	7	14.29%	23	65.71%
Neutral / Don't know / No response	36	73.47%	0	0%
Total	49	100%	35	100%

I can find different books on Bloom Reader

Response	Baselline		Endline	
	n	%	n	%
Disagree	0	0%	3	8.57%
Agree	5	10.2%	11	31.43%
Strongly agree	8	16.33%	21	60%
Neutral / Don't know / No response	36	73.47%	0	0%
Total	49	100%	35	100%

I can find different languages (e.g. sign language or Tok Pisin) on Bloom Reader

Response	Baselline		Endline	
	n	%	n	%
Disagree	0	0%	3	8.57%
Agree	7	14.29%	13	37.14%
Strongly agree	6	12.24%	19	54.29%
Neutral / Don't know / No response	36	73.47%	0	0%
Total	49	100%	35	100%

I can share the Bloom Reader app and books with other people

Response	Baselline		Endline	
	n	%	n	%
Disagree	2	4.08%	5	14.29%
Agree	8	16.33%	13	37.14%
Strongly agree	3	6.12%	17	48.57%
Neutral / Don't know / No response	36	73.47%	0	0%
Total	49	100%	35	100%

I can use the Bloom Reader app to read with an individual or small group

Response	Baselline		Endline	
	n	%	n	%
Disagree	0	0%	2	5.71%
Agree	8	16.33%	12	34.29%
Strongly agree	4	8.16%	21	60%
Neutral / Don't know / No response	37	75.51%	0	0%
Total	49	100%	35	100%

I can find the comprehension questions in Bloom Reader

Response	Baselline		Endline	
	n	%	n	%
Disagree	0	0%	2	5.71%
Agree	8	16.33%	11	31.43%
Strongly agree	5	10.2%	22	62.86%
Neutral / Don't know / No response	36	73.47%	0	0%
Total	49	100%	35	100%

I am confident reading a story to the class

Response	Baselline		Endline	
	n	%	n	%
Agree	0	0%	6	17.14%
Strongly agree	0	0%	29	82.86%
Don't know/No response	49	100%	0	0%
Total	49	100%	35	100%

I am confident using echo reading

Response	Baselline		Endline	
	n	%	n	%
Disagree	5	10.2%	3	8.57%
Agree	19	38.78%	7	20%
Strongly agree	23	46.94%	25	71.43%
Don't know/No response	2	4.08%	0	0%
Total	49	100%	35	100%

Families can improve children's reading by enforcing daily school attendance

Response	Baselline		Endline	
	n	%	n	%
No	24	48.98%	15	42.86%
Yes	25	51.02%	20	57.14%
Total	49	100%	35	100%

Families can improve children's reading by not chewing betelnut

Response	Baselline		Endline	
	n	%	n	%
No	42	85.71%	24	68.57%
Yes	7	14.29%	11	31.43%
Total	49	100%	35	100%

Families can improve children's reading by reading at home everyday

Response	Baselline		Endline	
	n	%	n	%
No	11	22.45%	5	14.29%
Yes	38	77.55%	30	85.71%
Total	49	100%	35	100%

Families can improve children's reading by using reading app

Response	Baselline		Endline	
	n	%	n	%
No	31	63.27%	13	37.14%
Yes	18	36.73%	22	62.86%
Total	49	100%	35	100%

I am confident using choral reading

Response	Baselline		Endline	
	n	%	n	%
Disagree	3	6.12%	1	2.86%
Agree	25	51.02%	12	34.29%
Strongly agree	20	40.82%	22	62.86%
Don't know/No response	1	2.04%	0	0%
Total	49	100%	35	100%

I am confident using paired reading

Response	Baselline		Endline	
	n	%	n	%
Disagree	1	2.04%	2	5.71%
Agree	30	61.22%	8	22.86%
Strongly agree	18	36.73%	25	71.43%
Total	49	100%	35	100%

I am confident using the daily lesson plans from the SBC Teacher Guides

Response	Baselline		Endline	
	n	%	n	%
Disagree	0	0%	3	8.57%
Agree	16	32.65%	4	11.43%
Strongly agree	33	67.35%	28	80%
Total	49	100%	35	100%

I am confident writing an Individual Education Plan

Response	Baselline		Endline	
	n	%	n	%
Strongly disagree	2	4.08%	1	2.86%
Disagree	7	14.29%	7	20%
Agree	25	51.02%	12	34.29%
Strongly agree	8	16.33%	13	37.14%
Neutral / Don't know / No response	7	14.29%	2	5.71%
Total	49	100%	35	100%

I am confident using the Whole Child Checklist to screen for disabilities

Response	Baselline		Endline	
	n	%	n	%
Strongly disagree	3	6.12%	0	0%
Disagree	3	6.12%	6	17.14%
Agree	28	57.14%	16	45.71%
Strongly agree	12	24.49%	11	31.43%
Neutral / Don't know / No response	3	6.12%	2	5.71%
Total	49	100%	35	100%

I am confident teaching children with disabilities to read

Response	Baselline		Endline	
	n	%	n	%
Disagree	4	8.16%	2	5.71%
Agree	27	55.1%	15	42.86%
Strongly agree	14	28.57%	16	45.71%
Neutral / Don't know / No response	4	8.16%	1	2.86%
Total	49	100%	35	100%

It is important to present information to learners in various ways

Response	Baselline		Endline	
	n	%	n	%
Agree	24	48.98%	13	37.14%
Strongly agree	25	51.02%	22	62.86%
Total	49	100%	35	100%

It is important to allow learners to express their knowledge in various ways

Response	Baselline		Endline	
	n	%	n	%
Disagree	0	0%	1	2.86%
Agree	28	57.14%	13	37.14%
Strongly agree	21	42.86%	21	60%
Total	49	100%	35	100%

It is important to motivate and engage learners in various ways

Response	Baselline		Endline	
	n	%	n	%
Disagree	1	2.04%	4	11.43%
Agree	26	53.06%	9	25.71%
Strongly agree	22	44.9%	22	62.86%
Total	49	100%	35	100%

I can use a variety of assessment strategies for my learners

Response	Baselline		Endline	
	n	%	n	%
Strongly disagree	1	2.04%	0	0%
Disagree	0	0%	1	2.86%
Agree	29	59.18%	11	31.43%
Strongly agree	19	38.78%	22	62.86%
Neutral / Don't know / No response	0	0%	1	2.86%
Total	49	100%	35	100%

I can provide an alternative explanation or example when learners are confused

Response	Baselline		Endline	
	n	%	n	%
Disagree	0	0%	4	11.43%
Agree	23	46.94%	10	28.57%
Strongly agree	26	53.06%	21	60%
Total	49	100%	35	100%

All children--even those with disabilities --can learn to read

Response	Baselline		Endline	
	n	%	n	%
Disagree	1	2.04%	0	0%
Agree	23	46.94%	11	31.43%
Strongly agree	25	51.02%	24	68.57%
Total	49	100%	35	100%

It is my responsibility to adapt my classroom for children with disabilities

Response	Baselline		Endline	
	n	%	n	%
Disagree	0	0%	1	2.86%
Agree	26	53.06%	12	34.29%
Strongly agree	23	46.94%	22	62.86%
Total	49	100%	35	100%

It is my responsibility to adapt my curriculum for children with disabilities

Response	Baselline		Endline	
	n	%	n	%
Disagree	1	2.04%	3	8.57%
Agree	22	44.9%	8	22.86%
Strongly agree	26	53.06%	24	68.57%
Total	49	100%	35	100%

It is my job to screen children who are struggling for disabilities

Response	Baselline		Endline	
	n	%	n	%
Disagree	2	4.08%	4	11.43%
Agree	22	44.9%	11	31.43%
Strongly agree	25	51.02%	20	57.14%
Total	49	100%	35	100%

It is my job to write an Individual Education Plan for children with disabilities

Response	Baselline		Endline	
	n	%	n	%
Disagree	1	2.04%	4	11.43%
Agree	21	42.86%	13	37.14%
Strongly agree	26	53.06%	18	51.43%
Don't know/No response	1	2.04%	0	0%
Total	49	100%	35	100%

Children need to read every day at school

Response	Baselline		Endline	
	n	%	n	%
Disagree	0	0%	2	5.71%
Agree	9	18.37%	4	11.43%
Strongly agree	40	81.63%	29	82.86%
Total	49	100%	35	100%

If a child or teacher is absent, it harms their reading

Response	Baseline		Endline	
	n	%	n	%
Disagree	3	6.12%	2	5.71%
Agree	20	40.82%	12	34.29%
Strongly agree	26	53.06%	21	60%
Total	49	100%	35	100%

It is the teacher's job to teach a child to read

Response	Baseline		Endline	
	n	%	n	%
Disagree	1	2.04%	4	11.43%
Agree	13	26.53%	9	25.71%
Strongly agree	35	71.43%	22	62.86%
Total	49	100%	35	100%

Parents have to read with their child every day

Response	Baseline		Endline	
	n	%	n	%
Disagree	0	0%	1	2.86%
Agree	20	40.82%	11	31.43%
Strongly agree	29	59.18%	23	65.71%
Total	49	100%	35	100%

Teachers and parents should work together to support children's learning

Response	Baseline		Endline	
	n	%	n	%
Disagree	0	0%	1	2.86%
Agree	0	0%	5	14.29%
Strongly agree	0	0%	25	71.43%
Don't know/No response	49	100%	4	11.43%
Total	49	100%	35	100%

Children with disabilities should go to a special school

Response	Baselline		Endline	
	n	%	n	%
Strongly disagree	6	12.24%	1	2.86%
Disagree	5	10.2%	6	17.14%
Agree	17	34.69%	10	28.57%
Strongly agree	18	36.73%	18	51.43%
Don't know/No response	3	6.12%	0	0%
Total	49	100%	35	100%

If I adapt my teaching, children with disabilities can learn to read

Response	Baselline		Endline	
	n	%	n	%
Disagree	1	2.04%	2	5.71%
Agree	26	53.06%	11	31.43%
Strongly agree	22	44.9%	22	62.86%
Total	49	100%	35	100%

Bloom Reader is an effective way to teach children to read

Response	Baselline		Endline	
	n	%	n	%
Strongly disagree	0	0%	1	2.86%
Disagree	0	0%	1	2.86%
Agree	4	8.16%	8	22.86%
Strongly agree	9	18.37%	25	71.43%
Neutral / Don't know / No response	36	73.47%	0	0%
Total	49	100%	35	100%

Using technologies like Bloom Reader can help a diverse range of learners learn

Response	Baselline		Endline	
	n	%	n	%
Disagree	0	0%	1	2.86%
Agree	7	14.29%	11	31.43%
Strongly agree	6	12.24%	23	65.71%
Neutral / Don't know / No response	36	73.47%	0	0%
Total	49	100%	35	100%

Bloom Reader in the classroom is more of a distraction than benefit

Response	Baselline		Endline	
	n	%	n	%
Strongly disagree	3	6.12%	14	40%
Disagree	6	12.24%	5	14.29%
Agree	4	8.16%	11	31.43%
Strongly agree	0	0%	4	11.43%
Neutral / Don't know / No response	36	73.47%	1	2.86%
Total	49	100%	35	100%

I am confident using technologies like Bloom Reader in my classroom

Response	Baselline		Endline	
	n	%	n	%
Disagree	0	0%	2	5.71%
Agree	7	14.29%	11	31.43%
Strongly agree	6	12.24%	22	62.86%
Neutral / Don't know / No response	36	73.47%	0	0%
Total	49	100%	35	100%

Last week, how many days were you absent from the classroom?

Response	Baselline		Endline	
	n	%	n	%
No days	23	46.94%	15	42.86%
1 day	13	26.53%	13	37.14%
2 days	4	8.16%	6	17.14%
3 days	1	2.04%	1	2.86%
4 days	2	4.08%	0	0%
5 days	6	12.24%	0	0%
Total	49	100%	35	100%

Absent because I traveled to town to get salary/paid

Response	Baselline		Endline	
	n	%	n	%
No	20	40.82%	11	31.43%
Yes	6	12.24%	9	25.71%
Not sure/Don't know	23	46.94%	0	0%
n/a	0	0%	15	42.86%
Total	49	100%	35	100%

Absent due to bad weather

Response	Baselline		Endline	
	n	%	n	%
No	25	51.02%	20	57.14%
Yes	1	2.04%	0	0%
Not sure/Don't know	23	46.94%	0	0%
n/a	0	0%	15	42.86%
Total	49	100%	35	100%

Absent because I was tired

Response	Baselline		Endline	
	n	%	n	%
No	26	53.06%	16	45.71%
Yes	0	0%	4	11.43%
Not sure/Don't know	23	46.94%	0	0%
n/a	0	0%	15	42.86%
Total	49	100%	35	100%

Absent due to meeting

Response	Baselline		Endline	
	n	%	n	%
No	21	42.86%	17	48.57%
Yes	5	10.2%	3	8.57%
Not sure/Don't know	23	46.94%	0	0%
n/a	0	0%	15	42.86%
Total	49	100%	35	100%

Absent because I was not paid

Response	Baselline		Endline	
	n	%	n	%
No	26	53.06%	19	54.29%
Yes	0	0%	1	2.86%
Not sure/Don't know	23	46.94%	0	0%
n/a	0	0%	15	42.86%
Total	49	100%	35	100%

Absent due to fighting in the community

Response	Baselline		Endline	
	n	%	n	%
No	26	53.06%	19	54.29%
Yes	0	0%	1	2.86%
Not sure/Don't know	23	46.94%	0	0%
n/a	0	0%	15	42.86%
Total	49	100%	35	100%

Absent because school unsafe

Response	Baselline		Endline	
	n	%	n	%
No	25	51.02%	20	57.14%
Yes	1	2.04%	0	0%
Not sure/Don't know	23	46.94%	0	0%
n/a	0	0%	15	42.86%
Total	49	100%	35	100%

Absent due to death in the family or community

Response	Baselline		Endline	
	n	%	n	%
No	25	51.02%	20	57.14%
Yes	1	2.04%	0	0%
Not sure/Don't know	23	46.94%	0	0%
n/a	0	0%	15	42.86%
Total	49	100%	35	100%

Absent due to COVID

Response	Baselline		Endline	
	n	%	n	%
No	26	53.06%	20	57.14%
Not sure/Don't know	23	46.94%	0	0%
n/a	0	0%	15	42.86%
Total	49	100%	35	100%

Absent because family member was sick

Response	Baselline		Endline	
	n	%	n	%
No	24	48.98%	18	51.43%
Yes	2	4.08%	2	5.71%
Not sure/Don't know	23	46.94%	0	0%
n/a	0	0%	15	42.86%
Total	49	100%	35	100%

Absent due to theft in the community

Response	Baselline		Endline	
	n	%	n	%
No	26	53.06%	18	51.43%
Yes	0	0%	2	5.71%
Not sure/Don't know	23	46.94%	0	0%
n/a	0	0%	15	42.86%
Total	49	100%	35	100%

Absent due to religious holiday or event

Response	Baselline		Endline	
	n	%	n	%
No	25	51.02%	20	57.14%
Yes	1	2.04%	0	0%
Not sure/Don't know	23	46.94%	0	0%
n/a	0	0%	15	42.86%
Total	49	100%	35	100%

Absent because school closed

Response	Baselline		Endline	
	n	%	n	%
No	26	53.06%	19	54.29%
Yes	0	0%	1	2.86%
Not sure/Don't know	23	46.94%	0	0%
n/a	0	0%	15	42.86%
Total	49	100%	35	100%

Absent due to training

Response	Baselline		Endline	
	n	%	n	%
No	25	51.02%	17	48.57%
Yes	1	2.04%	3	8.57%
Not sure/Don't know	23	46.94%	0	0%
n/a	0	0%	15	42.86%
Total	49	100%	35	100%

Absent because I was sick

Response	Baselline		Endline	
	n	%	n	%
No	21	42.86%	20	57.14%
Yes	5	10.2%	0	0%
Not sure/Don't know	23	46.94%	0	0%
n/a	0	0%	15	42.86%
Total	49	100%	35	100%

PCG Survey Results

What language do you use most often at home?	N	%
English	36	45.6%
Pidgin	10	12.7%
Other	33	41.8%
Total	79	100%

If other, what language do you use the most often at home?	N	%
Awin tokples	1	3%
Baramu	1	3%
Baramura	1	3%
English and my own language Gogodala	1	3%
English and tok ples	1	3%
Gogolala	2	6.1%
I use my own language	1	3%
Kiwai	1	3%
Local Village language	1	3%
Makaiyam	3	9.1%
Makayam	5	15.2%
Our own language Gogodala	1	3%
Tabo	1	3%
Tabo language	2	6.1%
Tok Ples	1	3%
Tokples	7	21.2%
Took ples	1	3%
Waluwa	1	3%

What language do you use most often at home?	N	%
Wipi language	1	3%
Total	33	100%

What is your highest level of academic education?	N	%
No academic education	6	7.6%
Elementary completed	1	1.3%
Some primary	25	31.6%
Primary completed	33	41.8%
Some secondary / vocational	10	12.7%
Secondary / vocational completed	4	5.1%
Total	79	100%

Family member-Deaf or hard of hearing	N	%
No	66	83.5%
Yes	13	16.5%
Total	79	100%

Family member-Blind or low vision	N	%
No	67	84.8%
Yes	12	15.2%
Total	79	100%

Family member-Communication or speech disabilities or difficulties	N	%
No	58	73.4%
Yes	21	26.6%
Total	79	100%

Family member-Learning or intellectual disabilities or difficulties	N	%
No	27	34.2%
Yes	52	65.8%
Total	79	100%

Family member-Physical or mobility disabilities or difficulties	N	%
No	72	91.1%
Yes	7	8.9%
Total	79	100%

Family member-Other disabilities or difficulties	N	%
No	75	94.9%
Yes	4	5.1%
Total	79	100%

Family member-Multiple disabilities	N	%
No	75	94.9%
Yes	4	5.1%
Total	79	100%

Do you engage with the teacher of your child in the YRT program?	N	%
Never	33	41.8%
Rarely	9	11.4%
Yes, sometimes	27	34.2%
Yes, often	10	12.7%
Total	79	100%

Do you consider yourself to have a disability?	N	%
No	62	78.5%
Yes	17	21.5%
Total	79	100%

Respondent Disability-Deaf or hard of hearing	N	%
No	16	94.1%
Yes	1	5.9%
Total	17	100%

Respondent Disability-Blind or low vision	N	%
No	7	41.2%
Yes	10	58.8%
Total	17	100%

Respondent Disability-Communication or speech	N	%
No	7	41.2%
Yes	10	58.8%
Total	17	100%

Respondent Disability-Communication or speech	N	%
No	16	94.1%
Yes	1	5.9%
Total	17	100%

Respondent Disability-Learning or intellectual	N	%
No	12	70.6%
Yes	5	29.4%
Total	17	100%

Respondent Disability-Physical mobility	N	%
No	16	94.1%
Yes	1	5.9%
Total	17	100%

Respondent Disability-Other	N	%
No	16	94.1%
Yes	1	5.9%
Total	17	100%

Household English Reader-Child's mother	N	%
No	16	20.3%
Yes	63	79.7%
Total	79	100%

Household English Reader-Child's father	N	%
No	12	15.2%
Yes	67	84.8%
Total	79	100%

Household English Reader-Aunts/Uncles	N	%
No	46	58.2%
Yes	33	41.8%
Total	79	100%

Household English Reader-Grandparents	N	%
No	69	87.3%
Yes	10	12.7%
Total	79	100%

Household English Reader-Child's Siblings	N	%
No	33	41.8%
Yes	46	58.2%
Total	79	100%

Household English Reader-Other	N	%
No	76	96.2%
Yes	3	3.8%
Total	79	100%

Household English Reader-No one	N	%
No	79	100%
Total	79	100%

Household English Reader-Not sure/Don't know	N	%
No	79	100%
Total	79	100%

Household Pidgin Reader-Child's mother	N	%
No	35	44.3%
Yes	44	55.7%
Total	79	100%

Household Pidgin Reader-Child's father	N	%
No	23	29.1%
Yes	56	70.9%
Total	79	100%

Household Pidgin Reader-Aunts/Uncles	N	%
No	53	67.1%
Yes	26	32.9%
Total	79	100%

Household Pidgin Reader-Grandparents	N	%
No	69	87.3%
Yes	10	12.7%
Total	79	100%

Household Pidgin Reader-Child's Siblings	N	%
No	48	60.8%
Yes	31	39.2%
Total	79	100%

Household Pidgin Reader-Other	N	%
No	77	97.5%
Yes	2	2.5%
Total	79	100%

Household Pidgin Reader-No one	N	%
No	71	89.9%
Yes	8	10.1%
Total	79	100%

Household Pidgin Reader-Not sure/Don't know	N	%
No	77	97.5%
Yes	2	2.5%
Total	79	100%

Have you been trained on using technologies with children with disabilities from YRT?	N	%
No	51	64.6%
Yes	28	35.4%
Total	79	100%

YRT Training Community Promoters flip book	N	%
No	4	14.3%
Yes	24	85.7%
Total	28	100%

YRT Training Disability inclusion by PNGADB	N	%
No	23	82.1%
Yes	5	17.9%
Total	28	100%

YRT Training Community engagement and mobilization training by PNG ADB	N	%
No	26	92.9%
Yes	2	7.1%
Total	28	100%

YRT Training Creating eBooks with PNGADB and SIL	N	%
No	25	89.3%
Yes	3	10.7%
Total	28	100%

YRT Training Using Bloom Reader by CSNU	N	%
No	21	75%
Yes	7	25%
Total	28	100%

YRT Training Introduction to SD Cards by CSNU	N	%
No	26	92.9%
Yes	2	7.1%
Total	28	100%

YRT Training Support to OPD development by PNGADB	N	%
No	26	92.9%
Yes	2	7.1%
Total	28	100%

How satisfied were you with the quality of the YRT trainings?	N	%
Moderately dissatisfied	1	3.6%
Moderately satisfied	10	35.7%
Very satisfied	17	60.7%
Total	28	100%

Was there anything about the trainings that could have been improved?	N	%
Need more training	1	100%
Total	1	100%

Do you have access to a computer or tablet at home?	N	%
No	73	92.4%
Yes, at home and at school	1	1.3%
Yes, at home	5	6.3%
Total	79	100%

During the last three months, how often did you use a computer or tablet?	N	%
Not at all	1	16.7%
At least once a week	3	50%
Almost every day	2	33.3%
Total	6	100%

How would you describe your level of comfort in using a computer or tablet?	N	%
Not at all comfortable	56	70.9%
Not very comfortable	17	21.5%
Comfortable	5	6.3%
Very comfortable	1	1.3%
Total	79	100%

Do you have access to a mobile feature phone at home?	N	%
No	45	57%
Yes, at home and at school	1	1.3%
Yes, at school	2	2.5%
Yes, at home	30	38%
Don't know/no response	1	1.3%
Total	79	100%

During the last three months, how often did you use a mobile feature phone to support your child's learning?	N	%
Not at all	2	6.1%
Less than once a week	4	12.1%
At least once a week	15	45.5%
Almost every day	12	36.4%
Total	33	100%

How would you describe your level of comfort in using a mobile phone?	N	%
Not at all comfortable	27	34.2%
Not very comfortable	22	27.8%
Comfortable	22	27.8%
Very comfortable	8	10.1%
Total	79	100%

Do you have access to a smart phone at home?	N	%
No	39	49.4%
Yes, at home and at school	2	2.5%
Yes, at home	38	48.1%
Total	79	100%

During the last three months, how often did you use a smart phone to support your child's learning?	N	%
Almost every day	2	100%
Total	2	100%

How would you describe your level of comfort in using a smart phone?	N	%
Not at all comfortable	21	26.6%
Not very comfortable	28	35.4%
Comfortable	24	30.4%
Very comfortable	6	7.6%
Total	79	100%

Do you have access to the internet at home?	N	%
No	58	73.4%
Yes, at home and at school	2	2.5%
Yes, at home	14	17.7%
Don't know/no response	5	6.3%
Total	79	100%

During the last three months, how often did you use the internet to support your child's learning?	N	%
Not at all	7	43.8%
Less than once a week	6	37.5%
At least once a week	3	18.8%
Total	16	100%

How would you describe your level of comfort in using the internet?	N	%
Not at all comfortable	43	54.4%
Not very comfortable	30	38%
Comfortable	4	5.1%
Very comfortable	2	2.5%
Total	79	100%

Have you ever used Bloom Reader for reading with your child?	N	%
No	33	41.8%
Yes	43	54.4%
Don't know / no response	3	3.8%
Total	79	100%

Did you receive a microSD card with learning materials from the YRT project?	N	%
No	54	68.4%
Yes	25	31.6%
Total	79	100%

(If yes) Have you or your child used the learning materials at home to support your child's learning?	N	%
No	2	8%
Yes	23	92%
Total	25	100%

How satisfied are you with the teaching and learning materials provided by YRT?	N	%
Moderately satisfied	12	48%
Very satisfied	12	48%
Not sure/Don't know	1	4%
Total	25	100%

Challenge Using Materials-Do not have a device	N	%
No	15	60%
Yes	10	40%
Total	25	100%

Challenge Using Materials-Device is broken/not charged	N	%
No	16	64%
Yes	9	36%
Total	25	100%

Challenge Using Materials-Device was stolen	N	%
No	23	92%
Yes	2	8%
Total	25	100%

Challenge Using Materials-Materials hard to understand	N	%
No	23	92%
Yes	2	8%
Total	25	100%

Challenge Using Materials-Materials not relevant to my child	N	%
No	25	100%
Total	25	100%

Challenge Using Materials-SD card lacked materials	N	%
No	23	92%
Yes	2	8%
Total	25	100%

Challenge Using Materials-Other	N	%
No	17	68%
Yes	8	32%
Total	25	100%

Families can improve reading outcomes by ensuring daily school attendance	N	%
No	13	16.5%
Yes	66	83.5%
Total	79	100%

Families can improve reading outcomes by having positive attitudes	N	%
No	20	25.3%
Yes	59	74.7%
Total	79	100%

Families can improve reading outcomes by not chewing betelnut	N	%
No	39	49.4%
Yes	40	50.6%
Total	79	100%

Families can improve reading outcomes by reading at home everyday	N	%
No	17	21.5%
Yes	62	78.5%
Total	79	100%

Families can improve reading outcomes by using a reading app	N	%
No	31	39.2%
Yes	48	60.8%
Total	79	100%

Families can improve reading outcomes by - other	N	%
No	71	89.9%
Yes	8	10.1%
Total	79	100%

Don't know how families can improve reading outcomes/no response	N	%
No	77	97.5%
Yes	2	2.5%
Total	79	100%

Families can help children with disabilities learn by adapting desks or chairs	N	%
No	39	49.4%
Yes	40	50.6%
Total	79	100%

Families can help children with disabilities learn by adapting doors or steps	N	%
No	45	57%
Yes	34	43%
Total	79	100%

Families can help children with disabilities learn by adapting toilets	N	%
No	52	65.8%
Yes	27	34.2%
Total	79	100%

Families can help children with disabilities learn by providing large print reading materials	N	%
No	17	21.5%
Yes	62	78.5%
Total	79	100%

Families can help children with disabilities learn by making the home better lit	N	%
No	19	24.1%
Yes	60	75.9%
Total	79	100%

Families can help children with disabilities learn by repeating information	N	%
No	25	31.6%
Yes	54	68.4%
Total	79	100%

Families can help children with disabilities learn through praise and encouragement	N	%
No	23	29.1%
Yes	56	70.9%
Total	79	100%

Families can help children with disabilities learn - other	N	%
No	73	92.4%
Yes	6	7.6%
Total	79	100%

Don't know how families can help children with disabilities learn/no response	N	%
No	75	94.9%
Yes	4	5.1%
Total	79	100%

Families and teachers can use large print books	N	%
No	11	13.9%
Yes	68	86.1%
Total	79	100%

Families and teachers can use audio books	N	%
No	30	38%
Yes	49	62%
Total	79	100%

Families and teachers can use Bloom Reader	N	%
No	17	21.5%
Yes	62	78.5%
Total	79	100%

Families and teachers can use other materials	N	%
No	69	87.3%
Yes	10	12.7%
Total	79	100%

Don't know what families and teachers can use / no response	N	%
No	76	96.2%
Yes	3	3.8%
Total	79	100%

Bloom Activity: 15 minutes of reading with all children daily	N	%
No	37	46.8%
Yes	42	53.2%
Total	79	100%

Bloom Activity: Child individually reads with Bloom Reader	N	%
No	32	40.5%
Yes	47	59.5%
Total	79	100%

Bloom Activity: Read one-to-one with your child using Bloom Reader	N	%
No	38	48.1%
Yes	41	51.9%
Total	79	100%

Bloom Activity: Have your child read with a sibling or friend with Bloom Reader	N	%
No	45	57%
Yes	34	43%
Total	79	100%

Bloom Activity: Ask comprehension questions from Bloom Reader	N	%
No	41	51.9%
Yes	38	48.1%
Total	79	100%

Bloom Activity: Have your child copy a story from Bloom Reader into a Big Book	N	%
No	56	70.9%
Yes	23	29.1%
Total	79	100%

Bloom Activity: Play an audio book from Bloom Reader to the child	N	%
No	54	68.4%
Yes	25	31.6%
Total	79	100%

Bloom Activity: Play a sign language video from Bloom Reader to a child	N	%
No	76	96.2%
Yes	3	3.8%
Total	79	100%

Bloom Activity: Choose books with Tok Pisin from Bloom Reader your child	N	%
No	75	94.9%
Yes	4	5.1%
Total	79	100%

Bloom Activity: Echo reading or choral reading with story on Bloom Reader	N	%
No	62	78.5%
Yes	17	21.5%
Total	79	100%

No Bloom Activity	N	%
No	69	87.3%
Yes	10	12.7%
Total	79	100%

Other Bloom Activity	N	%
No	62	78.5%
Yes	17	21.5%
Total	79	100%

I can open and read or listen from the Bloom Reader app	N	%
Strongly disagree	1	2.3%
Disagree	1	2.3%
Agree	20	46.5%
Strongly agree	21	48.8%
Total	43	100%

I can find different languages (e.g. sign language or Tok Pisin) on Bloom Reader	N	%
Strongly disagree	3	7%
Disagree	3	7%
Agree	29	67.4%
Strongly agree	8	18.6%
Total	43	100%

I can share the Bloom Reader app and books with other people	N	%
Strongly disagree	2	4.7%
Disagree	6	14%
Agree	21	48.8%
Strongly agree	10	23.3%
Neutral / Don't know / no response	4	9.3%
Total	43	100%

I can use the Bloom Reader app to read with an individual or small group	N	%
Disagree	5	11.6%
Agree	23	53.5%
Strongly agree	15	34.9%
Total	43	100%

I can find the comprehension questions in Bloom Reader	N	%
Disagree	3	7%
Agree	27	62.8%
Strongly agree	13	30.2%
Total	43	100%

All children - even those with disabilities - can learn to read	N	%
Disagree	1	1.3%
Agree	24	30.4%
Strongly agree	54	68.4%
Total	79	100%

It is my responsibility to adapt my home for children with disabilities	N	%
Disagree	4	5.1%
Agree	36	45.6%
Strongly agree	38	48.1%
Neutral / Don't know / no response	1	1.3%
Total	79	100%

Children need to read every day at school	N	%
Agree	24	30.4%
Strongly agree	55	69.6%
Total	79	100%

It is the teacher's job to teach a child to read	N	%
Disagree	5	6.3%
Agree	31	39.2%
Strongly agree	42	53.2%
Neutral / Don't know / no response	1	1.3%
Total	79	100%

Children with disabilities should go to a special, not a regular school	N	%
Strongly disagree	3	3.8%
Disagree	14	17.7%
Agree	27	34.2%
Strongly agree	35	44.3%
Total	79	100%

If I read with my child, they can learn to read	N	%
Strongly disagree	1	1.3%
Disagree	3	3.8%
Agree	32	40.5%
Strongly agree	42	53.2%
Neutral / Don't know / no response	1	1.3%
Total	79	100%

Using technologies like Bloom Reader can help different children learn to read	N	%
Disagree	5	6.3%
Agree	31	39.2%
Strongly agree	37	46.8%
Neutral / Don't know / no response	6	7.6%
Total	79	100%

Technologies like Bloom Reader in the classroom are more of a distraction than a benefit	N	%
Strongly disagree	14	17.7%
Disagree	18	22.8%
Agree	24	30.4%
Strongly agree	15	19%
Neutral / Don't know / no response	8	10.1%
Total	79	100%

I am confident using technologies like Bloom Reader in my home	N	%
Strongly disagree	2	2.5%
Disagree	3	3.8%
Agree	43	54.4%
Strongly agree	19	24.1%
Neutral / Don't know / no response	12	15.2%
Total	79	100%

Appendix K
Works Cited

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