



RIGHT TO PLAY
PROTECT. EDUCATE. EMPOWER.

Enhancing Quality & Inclusive Education (EQIE)

Baseline Assessment: Tanzania

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List of Acronyms

CSO	Civil society organization
CWD	Children with disabilities
ECD	Early childhood development
EQ	Evaluation question
EQIE	Enhancing Quality and Inclusive Education
ICC	Intra-class correlation
IRR	Inter-rater reliability
MOE	Ministry of Education
MUW	Most Used words subtest
PBL	Play-based learning
PMF	Project management framework
PTA	Parent-teacher association
RCA	Reflect, Connect, Apply
RTP	Right To Play
RWC	Readers with comprehension
SDG	Sustainable Development Goal
SMC	School management committee
WPMC	Words per minute correct

Executive Summary

Right To Play (RTP) is implementing the EQIE program in Tanzania. The overall goal is to enhance quality and inclusive education, with the two main objectives to (1) Improve learning outcomes of boys and girls, specifically minimum proficiency level in reading in lower primary Grade 1-4; and (2) Increase retention of out-of-school girls and children with disabilities.

These pages summarize the key findings of the EQIE baseline assessment conducted in late December 2020, aiming to (1) assess the program's starting point, (2) inform program design and strategy, and (3) establish baseline measurements against which improvement and impact will be measured during 2023 midline and 2024 endline.

Methodology

Table 1: Target and achieved sample^A by type of respondent/tool

Tool	Target	Achieved	Notes
Grade 1 Learner Assessment	800	747	Goal of 20 students per intervention and comparison schools. Plus 1 student from Teacher Interview for CWD. Target was not achieved due to data collection occurring over a holiday break and some students could not attend.
Grade 4 Learner Assessment	300	312	Goal of 15 students per intervention school. Plus 2 students from Teacher Interview for CWD.
Lesson Observation	80	72	One observation per grade in each intervention and comparison school. Target was not achieved because some teachers were absent on day of observation.
Teacher Interview	40	37	Grade 1 & 4 teachers interviewed per intervention school. Target was not achieved because some teachers were absent on the day of observation.
Principal Interview	40	39	One interview per each of intervention and comparison schools.
Caregiver Interview	200	209	Random subset of caregivers of assessed students.
Educ. Official Interview	3	3	Chosen for their relevance to the EQIE project.
Community Leader Interview	40	36	Two interviews per intervention school.

^ASampling strategy: Purposeful sampling of CWD first, then random sampling up to target number per grade, striving for balance between boys and girls.

The evaluation design is quasi-experimental and seeks to optimize rigor of (A) impact evaluation and (B) reporting on project indicators. For impact evaluation, the baseline established an intervention and comparison sample of students (in Grade 1 at baseline) to be followed longitudinally for re-assessment in Grade 4 during 2023 midline. This allows for difference in difference analysis, comparing learner gains in intervention and comparison schools (controlling for exposure to EQIE programming, and other observable differences between groups). For reporting on indicators, the baseline included a cross-sectional random sample of Grade 4 students from intervention schools. This also serves as a benchmark grade for learning outcome targeting.

Programming Area Sample Characteristics

The sample of intervention students was 52% female, with 0.7% (5 students) identified by their teacher as a CWD. The Grade 1 intervention sample was 7.5 years old on average, and the Grade 4 sample was 11 years old. Most students (84%) had attended ECD or preschool. Among intervention students, 20% had repeated Grade 1 and 7% had repeated Grade 2.

EQ1: How similar are intervention and comparison schools?

Based on student-level variables, intervention and comparison groups appear similar enough for a solid quasi-experimental impact evaluation. The midline analysis will need to control for the significantly different student background variables and principal-reported school-level variables outlined in later sections of the report, especially those with a strong theoretical relationship to student outcomes, when investigating the impact of the EQIE project.

EQ2: What can the baseline assessment tell us about students' reading skills?

There was no statistically significant difference in either reading skill between Grade 1 intervention and comparison students. Grade 1 students performed quite well on letter identification (average of 90% letters identified), while their phonemic awareness is relatively low (average of 60%). Grade 4 students performed very well, correctly identifying 98% of most used words, 88% of phonemic awareness questions, and 95.5% are readers. However, the 4.5% of Grade 4 students who qualify as nonreaders are far behind their peers and need remedial

support. There is also a ‘middle tier’ of 18.6% of students who qualify as readers but who have not yet mastered comprehension.

Interactions with teachers in the classroom was strongly correlated with reading skills for the youngest students. This speaks to the importance of focusing on teacher training to support students’ learning. While CWD encompassed too small a sample for this baseline to make statistically meaningful recommendations, it is important to note those CWD in Grade 4 scored similarly to their peers despite their condition/situation.

EQ3: What can the baseline assessment tell us about students’ life skills?

There was no statistically significant difference in any skill between Grade 1 intervention and comparison students. Students in both grades scored lowest in self-confidence (Grade 1 - 40% average; Grade 4 – 62%) and respect for others (Grade 1 - 49% average; Grade 4 – 64%). Students in both grades also scored highest in concentration (Grade 1 - 72% average; Grade 4 – 86%) and teamwork (Grade 1 - 71% average; Grade 4 – 86%). While there is room for improvement in all six life skills, the need is most acute in both grades for self-confidence and respect for others.

While student-reported home activity participation and classroom teacher practices were limited to specific literacy activities, it is interesting to note the positive correlation between amount of engagement and score on life skills. This correlation likely exists because of the underlying assumption – increased engagement is reflective of increased relationship between caregiver and child and teacher and child, resulting in increased social emotional skills.

EQ4: What supplemental reading activities are available to children (in homes/communities)?

Child-friendly reading materials at home are available to less than one-third of students. Similarly, only about half of students report being engaged in the most fun of the interactive literacy actions at home (being read to, being told a story, and playing a literacy game). Additionally, less than half of students (24% in Grade 1 and 38% in Grade 4) attend in-person or virtual extracurricular literacy activities on a regular basis. Indeed, there is a strong correlation between reading materials and literacy-supportive actions and extracurricular activities. There is scope to expand these opportunities to more students – both through making families aware of the

benefits of these materials and activities to students, as well as providing extracurricular ‘substitute’ activities for students.

EQ5: What teaching knowledge, attitudes, & practices regarding inclusive PBL/literacy instruction are common among teachers at baseline?

On average, Grade 1 & 4 teachers in intervention schools had knowledge of 35% of the PBL elements, though 57% of teachers reported having been trained by RTP. The lesson observation tool, likely more valid than the teacher self-report, assessed teacher practice using a composite score of 36 items split into five categories. Intervention teachers scored highest on child-centered learning environment (71%) and lowest on approach and ability to implement literacy-PBL (37%). Most differences between intervention and comparison schools existed in the use of child-friendly teaching practices, which may be the result of RTP training that has started in some intervention schools. Based on lesson observation, the percent of intervention teachers who demonstrate improved teaching practices to enhance children’s reading skills (Indicator 1100.1) is 56%.

EQ6: What is the current state of schools (for CWD and without) in terms of safety?

Although all schools have a school improvement plan and CWD considerations are typically involved, most schools lack the resources necessary to adequately address the inclusion of CWD in the learning environment. EQIE can help schools integrate these objectives on inclusion into their existing plans by providing training on inclusion and materials for these children. Overall, 5 of 20 intervention schools (25%) met the physical safety criteria for Indicator 1300.1, compared to 4 of 19 comparison schools (one principal was not available to be surveyed at a comparison site). Only 3 intervention schools (15%) met the emotional safety criteria for Indicator 1300.2.

A minority of students report harsh/violent child-child or child-adult interactions in the last week at school. CWD are less likely to report almost all types of behaviors.

EQ7: What is the capacity of community members in creation and maintenance of safe learning environments?

Slightly more than half of parents recognize the need for them to be involved in school development activities, but few seem to be able to outline specific strategies they could use to better engage. Many parents identified improved infrastructure as a strategy for a positive learning environment. Males were significantly more likely than females to note that physical infrastructure is necessary for creating a positive learning environment.

The number of safety strategies identified by caregivers was not significantly correlated with the sum of the variables for Indicator 1300.1 (#/% of schools that are conducive to the physical well-being/safety of learners). Strangely, the number of safety strategies identified by caregivers was negatively correlated (though not significantly) with the sum of the variables for Indicator 1300.2 (#/% of schools that meet criteria for emotional safety/emotional well-being).

EQ8: What is the state of community members and leaders in terms of knowledge regarding ways to address barriers to education faced by marginalized children and CWD?

Community members agree that harmful traditional practices, especially early marriage, are the greatest barriers to girls' education. The beliefs that underlie these practices also perpetuate a feeling among caregivers that education for girls is less valuable because their role is to be married. For CWD, physical access to schools was seen as the biggest barrier, but again, community beliefs that show education opportunities for CWD are not valued underlie the difficulty of improving circumstances for these children.

Recommendations for EQIE Programming in Tanzania:

- Increase teachers' skill in using play-based learning to differentiate instruction to ensure no children are left behind. Continued training using the current design may be sufficient if teachers have not received much training to-date. For teachers who have been trained and still struggle to implement PBL, review the training design and consider using mentoring and coaching to facilitate adoption of PBL techniques.

- Increase teacher skill and confidence in interactive/ participatory techniques – especially free time, discussions, and child leadership opportunities.
- Take a dynamic and agile approach to meaningfully help schools accommodate the small number of CWD who each have individual needs. Ideally, draw on specialist support for diagnosis as well as thinking through solutions to individual needs.
- Enhance caregivers’ use of play. Optimize play for boys and girls – for boys, leveraging their existing play toward games that enhance their reading and life skills and for girls, more opportunity for play outside school.
- Find ways to expand to all students increased household literacy activities and access to child-friendly reading materials, or when infeasible, access to extracurricular literacy activities already in place in communities but not well-attended by students.
- Help schools integrate gender considerations into their curriculum and work with communities to advocate for a reduction and eventual elimination of harmful traditional practices that prevent girls from completing their education.
- Leverage EQIE as a nexus for bringing stakeholders together to brainstorm solutions to barriers and challenges, especially those related to gender inequality. EQIE can trial potential solutions and rigorously document the results during the midline evaluation.

1. Project Background

1.1 Project Description

Right To Play is implementing the Enhancing Quality and Inclusive Education (EQIE) program in Ethiopia, Lebanon, Mozambique, Palestine, and Tanzania. The EQIE program is a five-year education initiative being implemented from 2020-2024. The program aims to:

- Improve learning outcomes of boys and girls, specifically minimum proficiency level in reading in lower primary Grade 1-4;
- Increase retention of out-of-school girls and children with disabilities

This will be achieved by building the capacity of education staff, teachers, and parents to give children better and more opportunities to practice reading skills, both inside and outside school, using child-centered, play-based and active learning methodologies. Right To Play will also build the capacity of Civil Society Organization (CSO) partners to identify out-of-school children and to develop follow-up and support system, together with schools and local communities, which ensure access and sustained retention in school. Through these interventions, the program will contribute to achieving the Sustainable Development Goals (SDGs), particularly SDG 4, ensuring ‘inclusive and equitable quality education and promoting lifelong learning opportunities for all’, including its underlying principle of ‘leave no one behind’.

1.2 Context

The EQIE project will be implemented in the Serengeti and Tarime districts of the Mara Region. According to national census data from 2012, the region had a population of 1,743,830 and was the twelfth most densely populated region in the country. The region is located in the northern part of mainland Tanzania, and the schools included in the Right To Play assessment are mostly rural (three are in urban areas and two in peri-urban communities).

Through the EQIE program, RTP will target 30 schools for programming, of which 4 in Serengeti and 15 in Tarime are new to RTP programming. Through these schools, programming will impact 7,959 children in Serengeti and 7,415 children in Tarime. Of these, 1.3% (210) are CWD who have

disabilities that may impact their ability to learn in the same way as their peers and will be targeted by the EQIE programming. The language of instruction in these intervention schools is Kiswahili, and children were assessed in this language. Most children in these communities speak Kiswahili or Kurya at home.

Table 2: EQIE Program Target Population

District	# of target Schools	# of target children in school	# of target out-of-school children	Language of Instruction	# of new schools
Serengeti	15	3,914 boys, 4,045 girls	400 girls 210 children	Kiswahili Community language	4
Tarime	15	3,668 boys, 3,747 girls	with disabilities	(Kurya, Jita & Kiswahili)	15

2. Baseline Purpose, Objectives and Questions

2.1 Baseline Purpose & Objectives

This report summarizes the key findings and results of the baseline assessment for the Enhancing Quality and Inclusive Education (EQIE) program conducted in December 2020. As a baseline assessment for a quasi-experimental impact evaluation of the EQIE project, **747 Grade 1 and 312 Grade 4 students** were assessed on reading and life skills, **209 of these children's parents and caregivers** were surveyed on their home learning environment and strategies and barriers to a safe and inclusive school learning environment, **39 principals and 37 teachers** were surveyed on the school learning environment, **72 classroom lessons** were observed in Grades 1 and 4, and **3 district education officials and 36 community leaders** were interviewed on their roles in the community and desires for the local education system.

The primary purpose of the baseline assessment is to measure baseline values for the EQIE project indicators and inform EQIE programming by identifying strengths and weaknesses of students' reading abilities and life skills.

The baseline evaluation aims to:

1. Assess the program's starting point within each of the programming contexts,
2. Inform program design and strategy, and
3. Establish baseline measurements against which improvement and impact will be measured during midline and endline evaluations.

EQIE Project Indicators

A full description of indicators that will be tracked as part of the EQIE project, as well as the analysis framework for each indicator, is included in Annex A.

2.2 Baseline Evaluation Questions

Aligned to the evaluation purpose and scope, this evaluation seeks to answer the following evaluation questions and sub-questions:

1. How similar are intervention and comparison schools?
2. What can the baseline assessment tell us about students' reading skills?
 - a. How do these reading skills differ by equity indicators¹
3. What can the baseline assessment tell us about students' life skills?
 - a. How do these life skills differ by equity indicators?
4. What supplemental reading activities are available to children (in homes and communities)?
 - a. How do reported reading activities differ by parents and children?
 - b. Of those activities, which do children take part in? How frequently?
 - i. How does participation differ by equity indicators?
 - ii. How does participation in at-home reading activities differ by presence of reading materials in the home?
5. What teaching knowledge, attitudes, & practices regarding inclusive PBL/literacy instruction are common among teachers at baseline?

¹ Equity indicators to be examined: sex, SES, ECD attendance, home literacy environment, language of instruction, ethnicity, disability, home language, child time patterns, school setting (dependent upon context)

- a. How do these knowledge, attitudes, and practices differ by teacher background (sex, training status (RTP training, No RTP training), # of teaching years, teacher qualification, and grade
 - b. How do teachers adapt teaching practices for CWD and gender-responsiveness?
 - c. To what extent does RTP training influence teacher knowledge, attitudes, and practices regarding inclusive PBL/literacy instruction?
 - d. How does teaching practice correlate with teacher well-being?
6. What is the current state of schools (considered for CWD and without) in terms of:
 - a. Physical safety?
 - b. Emotional safety/emotional well-being?
 - c. Materials?
7. What is the capacity (measured by knowledge, attitudes, and practice) of community members in creation and maintenance of safe learning environments?
 - a. Does capacity correlate with higher outcomes in terms of school physical safety and emotional safety/emotional well-being?
 - b. What barriers do community members face in creation and maintenance of safe learning environments, despite knowledge and attitudes?
8. What is the current state of community members and leaders in terms of knowledge regarding ways to address barriers to education faced by girls and children with disabilities?

The findings of these evaluation questions, complemented by discussion with Right To Play country office and global staff, will provide insights to the following program design questions for the EQIE project:

1. How should the EQIE program be tailored to meet children's current reading and life skill needs?
2. How should certain countries/contexts prioritize certain sections of the EQIE teacher Training curriculum to meet teachers where they are, building upon existing skills and addressing gaps?

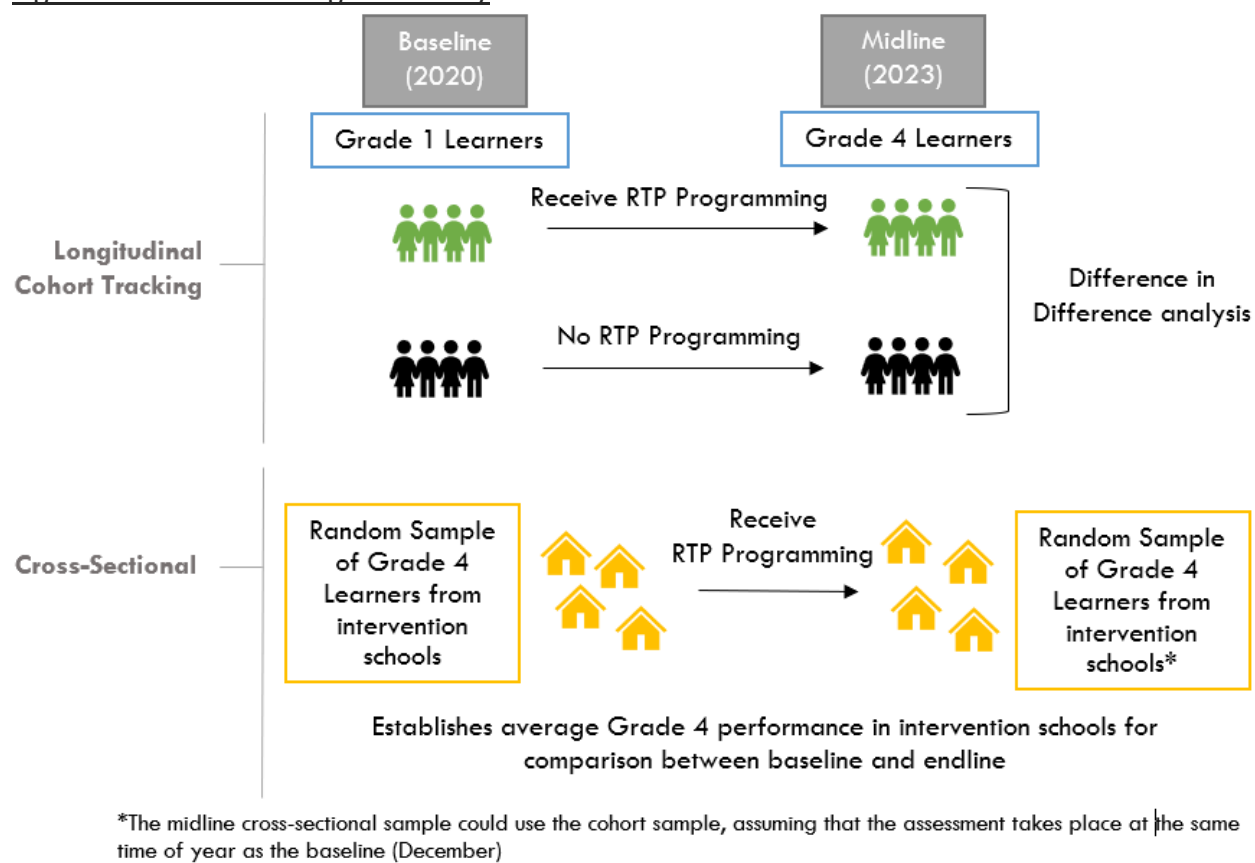
3. How can EQIE programming support CSOs to encourage inclusive education?
4. How valid/appropriate are the implied assumptions of the EQIE logic model?
5. What specific equity indicators appear to be especially influential and ought to be paid attention to in various contexts?
6. How should the project intervention be tailored to positively influence/address the barriers that perpetuate gender inequality and social exclusion?

3. Methodology

3.1 Study Design

This evaluation employed a quasi-experimental design, preparing Right To Play to examine the DAC criteria of effectiveness and impact at midline. This design maximizes Right To Play's ability to **(1) examine the DAC criteria of effectiveness and impact at midline**, while also **(2) reporting on project indicators**.

Figure 1: Evaluation design summary



The baseline established a sample of students to be followed longitudinally throughout the life of the program. These students were identified at baseline in Grade 1, in 20 intervention and 20 comparison schools. These same students should be followed and re-assessed in Grade 4, at the program’s midline in 2023. Additionally, the project sought to establish the baseline performance of learners in Grade 4 (the age used to measure the EQIE indicator target). Given this, a cross-sectional random sample of Grade 4 learners from 20 intervention schools were assessed at baseline. At midline, another random sample of students can be assessed to compare average Grade 4 performance at baseline and midline. In order to conserve resources, it is recommended that the midline cross-sectional sample includes (is made up of or at least includes, depending on attrition rate) the Grade 4 cohort sample that will be used for the longitudinal cohort tracking. Furthermore, the program team will have the opportunity to examine sustainability of the program results by re-assessing the longitudinal cohort group which will be in Grade 5 at endline.

In addition to the learners assessed, data were collected from other stakeholders in the education ecosystem. This includes interviews with teachers, principals, parents/caregivers, district education officials, and community leaders, as well as classroom observations. These data provide insight into the quality of education in the communities, the role RTP is currently playing in improving quality education, and the gaps that can be addressed through RTP programming.

3.2 Sampling and Data Collection Tools

In total, seven data collection tools were drafted or adapted from authoritative sources for use in this baseline. Five tools were primarily quantitative and as such were digitized using SMAP software. The Education Official and Community Leader Interviews were primarily qualitative and thus kept on paper, and the nonlinear nature of the Lesson Observation meant that paper was deemed to be more efficient for that tool as well. Copies of final tools are available in Annex H.

Table 3: Data collection tools

Tool	Intervention	Comparison	Administered by	Modality
<i>Learner Assessment^A</i>	Grade 1 & 4	Grade 1 only	Enumerators	In-person, using SMAP
<i>Teacher Interview</i>	Grade 1 & 4	N/A		
<i>Principal Interview</i>	Yes	Yes		

<i>Caregiver Interview</i>	Yes	N/A		(ODK-like platform)
<i>Community Leader Interview</i>	Yes	N/A		
<i>Lesson Observation</i>	Grade 1 & 4		District education officials	In-person, on paper
<i>Education Official Interview</i>	Yes		InformEd Country Manager	In-person, on paper

^AThe Learner Assessment had two versions. The master version was used as a one-on-one oral assessment with the vast majority of students. However, a minority of students had a disability so severe that the master version was not appropriate to their needs. For these students (3 total), their teacher was interviewed to gather similar information through a 'Reading and Life Skills Teacher Interview for CWD.'

Where the sample size is smaller for certain questions than others from the same tool, the individual responded 'don't know' or did not respond to the question. Those responses are eliminated where the variable is a binary, yes/no response, so as not to imply agreement or disagreement by the respondent.

3.3 Analysis

Data was organized and pre-cleaned in Microsoft Excel, with further cleaning and analysis carried out using STATA. Where summary indices were created, steps were taken to ensure that the constituent pieces of each index were placed on a comparable scale before combining.

Summary statistics are used to describe the data. In some cases the average may not summarize the data well if, for example, outcome variables are not normally distributed as is often the case for reading skills. This report highlights those cases and presents a histogram to more accurately represent the abnormal distribution.

For disaggregations, comparisons, and relationships that generalize from a sample to a larger population, statistical inference is used. Importantly, to maximize clarity this report ONLY presents disaggregations, comparisons, and relationships that were found to be statistically significant with at least 90% confidence. Exceptions include Programming Area Sample Characteristics, indicator reporting for the Project Management Framework (PMF, Annex B), and CWD – for which disaggregations are shown regardless of their statistical significance. In most cases, t-tests and regressions are used to evaluate statistical significance and the average relationship between variables. For student-level data, clustered t-tests and multilevel regression

models are used to adjust standard errors for the fact that students are grouped in schools and are likely to share some variation for being in the same learning environment.

For more information on the methodology for this evaluation, please refer to Annex C.

3.4 Limitations

Considering the complexity and scope of this assessment, as well as the importance of thoroughly understanding the methodology to accurately interpret findings, a thorough description of the limitations are included in Annex C while working within page limits for the main body of this report. Briefly, limitations include:

- Bug/Glitch in the KoBo literacy widget.
- Identifying children with disability without a technically specialized system in place for testing and diagnosis.
- Imperfect recall and self-reported data.
- Quasi-experimental nature of the research design.
- Non-random sampling in some schools due to government mandates for data to be collected during holiday break.
- Possible contamination due to previous programming from RTP in the past in some intervention schools.

4. Baseline Evaluation Findings

4.1 Programming Area Characteristics

Programming area characteristics are summarized here to provide background information on the communities included in the sample for the baseline assessment. Characteristics are organized by the individuals who answered the questions. These characteristics should be used to inform EQIE program design and tailor programming to the needs of the communities in which the EQIE project is working. The tables below present results for the intervention group only, since the more limited information on the comparison group is primarily for impact evaluation purposes.

Table 4: School Environment, as reported by intervention school principals

	n	Avg Score
Rural schools	20	75%
Urban schools	20	20%
Mixed-sex school	20	100%
School has system for addressing student safety concerns	17 ²	100%
School has teacher code of conduct	20	100%
School has access to trained point person for child protection referral and psychosocial support	20	65%
School has begun implementation of its school improvement plan to advance the emotional and physical safety of the learning environment	20	95%

Table 5: Principal Interview

	n	Avg Score	M	F	Sig Diff?
Principal Background					
How many years in total have you been a principal?	20	6.0	6.4	3.7	N
Percent of principals who are female	20	-	-	15%	-
How many years at this school have you been a principal?	20	3.0	2.9	3.3	N
How many teachers do you have in your school in this academic year?	20	11.7	11.8	10.7	N
How many children in grades 1-4 dropped out from this school in the last academic year? ^A	20	13.4	9.5	35.3	Y*
Training & Support					
Have any of the teachers in your school ever received training from Right to Play?	20	100%	100%	100%	N
How many MONTHS ago did they last receive training from Right to Play?	19	4.3	4.6	3.0	N
Have you ever received training from Right to Play?	20	85%	82.4%	100%	N
The teachers at your school implement play-based learning (PBL) activities in the classroom always or most of the time	20	40%	41.2%	33.3%	-
Principals who believe play-based learning is a very useful approach for children's learning	20	90%	88.2%	100.0%	-
Teaching Practices					
Teachers in your school most of the time or always adjust their approach to teaching to address gender inequalities	20	65%	70.6%	33.3%	-

² Where the sample size is smaller for certain questions than others from the same tool (in this case, questions asked of school principals), the individual responded 'don't know' to the question. Those responses are eliminated where the data are reported as a yes/no response.

Teachers in your school use only positive discipline in the classroom	20	55%	52.9%	66.7%	N
Teachers in your school are able to adjust their approach to teaching to better accommodate children with disabilities	20	50%	52.9%	33.3%	N
Principal Wellbeing					
In the past year, have you considered leaving education as a career?	20	10%	11.8%	0%	N
Do teachers at your school have access to a trained point person for psychosocial support?	19	63.2%	58.8%	100%	N

^ The number of students who dropped out in the previous year may be a reflection of the impact of the COVID-19 pandemic on current enrollment figures

Table 6: Teacher Interview

	n	Avg Score	Grade 1	Grade 4	Sig Diff?
Teacher Background					
Permanent teacher certification	37	91.9%	89.5%	94.4%	N
Percent of teachers who are female	37	43.2%	47.3%	38.9%	N
How many years in total have you been a teacher?	37	6.6	8.0	5.1	Y*
How many years at this school have you been a teacher?	37	4.6	5.4	3.7	N
How many students are in your class?	37	53.0	50.2	55.9	N
Minutes spent teaching language/literacy on an average day	37	48.4	56.3	40.0	N
Teacher can speak language of all students well enough for them to understand the lesson	37	27.0%	31.6%	22.2%	N
Training & Support					
Have you ever received training from Right to Play?	37	56.8%	63.2%	50%	N
How many MONTHS ago did you last receive training from Right to Play (only asked of those who have received training from RTP)?	21	14.7	17.6	10.9	N
Teachers who most of the time or always use play-based learning techniques in their classroom (only asked of those trained on PBL by RTP or another organization)	23	39.1%	46.2%	30%	-
Teachers who believe play-based learning is a very useful approach for children's learning (only asked of those who have received training from RTP)	20	95.0%	100%	88.9%	-
Teachers who believe the five reading skills are very useful for teaching children to read (only asked of those who have received training from RTP)	21	85.7%	91.7%	77.8%	-
Teaching Practices					
Teacher can name 3 or more play-based learning techniques or activities	35	48.6%	50%	47.1%	N

Teacher can name 3 or more of the 5 key reading skills	37	48.6%	47.4%	50%	N
Teacher uses only positive discipline in the classroom	37	40.5%	42.1%	38.9%	N
Teacher is able to adjust their approach to teaching to better accommodate children with disabilities	11	63.6%	80%	50%	N
Teacher Wellbeing					
Working as a teacher has been rewarding and worthwhile [score 0 (strongly disagree)-4 (strongly agree)]	37	3.5	3.5	3.4	N
There is a strong community of practice amongst my fellow teachers that I can learn from, and share challenges and successes with [score 0 (strongly disagree)-4 (strongly agree)]	37	3.5	3.4	3.6	N
In the past year, have you considered leaving teaching and education as a career?	37	8.1%	5.3%	11.1%	N
Do you have access to a trained point person for psychosocial support?	37	70.3%	63.2%	77.8%	N
Have you ever received training on providing psychosocial support to students?	37	67.6%	57.9%	77.8%	N

Table 7: Grade 1 Learner Assessment

	n	Avg Score	M	F	Sig Diff?
Background Characteristics					
Age	377	7.5	7.7	7.2	Y~
ECD attendance	376	81.9%	80.9%	82.9%	N
Number of household members	376	6.5	6.6	6.4	N
Disability status	377	0.3%	0%	0.5%	N
Reading Skills					
Letter Knowledge					
Percent of letters read correctly	372	90.4%	89.6%	91.1%	N
Students scoring 0 on letter knowledge	372	0.0%	0.0%	0.0%	N
Phonemic Awareness					
Percent of phonemes correctly identified	377	60.2%	61.2%	59.5%	N
Students scoring 0 on phonemic awareness	377	21.5%	19.1%	23.3%	N
Life Skills					
Communication	376	70.1%	71.1%	69.1%	N
Concentration	376	74.3%	76.3%	72.5%	N
Problem-solving	377	61.7%	61.6%	61.7%	N
Respect for Others	377	50.4%	49.8%	50.9%	N
Self-confidence	377	38.6%	40.7%	36.6%	N
Teamwork	376	72.4%	73.9%	71.0%	N

After School Reading Activity Participation					
Do you attend after-school reading activities, like reading camps, reading centers, or reading days out?	376	26.9%	26.2%	27.5%	N
If yes, did you attend last week?	99	74.8%	78.3%	71.7%	N
Do you participate in out-of-school reading activities, like those available through radio, TV, or mail?	376	19.2%	17.5%	20.7%	N
If yes, did you attend last week?	72	75.0%	87.5%	65.0%	N

Table 8: Grade 4 Learner Assessment

	n	Avg Score	M	F	Sig Diff?
Background Characteristics					
Age	310	11.0	11.0	11.0	N
ECD attendance	310	82.3%	79.6%	84.7%	N
Number of household members	310	7.3	7.4	7.3	N
Disability status	310	0.7%	1.4%	0%	N
Reading Skills					
Most Used Words					
Percent of most used words read correctly	310	98.1%	98.3%	97.8%	N
Students scoring 0 on most used words	310	0.0%	0.0%	0.0%	N
Phonemic Awareness					
Percent of phonemes correctly identified	310	87.9%	86.2%	89.5%	N
Students scoring 0 on phonemic awareness	310	2.9%	2.7%	3.1%	N
Readers					
Percent of students who are readers	310	95.5%	95.2%	95.7%	N
Accuracy					
Percent of words read correctly by readers	292	99.1%	99.2%	99.1%	N
Fluency					
Words per minute read correctly by readers	253 ³	47.4	47.5	47.3	N
Words per minute read correctly by readers & nonreaders	269	44.6	44.4	44.7	N
Reading Comprehension					
Percent of comprehension questions answered correctly by readers	296	87.8%	88.1%	87.5%	N
Listening Comprehension					

³ Some students' fluency scores are missing due to a bug in the Kobo system that did not collect data on words read by a certain time if the certain buttons were not clicked (see the Limitations section for more information). Most of these missing scores were recorded in the first few days of data collection, after which time the Country Manager worked with enumerators to ensure they were proactively addressing this limitation in the software.

Percent of comprehension questions answered correctly by nonreaders	14	47.9%	60.0%	35.7%	N
Life Skills					
Communication	312 ⁴	82.1%	82.0%	82.2%	N
Concentration	312	85.6%	84.0%	87.1%	N
Problem-solving	312	74.1%	73.9%	74.3%	N
Respect for Others	312	63.9%	63.9%	63.9%	N
Self-confidence	312	61.5%	57.1%	65.5%	N
Teamwork	312	85.5%	84.2%	86.7%	N
After School Reading Activity Participation					
Do you attend after-school reading activities, like reading camps, reading centers, or reading days out?	309	37.5%	38.1%	37.0%	N
If yes, did you attend last week?	116	62.9%	55.4%	70.0%	N
Do you participate in out-of-school reading activities, like those available through radio, TV, or mail?	308	28.9%	27.9%	29.8%	N
If yes, did you attend last week?	89	77.5%	75.6%	79.2%	N

Table 9: Parents/Caregivers Interview

	n	Avg Score	M	F	Sig Diff?
Parent/Caregiver Background					
Member of SMC or PTA	209	12.9%	16.9%	10.3%	N
Highest level of education - Primary School	208	61.5%	60.2%	61.9%	N
Highest level of education - Secondary School	208	25.5%	27.7%	23.8%	N
Highest level of education - Tertiary School	208	4.3%	8.4%	1.6%	N
Do you work outside the home?	208	41.8%	47.6%	38.1%	N
Number of people in your household	209	7.1	7.3	6.9	N
Home Learning Environment					
Home has storybooks	205	23.9%	32.1%	18.6%	N
Home has coloring books	205	5.4%	2.5%	7.3%	N
Home has comics	205	2.9%	0%	4.8%	N
In the past week, have you read anything for pleasure?	209	34%	36.1%	32.5%	N
In the past week, have you helped your child with homework?	209	59.8%	67.5%	54.8%	N
In the past week, have you read to your child?	209	41.6%	48.2%	37.3%	N

⁴ The n value of 312 includes two children with disabilities who were assessed using the teacher interview tool. While these students do not have reading skill scores due to the nature of the reading questions that require direct assessment, teachers were asked about these students' life skills. Therefore, those students' life skills scores are included in these summary statistics.

In the past week, have you told a story to your child?	209	28.7%	31.3%	27%	N
In the past week, have you played literacy games with your child?	209	37.8%	38.6%	37.3%	N

Table 10: Community Leader Interview

	n	Avg Score
Percent female respondents	36	13.9%
Percent of leaders associated with school general management	36	25%
Percent of leaders associated with school development	36	22.2%
Percent of leaders in their position for more than 5 years	22	27.3%
Percent who exhibit knowledge in creation and maintenance of safe and inclusive learning environments	36	38.9%
Percent who can easily identify at least three ways to address barriers to education faced by girls and children with disabilities	36	8.3%

Table 11: District Education Official Interview

	n	Avg Score
Percent female respondents	3	33.3%
Percent who exhibit knowledge in creation and maintenance of safe and inclusive learning environments	3	100%
Percent who can easily identify at least three ways to address barriers to education faced by girls and children with disabilities	3	100%

Interpretation

While students are generally performing very well, intervention schools are stretched for classroom space and number of qualified teachers necessary to be able to engage all students and differentiate learning. While expanding these things may largely be out of the control of the project, it is possible for PBL programming to take these limitations into consideration. The project can expand its efforts in extracurricular activities already in place and led by RTP and in advocacy with parents so that children have access to literacy activities outside of their crowded classrooms. Additionally, all schools have at least started implementation of their school improvement plans, offering the project an opportunity to come alongside these schools to ensure they have the tools they need – both training as well as physical materials – to be successful. Additionally, most schools have codes of conduct, systems for addressing student safety concerns, and access to trained point person for child protection referral and psychosocial

support. It will be important for the project first to listen to schools about how well these assets are working, so that EQIE can help fill any gaps.

As both principals and teachers are generally motivated and have substantial experience, it will also be important to actively involve teachers in brainstorming how EQIE programming can be adapted to their needs/implemented in their contexts as part of teacher training.

Very few caregivers are members of either SMCs or PTAs. RTP should take a lead role in building capacity of SMCs to engage more parents to participate in their children's learning, especially in engaging in literacy activities at home. It is also recommended the project seek out additional communication avenues while participation in these groups is still low to ensure no parents or caregivers are left out. Other potential avenues of communication include parent-teacher 'learning together' sessions and outside school learning days with parents, teachers, and children.

Finally, gender-responsiveness is a major challenge. As will be discussed in greater detail in following sections, there appear to be biases against girls' potential in the classroom, as well as cultural norms that often result in early marriage, early pregnancy, and/or school dropout. In addition to finding alternative methods to spread messages to caregivers, RTP should consider how best to advocate for girls' education and addressing social norms that keep girls out of school.

4.2 EQIE Indicator Baseline Values

The baseline assessment established the baseline value for each of the EQIE indicators outlined in the program. These values are presented in Annex B. These measurements serve as a snapshot of current levels of performance, but these measurements become more useful in time as progress is measured against starting values.

More nuanced analyses of these indicators and the evaluation questions are presented in the sections that follow.

4.3 How similar are intervention and comparison schools?

Out of 179 Learner Assessment variables tested for significant differences between intervention and comparison Grade 1 students, only 11 variables were significantly different as shown in the table below. Eight of these variables were significantly correlated with reading and/or life skill outcomes and should be controlled for during midline impact analysis.

Table 12: Statistically significant differences between Grade 1 intervention and comparison students

	n	Intervention	Comparison	Variable correlated with
Number in household	745	6.5*	7.1	Letter identification*
Homes with refrigerator	746	9.3%~	4.6%	No outcomes
Homes with television	746	28.7%~	19.5%	Phonemic awareness*
Children who do chores after school	746	59.7%*	73.7%	No outcomes
Children who have ever lived in a home where people shout or yell at each other	738	17.5%~	11.2%	Letter identification*
Children who have had help studying in the last week	745	60%*	50.3%	Letter identification & Phonemic Awareness*, combined Life Skills***
Children who talk to someone at home when they are sad	736	83.9%~	89.3%	Letter identification**, Phonemic Awareness & combined Life Skills***
Children who say their teacher provides class time for them to read quietly without help	746	61.5%~	53.1%	Letter identification**, Phonemic Awareness & combined Life Skills***
Children who participate in virtual out-of-school reading activities	746	19.1%**	8.1%	Combined Life Skills**
Children who witnessed an adult in their school scream or yell at a child in the last week	741	17.7%*	24.9%	No outcomes
Children who report positive engagement in their home to support their reading (sub-indicator 1200.2)	746	59.7%~	51.8%	Letter identification*, Phonemic Awareness & combined Life Skills***

~p<0.1, *p<0.05, **p<0.01, ***p<0.001

Of the eight outcome variables tested for significant differences, none were significantly different between intervention and comparison Grade 1 students. These variables included % letters correct, % phonemic awareness correct, % respect for others score, % concentration score, % problem-solving score, % self-confidence score, % teamwork score, and % communication score.

Additionally, 59 principal-reported variables were compared between intervention and comparison schools. Because this is not a case of generalizing to a larger population, no statistical inference is used here. Instead, the difference between intervention and comparison schools appeared large enough to be considered in five variables. These variables are listed in the table below.

Table 13: Differences between intervention and comparison schools

	n	Intervention	Comparison
Rural schools	39	75%	100%
Right To Play has trained teachers in the school	39	100%	15.8%
Other organization has trained school on play-based learning or literacy instruction	39	40%	0%
Teachers facilitate Reading Clubs	39	75%	31.6%
School has access to a trained point person for child protection referral and psychosocial support	39	65%	31.6%

Fifteen intervention schools are rural, one is peri-urban, and four are urban, while all comparison schools are rural. Three comparison principals report that RTP has trained their teachers in PBL for life skills, however, all intervention principals report that RTP has trained them on managing safe & inclusive learning environment. Fifteen out of twenty intervention school principals report their teachers facilitate Reading Clubs, while only six comparison school principals say the same. Finally, 13 intervention schools have access to a trained point person for child protection referral and psychosocial support, while only six comparison schools have the same access.

Interpretation

Considering the Grade 1 student variables, intervention and comparison groups appear similar enough for a solid quasi-experimental impact evaluation. **Nonetheless, the midline analysis will need to control for the significantly different student variables when investigating the impact of the EQIE project (with the exception of those variables in Table 12 that are uncorrelated with outcomes and may be considered an intermediate outcome itself).**

Some of the principal-reported school-level variables should also be controlled for, especially those with a strong theoretical relationship to student outcomes. This includes all variables listed in Table 13.

4.4 What can the baseline assessment tell us about students' reading skills?

This section presents figures, disaggregations, and relationships for all students in the sample, including comparison students, because no statistically significant differences were found in outcomes between intervention and comparison groups.

4.4.1 Findings Overall

The table below summarizes the average scores for the key reading skills measured, as well as the percent of students meeting the definition of 'reader' (student read at least five words correct in first 30 seconds, and therefore did not trigger the reading passage stop rule) and 'reader with comprehension' (student was a reader, and correctly answered at least 80% of reading comprehension questions). If a student did not qualify as a reader, the enumerator kindly stopped the student, read the full passage to the student, and then tested the student on comprehension questions for a measure of listening comprehension. Readers, on the other hand, were not read to at all, and were therefore tested on reading comprehension.

There was no statistically significant difference in any skill between Grade 1 intervention (Int) and comparison (Comp) students.

Table 14: Reading skill scores, by grade

	n	Avg Score	Grade 1 (Int)	Grade 1 (Comp)	Grade 4 (Int)
Average % Letter Identification correct	732	90.1%	90.4%	89.9%	NA
% of students scoring zero on Letter Identification	732	0%	0%	0%	NA
Average % Phonemic Awareness correct	1056	68.5%	60.2%	61%	88.8%
% of students scoring zero on Phonemic Awareness	1056	18.9%	21.5%	29.8%	2.9%
Average % MUW correct	310	98.1%	NA	NA	98.1%
% of students scoring zero on MUW	310	0%	NA	NA	0%
% of students qualifying as readers ^A	310	95.5%	NA	NA	95.5%
Average % reading passage correct (accuracy)	292	99.1%	NA	NA	99.1%

Average words correct per minute (fluency)	253	47	NA	NA	47 (SD = 17)
Average % reading comprehension	296	87.8%	NA	NA	87.8%
Average % listening comprehension	14	47.9%	NA	NA	47.9%
% of students qualifying as readers with comprehension (RWC) ^B	312 ^C	76.9%	NA	NA	76.9%

^AStudent read at least 5 words correct in first 30 seconds, and thus did not trigger the reading passage stop rule

^BStudent was a reader and correctly answered at least 80% of reading comprehension questions

^CIncludes two students indirectly assessed through teacher interview for CWD (both were not readers with comprehension). Teachers were asked yes/no questions about students' ability, therefore, these scores cannot be incorporated into the other reading skills calculations that are continuous measures.

Overall performance on foundational reading skills is relatively high in both grades, though Grade 1 students are not as advanced in phonemic awareness as Grade 4 students. However, the 4.5% of Grade 4 students who qualify as nonreaders are far behind their peers and need remedial support. There is also a 'middle tier' of 18.6% of students – those who qualify as readers but who have not yet mastered comprehension – who need more reading practice and support on comprehension strategies.

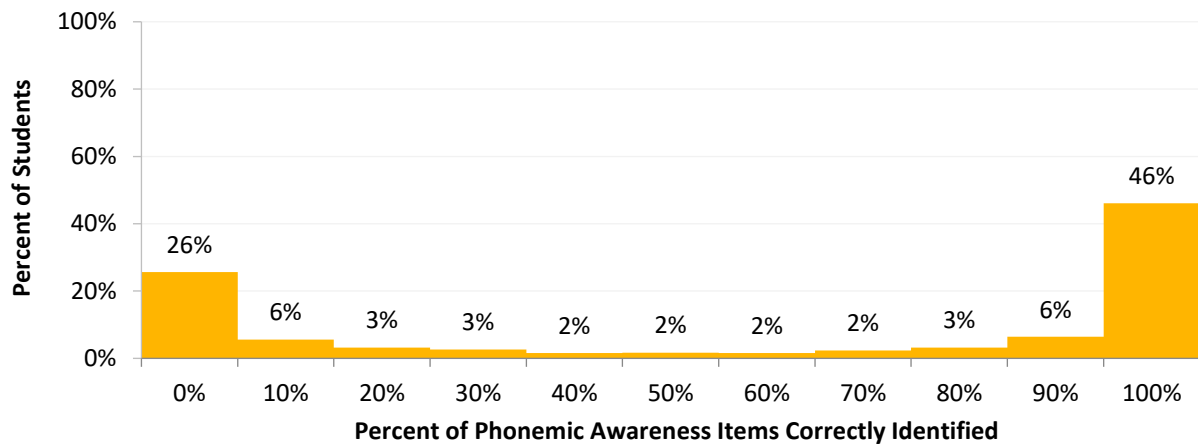
It is especially important to consider the limitation of instances of purposeful sample in some schools where it was found teachers selected students to participate in the data collection process during the holiday break. If the students were selected based on their high performance in class, these results may not provide a full picture of the skill level of all students.

4.4.2 Findings by Skill

The following pages 'go beyond the average' to take a closer look at individual reading skills and the specific items included in the subtests. As a summary statistic, the average assumes a normal (bell-shaped) distribution of scores. But in some cases, the distribution of scores is abnormal, and in these cases the average can be a poor summary of the true dynamics of student performance. The figure below illustrates an example of this for **phonemic awareness** among Grade 1 students – although there are many students who scored around the average of 69% phonemic awareness questions correct, there are also many students who either scored near 100% correct, or scored 0% correct, resulting in a bimodal distribution, or loosely an 'inverted bell curve' (in a normal

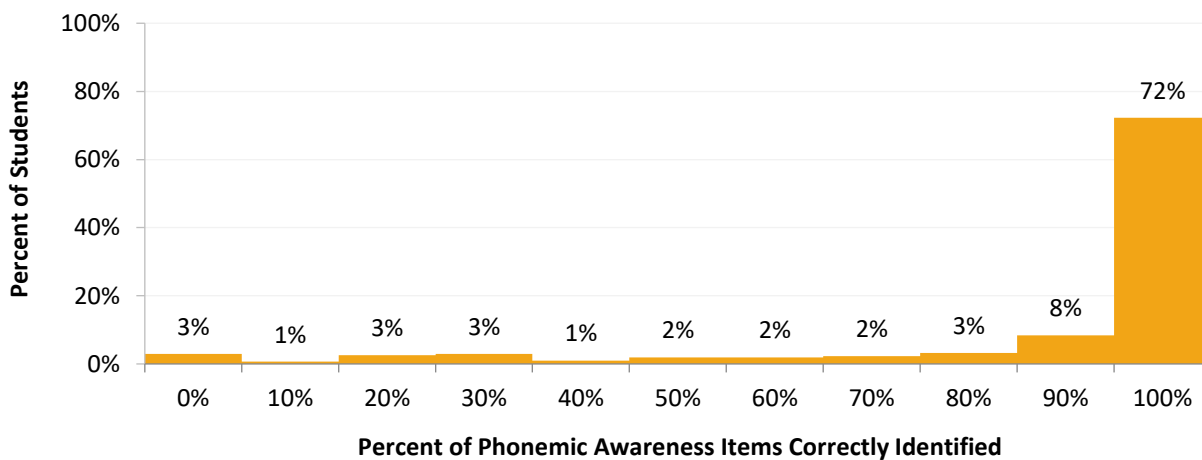
distribution, these extremes – sometimes called ‘tails’ – are assumed to taper off to a small proportion of the population).

Figure 2: Distribution of Phonemic Awareness Scores (Grade 1)

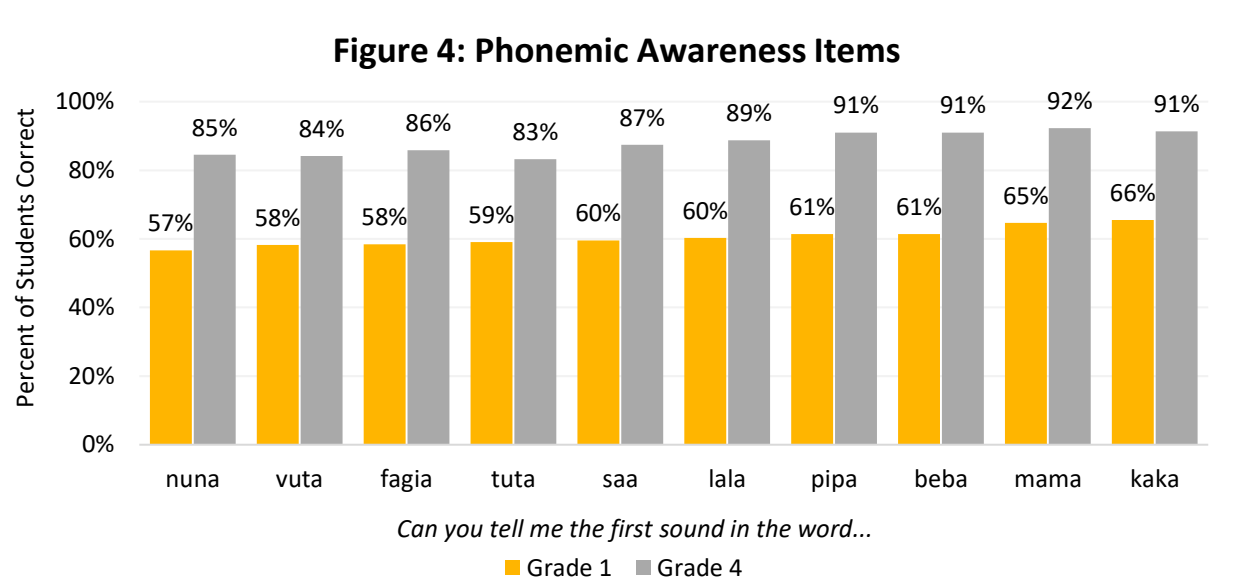


As seen in the figure below, in Grade 4, fewer students were completely left behind than in Grade 1, but the distribution of scores remains abnormal – in this case, the distribution is skewed to the left (negatively skewed), meaning the average student score (mean) is lower than the midpoint student score (median). That said, given most students scored near or at 100% for phonemic awareness, it is concerning that some have failed to master a foundational reading skill for Grade 4 students and ensuring they are able to master this skill should be a top priority in the classroom.

Figure 3: Distribution of Phonemic Awareness Scores (Grade 4)

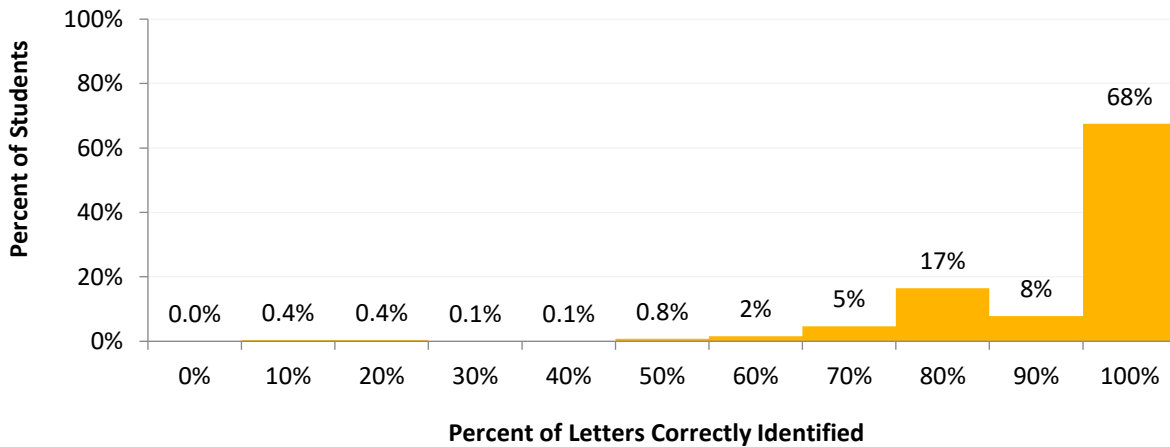


The figure below shows how students performed on each word used in the phonemic awareness subtest. It is important to note students in both grades were assessed using the same words for a measure of the same sounds, so it is not surprising to see older students performed much better on this task.



Only Grade 1 students were assessed on **letter recognition**. Overall, students scored quite well, with 49% of students correctly identifying 100% or more of their letters. However, there was a negatively skewed distribution, as shown in the figure below, with a large peak in percentage of students who identified more than 90% of letters correctly (49%) followed by a smaller peak in percentage of students who identified 70-80% of letters correctly (17%).

Figure 5: Distribution of Letter Identification Scores (Grade 1)



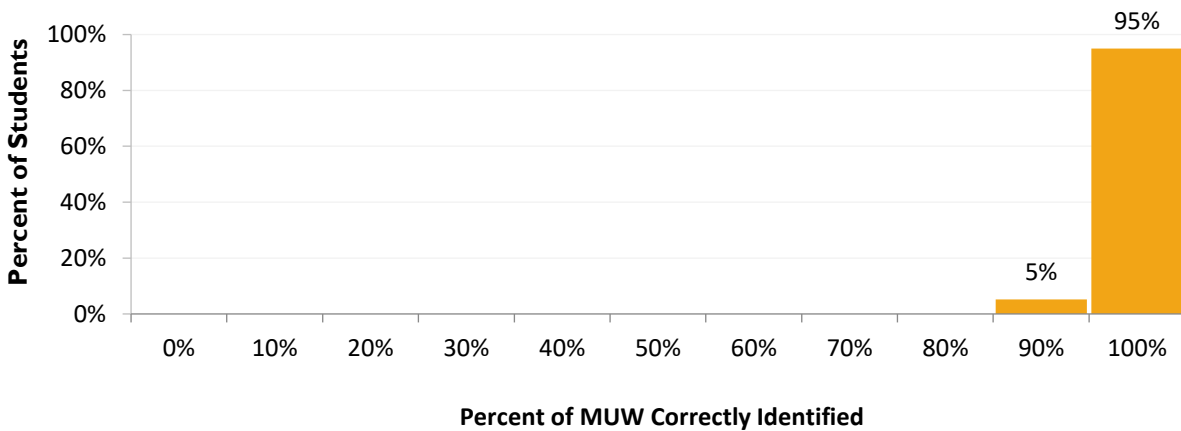
While only 2% of students were near the bottom of the distribution, correctly identifying only half or fewer of the letters, since letter recognition is a critical skill for reading words and full sentences, it is important that school curriculum ensure no children are left behind as teachers move to more complex concepts in Grade 2 and beyond. The chart to the right shows the letters that were missed with greatest frequency (the percent of students who read the letters correctly is reported).

Table 15: Letter Identification Challenges

Letter Identification	% of Students Who Read Letter Correctly
che	73%
fe	76%
de	77%
be	80%
ge	81%

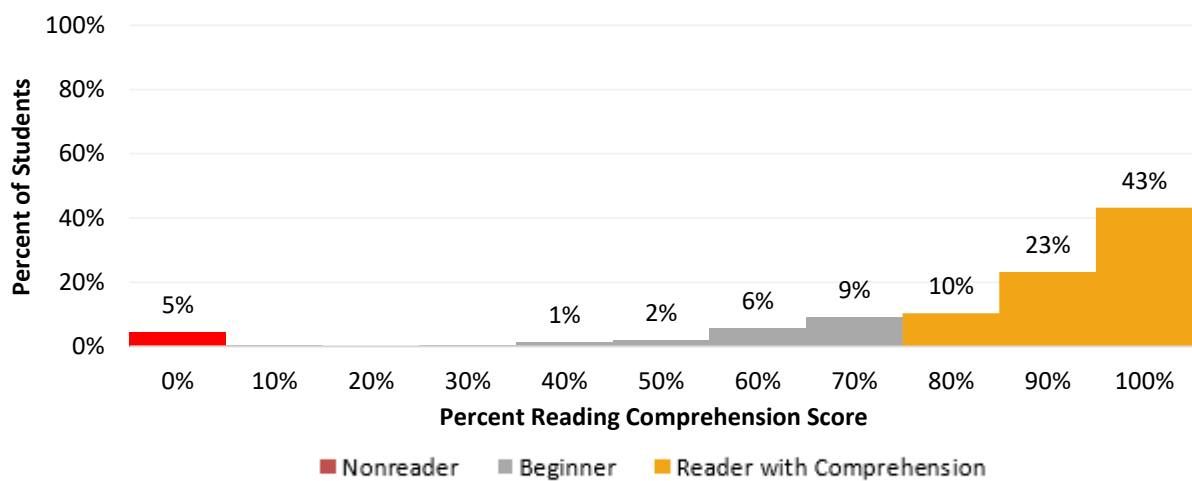
Only Grade 4 students were assessed on **most used words**. Students performed exceptionally well, with 62% of students scoring 100% and only 5% of students scoring less than 90%. No students scored less than 83%, resulting in another negatively skewed distribution, as shown below.

Figure 6: Distribution of Most Used Words Scores (Grade 4)



For oral reading passage **accuracy** and **fluency**, the average sufficiently describes the distribution of scores. However, since reading with comprehension is the ultimate goal of reading, as well as a good summary of student's overall reading level, the distribution of **reading comprehension** is shown in the figure below. This figure includes zero scores for students who qualified as nonreaders. Readers with comprehension is the same as indicator 1000.1 (% of children in target educational institutions achieving at least a minimum proficiency level in reading in grade 4).

Figure 7: Distribution of Reading Comprehension (Grade 4)



In many contexts around the world, reading skills are abnormally distributed – there are a sizeable proportion of students scoring very low, and a sizeable proportion scoring very high. Teachers need to be empowered to (A) accurately assess who is falling behind and (B) provide

differentiated instruction – in some cases remedial instruction – to minimize any gaps before they become larger in subsequent grades, putting students at increased risk of dropping out.

Interpretation

As mentioned previously, while most Grade 4 students surveyed are readers and many of those are readers with comprehension, there was an element of non-random sampling that occurred in some schools due to data collection taking place over a holiday break. As a result, the number of nonreaders identified through this assessment may not be representative of students' abilities at each school – especially among children with disabilities. Play-based learning techniques can serve to diversify teaching techniques to ensure students of every learning style have a chance to benefit from quality instruction.

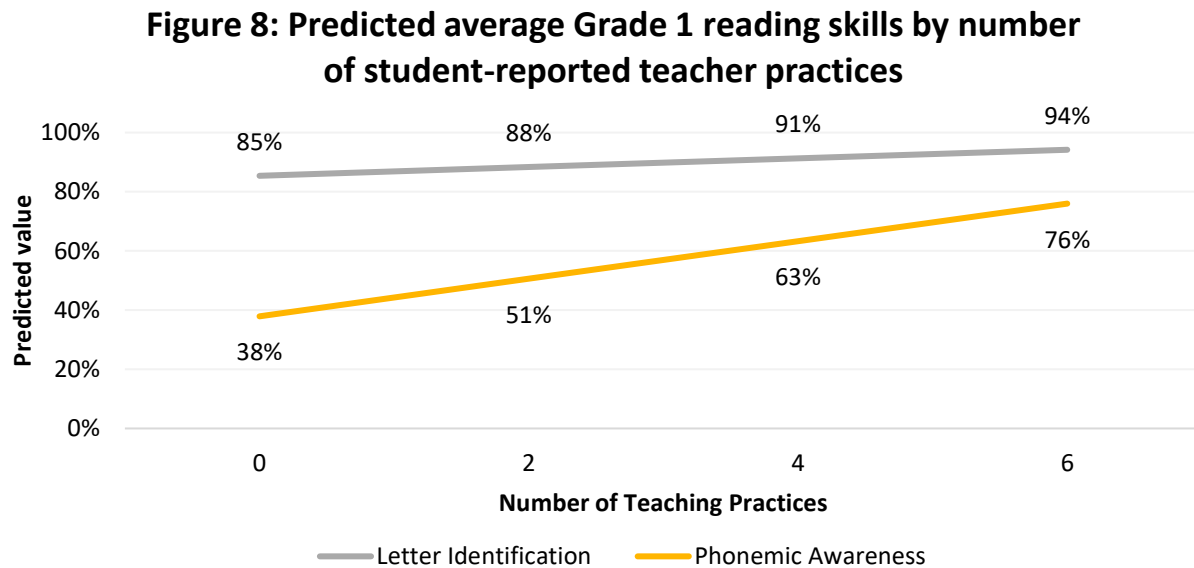
4.4.3 Findings by Equity Indicators

To investigate how reading skill performance varied by student background and environmental factors, a multilevel multivariate regression model was constructed (multilevel, to adjust for standard errors for the grouping of students in schools). This model tests the relationship of reading skills to all student background and environmental variables simultaneously – that is, it answers the question: What is the relationship of variable X to reading skills, holding all other variables constant? Importantly, however, these are correlational relationships and should not be interpreted as a conclusive sign of causation. See Annex F for a full regression table.

In general, student background variables were not significantly related to reading skills (while relationships to one or two skills were significant, there was no consistent pattern, and sometimes one relationship would be positive while the other would be negative). An important exception is CWD – this is discussed further below.

Some environmental factors had a significant relationship across reading skills. The sum of student-reported teacher literacy practices in the past week was positively related to both letter identification and phonemic awareness for Grade 1 students (there was not a positive correlation

between teacher literacy practices and Grade 4 reading skills). The figure below illustrates this relationship.



Interestingly, principals reporting that their school has an active system for addressing children’s concerns was negatively correlated with both reading skills in Grade 1, as was age negatively correlated with two reading skills in Grade 4. The latter could be an indication that older children in Grade 4 tend to be those who have repeated the grade and therefore are likely to be students who are struggling academically.

The table below compares the average scores of children with disabilities (CWD) to their peers. Statistical inference is not used here to investigate significant differences because (A) all CWD in the target grades were sampled and (B) the number of CWD is too small to reliably use statistical inference. Purposeful sampling that likely occurred in some schools due to data collection occurring over a holiday break may have impacted the number of CWD who were surveyed. Given the extremely small sample of CWD assessed these figures should not be interpreted as being representative of all CWD in the programming area.

Table 16: Reading skills of CWD versus peers

	n CWD	Non-CWD	CWD
Grade 1			
Average % letter identification correct	0	90.1%	NA
Average % phonemic awareness correct	1	60.6%	0%
Grade 4			
Average % phonemic awareness correct	2	88.1%	60%
Average % most used words correct	2	98%	98.9%
% of students identified as readers	2	95.5%	100%
Average % reading passage correct (accuracy)	2	99.1%	100%
Words correct per minute (fluency)	2	47.4	44.0
Average % reading comprehension correct	2	87.9%	75%
% of students identified as readers with comprehension	4	93.5%	50% ^A

^AThis number includes 2 students assessed using the teacher interview tool where teachers were only asked about the child's reading comprehension level

Equity Indicators Interpretation

There does not seem to be a strong case for programmatic focus on a specific type of student. Instead, EQIE should focus on students who are falling behind (regardless of background), as well as on ensuring existing environmental strengths are maximized and available to all students, and environmental deficits are addressed.

Interactions with teachers was strongly correlated with reading skills for the youngest students. This speaks to the importance of focusing on teacher training to support students' learning. While CWD encompassed too small a sample for this baseline to make statistically meaningful recommendations, it is important to note those CWD in Grade 4 scored similarly to their peers despite this difference. This is an important message to share – with the right support, CWD can achieve as much as their peers.

4.5 What can the baseline assessment tell us about students' life skills?

This section presents figures, disaggregations, and relationships for all students in the sample, including comparison students, because no statistically significant differences were found in outcomes between intervention and comparison groups. While students in both grades were assessed using the same tasks, since life skills tend to progress along developmental windows as children age, results by grade are presented separately.

4.5.1 Findings Overall

The table below presents the six core EQIE life skills for Tanzania, as well as the secondary life skills for which information was gathered as part of this data collection.

Table 17: Life skills scores, by grade

	n	Avg Score	Intervention	Comparison
Grade 1				
Core Life Skills				
Average % Respect for Others score	745	48.5%	50.3%	46.6%
Average % Concentration score	745	72.3%	74.3%	70.2%
Average % Problem-solving score	747	63.3%	61.8%	64.8%
Average % Self-confidence score	747	39.6%	38.5%	40.7%
Average % Teamwork score	746	71%	72.4%	69.5%
Average % Communication score	745	70.6%	70.1%	71.1%
Secondary Life Skills				
Child protection: Student knows what to do if they or a friend are being harmed	746	72.5%	71.9%	73.4%
Social network size: # of household members	745	6.8	6.5	7.1
Social network size: # of good friends	735	4.4	4.5	4.3
Social network size: # of adults at school student speaks to almost every day	681	3.2	3.1	3.3
Average % Stress Management	746	66.8%	66.1%	67.4%
Grade 4				
Core Life Skills				
Average % Respect for Others score	312	63.9%	63.9%	NA
Average % Concentration score	312	85.6%	85.6%	NA
Average % Problem-solving score	312	74.1%	74.1%	NA
Average % Self-confidence score	312	61.5%	61.5%	NA

Average % Teamwork/Relationships score	312	85.5%	85.5%	NA
Average % Communication/Relationships score	312	82.1%	82.1%	NA
Secondary Life Skills				
Child protection: Student knows what to do if they or a friend are being harmed	310	90%	90%	NA
Social network size: # of household members	310	7.3	7.3	NA
Social network size: # of good friends	309	5.2	5.2	NA
Social network size: # of adults at school student speaks to almost every day	300	3.4	3.4	NA
Average % Stress Management	312	75.4%	75.4%	NA

As expected given stages of child development, Grade 4 students scored better on all life skills than Grade 1 students. Interestingly, trends within the group of core life skills was the same for both grades – the lowest scores were seen for self-confidence and respect for others while the highest scores were seen for teamwork and concentration. While there is room for improvement in all six life skills, the need is most acute in both grades for self-confidence and respect for others.

4.5.2 Findings by Skill

Students in both grades struggled the most with the ‘self-confidence’ and ‘respect for others’ assessments. For ‘self-confidence,’ most students either scored very well or very poorly in both grades. In Grade 1, 50.3% of students scored 0%, while 26.8% of students scored 100% (see Figure 9 below). In Grade 4, 26.3% of students scored 0%, while 42.6% of students scored 100% (see Figure 10 below). As part of this assessment, students were asked to imagine themselves in the future in order to describe what they hope happens in their life in the future and who or what they believe will support them in achieving that goal.

Figure 9: Distribution of Self-Confidence (Grade 1)

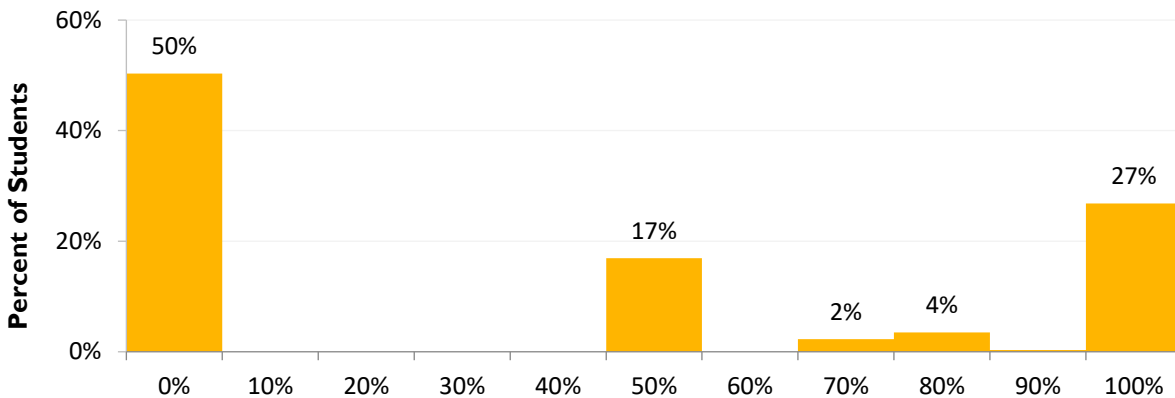
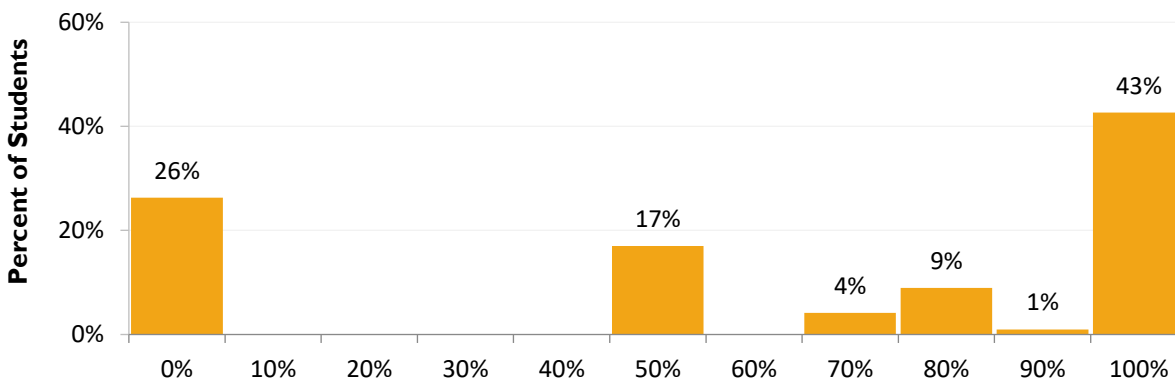
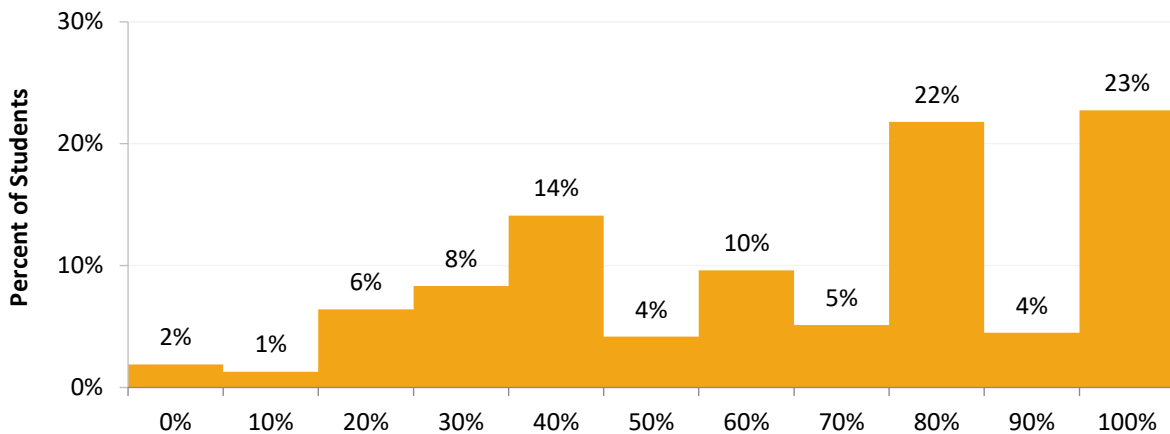


Figure 10: Distribution of Self-Confidence (Grade 4)



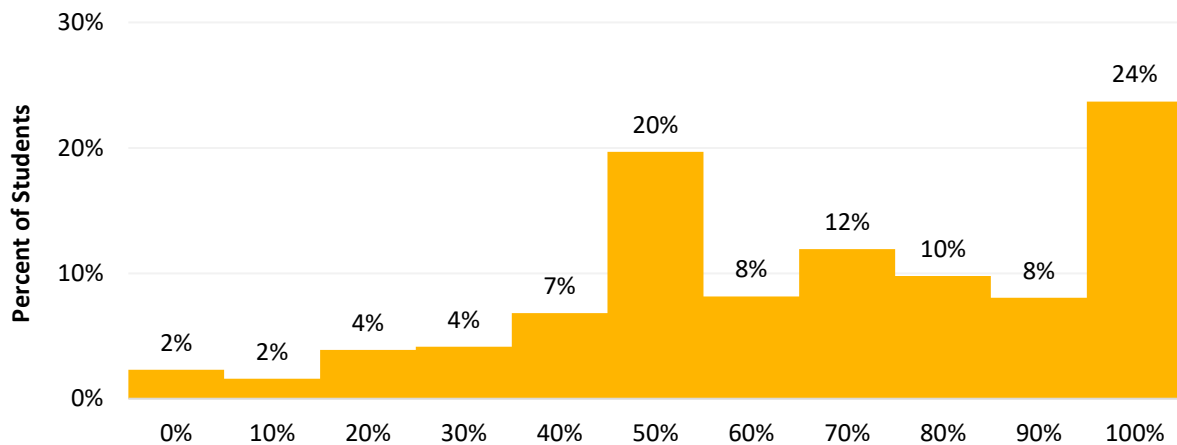
While there was a more typical distribution of 'respect for others' scores for Grade 1 students (the average score is a good indicator of performance for the sample of students), the distribution of scores for Grade 4 students skewed to the left (see Figure 11 below). In the case of Grade 4, while the average score was 64%, more students scored higher than scored lower.

Figure 11: Distribution of Respect for Others (Grade 4)



For all other life skills except Grade 1 ‘problem-solving,’ the distribution of scores skewed to the left. Grade 1 ‘problem-solving’ was closer to a normal distribution with minimal skew to the left due to the number of students scoring 100% (see Figure 12 below).

Figure 12: Distribution of Problem-Solving (Grade 1)



Interpretation

To boost self-confidence and respect for others, EQIE programming can assist students by encouraging use of play-based learning techniques that address interpersonal and intrapersonal skills. Any teacher training or parental engagement programming should also address these themes to ensure students are receiving similar messages in all environments.

4.5.3 Findings by Equity Indicators

To investigate how life skill performance varied by student background and environmental factors, a multilevel multivariate regression model was constructed to test the relationship of life skills to all student background and environmental variables simultaneously.

The most significant relationship between background variables and life skills was seen with the total number of home reading activities. This positive correlation was seen in both grades for all but one life skill ('self-confidence' in Grade 1). The figures below illustrate this relationship.

Figure 13: Predicted average Grade 1 life skills by number of home reading activities

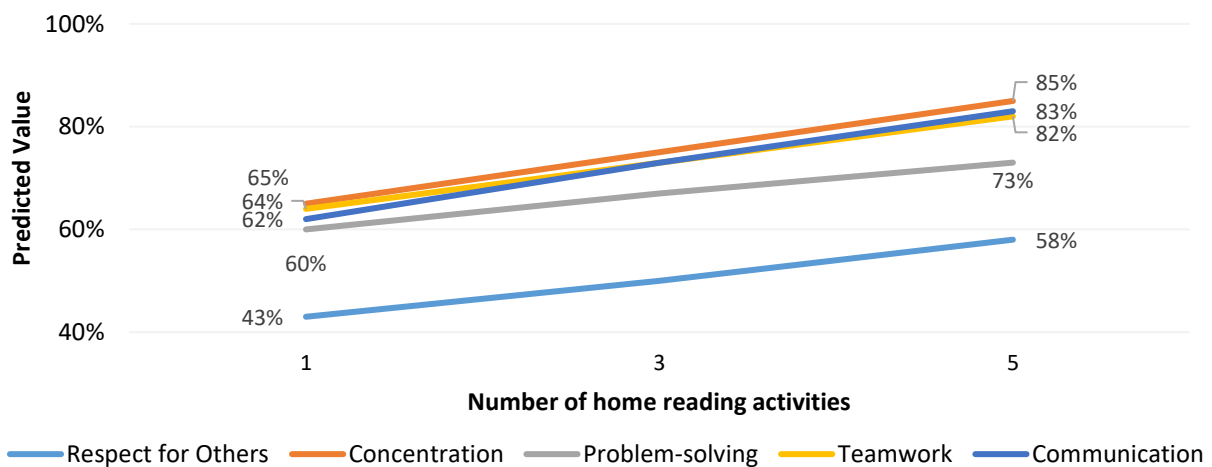
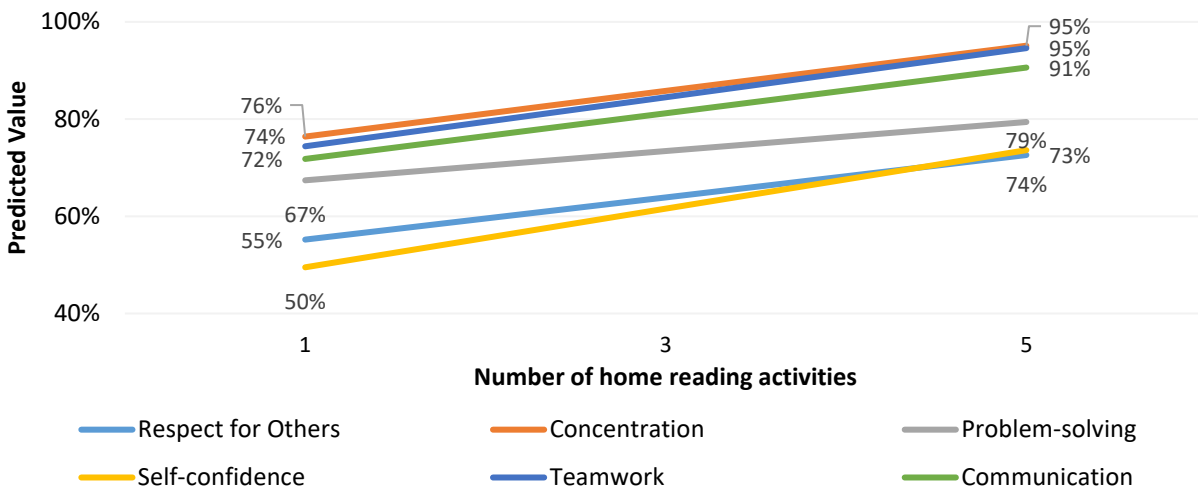


Figure 14: Predicted average Grade 4 life skills by number of home reading activities



Also in Grade 1, the sum of student-reported teacher literacy practices in the past week was positively correlated with all life skills. Interestingly, like with reading skills, principals reporting that their school has an active system for addressing children's concerns was negatively correlated with five of the six life skills (excluding 'concentration').

Finally, being a CWD was correlated with life skills in both grades – though not consistently positive or negative. Like reading skills, statistical inference is not used here to investigate significant differences because (A) all CWD in the target grades were sampled and (B) the number of CWD is too small to reliably use statistical inference. Given the extremely small sample of CWD assessed these figures should not be interpreted as being representative of all CWD in the programming area.

Table 18: Life skills of CWD versus peers

	n CWD	Non-CWD	CWD
Grade 1			
Average % Respect for Others score	2	48.5%	26.7%
Average % Concentration score	2	72.2%	100%
Average % Problem-solving score	2	63.2%	83.3%
Average % Self-confidence score	2	39.5%	62.5%
Average % Teamwork score	2	71%	85.7%

Average % Communication score	2	70.6%	75%
Grade 4			
Average % Respect for Others score	4	64%	58.3%
Average % Concentration score	4	85.8%	70.8%
Average % Problem-solving score	4	74.2%	68.8%
Average % Self-confidence score	4	62.3%	0%
Average % Teamwork score	4	85.5%	83.3%
Average % Communication score	4	82.5%	50%

Equity Indicators Interpretation

While student-reported home activity participation and classroom teacher practices were limited to specific literacy activities, it is interesting to note the positive correlation between amount of engagement and score on life skills. This correlation may exist because increased engagement is often reflective of a positive relationship between caregiver and child and teacher and child, resulting in increased social emotional skills. In subsequent assessments of the EQIE program, it could be beneficial to add engagement questions more clearly aligned with the project's life skills constructs to see if the correlation holds.

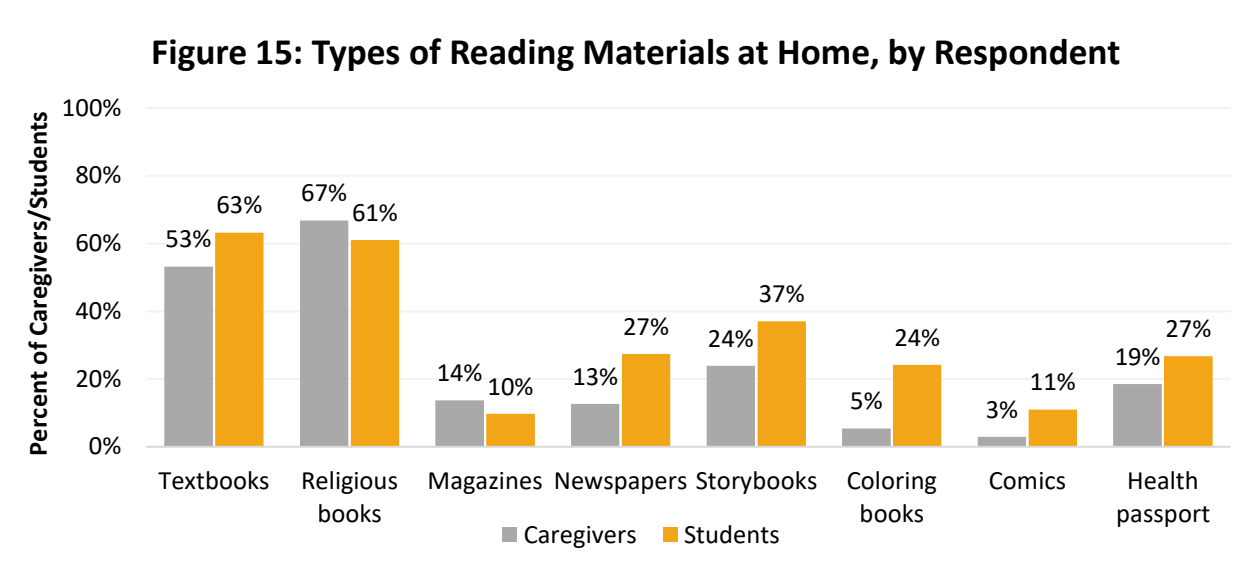
While CWD encompassed too small a sample for this baseline to make statistically meaningful recommendations, it is important to note those CWD scored similarly or better than their peers, according to a teacher report of their abilities, despite this difference. This is an important message to share – with the right support, CWD can achieve as much as their peers.

4.6 What supplemental reading activities are available to children (in homes and communities)?

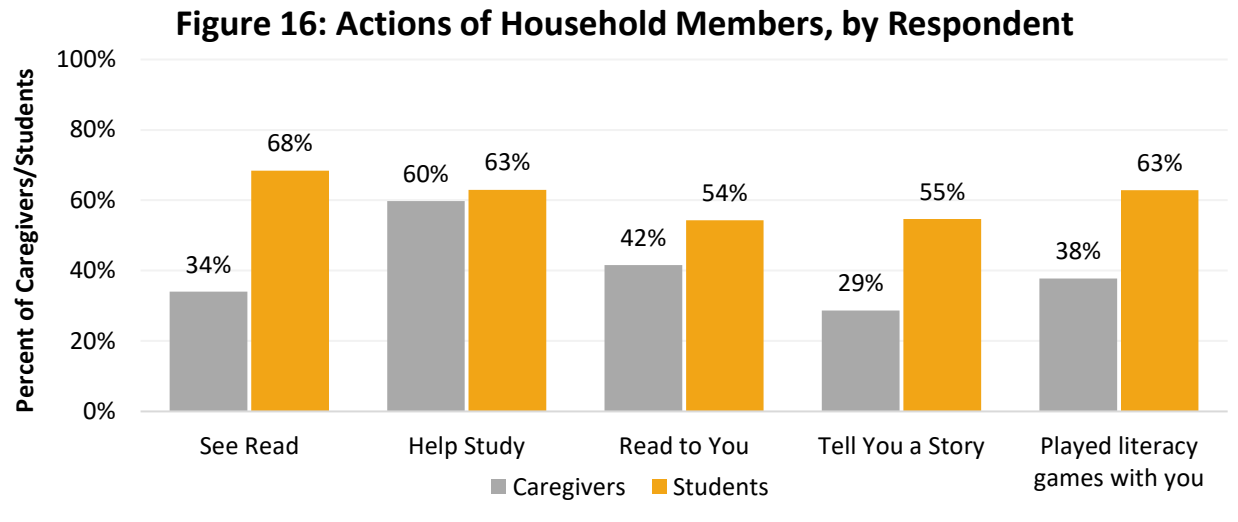
4.6.1 Findings Overall

In order to compare between student-reported and caregiver-reported data, this section relies on data from students in both grades in intervention schools only. First, the figure below presents the prevalence of different types of reading materials in the home as reported by students and caregivers. The pattern of reported prevalence is relatively similar between student and caregiver respondents, with caregiver-reported prevalence somewhat lower than student-reported for six

of eight materials. The exceptions to this trend are religious books and magazines, which may be because these materials are less likely to be read by students alone, and therefore, fewer students may know these materials are available in their homes.



The figure below presents household literacy actions reported from the week prior to the data collection, as reported both by students (about someone in the household) and by caregivers (about themselves). Help with homework was almost equally reported between students and caregivers, but students more frequently report seeing someone read, being read to, having a story told to them, or having someone play a literacy game with them. These discrepancies may be because students were asked about anyone in the household, not only the caregiver interviewed.



Students (but not caregivers) were also asked whether they had attended both in-person extracurricular literacy activities (reading camps) and media-based extracurricular literacy activities (radio, TV, mail, etc.). Participation was low in both grades for both types of activities, which may be the result of restricted movement during the pandemic. It is unknown whether the same activities were offered to both grades with the same frequency (or at all during this time).

Table 19: Extracurricular participation, by grade

	n	Overall	Intervention	Comparison
Grade 1				
Student attends in-person extracurricular literacy activities	745	24.3%	26.8%	21.7%
Student attended in-person extracurricular literacy activities in the past week	743	18.8%	19.7%	17.9%
Student attends media-based extracurricular literacy activities	746	13.7%	19.1%	8.1%
Student attended media-based extracurricular literacy activities in the past week	746	10.7%	14.3%	7.1%
Grade 4				
Student attends in-person extracurricular literacy activities	309	37.5%	37.5%	NA
Student attended in-person extracurricular literacy activities in the past week	309	23.6%	23.6%	NA
Student attends media-based extracurricular literacy activities	308	28.9%	28.9%	NA
Student attended media-based extracurricular literacy activities in the past week	308	22.4%	22.4%	NA

4.6.2 Findings by Equity Indicators

To investigate how engagement in literacy-supporting actions/activities varied by student background, a multilevel multivariate regression model was constructed (multilevel, to adjust standard errors for the grouping of students in communities). Importantly, these are correlational relationships and should not be interpreted as a conclusive sign of causation.

The table below summarizes the statistically significant relationships that were most consistent across literacy-supportive actions/activities. Grade 4 students are more likely than Grade 1 students to report access to storybooks, household literacy actions, and extracurricular activities. Students with a higher socioeconomic status were more likely than those with a lower status to have access to child-friendly reading materials, most household literacy actions, and extracurricular activities, while the more literacy-focused teaching practices a student reported, the more likely they were to report access to child-friendly reading materials, all household literacy actions, and extracurricular activities. Students from schools without a system for addressing student concerns were less likely to have access to storybooks, household literacy actions, and extracurricular activities. Interestingly, the more safety concerns in school a child reported (harsh or violent child-child or child-adult interactions), the more likely s/he was to have access to most household literacy activities.

Table 20: Relationships between literacy-supporting actions/activities and student background

	Significant Correlations
Student is in Grade 4	Textbooks (+), religious books (+), magazines (+), storybooks (+), health passport (+), all household member literacy activities (+), participation in extracurricular literacy activities (+)
Socioeconomic status	All reading materials (+), seeing household member read(+), household member assisting with homework (+), household member reading to student(+), participation in extracurricular literacy activities(+)
Number of literacy-focused teaching practices	All reading materials except magazines (+), all household member literacy activities (+), participation in extracurricular literacy activities (+)
Environmental threats (harsh or violent child-child or child-adult interactions) identified by child	Religious materials (-), newspapers (+), household member assisting with homework (+), household member telling story to student(+), household member reading to student (+), household member played literacy games with student (+)
School system for addressing children's concerns	Newspapers (-), storybooks (-), comics (+), health passport (-), seeing household member read (-), household member assisting with homework (-), household member telling story to student(-), household member reading

to student (+), household member played literacy games with student (-), participation in extracurricular literacy activities (-)
--

Finally, a greater number of student-reported reading materials in the home was significantly correlated with greater likelihood of all student-reported household literacy actions and participation in all types of extracurricular activities in the past week.

Interpretation

Child-friendly reading materials at home are available to less than one-third of students. Similarly, only about half of students report being engaged in the most fun of the interactive literacy actions at home (being read to, being told a story, and playing a literacy game). Indeed, there is a strong correlation between reading materials and literacy-supportive actions and extracurricular activities.

There is scope to expand these opportunities to more students – both through making families aware of the benefits of these materials and activities to students, as well as providing extracurricular ‘substitute’ activities for students. EQIE programming should also include the distribution of child-friendly reading materials to children, preferably through some type of lending system via the school or extracurricular literacy activities, so that all children have access to a wide variety of reading material topics and skill levels.

Importantly, these opportunities should be open to all students, even those as young as Grade 1. As younger children benefit more from social learning,⁵ preference should be given to in-person extracurricular activities as soon as it is safe to do so.

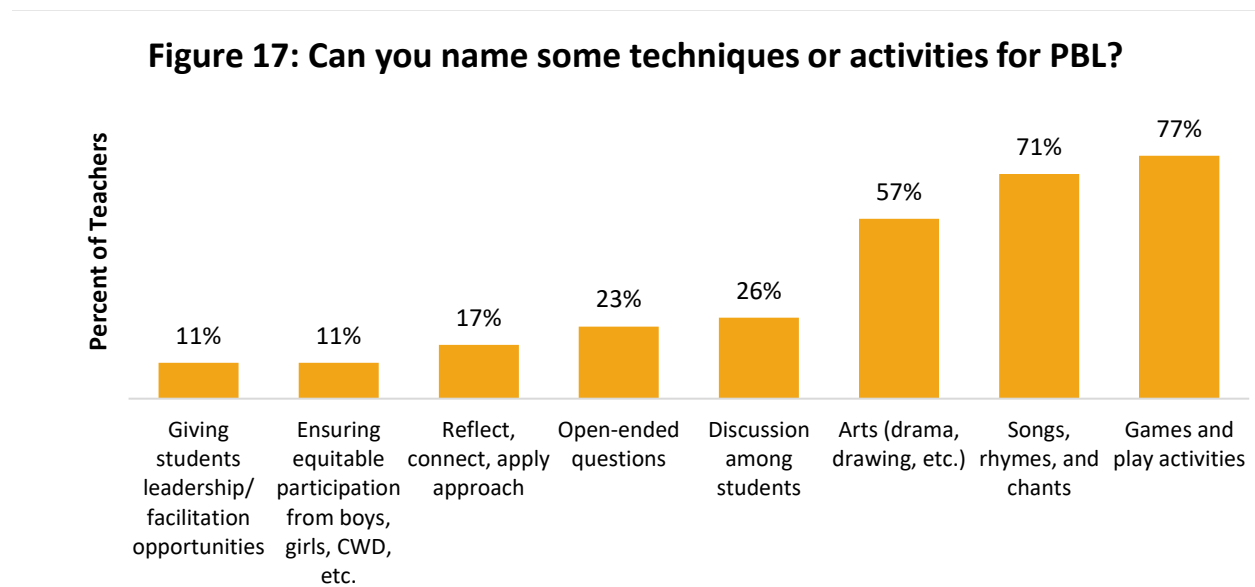
⁵ See for example: https://www.legofoundation.com/media/1063/learning-through-play_web.pdf

4.7 What teaching knowledge, attitudes, & practices regarding inclusive PBL/literacy instruction are common among teachers at baseline?

4.7.1 Overall findings

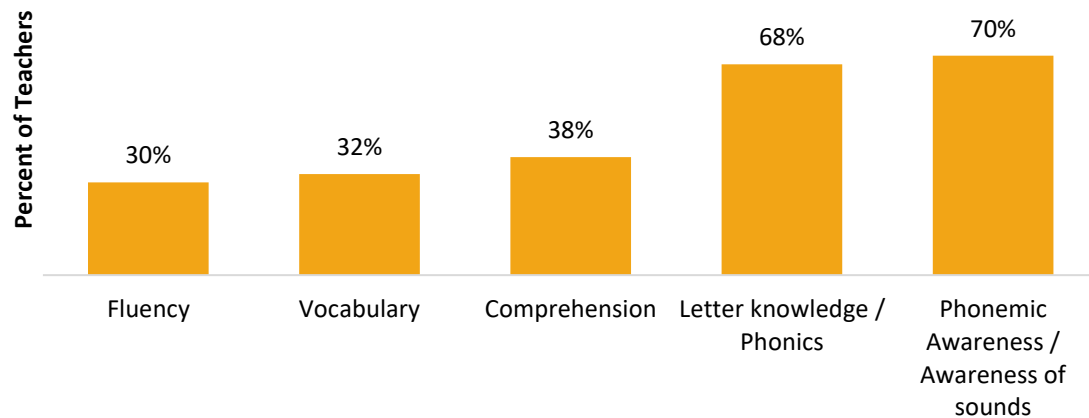
See Teacher Profile and Wellbeing for background information on the 19 Grade 1 and 18 Grade 4 teachers included in this analysis. All 37 teachers were from intervention schools.

Two elements of knowledge were assessed: knowledge of general PBL techniques and knowledge of the five reading skills. The figure below presents the proportion of teachers who mentioned each element of PBL. On average, teachers had knowledge of 35% of the PBL elements. There were no statistically significant differences between Grade 1 and Grade 4 teachers.



The figure below presents the proportion of teachers who could name each of the five key reading skills. On average, teachers identified 48% of the five key reading skills. There were no statistically significant differences between Grade 1 and Grade 4 teachers.

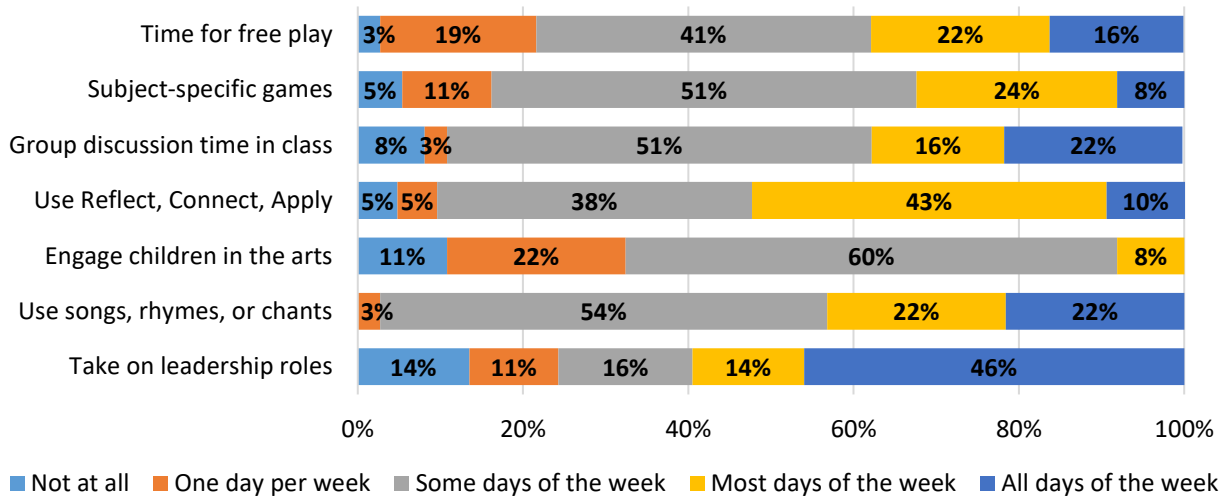
Figure 18: Can you name the five key reading skills?



Nearly half of the teachers are already undergoing PBL training by RTP, and they were asked two questions about the usefulness of PBL and the five key reading skills for children's learnings. Most teachers found PBL (95%) and the five key reading skills (86%) 'very useful' for children's learning. The remaining teachers said these skills were 'somewhat useful.'

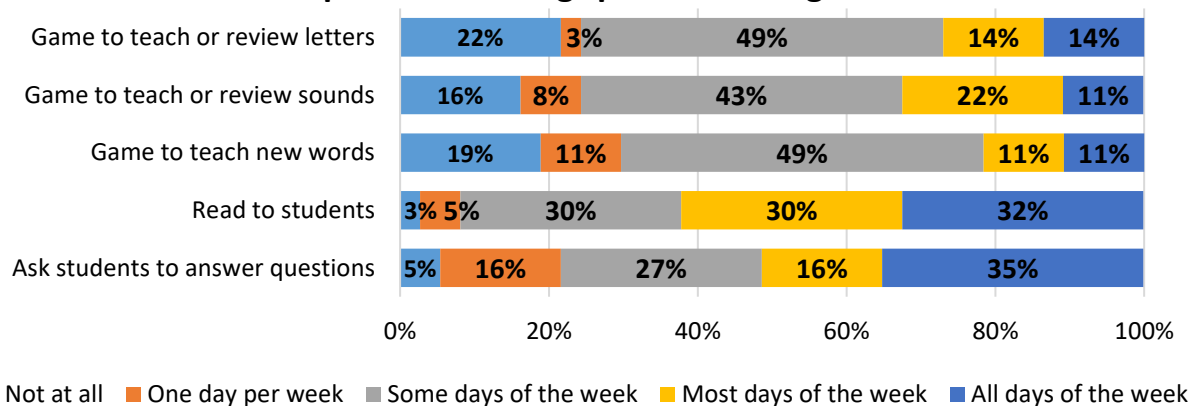
The teacher interview included a series of questions related to the frequency of PBL practices in the most recent full week of school. All but one teacher reported using half or more (4 out of 7) of the PBL techniques multiple days a week. The figure below presents the weekly frequencies for these techniques.

Figure 19: Frequency with which teachers engage students in PBL techniques for student learning



The teacher interview also included a series of questions related to the frequency of PBL practices for teaching reading skills in the most recent full week of school. All but five teachers (86.4%) reported using half or more (3 out of 5) of the PBL techniques multiple days a week. The figure below presents the weekly frequencies for these techniques.

Figure 20: Frequency with which teachers engage students in PBL techniques for learning specific reading skills



Most teachers (all but one) also facilitate extracurricular activities, spending an average of 1.6 hours per week. Thirty-eight percent of those teachers facilitate reading clubs, and 27% of teachers facilitate remedial instruction for children struggling with reading. Usually, a teacher

facilitates one activity or the other; only four teachers facilitate both a reading club and remedial activities.

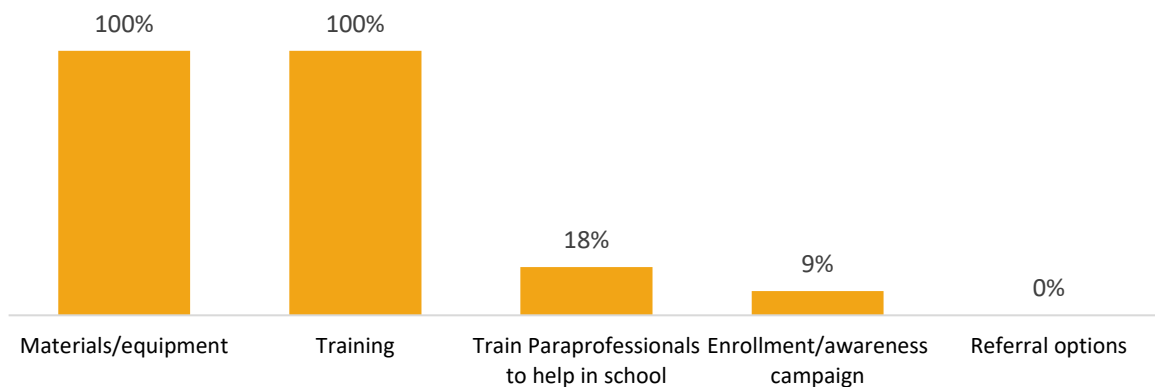
In addition to the teacher interview, 72 lesson observations were conducted by district education officials, 39 in intervention schools and 33 in comparison schools. Teacher backgrounds were similar except for those variables that are connected with RTP trainings and methodologies since 57% of intervention teachers reported they are undergoing PBL training at the time of data collection, compared to 10% of teachers in comparison schools who had received PBL training from RTP in other districts but have now relocated to their current schools. Classroom observations were conducted over a school holiday where teachers led a sample lesson. Most intervention school observations (37 of 39) were of literacy or language sessions. Teachers were observed on the use of PBL practices in their lessons, the safety of the space, their engagement with the students, inclusion, and child participation. Based on the lesson observation, the percent of teachers in intervention schools who demonstrated improved teaching practices to enhance children's reading skills (Indicator 1100.1) was 56%.

4.7.2 Adaptation of practice for CWD and gender-responsiveness

As previously mentioned, CWD enrolled in these schools are few and far between (at least those recognized by school staff – given the complexity of impairment/disability, there may be undiagnosed CWD who are 'invisible'). Only 11 of the Grade 1 and Grade 4 teachers interviewed report having CWD in their classrooms for a total of 17 CWD in intervention schools sampled.

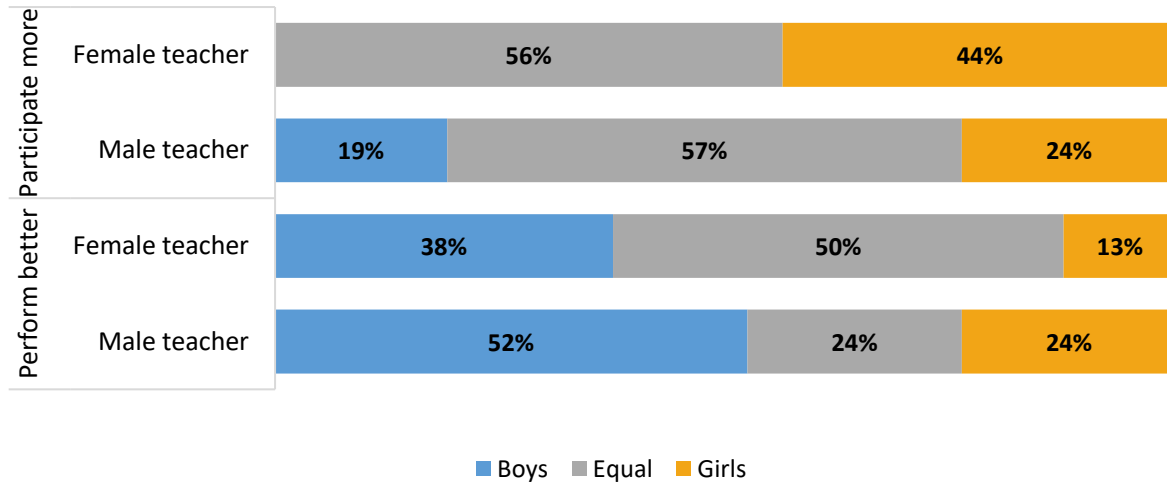
Many of the 11 teachers who report having CWD in their classrooms report being able to adapt their teaching to accommodate CWD (7 of 11). Interestingly, when asked if they are able to adapt lessons for CWD in their classes, all female teachers said 'yes' while all male teachers replied 'no.' In order to better support CWD in their classrooms, all teachers said RTP could best help by providing training and materials/equipment to assist in adapting lessons for CWD (see Figure 21 below). The project should take this recommendation and work with schools/teachers to determine appropriate supports.

Figure 21: What type of support from RTP would best help you better accommodate CWD?



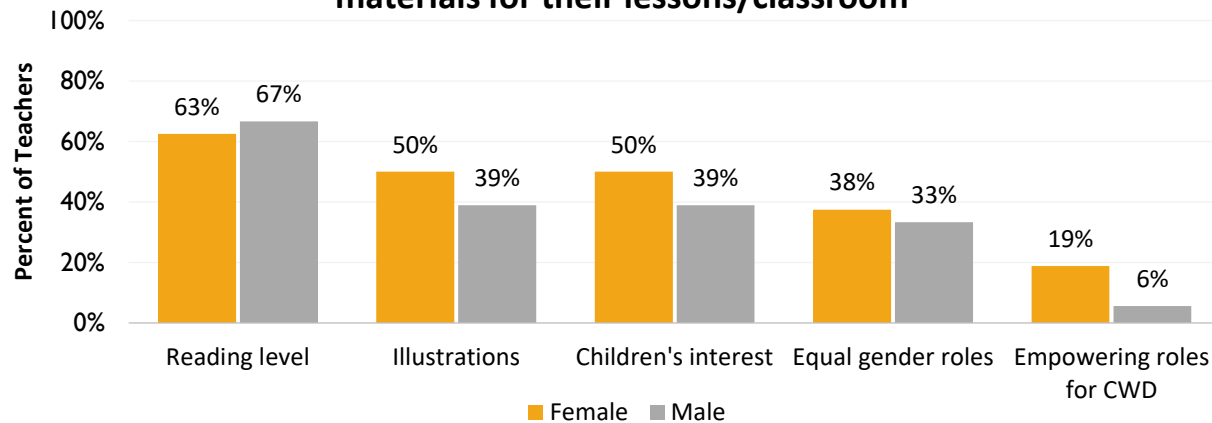
Turning to gender-responsiveness, an interesting comparison was seen in teacher responses about children's participation and performance by gender of the teacher. While classroom observations found that 86% of teachers give boys and girls equal opportunities to participate in classroom activities, as shown in the figure below, female teachers reported either girls participate more or both genders participate in class equally, while 19% of male teachers said boys participate more (though more still reported greater participation by girls or equal participation). Despite most teachers reporting greater participation from girls, or at least equal participation, these same teachers were more likely to report boys performing better in class. It is intriguing to note teachers do not equate participation with performance; even more so because this study found no statistically significant differences between girls and boys on any reading or life skills. It is strongly recommended any issues of gender biases be explored by the project and addressed through its PBL training.

Figure 22: Teacher beliefs on gender participation versus gender performance



Relevant to both CWD and gender-responsiveness, all surveyed teachers report they have a choice in selecting reading materials for their lessons/classroom. But as the figure below shows, very few take into consideration gender-responsive or CWD-empowering content.

Figure 23: Criteria used by teachers for selecting reading materials for their lessons/classroom



4.7.3 Findings by teacher background

Multivariate regression analysis was used to explore any potentially significant correlations between the observed teacher practices index and teacher background variables as well as self-reported wellbeing. Most of the background and wellbeing variables did not have any significant correlation with the observed teacher practices index, with three exceptions. Class size, number

of years as a teacher, and access to trained psychosocial support were positively correlated with the observed practices index. These are only correlations and cannot establish causality.

Interpretation

Many of the least-used playful reading techniques are gameplay for learning. Increasing teachers' skill and frequency in using these techniques could assist struggling students in 'catching up' to their peers. As a bonus, these techniques apply to students of any reading level, can enhance engagement/motivation of all students to read, are an opportunity to engage students who typically participate less, and provide an opportunity to build critical life skills.

Teachers appear to give some thought to CWD inclusion and gender-responsiveness. However, CWD inclusion can be challenging, especially given the wide variation in individual needs and the limited number of students in each classroom. For this reason, it may be important to reinforce channels for teachers to share their experience and best practices for CWD inclusion in addition to support requested from the project, including additional materials and training on inclusive education techniques.

With gender-responsiveness, there may be biases at play among teachers of both genders. While teachers were more likely to report greater engagement from girls but better performance from boys, this study found that girls and boys perform similarly on all reading and life skills tasks. The project can encourage gender equity in the classroom through its programming techniques and in the teaching and learning materials teachers use as part of programming.

As part of the validation workshop, participants, including district education officials and RTP staff, spent a great deal of time discussing teacher reports that more support is needed to enhance children's reading skills, particularly in relation to teaching and learning materials. While workshop participants argued teachers have enough materials for students, data from this study's teacher interviews and classroom observations led by district officials showed many classrooms lacked sufficient storybooks, textbooks, and writing materials for all students. The

project should take an active role in ensuring basic physical needs are met to create a child-friendly learning environment in all classrooms.

Validation workshop participants also questioned the value of PBL if few teachers always use the techniques. In the workshop, it was argued that PBL is difficult to use in classrooms with large numbers of students, a shortage of teachers, and extensive curriculum requirements already in place by the MOE. Added to this is the finding that most intervention teachers have received some aspects of training on PBL from RTP while most comparison schools have not, yet students in intervention and comparison schools are performing at similar levels in reading and life skills. It would be beneficial for RTP to explore the underlying theme that emerged in this conversation – are material resources and the ‘status quo’ for teaching methodologies enough to achieve quality education for children, or is it critical to engage in expanded teacher training, supervision, and other human resource supports to reach that goal? What must RTP do to not only train teachers and education officials in new methodologies but encourage consistent *use* of these new techniques?

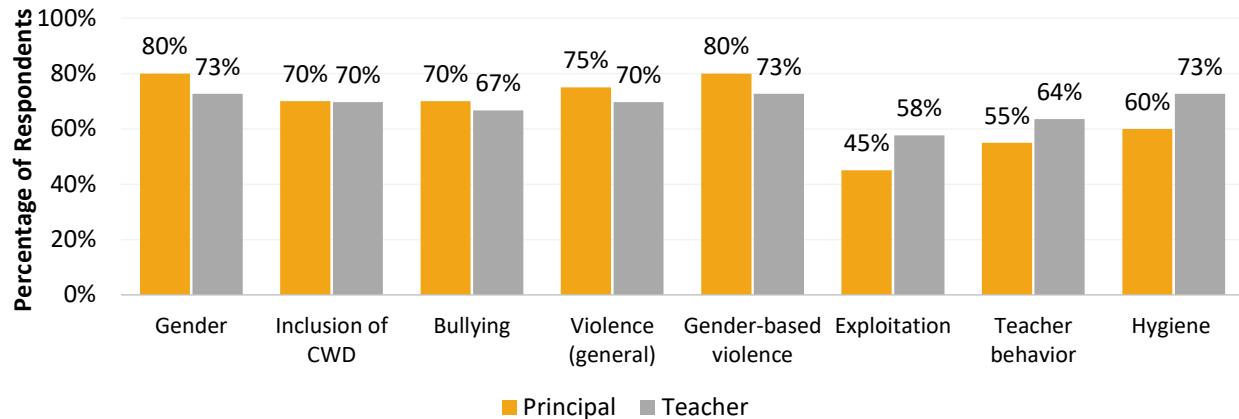
4.8 What is the current state of schools?

4.8.1 Overall findings

Since much of the safety information comes from teachers and parents (as well as from principals and students), to be consistent, this section only presents data from intervention schools.

Seventeen of the 20 intervention principals report students come to school staff to address safety concerns inside this school, and all 17 of these principals report the school has an active system for addressing student concerns. Twelve of the principals (60%) report that they have a strategy, plan, or policy to address school safety that is either almost fully or fully implemented. Four principals report a plan that is moderately implemented, and two principals report a plan that is minimally implemented. One principal reports no plan at all. The figure below presents principal- and teacher-reported objectives that are included in the safety plan.

Figure 24: Objectives Included in School Improvement Plan



The table below shows the report of CWD and their peers about some aspects of their learning environment safety. The most prevalent behaviors are children physically fighting and children teasing or saying mean things to each other. CWD are more likely to report almost all types of behaviors, but it is very important to note these figures are the result of only 3 CWD respondents. Importantly, no CWD reported an adult harming someone in their class, though two of the three CWD shared a child left another out of an activity or game, a potential indication of issues of exclusion for CWD and/or other groups of children.

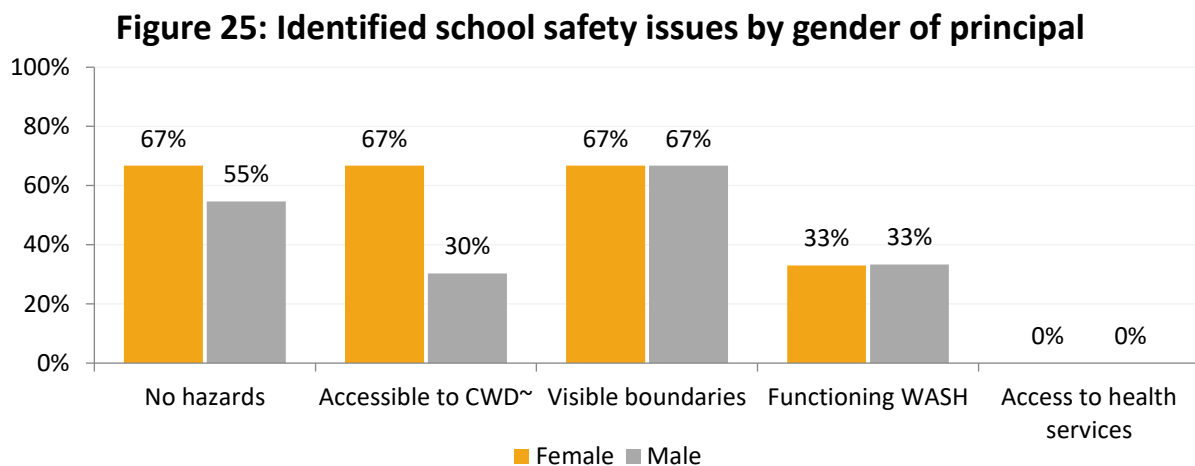
Table 21: In the last week at school...

	n CWD	Non-CWD	CWD ^A
A child teased another child to make them angry	3	43%	66.7%
A child left out another child from an activity or game	3	30.6%	66.7%
A child said something mean to another child?	3	44.6%	66.7%
A child did any of these things to you	3	32.5%	66.7%
Children got into a fight where someone was hit	3	31.8%	33.3%
Student (respondent) got into a fight where someone was hit	3	9.3%	33.3%
Someone threw something at a child to hurt them	3	37.4%	100%
Student (respondent) threw something at another child to hurt them	3	7.4%	0%
An adult screamed or yelled at a child in a threatening way	3	19.5%	0%
An adult hit or kicked a child	3	18%	0%

^AStatistical significance not used here due to small number of CWD and the fact that all CWD were purposefully sampled from target grades.

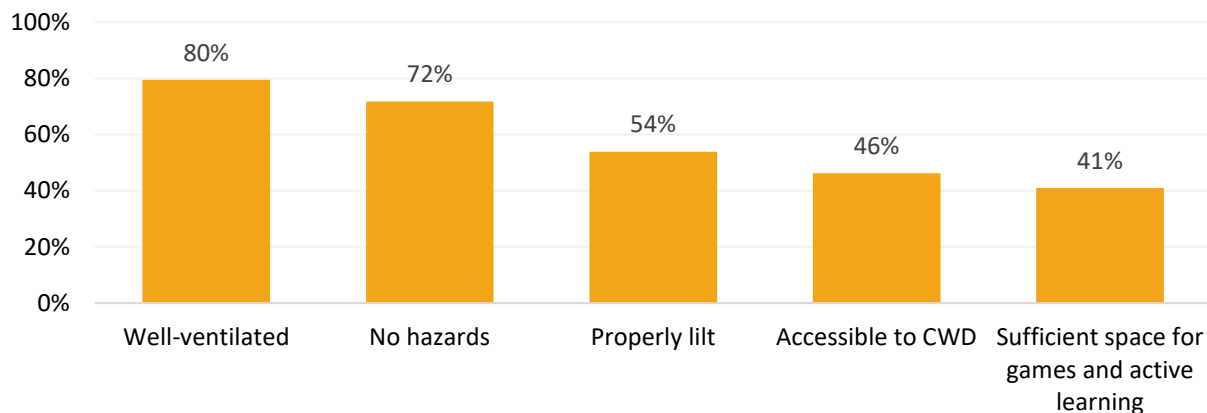
4.8.2 Physical Safety

As a measure of school physical safety, principals were asked, “Which of the following safety issues are present at your school?” The figure below shows most principals shared there were no physical hazards liked cracked walls or exposed wires and that visible boundaries are present, however, few schools are accessible to CWD or have functioning WASH facilities. No schools have access to health services. In total, 25% of intervention schools are conducive to the physical well-being/safety of learners.



School safety was also reported on through classroom observations. Forty-one percent of students and teachers in intervention schools identified and reported safety concerns to the observer. Observers also saw classrooms that lacked many basic physical characteristics necessary to promote a safe learning environment. Results from classroom observations were similar to those reported by principals: the signs of physical hazards like cracked walls and exposed wires were low (only seen in one-third of schools), and most were well-ventilated. Still, other elements, including proper lighting, access for CWD, and sufficient space for active learning, were missing from most schools (see Figure 26 below). Only in 3% of intervention classrooms, however, did observers report that none of the safety items mentioned were available in the classroom of observation.

Figure 26: Which of the following is true of this classroom?



4.8.3 Emotional Safety

As a measure of school emotional safety, teachers were asked a series of questions about how they manage student behavior, how often children feel comfortable and relaxed in the classroom, whether girls' and boys' participation in the classroom is similar, whether CWD actively participate in the classroom, whether they are able to adjust their teaching approach to accommodate CWD, and whether they have received training on providing psychosocial support to students. The table below summarizes these results for teachers in intervention schools. In total, only 15% of intervention schools meet all the criteria for emotional safety and well-being.

Table 22: Criteria for school emotional safety as reported by teachers

	n	Female	Male	Sig Diff
Teachers use only positive discipline techniques in the classroom	37	43.8%	38.1%	N
Students always or most of the time feel comfortable and relaxed in the classroom	37	81.3%	90.5%	N
In general, girls and boys participate equally in the classroom	37	56.3%	57.1%	N
CWD always or most of the time actively participate in classroom activities	11	81.3%	95.2%	-
Are you able to adjust your approach to teaching to better accommodate CWD?	7	100%	0%	-
Have you ever received training on providing psychosocial support to students?	37	81.3%	57.1%	N

Emotional safety was also reported on through classroom observations. While less than half of teachers reported only using positive discipline in their classrooms, within classrooms where

negative student behavior was observed, observers reported most of those teachers used only positive discipline techniques. Observers reported greater rates of equal gender participation in the classroom than teacher self-reports and similar rates of instances of children interacting comfortably with teachers compared to teacher self-reports. It should be noted the number of teachers with CWD in the classroom is small, however, it is interesting to note the gender differences in those teachers who say they adjust their approach to teaching to accommodate CWD – all female teachers agree while no male teachers agree. Interestingly, observers did not see this difference in genders and instead found that 75% of all teachers adjusted their teaching approach to better accommodate CWD. Most teachers use positive behaviors toward children that encourage their engagement in the classroom.

Table 23: Criteria for school emotional safety as reported by classroom observers

	n	Female	Male	Sig Diff
Teachers use only positive discipline techniques in the classroom	28	75%	81.3%	N
Most children interact comfortably with the teacher	39	73.7%	95%	Y~
Teacher gives girls and boys equal opportunities to participate in classroom activities	39	84.2%	90%	N
CWD actively participate in classroom activities or discussions	12	75%	75%	N
Teacher modifies lesson and/or activity to include CWD	12	75%	75%	N
Teacher uses at least one encouraging behavior toward children	39	94.7%	100%	N

Materials

Principals were asked what materials schools have to accommodate CWD, and what materials they need. Only two intervention principals report having materials of any kind for CWD (one of the remaining 18 principals stated there were no CWD in that school). In the two schools with materials for CWD, these include books with capital letters, hearing devices, colored pens, letter identification tables, and tools for mathematics.

Not surprisingly, given the lack of materials for CWD in schools, principals suggested many types of materials that would be beneficial in ensuring an inclusive learning environment. Some of these items include large-print reading materials, sports equipment, improved WASH facilities, hearing equipment, shoes for physically disabled children, and transportation to and from school.

Additionally, many principals stated they did not know what materials would be needed, indicating a need for greater training and awareness of the special education needs of CWD.

Interpretation

Although all schools have a school improvement plan and CWD considerations are typically involved, most schools lack the resources necessary to adequately address the inclusion of CWD in the learning environment. EQIE can help schools integrate these objectives on inclusion into their existing plans by providing training on inclusion and materials for these children.

Few schools (25%) are conducive to the physical safety and well-being of students. While most schools do not have physical hazards like cracked walls and loose wires and they are well-ventilated, other safety elements like functional WASH facilities, proper lighting, accessibility for CWD, and sufficient space for active learning are lacking in most schools. No schools have access to health services.

Even fewer schools (15%) are conducive to the emotional safety and well-being of students. While classroom observers found that most teachers use only positive discipline techniques with students and encourage equal gender participation in the classroom, teacher self-reports were not as positive on these measures. Similarly, while no male teachers reported they adjusted teaching techniques to accommodate CWD, observers found that 75% did so on the day of observation. These differences could indicate that teachers are more critical of their own behavior and/or that they were more careful in their behaviors on the day of observation than during a typical school day.

4.9 What is the capacity of community members in creation and maintenance of safe learning environments?

4.9.1 Overall findings

Adult survey participants, including caregivers, education officials, and community leaders, were asked to outline strategies their school can use to promote a safe learning environment.

The table below presents the results of the question asked of caregivers, disaggregated by gender of the parent/caregiver. Slightly more than half of parents recognize the need for them to be involved in school development activities, but few seem to be able to outline specific strategies they could use to better engage. Many parents identified improved infrastructure as a strategy for a positive learning environment. Males were significantly more likely than females to note that physical infrastructure is necessary for creating a positive learning environment.

Table 24: What are the strategies for a safe and inclusive learning environment? (reported by caregivers)

	n	Female	Male	Sig Diff
Strategies				
Unable to provide any strategies	209	8.7%	6.0%	N
Parent involvement in school development	209	57.1%	54.2%	N
Child protection committees in the community	209	20.6%	25.3%	N
Children's clubs related to school safety	209	24.6%	31.3%	N
Parents should be given regular education on children's rights	209	30.2%	49.4%	N
Children should be educated on how to avoid risky environments and people	209	29.4%	30.1%	N
Collaboration between teachers, parents, department of social welfare, and the gender desk	209	31.0%	45.8%	N
Infrastructure that creates a positive learning environment (classrooms, furniture, toilets, and special rooms for girls during menstruation)	209	39.7%	62.7%	Y*
Quarterly joint meetings between parents, children, and teachers	209	27.8%	27.7%	N

*p<0.05

While district education officials and community leaders were asked questions about strategies for safe learning environments, no pre-determined list was supply for community leaders to outline strategies; instead, the question to these groups was qualitative. As a result, most of their answers are not quantified in the same way as the caregiver responses and are instead discussed in light of the broader themes identified.

Qualitative interviews with community leaders and district education officials revealed the following strategies for physically safe learning environments:

- Improved school infrastructure

- Improve teachers' housing
- School toilets
- Water improvement
- Health improvement
- School desks
- School food program
- Additional school supplies

Qualitative interviews with community leaders and district education officials revealed the following strategies for emotionally safe learning environments:

- Teacher management
- School-community partnerships
- Increased student attendance
- Improving teaching-learning processes to be more child-centered
- Support CWD/inclusive education
- Student retention and school completion
- Reduce truancy
- Improve student performance
- Ensure all students master reading, writing, and arithmetic, especially in the early grades
- Integrating literacy teaching processes in all subjects
- Interschool academic competition
- Community participation in supporting student learning

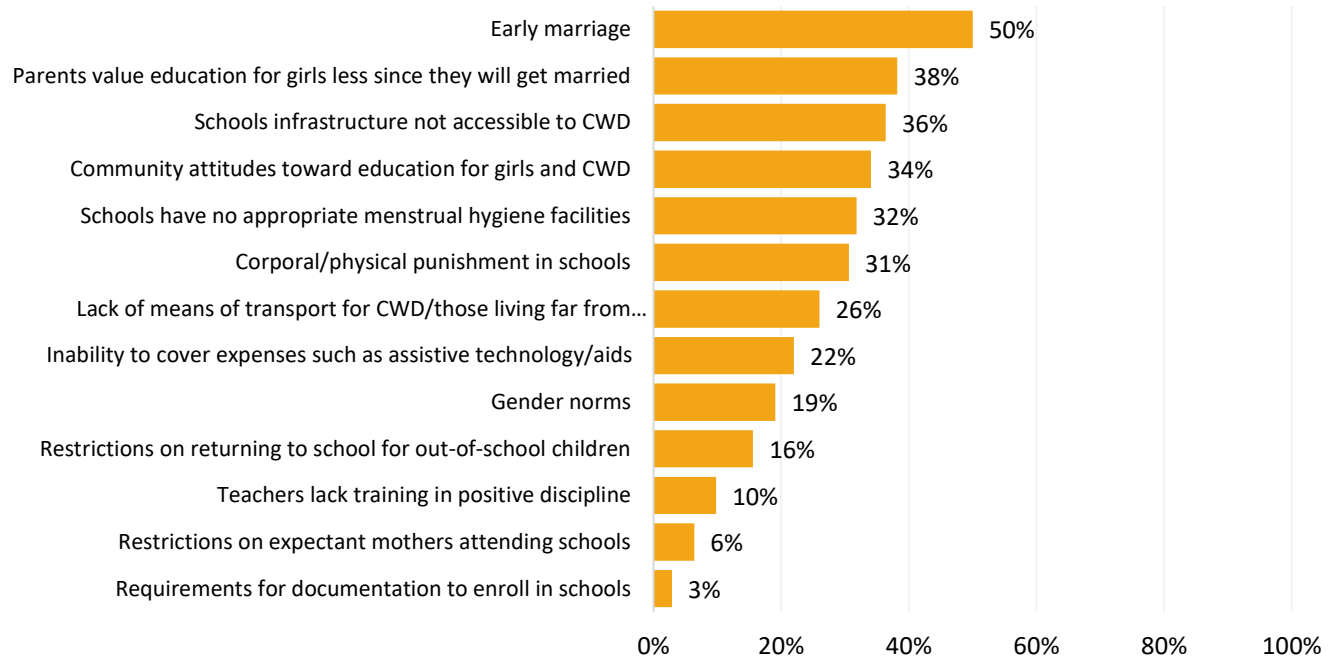
4.9.2 Correlation between capacity and the presence of safe learning environments

The number of safety strategies identified by caregivers was not significantly correlated with the sum of the variables for Indicator 1300.1 (#/% of schools that are conducive to the physical well-being/safety of learners). Strangely, the number of safety strategies identified by caregivers was negatively correlated (though not significantly) with the sum of the variables for Indicator 1300.2 (#/% of schools that meet criteria for emotional safety/emotional well-being).

4.10 What is the current state of community members and leaders in terms of knowledge regarding ways to address barriers to education faced by girls and children with disabilities?

The figure below presents the barriers to education faced by girls and CWD as reported by caregivers:

Figure 27: What are barriers to inclusive and gender-responsive education?



As can be seen in Figure 27, caregivers view early marriage and the limited value placed on education because of early marriage as the major barriers for girls, while physical access to schools and community attitudes toward education for marginalized groups are seen as the main barriers for CWD. Few caregivers view required documentation to enroll in schools or restrictions on expectant mothers as barriers to CWD or girls.

Community leaders and district education officials were interviewed and asked about general challenges to quality education in their communities.⁶ While half of caregivers mentioned early

⁶ Presented are applicable themes that arose during the questioning of general challenges to education in the context.

marriage as a barrier to girls' education, only two community members mentioned early marriage as a challenge to quality education, and only one community member mentioned girls' education more broadly as a challenge. Specific themes related to CWD did not come up during these interviews, but like caregivers highlighted specifically for CWD, five community members mentioned issues with roads and long distances to school as challenges.

All three district education officials discussed how 'harmful traditional practices' often lead to truancy, early marriage, and dropout among girls in their communities. One also discussed the psychological distress for girls as a result of these harmful practices. Two officials also mentioned that supporting CWD in their education is a priority for the district, including through the provision of more assistive devices to better allow these children to access schools.

Interpretation

Community members agree that harmful traditional practices, especially early marriage, are the greatest barriers to girls' education. The beliefs that underlie these practices also perpetuate a feeling among caregivers that education for girls is less valuable because their role is to be married. For CWD, physical access to schools was seen as the biggest barrier, but again, community beliefs that show education opportunities for CWD are not valued underlie the difficulty of improving circumstances for these children.

The project should focus on advocating for quality education opportunities for girls and boys alike. In many cases, this will require challenging the status quo and advocating for a change in cultural practices – difficult but honorable work.

5. Conclusion, Recommendations & Lessons Learned

5.1 Conclusion & Recommendations

How should the EQIE program be tailored to meet children’s current reading and life skill needs?

Overall, students are performing exceptionally well on reading skills. Still, some students – like 19% of Grade 4 students who are able to read but struggle to comprehend what they are reading – are behind their peers and must be supported to catch up to their peers. Potential strategies to address classes of students with diverse skills include pairing stronger with weaker students and encouraging teachers to increase their use of PBL to diversify teaching techniques and reading lessons to ensure no students who are struggling are left behind.

While student-reported home activity participation and classroom teacher practices were limited to specific literacy activities, it is interesting to note the positive correlation between amount of engagement and score on life skills. This correlation likely exists because of the underlying assumption – increased engagement is reflective of increased relationship between caregiver and child and teacher and child, resulting in increased social emotional skills.

Only about half of students report being engaged in the most fun of the interactive literacy actions at home (being read to, being told a story, and playing a literacy game) while less than half have access to storybooks. Indeed, there is a strong correlation between reading materials and literacy-supportive actions and extracurricular activities. There is scope to expand these opportunities to more students – both through making families aware of the benefits of these materials and activities to students, as well as providing extracurricular ‘substitute’ activities for students.

In both grades, students struggled the most with ‘self-confidence’ and ‘respect for others’ life skill assessments. Through play-based learning techniques, RTP can encourage teachers and parents to hone children’s interpersonal and intrapersonal skills. RTP can also lead and encourage

greater engagement in extracurricular learning activities, as well as advocating for increased engagement from parents in the home, to improve students' learning and socioemotional skills outside of the classroom.

How should EQIE prioritize certain sections of the teacher training curriculum to meet teachers where they are, building upon existing skills and addressing gaps?

Many of the least-used playful reading techniques are gameplay for learning, despite most teachers and all intervention principals reporting past training from RTP on PBL techniques. While more training can be helpful, RTP must also focus on supporting teachers' and schools' uptake of these new techniques, including addressing any barriers that may currently prevent them from using these techniques effectively, like limited teaching and learning materials and current understanding of play-based and participatory learning approaches, as reported by classroom observers. Increasing teachers' skill and frequency in using these techniques could assist struggling students in 'catching up' to their peers. As a bonus, these techniques apply to students of any reading level, can enhance engagement/motivation of all students to read, are an opportunity to engage students who typically participate less, and provide an opportunity to build critical life skills.

Teachers appear to give some thought to CWD inclusion and gender-responsiveness. However, CWD inclusion can be challenging, especially given the wide variation in individual needs and the limited number of students in each classroom. For this reason, it may be important to reinforce channels for teachers to share their experience and best practices for CWD inclusion in addition to support requested from RTP, including additional materials and training on inclusive education techniques.

With gender-responsiveness, there may be biases at play among teachers of both genders. While teachers were more likely to report greater engagement from girls but better performance from boys, this study found that girls and boys perform similarly on all reading and life skills tasks. RTP

can encourage gender equity in the classroom through its programming techniques and in the teaching and learning materials teachers use as part of programming.

How valid/appropriate are the implied assumptions of the logic model?

The logic model's emphasis on CWD is valid and appropriate – though the EQIE programming will have to be dynamic and agile to meaningfully help schools accommodate the small number of CWD who each have individual needs. Ideally, EQIE would draw on specialist support for diagnosis, as well as thinking through solutions to individual needs. Given the small sample of CWD included in this study, it also seems few CWD are enrolled in schools. RTP should support schools by equipping them with the strategies and resources to locate and enroll these children and support their families. The most common request to RTP highlighted by school leaders is teacher training on learning needs of CWD and materials to support their learning. It is strongly recommended the model place equal focus on girls' education as part of its inclusive education priorities. The evidence from the assessment shows biases against girls' equitable education, from teachers and parents alike, as well as the harmful traditional practices perpetuated against them, are present in the project's intervention sites. Interventions to address these biases are an appropriate inclusion in the project design.

The logic model's emphasis on learning through play is also valid and appropriate if key deficits in basic education standards can be overcome. Most classrooms are overcrowded; community leaders and district officials alike note the severe shortage of teachers; students struggle to get to school because of distance, and once there, often lack the necessary facilities to stay healthy while learning; and classrooms and homes alike lack basic teaching and learning materials necessary for quality learning. Learning through play is a great way to differentiate instruction so that children of all backgrounds and skill levels can be included, but to be successful in this context, the program must be designed to consider large class sizes and how it will address limited resources in these classrooms.

Finally, the logic model's bundling of reading skills and life skills together is valid and appropriate. There was a consistent relationship between life skills and literacy activities at home, school, and extracurricular. This signals an opportunity to improve reading and life skills simultaneously, by enhancing existing literacy-supporting interactions and especially by ensuring more students have access to them.

What specific equity indicators appear to be especially influential and ought to be paid attention to in various contexts?

There were no child background characteristics relevant to target certain types of students with specialized interventions, however, students with more household member literacy interactions in the past week, and those who reported greater numbers of positive teaching practices, scored higher on reading and life skills. It will be important for EQIE to explore ways of expanding these opportunities to all students.

In terms of gender-responsive programming, more can be done to advocate for the elimination of harmful traditional practices that are barriers to girls completing their education. Additionally, any biases that exist toward girls and their ability should be addressed through teacher training that encourages equal participation in the classroom.

How should the project intervention be tailored to positively influence/address the barriers that perpetuate gender inequality and social exclusion?

It is evident cultural practices and potentially internal biases are influencing gender inequality in the classroom. While girls are seen by their teachers as participating equally or more than boys in the classroom, most of their teachers, male and female alike, believe they do not perform as well in the classroom. The data collected as part of this assessment tell another story – females are performing at the same level as their male peers on all reading and life skills tasks.

Additionally, all district education officials and half of caregivers described several harmful traditional practices, including female genital mutilation and early marriage, that have led to an

attitude in the community that girls' education is not as important as boys' education. While RTP can address many deficiencies in teacher practice and lack of teaching and learning materials through its PBL approach, to realize truly inclusive education, advocacy for girls' education and a reduction in harmful cultural practices is necessary to overcome these issues of exclusion that lead to low daily attendance and eventual dropout.

5.2 Lessons Learned

This section discusses the lessons learned throughout the experience of preparing for, executing, and analyzing this baseline for meaningful insights to help implement and evaluate the EQIE project.

Indicator vs. evaluation question

At times, the project seemed to focus on indicators as the primary source of learning and data for decision-making. This resulted in multiple revisions to indicators, and more and more complex indicator definitions/means of calculation.

Evaluation questions, on the other hand, are perfect for richer, more nuanced learning and decision-making. Thus, this report has focused on exploring the evaluation questions. This report still presents indicators values (see Annex B). However, when using these indicators, it is important to keep their limitations in mind. Specific limitations include:

- Many indicators are composite measures of more complex constructs (such as school safety or teacher practices). The indicator value itself communicates little – for example, a 'low' indicator value does not give meaningful information about what 'part' of the indicator is driving the low value. See the relevant section of this report for more granular information on various constructs.
- As per reporting requirements, indicators are disaggregated many different ways. However, these disaggregations ignore statistical inference. That is, just because an indicator value differs between boys and girls, for example, does not mean that the difference is statistically (or practically) significant, and thus disaggregations may be misleading in and of themselves. Where relevant (for student, parent, and teacher data)

the sections of this report rigorously test which differences and relationships are statistically significant.

Quantity vs. quality (and usefulness) of data

This baseline employed seven separate tools to gather nearly one thousand variables. While the desire for comprehensive information and triangulation is understandable, there are serious trade-offs between quantity and quality (and ultimately, usefulness) of information. Resources are limited – in particular, the time and attention not only of data collectors and analysts on the data supply side, but also of program managers and other decision-makers on the data demand side.

The ‘Actionable’ principle from Innovations for Poverty Action’s Right-Fit Evidence Unit may be useful guidance for future data collections to assist in prioritizing data to be collected. The actionable principle seeks to roll back this problem by calling on organizations to only collect data that they will use. Organizations should ask two questions of each and every piece of data that they want to collect: ‘Is there a specific action that we will take based on the findings?’ and ‘Do we have the resources and the commitment required to take that action?’

Data collection permit and data collection dates

In procuring the data collection permit from the Tanzanian government, it was discovered that A) there were outstanding action items required by RTP, unrelated to the EQIE baseline data collection process, that had to be solved before the government would agree to the EQIE baseline data collection moving forward, and B) the government would only allow data collection during the holiday break. While these requirements were out of the control of the consultants and all involved did what was required to successfully complete data collection, asking students and teachers to return to class during a holiday break is never the preferred approach. While the consultants were aware this is a common occurrence – requesting teachers and/or students return to the school over breaks – this has an impact on research design. As much as possible, the consultants in the field implored teachers to invite all students to the school so a truly random sample could be drawn, but this was not consistently feasible in all locations. Given students

generally scored so well on the reading sub-tests, it is important that continued monitoring ensure there are not any struggling students falling behind that were not captured through the baseline data collection process.

Complex contracting arrangements

The contract arrangement for the baseline gave the budget for InformEd staff to InformEd, and all other expenses (such as enumerators, local logistics, etc.) to RTP Country Offices. This caused confusion, resulted in mismatch between Inception Report methodology and resourcing to execute the methodology, and required substantial additional time of both InformEd and RTP staff to navigate and reconcile. In the future, if possible, RTP may consider a more simplified approach to contracting in which the budget for both contractor time and local resources resides with a single entity/contract instead of split between multiple entities.

Annex A. EQIE Project Indicators and Analysis Framework

The table below outlines how each indicator was scored.

Indicator #	Indicator	Description of Indicator	Data Collection Tool	Questions from Assessment Tools	Analysis Calculation
1000.1	#/% of children in target educational institutions achieving at least a minimum proficiency level in reading in grade 4	The five core reading skills are letter knowledge/phonics, phonemic awareness, vocabulary, reading fluency, and comprehension. Minimum proficiency level is defined here as the benchmark of basic knowledge in literacy assessment Task 5 (reading with comprehension). Benchmark should be contextualized in each country and project to meet MoE policy objectives.	Learner Assessment	10 comprehension questions administered to children who can read (defined as a child that can read at least 5 words correctly in 30 seconds). Note that the benchmark is 80% of comprehension questions are marked correct to be a reader with comprehension. This definition will be contextualized for each country during the tool contextualization phase (process for doing so is articulated in the Country Manager Manual).	# of grade 4 children meeting the contextualized benchmark for reading with comprehension divided by # of grade 4 children assessed
1000.2	#/% of children in target educational institutions with increased life skills	Life skills include cognitive and socio-emotional learning competencies contained in the holistic child development framework. Usually measured using validated tools such as IDELA, ISELA, and DAP. Report the aggregate profile of each competency area and individual skill value. Midline and final evaluation values will help determine whether a child has improved in a skill area or not. Using comparison group, a change in the skill value could be attributed to the project intervention.	Learner Assessment	Ethiopia will report on competency area and skill values as follows: - Respect for Others (selsad1-selsad3 selangry1-selangry3 relate8 relate13 relate18) - Concentration (relate6 relate7 relate12 relate17) - Problem-solving (conflict1 – conflict4) - Self-confidence (sel3-sel8) - Teamwork (collaboration1-collaboration4) - Communication (relate2 relate5 relate10b relate11 relate15 relate16)	Aggregated competency area and skill value, reported as an average score (disaggregated by grade)
1100.1	#/% of teachers demonstrating improved teaching	Teachers are expected to demonstrate knowledge and practice in teaching the five core skills using PBL (use of	Classroom Observation (triangulated	A teacher practice index was constructed, drawing from the classroom observation questions corresponding to the sections	A threshold for the teacher practice index was set at the 75 th percentile of classroom observation scores

	practices to enhance children's reading skills	play/games & RCA). A teacher is deemed to have demonstrated improved skills in teaching reading if s/he applies literacy instruction strategies using PBL approach relevant for the lesson observed. And also evidences these in his/her lesson plan.	by Teacher Interview)	Teacher approach and ability to implement Literacy-PBL, Inclusive Learning, Behavior Management, and Children Interaction/Engagement within classroom Note that the self-reported teacher practice index from the teacher interview was not correlated with either the classroom observation practice index or with student outcomes. Thus, the self-reported index should be considered unreliable, and future data collections may consider cutting these items from the teacher interview. In classroom observation tool, the variable lplanpbl literacy was also used.	(=0.8). To be counted in the numerator, a teacher must have a practice index score ≥ 0.8 AND must have a lesson observation in which the teacher's lesson plan includes literacy instruction w/ a PBL approach. The denominator is all teachers interviewed.
1100.2	#/% of children who report feeling that the PBL activities their teacher practiced had a positive effect on their reading and life skills (disaggregated by sex, grade and Impairment)	Children express that their teacher(s) use PBL activities in class and that the use of those activities and strategies have helped improve their reading and life skills.	Learner Assessment	Over the past week - Did your teacher read to you?, Did your teacher ask you questions about what you read?, Did you read with a classmate in school?, Did you read quietly by yourself without help?, Did you learn songs or games in class?, Did your teacher teach you the sounds of letters and words? (teachpractice1 – teachpractice6)	# of children who report teachers engaging in all PBL activities in the previous week divided by # of children assessed
1110.2	#/% of teachers who report receipt of appropriate level of support to improve their knowledge and practice of PBL approaches to enhance children's reading skills	Support and supervision mechanisms for teachers to function effectively as defined in INEE minimum standard 3 on Support and Supervision with particular emphasis on the following: • Adequate teaching and learning materials and space are available (guidance note 1). • Teachers are involved in professional development that contributes to their motivation and support (guidance notes 2-3). • A transparent, accountable	Teacher Interview	Drawn from the questions corresponding to variables rtpttrain, rtptsubject, implement, and pblsupport in teacher interview. Supporting questions are rtpttrainwhen, otherorgrtrain, implementmonths, implementreason, rtptsharetrainin, rtptsharetrainout, support, and supporttype in teacher interview.	# of teachers trained in at least 4/5 PBL subjects, who: (a) report having at least 4/6 supports, and (b) report implementing PBL at least sometimes in their classroom; divided by all teachers interviewed

		supervisory mechanism provides for regular assessment, monitoring and support for teachers (guidance notes 2-3). Teachers receive coaching and mentoring support. • Performance appraisals for teachers are conducted, documented and discussed regularly (guidance note 4).			
1200.1	#/% of children who routinely participate in supplemental reading activities	Supplemental reading activities are reading activities outside the classroom and school hours. Happening in the home, community reading centres/clubs/reading days out. This indicator counts children who participated/attended reading club meeting/after-school reading activities in the past week. Focus on the reading club/centre/days out activities, and then ask if they have been engaged in any other activities (read-a-thons, reading to siblings etc to triangulate).	Learner Assessment	Did you attend any after-school reading activities, like reading camps, reading centers, or reading days out? Also added for COVID - Do you participate in out-of-school reading activities, like those available through radio, TV, or mail?	# of children who reported participating in supplemental reading activities in the previous week divided by # of children assessed
1200.2	#/% of children who report positive changes in their home, school, and community to support their reading	Positive changes such as parents/siblings read to child, helps child do homework, take me to community centre to read, buy my books to read, teacher use games, teacher read aloud, teacher use word cards, school has reading hour and story books for children to read, community has reading centre/club with trained facilitators and books etc that support children reading skill development. Disaggregated by setting type (home, school, and community), sex and impairment. Refer to the Learning Together Toolkit Session D for	Learner Assessment	Home - In the past week: Have you seen anyone in your home reading? Has someone in your family helped you with your homework? Has a family member read to you? Has a family member told you a story? Has a family member played literacy games with you? School - Did your teacher read to you?, Did your teacher ask you questions about what you read?, Did you read with a classmate in school?, Did you read quietly by yourself without help? Community - Did you attend any after-school reading activities, like reading camps, reading centers, or reading days out? Also added for COVID - Do you participate in	# of children who reported engagement in reading behaviors in the previous week divided by # of children assessed; disaggregated by setting Note 1: For the community setting, this variable is the same as Indicator 1200.1. Note 2: In each of the three settings, a child is counted if they reported $\geq 50\%$ of possible behaviors.

		home literacy environment expectation		out-of-school reading activities, like those available through radio, TV, or mail?	Note 3: For the overall indicator, a child is counted if they reported >=50% of possible behaviors in all three contexts.
1210.1	#/% of parents that report using home-based reading activities with their children	Parents refer to primary caregivers of early grade children in the project's target school community. Home based reading activities include help child do homework, read to child, tell story to child, set reading corner for child, play literacy games with child, etc (refer to Learning Together Toolkit). Proportion of parents who report engaging in any of these activities with children at home in the past week are counted in this indicator.	Caregiver Survey	(seenread): In the past week, have you read anything for pleasure? (helpstudy): In the past week, have you helped (childname) with homework)? (read2u): In the past week, have you read to (childname)? (story2u): In the past week, have you told a story to (childname)? (playgames): In the past week, have you played literacy games with (childname)?	# caregivers report at least 2 activities / total # caregivers interviewed
1210.2	# of reading initiatives provided by parents, teachers, children, and community (disaggregated by type)	Organized reading events initiated and led by parents/teacher/children/community with the aim of encouraging and enhancing the habit of reading among children in early grade (Grade 1-4). It includes reading competition, learning days, reading events, radio broadcasting, reading olympics, reading marathon, international reading days, and reading summer activities.	N/A - Measured by RTP (Project Monitoring)	N/A - Measured by RTP (Project Monitoring)	N/A - Measured by RTP (Project Monitoring)
1300.1	#/% of schools that are conducive to the physical well-being of learners	School meets INEE minimum standard 3 for facilities and services as follows: - Learning sites and structures are safe and accessible for all learners, teachers and other education personnel (see guidance notes 1-4). • Temporary and permanent learning	Principal Interview (triangulated by teacher interview and classroom observation)	Drawn from the questions corresponding to variables concerns, system, implement, included, and safetyissues1p-safetyissues5p in principal interview.	# of schools with (a) children coming to staff for concerns, (b) system for addressing those concerns, (c) at least moderately implemented school improvement plan, and (d) no more than 3

		environments are repaired, retro-fitted or replaced as needed with disaster-resilient design and construction (see guidance notes 2 and 4). • Learning spaces are marked by visible protective boundaries and clear signs. • Physical structures used for learning sites are appropriate for the situation and include adequate space for classes, administration, recreation and sanitation facilities (see guidance notes 2 and 4). • Class space and seating arrangements meet agreed ratios of space per learner and teacher in order to promote participatory methodologies and learner-centred approaches (see guidance note 4). • Adequate quantities of safe water and appropriate sanitation facilities are provided for personal hygiene and protection, taking into account sex, age and people with disabilities (see guidance notes 3 and 5-6). • Skills-based health and hygiene education is promoted in the learning environment (see guidance note 6). • Schools and learning spaces are linked to child protection, health, nutrition, social and psychosocial services (see guidance note 8)			physical safety issues / total # of schools
1300.2	#/% of schools that meet criteria for emotional safety/emotional well-being	School is considered emotionally safe for children if it meets all 3 conditions 1. Education staff demonstrate participatory, inclusive, positive discipline and gender-sensitive practices in the school	Teacher Interview (triangulated by principal interview and	Drawn from the questions corresponding to variables discipline, comfortable, sexparticipate, participate, adapthow, psychtrain in teacher interview.	# of schools where both interviewed teachers (a) use only positive discipline techniques, (b) report children feeling comfortable at least most of the time, (c) report girls and boys participate equally, (d) report cwd participate at least most of the

		2. Absence of anti-bullying behavior with clear rules against gender-based violence 3. Functional referral system with trained point person for child protection and psychosocial support Refer to INEE minimum standard 2 on protection and wellbeing Guidance notes 2-4, and 8 for details	classroom observation)		time, (e) can give an example of adaptation made for cwd, (f) have been trained on providing psychosocial support to children; divided by all teachers interviewed
1300.3	#/% of children who report feeling safe and included in the school learning environment (disaggregated M/F; impairment)	Refer to relevant sections of INEE minimum standards on Protection & Wellbeing; and Facilities & Services guidance notes 2- 4, 8 and 1-8 respectively. Children who report positively on these are counted.	Learner Assessment	In the last week, did you feel afraid in your school?; In the last week, did you feel afraid on your way to your school? Supporting questions (for conclusion): In the last week: did a child in your school tease another child to make them angry?, did a child in your school leave out another child from an activity or game?, did a child in your school say something mean to another child?, did a child do any of these things to you?, did children in your school get into a fight where someone was hit?, did you get into a fight where someone was hit?, did anyone in your school throw something at a child to hurt them?, did you throw something at a child to hurt them?, did an adult in your school scream or yell at a child in a threatening way?, did an adult in your school hit or kick a child?	# of children reporting no to both questions / total # of children interviewed
1300.4	#/% of teachers with access to appropriate psychosocial support to improve their well-being	Support mechanisms for teachers function effectively as defined in INEE minimum standard 3 on Support and Supervision with specific focus on: - Appropriate, accessible and practical psychosocial support for teachers (see guidance note 6)	Teacher Interview	Teacher Interview (psychsupport): Do you have access to a trained point person for psychosocial support? Supporting questions (for conclusion): Please indicate how much you disagree or agree with each of the following statements. (rewarding) Working as a teacher has been	# teachers that responded yes / total # of teachers interviewed

				rewarding and worthwhile. (strongcop) There is a strong community of practice amongst my fellow teachers that I can learn from and share challenges and successes with.	
1300.5	#/% of education professionals (teachers, principals) who have considered leaving the sector over the past year	Self-reported measure from teacher interview and principal interview. Calculated as # of educators who have considered leaving in past year / # of educators interviewed	Teacher Interview Principal Interview	Teacher Interview (leavesector): In the past year, have you considered leaving teaching and education as a career? Principal Interview (leavesector): In the past year, have you considered leaving education as a career? Follow up question on both interviews is: <i>What is the primary reason for wanting to leave?</i>	# of principals and teachers that responded yes / total # of principals and teachers interviewed
1310.1	#/% school community members that exhibit knowledge in creation and maintenance of safe and inclusive learning environments	School community members are SMC/PTA, School Council, School Inclusion Committee, Coaches, School administrators/Head Teachers/Principals, Teachers, District Education Officials, and National Education Agencies/Ministries. Exhibition of knowledge in enhancing child protection, disability inclusion, promoting child rights, and dealing with corporal punishment, abuse, and/or GBV to achieve physical and emotional safety in the school. Members to consider for the calculation of this indicator are SMC/PTA/School Council Executives, Parents/Caregivers/Parent Council Executives, Grade Pre-primary - Primary 4 Teachers, and Headteachers/School Principals. Data is disaggregated by school community member type.	Community Leader Interview Caregiver Interview Education Official Interview	Ideally, contextualized list of strategies in Community Leader and Parent interviews (the baseline relied on open qualitative reporting from community leaders). Qualitative reporting of district education priorities in Education official Interview.	# of community leaders, caregivers, or education officials that are able to identify at least 3 strategies for creating a safe and inclusive learning environment/ # community leaders, caregivers, & education officials interviewed

		CALCULATION: # of members in a category able to mention 2-3 strategies for creating safe learning environment divided by total # of members in that category surveyed.			
1310.2	#/% of children who know where and how to formally report a protection violation	Number of children who correctly identify where and how to formally report a protection violation (defined locally) divided by the number of learners assessed	Learner Assessment	Childprotection: If you or a friend were being harmed by someone else, what would you do? (countries are instructed to contextualize potential multiple choice responses as appropriate)	# children who accurately answer question (contextualized by country) / total # children interviewed
1400.2	# students (F/M) enrolled in target educational institutions(disaggregated by level of education and CWD)	Number of male and female students that enroll in educational institutions directly supported by the project. An institution can be counted as 'supported' when goods (books, learning materials, and infrastructure) and services (e.g. training, inspectors/supervisor visits, and training of SMC/PTA members) have been provided directly to that institution. In general, direct support to institutions are activities/interventions where the educational institution has been directly targeted. For example: A training that generally strengthens the knowledge of inspectors/supervisors in a district alone would not qualify for including all students in that given district as supported. However, if the inspectors are also provided with funds and transport to inspect particularly marginalized schools students in these specific schools can be included as 'supported'. Similarly if teachers or PTA/SMC members from a school has	N/A	N/A - measured and reported by RTP	N/A - measured and reported by RTP

		been supported with transport, food or accommodation to attend a training the school can be included as 'supported'.			
1410.1	% of community members and leaders that can easily identify at least 3 barriers to education faced by girls and children with disabilities (disaggregated by M/F)	School community members and leaders are SMC/PTA, School Inclusion Committee, Coaches, Junior Leaders, School administrators, CSO partners, District Education Officials, & National Education Agencies/Ministries, Political Leaders, Religious Leaders. Exhibition of knowledge in enhancing child protection, disability inclusion, promoting child rights, and dealing with corporal punishment, abuse, and/or GBV to achieve inclusive education. Community members and leaders who are able to identify any 3 of the barriers to inclusive and gender responsive education are; - Corporal/physical punishment in schools - Schools Infrastructure not accessible and friendly to persons with disability - Schools have no appropriate menstrual hygiene facilities - Teachers lack training in positive discipline - Lack of means of transport for persons with disability and those living far from school - Early Marriage - Restrictions on returning to school for out-of-school children - Gender norms. - Parents place less value on education for girls since they will get married - Community attitudes - Inability to cover expenses such as assistive	Community Leader Interview Caregiver Interview Education Official Interview	Ideally, contextualized list of barriers in Community Leader and Parent interviews (the baseline relied on open qualitative reporting from community leaders). Qualitative reporting of district education priorities in Education official Interview.	# of community leaders, caregivers, or education officials that are able to identify at least 3 barriers / # community leaders, caregivers, & education officials interviewed

		technology/aids - Requirements for documentation to enroll in schooling - Restrictions on expectant mothers attending school			
1410.2	#/% of children who report that they have witnessed their school taking action to make girls and CwDs feel included. (disaggregate by Sex and Marginalization type)	Actions for emotional, social and physical wellbeing of children; and gender/social inclusion taken by school.	Learner Assessment	Do all of your friends come to school regularly? Do all the children your age in your community go to school?	# of children reporting yes to both questions / total # of children interviewed

Annex B: PMF

Note: For deeper analysis of disaggregations and relationships (including statistical inference), see relevant section of report.

Programme Objective	Indicators	Disaggregation	<i>n</i>	Baseline Y1-2020
PROGRAM OBJECTIVE 1000				
	1000.1: #/% of children in target educational institutions achieving at least a minimum proficiency level in reading in grade 4	Overall	312	77%
		Female	164	77%
		Male	148	77%
		Children with Disability	4	50%
		Children without Disability	308	77%
	1000.2: Oral Reading Fluency Score (WPM)	Overall Grade 4	269	45
		Grade 4 Female	144	45
		Grade 4 Male	125	44
		Grade 4 Children with Disability	2	44
		Grade 4 Children without Disability	267	45
	1000.3: #/% of children in target educational institutions with increased life skills	Grade 1 Life Skill - Respect for Others: Overall	378	50%
		Grade 1 Life Skill - Respect for Others: Female	194	51%
		Grade 1 Life Skill - Respect for Others: Male	183	50%
		Grade 1 Life Skill - Respect for Others: Children with Disability	1	33%
		Grade 1 Life Skill - Respect for Others: Children without Disability	377	50%
		Grade 1 Life Skill - Concentration: Overall	377	74%
		Grade 1 Life Skill - Concentration: Female	193	73%
		Grade 1 Life Skill - Concentration: Male	183	76%
		Grade 1 Life Skill - Concentration: Children with Disability	1	100%
		Grade 1 Life Skill - Concentration: Children without Disability	376	74%
		Grade 1 Life Skill - Problem-solving: Overall	378	62%
		Grade 1 Life Skill - Problem-solving: Female	194	62%
		Grade 1 Life Skill - Problem-solving: Male	183	62%

Grade 1 Life Skill - Problem-solving: Children with Disability	1	67%
Grade 1 Life Skill - Problem-solving: Children without Disability	377	62%
Grade 1 Life Skill - Self-confidence: Overall	378	39%
Grade 1 Life Skill - Self-confidence: Female	194	37%
Grade 1 Life Skill - Self-confidence: Male	183	41%
Grade 1 Life Skill - Self-confidence: Children with Disability	1	50%
Grade 1 Life Skill - Self-confidence: Children without Disability	377	38%
Grade 1 Life Skill - Teamwork: Overall	377	72%
Grade 1 Life Skill - Teamwork: Female	193	71%
Grade 1 Life Skill - Teamwork: Male	183	74%
Grade 1 Life Skill - Teamwork: Children with Disability	1	100%
Grade 1 Life Skill - Teamwork: Children without Disability	376	72%
Grade 1 Life Skill - Communication: Overall	377	70%
Grade 1 Life Skill - Communication: Female	193	69%
Grade 1 Life Skill - Communication: Male	183	71%
Grade 1 Life Skill - Communication: Children with Disability	1	50%
Grade 1 Life Skill - Communication: Children without Disability	376	70%
Grade 4 Life Skill - Respect for Others: Overall	312	64%
Grade 4 Life Skill - Respect for Others: Female	164	64%
Grade 4 Life Skill - Respect for Others: Male	148	64%
Grade 4 Life Skill - Respect for Others: Children with Disability	4	58%
Grade 4 Life Skill - Respect for Others: Children without Disability	308	64%
Grade 4 Life Skill - Concentration: Overall	312	86%
Grade 4 Life Skill - Concentration: Female	164	87%
Grade 4 Life Skill - Concentration: Male	148	84%
Grade 4 Life Skill - Concentration: Children with Disability	4	71%
Grade 4 Life Skill - Concentration: Children without Disability	308	86%
Grade 4 Life Skill - Problem-solving: Overall	312	74%
Grade 4 Life Skill - Problem-solving: Female	164	74%
Grade 4 Life Skill - Problem-solving: Male	148	74%
Grade 4 Life Skill - Problem-solving: Children with Disability	4	69%
Grade 4 Life Skill - Problem-solving: Children without Disability	308	74%

Grade 4 Life Skill - Self-confidence: Overall	312	62%
Grade 4 Life Skill - Self-confidence: Female	164	66%
Grade 4 Life Skill - Self-confidence: Male	148	57%
Grade 4 Life Skill - Self-confidence: Children with Disability	4	0%
Grade 4 Life Skill - Self-confidence: Children without Disability	308	62%
Grade 4 Life Skill - Teamwork: Overall	312	86%
Grade 4 Life Skill - Teamwork: Female	164	87%
Grade 4 Life Skill - Teamwork: Male	148	84%
Grade 4 Life Skill - Teamwork: Children with Disability	4	83%
Grade 4 Life Skill - Teamwork: Children without Disability	308	86%
Grade 4 Life Skill - Communication: Overall	312	82%
Grade 4 Life Skill - Communication: Female	164	82%
Grade 4 Life Skill - Communication: Male	148	82%
Grade 4 Life Skill - Communication: Children with Disability	4	50%
Grade 4 Life Skill - Communication: Children without Disability	308	82%

Outcomes & Outputs	Indicators	Disaggregation		Baseline Y1-2020
INTERMEDIATE OUTCOME 1100:				
1100: Increased integration of play-based learning by teachers to enhance children's reading skills in target educational institutions	1100.1: #/% of teachers demonstrating improved teaching practices to enhance children's reading skills	Overall	39	56%
		Female	19	57%
		Male	20	56%
		Teacher with RTP COTT Training Status	21	56%
		Teacher without RTP COTT Training Status	15	56%
		Overall Grade 1 Teachers	19	59%
		Grade 1: Female	9	67%
		Grade 1: Male	10	51%
		Overall Grade 4 Teachers	20	54%
		Grade 4: Female	10	47%
		Grade 4: Male	10	61%

1100.2 #/% of children that report feeling that the PBL activities their teacher practiced had a positive effect on their reading and life skills (disaggregated by sex, grade and Impairment)		Overall	686	24%	
		Overall: Female	355	27%	
		Overall: Male	330	22%	
		Overall: Children with Disability	2	0%	
		Overall: Children without Disability	684	25%	
		Overall Grade 1	377	27%	
		Grade 1: Female	193	26%	
		Grade 1: Male	183	27%	
		Grade 1: Children with Disability	NA	NA	
		Grade 1: Children without Disability	377	27%	
		Overall Grade 4	309	22%	
		Grade 4: Female	162	28%	
		Grade 4: Male	147	15%	
		Grade 4: Children with Disability	2	0%	
		Grade 4: Children without Disability	307	22%	
IMMEDIATE OUTCOME 1110:					
1110: Increased knowledge of teachers to enhance children’s reading skills through play-based learning in target educational institutions	1110.1 %/# of trained teachers scoring satisfactorily on post-COTT training tests	Sex, Grade, Years of Teaching Experience			
	1110.2 #/% of teachers who report receipt of appropriate level of support to improve their knowledge and practice of PBL approaches to enhance children's reading skills	Overall	37	22%	
		Female	16	31%	
		Male	21	14%	
		Teacher with RTP COTT Training Status	21	38%	
		Teacher without RTP COTT Training Status	NA	NA	
		Overall Grade 1 Teachers	19	26%	
		Grade 1: Female	9	44%	
		Grade 1: Male	10	10%	
		Overall Grade 4 Teachers	18	17%	

		Grade 4: Female	7	14%
		Grade 4: Male	11	18%
INTERMEDIATE OUTCOME 1200:				
1200.1 #/% of children who routinely participate in supplemental reading activities	1200: Increased supplemental reading practice of children [in target locations]	Overall	683	31%
		Overall: Female	354	31%
		Overall: Male	328	30%
		Overall: Children with Disability	2	0%
		Overall: Children without Disability	681	31%
		Overall Grade 1	375	26%
		Grade 1: Female	193	27%
		Grade 1: Male	181	26%
		Grade 1: Children with Disability	NA	NA
		Grade 1: Children without Disability	375	26%
		Overall Grade 4	308	35%
		Grade 4: Female	161	35%
		Grade 4: Male	147	35%
		Grade 4: Children with Disability	2	0%
		Grade 4: Children without Disability	306	36%
1200.2: #/% of children who report positive changes in their home, school, and community to support their reading*		Overall	685	22%
		Overall: Female	355	22%
		Overall: Male	329	23%
		Overall: Children with Disability	2	0%
		Overall: Children without Disability	683	22%
		Overall Grade 1	376	19%
		Grade 1: Female	193	18%
		Grade 1: Male	182	20%
		Grade 1: Children with Disability	NA	NA
		Grade 1: Children without Disability	376	19%
		Overall Grade 4	309	27%
		Grade 4: Female	162	27%

		Grade 4: Male	147	26%
		Grade 4: Children with Disability	2	0%
		Grade 4: Children without Disability	307	27%
IMMEDIATE OUTCOME 1210:				
1210: Increased provision of supplemental reading activities by teachers, parents, and community	1210.1: #/% of parents that report using home-based reading activities with their children	Composite	209	58%
		Composite: Female	126	52%
		Composite: Male	83	66%
		Seen reading	209	34%
		Seen reading: Female	126	33%
		Seen reading: Male	83	36%
		Helped Study	209	60%
		Helped study: Female	126	55%
		Helped study: Male	83	68%
		Read to Child	209	42%
		Read to child: Female	126	37%
		Read to child: Male	83	48%
		Told story to child	209	29%
		Told story to child: Female	126	27%
		Told story to child: Male	83	31%
		Played games	209	38%
		Played games with child: Female	126	37%
		Played games with child: Male	83	39%
	1210.2: # of reading initiatives provided by parents, teachers, children, and community	Total		
		Reading competitions		
		Radio broadcasting		
		Reading events		
		Reading Olympics		
		Learning days		
		Learning Marathons		
		International Day		

		Summer activities (collaboration with UNRWA)		
Outcomes & Outputs		Disaggregation		Baseline Y1-2020
INTERMEDIATE OUTCOME 1300:				
1300: Improved safe and inclusive learning environments in target educational institutions.	1300.1 #/% of schools that are conducive to the physical well-being/safety of learners	Overall	20	25%
		Urban Schools	4	0%
		Rural Schools	15	33%
		Peri-urban Schools	1	0%
	1300.2: #/% of schools that meet criteria for emotional safety/emotional well-being	Overall	20	15%
		Urban Schools	4	25%
		Rural Schools	15	13%
		Peri-urban Schools	1	0%
	1300.3 #/% of children who report feeling safe and included in school learning environment	Overall	674	75%
		Overall: Female	347	74%
		Overall: Male	326	76%
		Overall: Children with Disability	2	50%
		Overall: Children without Disability	672	75%
		Overall Grade 1	370	73%
		Grade 1: Female	188	70%
		Grade 1: Male	181	76%
		Grade 1: Children with Disability	NA	NA
		Grade 1: Children without Disability	370	73%
		Overall Grade 4	304	77%
		Grade 4: Female	159	77%
		Grade 4: Male	145	76%
		Grade 4: Children with Disability	2	50%
		Grade 4: Children without Disability	302	77%
	1300.4 #/% of teachers with access to appropriate	Overall	37	70%
		Female	16	69%
		Male	21	71%

psychosocial support to improve their well-being

1300.5 #/% of education professionals (teachers, principals) who have considered leaving the sector over the past year.

Teacher with RTP COTT Training Status	21	67%
Teacher without RTP COTT Training Status	16	75%
Overall Grade 1 Teachers	19	63%
Grade 1: Female	9	67%
Grade 1: Male	10	60%
Overall Grade 4 Teachers	18	78%
Grade 4: Female	7	71%
Grade 4: Male	11	82%
Overall	57	8%
Female	19	11%
Male	38	8%
Overall with RTP COTT Training Status	38	13%
Overall without RTP COTT Training Status	19	0%
Overall Principals	20	10%
Principals: Female	3	0%
Principals: Male	17	12%
Overall Teachers	37	8%
Teachers: Female	16	13%
Teachers: Male	21	5%
Overall Grade 1 Teachers	19	5%
Grade 1: Female	9	11%
Grade 1: Male	10	0%
Overall Grade 4 Teachers	18	11%
Grade 4: Female	7	14%
Grade 4: Male	11	9%
IMMEDIATE OUTCOME 1310:		
Overall	275	44%
Female	145	39%
Male	130	49%
School Community Stakeholder Type 1 (SMC/PTA)	27	59%
School Community Stakeholder Type 2 (Education officials)	3	100%

IMMEDIATE OUTCOME 1310:

1310: Increased capacity of school community in creation and maintenance of safe and inclusive learning environments

1310.1: #/% school community members that exhibit knowledge in creation and maintenance

of safe and inclusive learning environments

1310.2 #/% of children who know where and how to formally report a protection violation

School Community Stakeholder Type 3 (Parent/caregivers)	209	42%
School Community Stakeholder Type 4 (Community leaders)	36	39%
Overall	686	80%
Overall: Female	356	80%
Overall: Male	330	81%
Overall: Children with Disability	2	100%
Overall: Children without Disability	685	80%
Overall Grade 1	377	72%
Grade 1: Female	193	72%
Grade 1: Male	183	72%
Grade 1: Children with Disability	NA	NA
Grade 1: Children without Disability	377	72%
Overall Grade 4	310	90%
Grade 4: Female	163	89%
Grade 4: Male	147	91%
Grade 4: Child with Disability	2	100%
Grade 4: Child without Disability	308	90%

Outcomes & Outputs		Disaggregation		Baseline Y1-2020
INTERMEDIATE OUTCOME 1400:				
IMMEDIATE OUTCOME 1410:				
1410: Increased capacity of community members and leaders to address barriers to access education and learning	1410.1: % of community members and leaders that can easily identify at least 3 ways to address barriers to education faced by girls and children with disabilities (disaggregated by M/F and School Community Stakeholder Type)	Overall	239	50%
		Female	116	60%
		Male	123	41%
		School Community Stakeholder Type 1 (SMC/PTA)	26	65%
		School Community Stakeholder Type 2 (Education officials)	3	100%
		School Community Stakeholder Type 3 (Parent/caregivers)	174	56%
		School Community Stakeholder Type 4 (Community leaders)	36	8%
		Overall	684	60%

1410.2 #/% of children who report that they have witnessed their school taking action to make girls and CwDs feel included.(disaggregate by Sex and Impairment/Disability type)

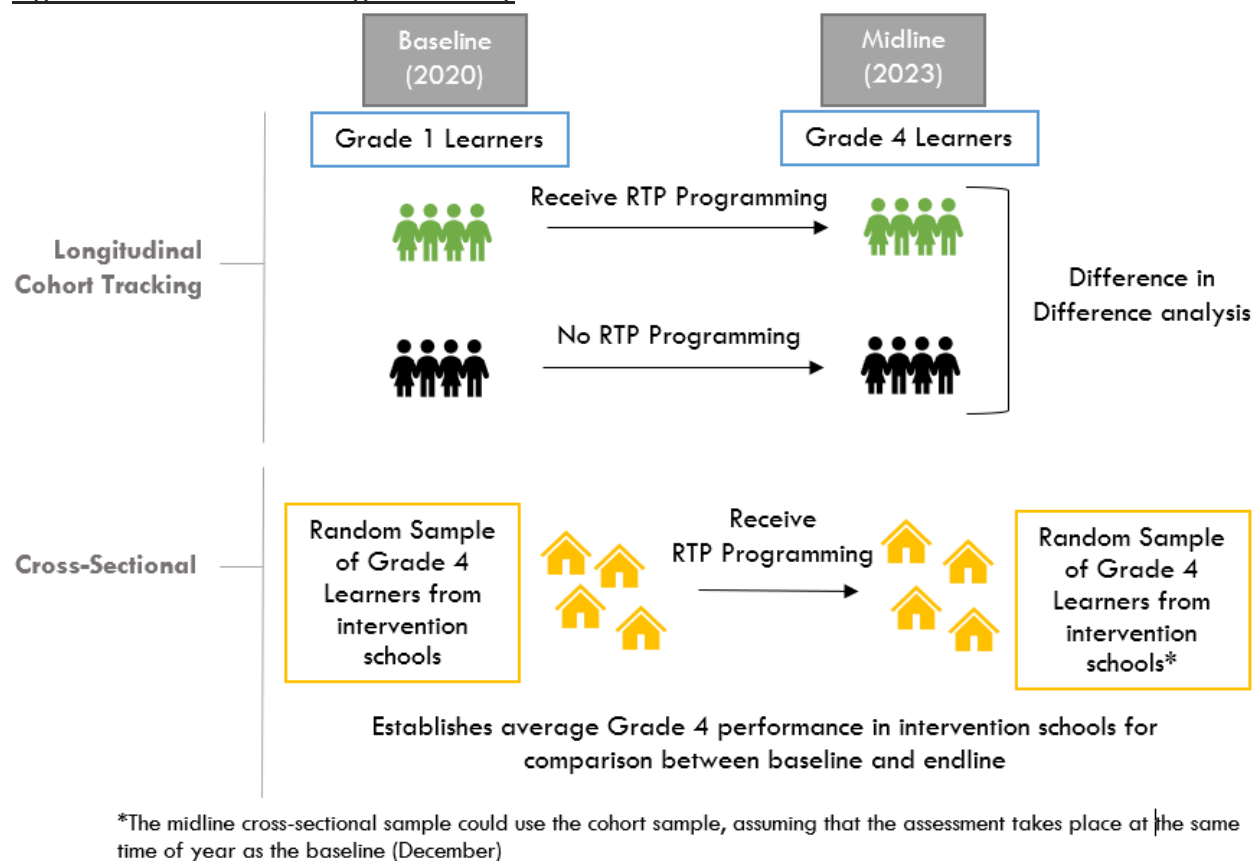
Overall: Female	354	61%
Overall: Male	330	58%
Overall: Children with Disability	2	50%
Overall: Children without Disability	683	59%
Overall Grade 1	376	58%
Grade 1: Female	192	58%
Grade 1: Male	183	59%
Grade 1: Children with Disability	NA	NA
Grade 1: Children without Disability	376	58%
Overall Grade 4	309	61%
Grade 4: Female	162	64%
Grade 4: Male	147	57%
Grade 4: Child with Disability	2	50%
Grade 4: Child without Disability	307	61%

Annex C: Evaluation Methods and Limitations

Study Design

This evaluation employed a quasi-experimental design, preparing Right To Play to examine the DAC criteria of effectiveness and impact at midline. This design maximizes Right To Play’s ability to **(1) examine the DAC criteria of effectiveness and impact at midline**, while also **(2) reporting on project indicators**.

Figure C.1: Evaluation design summary



The baseline established a sample of students to be followed longitudinally throughout the life of the program. These students were identified at baseline in Grade 1, in 20 intervention and 20 comparison schools. These same students should be followed and re-assessed in Grade 4, at the program’s midline in 2023. Additionally, the project sought to establish the baseline performance of learners in Grade 4 (the age used to measure the EQIE indicator target). Given this, a cross-sectional random sample of Grade 4 learners from 20 intervention schools were assessed at

baseline. At midline, another random sample of students can be assessed to compare average Grade 4 performance at baseline and midline.

In addition to the learners assessed, data were collected from other stakeholders in the education ecosystem. This includes interviews with teachers, principals, parents/caregivers, district education officials, and community leaders, as well as classroom observations. These data provide insight into the quality of education in the communities, the role RTP is currently playing in improving quality education, and the gaps that can be addressed through RTP programming.

Sample Size and Selection

This section provides a summary of sample size and selection, with a focus on the Learner Assessment. For full details, including rationale for sample size/selection of other tools, see InformEd's RTP EQIE Baseline Inception Report (Annex H).

Learner Assessment Sample Size

As the ultimate beneficiaries of the EQIE project, a sufficient sample size of students was needed to achieve (A) the impact evaluation objective of documenting a reasonable magnitude of project impact (if one exists) and (B) the baseline (and midline, endline) objective of providing population point estimates with reasonable accuracy.

- A. For impact evaluation, it was decided it would be worthwhile to document effect sizes as low as 0.32-0.36.⁷ Given informed assumptions, educated guesses, and calculations (see Inception Report); the longitudinal sample during the 2023 midline would need to have average 15 students per each of 20 intervention and 20 comparison schools. This sample allows detection of a 0.32 effect size with 80% probability and 90% confidence, or a 0.36 effect size with 95% confidence.⁸ This calculation assumed an intra-school correlation (ICC) of 0.1, however given actual baseline data, the ICC is closer to 0.12 (see Annex E for

⁷ Given the agreed-upon sample size, if the actual program impact is of lesser magnitude than this, there is a substantial (greater than 20%) probability that such impact would not be documented with at least 90% confidence. However, the ability to document lesser impact would have required a much greater sample size.

⁸ The following program/commands were used in Stata to make this calculation: `clustersampsi, detectabledifference mu1(1) sd1(1) m(15) k(20) rho(0.1) beta(0.8) alpha(.1)`

the actual ICC and discussion of sample size implications). With a baseline sample size of 20 students per each of 20 intervention and 20 comparison schools, this calculation also assumed 25% attrition by midline. This is likely an underestimate of actual attrition, and so there might be a need to randomly replace students at midline if less than 15 of the original 20 students can be found in 2023.

- B. For population point estimates at a given point in time, 15 students per each of 20 intervention schools provides a point estimate of ± 7.3 percentage points with 90% confidence (or, in the case of baseline Grade 1 with 20 students per school, ± 6.9 pp with 90% confidence). In planning for the baseline, this was found as acceptable level of precision. However, given the actual ICC of 0.12, the precision of point estimates is now lowered to ± 7.2 pp with 90% confidence (or, in the case of baseline Grade 1 with 20 students per school, ± 6.2 pp with 90% confidence).⁹

Table C.1: Learner Assessment baseline sample size

Population	# Schools	# Students	Strategy
Grade 1 students (intervention)	20	400 (20 per school)	Purposefully sample children with disabilities first, then randomly sample up to target number, striving for balance between boys and girls
Grade 4 students (intervention)		300 (15 per school)	
Grade 1 students (comparison)	20	400 (20 per school)	

Learner Assessment Sample Selection

There were two levels of sample selection: the school level and individual level. At the school level, 67% (20 of 30) of the 2020 implementation phase schools were selected for the intervention sample. To minimize exposure to the EQIE program over the life of the evaluation, the comparison sample contains schools in a different segment of the programme districts.

⁹ Point estimate sample size calculations performed using [UKSamples online calculator](#).

Nonetheless, as discussed in the Limitations section, it will be necessary to control for program exposure (at both school and individual levels) during midline impact analysis.

Table C.2: School-level sample selection

Intervention sample	Comparison sample
20 of the 30 schools from the 2020 project implementation phase	20 of 240 schools identified as potential future program sites by the country office

At the individual sample selection level, students were selected using a two-step process:

1. Given the EQIE project's focus on CWD, all CWD (if any were enrolled in the target grade) were first purposefully selected.
2. Next, students were randomly selected up to the target number (20 for Grade 1, 15 for Grade 4). If there was more than one section within a grade, students were to be randomly selected from multiple sections to guard against the possibility that some schools had sorted students by performance. In practice, and partly due to data collection taking place over a school holiday, purposeful sampling is a concern in some schools where specific students may have been invited by teachers to attend and/or specific students were unable to come to the school over a holiday break.

Sample Size and Selection for other Respondents

In addition to students, the table below summarizes the additional respondents from which complementary or triangulation data was gathered (for detailed rationale of sample size/selection, see Inception Report). The next section summarizes the various tools used to gather information from the students and other respondents.

Table C.3: Target and achieved sample by type of respondent/tool

Tool	Target	Achieved	Notes
Grade 1 Learner Assessment	800	747	Includes 1 student from Teacher Interview for CWD. Target was not achieved due to data collection occurring over a holiday break and some students were unable to attend.
Grade 4 Learner Assessment ^A	300	312	Includes 2 students from Teacher Interview for CWD

Grade 1 Lesson Observation	40	37	One observation per each of intervention and comparison schools. Target was not achieved because some teachers were absent on the day of observation.
Grade 4 Lesson Observation	40	35	One observation per each of intervention and comparison schools. Target was not achieved because some teachers were absent on the day of observation.
Grade 1 Teacher Interview ^A	20	19	One interview per intervention school. Target was not achieved because some teachers were absent on the day of observation.
Grade 4 Teacher Interview ^A	20	18	One interview per intervention school. Target was not achieved because some teachers were absent on the day of observation.
Principal Interview	40	39	One interview per each of intervention and comparison schools.
Caregiver Interview	200	209	Random subset of caregivers of assessed students.
Education Official Interview	3	3	Chosen for their relevance to the EQIE project.
Community Leader Interview	40	36	Two interviews per intervention school.

^ARespondents from intervention schools only (see Data collection tools table for intervention/comparison split)

In general, the strategy was to target respondents as closely associated with the sample of students as possible. That means the sample of caregivers was randomly selected from among those of the assessed students, the teachers are mostly the reading/language teachers of the assessed students, the principals are those from the schools of assessed students, and the education officials and community leaders are those who work in the districts containing the schools of the assessed students. Most, but not all observed teachers led reading/language lessons (67 of 72 lessons).

Data Collection Tools

In total, seven data collection tools were drafted or adapted from authoritative sources for use in this baseline. Five tools were primarily quantitative and as such were digitized using KoBo software. The Education Official and Community Leader Interviews were primarily qualitative and thus kept on paper, and the nonlinear nature of the Lesson Observation meant that paper was deemed to be more efficient for that tool as well. Copies of final tools are available in Annex H.

Table C.4: Data collection tools

Tool	Intervention	Comparison	Administered by	Modality
<i>Learner Assessment^A</i>	Grade 1 & 4	Grade 1 only	Enumerators	In-person, using KoBo
<i>Teacher Interview</i>	Grade 1 & 4	N/A		
<i>Principal Interview</i>	Yes	Yes		
<i>Caregiver Interview</i>	Yes	N/A		
<i>Community Leader Interview</i>	Yes	N/A		
<i>Lesson Observation</i>	Grade 1 & 4		District education officials	In-person, on paper
<i>Education Official Interview</i>	Yes		InformEd Country Manager	In-person, on paper

^AThe Learner Assessment had two versions. The master version was used as a one-on-one oral assessment with the vast majority of students. However, a minority of students had a disability so severe that the master version was not appropriate to their needs. For these students (3 total), their teacher was interviewed to gather similar information through a 'Reading and Life Skills Teacher Interview for CWD.'

Learner Assessment

The Learner Assessment assessed students' early grade reading skills and social and emotional learning skills. The tool included a student background questionnaire, a reading assessment (subtests of letter knowledge, phonemic awareness, most used words, oral reading passage, and comprehension), a socioemotional skill assessment (subtests of concentration, communication, collaboration, and critical thinking), and a child-friendly version of the Washington Group short set of disability questions. For details of the reading and life skill assessment, see Annex G. For inter-rater reliability, see Annex D.

Classroom Observation

The classroom observation included a teacher background questionnaire, an assessment of the physical learning environment, and questions on observed behavior related to a positive and child-centered learning environment and play-based learning and reading instruction.

Teacher and Principal Interview

Teachers and principals were interviewed in-person the same day learner assessment data were collected. Data from all three types of respondents were gathered electronically using Kobo.

Teacher Interview	Principal Interview
General/background information PBL Training and support PBL knowledge, attitude, & practices Child behavior Learning environment Disability Teacher Wellbeing	General/background information School-level information (type of school, location, etc.) PBL Training and support Discipline techniques Disability School Safety

Caregiver Survey

Caregivers of a subset of students were interviewed after school each day, with information recorded electronically via KoBo, on: caregiver background, household literacy activities, barriers to inclusive and gender-responsive education, and knowledge of safe and inclusive learning environments (emotionally, physically inside the classroom, and physically outside the classroom).

Education Official Interview

Three district education officials relevant to the EQIE project were qualitatively interviewed about education priorities and challenges, hopes for EQIE, barriers faced by CWD and other marginalized children, and strategies for creating a safe learning environment.

Community Leader Interview

Community leaders connected to each of the intervention communities were qualitatively interviewed about education priorities and challenges, hopes for EQIE, barriers faced by CWD and other marginalized children, and strategies for creating a safe learning environment.

Limitations

KoBo literacy widget

KoBo has a relatively new feature, a literacy widget, to accommodate reading skill assessments involving the timed tests of items such as words in a reading passage. However, there was one persistent bug in this feature: the data collector cannot mark an item at X seconds unless at least one word is already marked as incorrect. Thus, a workaround was employed in which the name of a RTP Country Office Staff member (Sarah) was placed at the beginning of the reading passage, and data collectors were trained to always mark this initial word as incorrect.

Children with disability

Disability is both relatively rare and highly individualized in terms of type and severity. Many disabilities may be ‘invisible’ if a comprehensive, technically-specialized system is not in place for testing and diagnosis. Thus, it is possible that there is some degree of mislabeling of CWD or non-CWD in the data for this report, despite the use of the validated Washington Group Short Set on Functioning tool. To mitigate this challenge, information on disability is triangulated both from the school/teacher and from the students themselves.

Imperfect recall and self-reported data

Many of the tools rely on the honest memory of the respondent. Human memory is imperfect in general, and subject to self-promotion bias (both consciously and unconsciously). In at least one case – self-reported teacher practices – the data largely does not seem to correlate with other triangulated sources. Self-reported teacher PBL practices are not correlated with classroom observation data. Similar concerns were discovered in another EQIE country, and for the sake of cohesion in measurement, the classroom observation was used as the valid method to calculate

Indicator 1100.1: % of teachers demonstrating improved teaching practices to enhance children's reading skills.

The classroom observation, tool, is also subject to potential bias, as most people will most likely change their behavior when observed versus unobserved. This may have been exacerbated in Tanzania given planned sample lessons were given during a holiday break. Furthermore, a single observation captures only a limited representation of observed teacher behavior.

Quasi-experimental nature of research design

It was infeasible to randomize intervention and non-intervention schools, so a second-best approach of quasi-experimental design was used for impact evaluation purposes. This means that a comparison group of schools was chosen. Additionally, some schools originally selected as part of the sample had to be replaced due to physical inaccessibility to selected schools during the rainy season. As seen in the report, evaluation question 1, intervention and comparison schools are similar enough for a quasi-experimental impact evaluation, especially in terms of student reading and life skills. However, there are some school-level differences, and it is possible that there are also unobserved differences between intervention and comparison schools. Controlling for observed differences will help mitigate bias in the midline impact analysis, but the quasi-experimental design cannot rule out the possibility that any midline differences in student reading and life skills is due to unobserved differences between intervention and comparison schools.

Limited room to accommodate high attrition at midline & endline

Originally, a larger sample size was proposed to counter predicted attrition (43%)¹⁰ over the three years between baseline and midline. This attrition rate is calculated based upon observed attrition rate for Save the Children and World Vision programming across 20 countries. However, due to budget constraints the sample size was reduced to bare minimum (25% attrition). This leaves little room for error and increases the possibility that the sample size maybe insufficient to detect impact if attrition goes beyond 25% at midline. The risk is increased from the discovery

¹⁰ See InformEd (2020), Multi-country Review of Early Grade Reading Programmes of Literacy Boost.

that intra-class correlation (ICC) is closer to 0.12 rather than 0.1 initially used to calculate sample size. Possible mitigation strategies for the midline are discussed in Annexes C and E.

Non-random sampling in some schools

Due to restrictions placed on the data collection process by the government, data were only allowed to be collected during a holiday break. While the local consultant pushed for schools to invite all students back to the school in order to draw a truly random sample, some schools, particularly those visited early in the data collection process, may have a sample that was negatively impacted by this reality – especially if CWD were unable to attend on a non-school day.

Contamination due to previous programming

As detailed in evaluation question 5, over half of the intervention teachers surveyed reported they are receiving PBL training from RTP. Given this, any comparisons drawn between intervention and comparison schools at midline and endline should consider the level of training already completed at baseline when drawing conclusions about knowledge, attitudes, and behavior exhibited related to play-based learning techniques.

Analysis

Data was organized and pre-cleaned in Microsoft Excel, with further cleaning and analysis carried out using STATA. Where summary indices were created, steps were taken to ensure that the constituent pieces of each index were placed on a comparable scale before combining.

Summary statistics are used to describe the data. In some cases the average may not summarize the data well if, for example, outcome variables are not normally distributed as is often the case for reading skills. This report highlights those cases and presents a histogram to more accurately represent the abnormal distribution.

For disaggregations, comparisons, and relationships that generalize from a sample to a larger population, statistical inference is used. Importantly, to maximize clarity this report ONLY presents disaggregations, comparisons, and relationships that were found to be statistically

significant with at least 90% confidence. Exceptions include Programming Area Sample Characteristics, indicator reporting for the Project Management Framework (PMF, Annex B), and CWD – for which disaggregations are shown regardless of their statistical significance. In most cases, t-tests and regressions are used to evaluate statistical significance and the average relationship between variables. For student-level data, clustered t-tests and multilevel regression models are used to adjust standard errors for the fact that students are grouped in schools and are likely to share some variation for being in the same learning environment.

Annex D: Inter-Rater Reliability

The original plan to test inter-rater reliability (IRR) was to do so during the piloting/practicing phase of training. However, there were difficulties getting the surveys to work properly on the tablets, so IRR data were only collected during the second pilot day. Additional observations were collected in the first days of real data collection to have a sufficient number of observations per grade. In total, 86 students (43 from grade 1 and 43 from grade 4) were assessed by two enumerators simultaneously.

Long one-way ANOVA techniques were used to calculate the intra-class correlation within pairs of assessors for a measure of IRR. Using Fleiss' benchmarks for excellent ($ICC > 0.75$), good or fair ($0.75 \geq ICC > 0.4$), and poor ($0.4 \geq ICC$); all literacy outcome variables showed excellent IRR except for fluency calculated from the total duration of the story.

Table D.1: IRR among 43 Grade 1 and 43 Grade 4 students on days 3 & 4 of data collection

Construct	IRR	Notes
Letters	0.911	Grade 1 only
Phonemic awareness	0.996	
Most used words	0.578	Grade 4 only
Reader/nonreader	0.229	Grade 4 only
Reading comprehension	0.962	Grade 4 only
Respect for Others	0.990	
Concentration	0.979	
Problem-solving	0.990	
Self-confidence	0.929	
Teamwork	0.969	
Communication	0.969	

Based on these results, the following recommendations were made to the Country Manager:

1. The enumerators should focus on tapping the added word at the beginning of the passage, as well as pressing 'finish' at the end of the story right when the child finishes, to ensure data are recorded correctly.
2. There was some disagreement on whether some of the most used words were read correctly. Enumerators were reminded of the criteria for correct/incorrect, including allowing for minor differences in speech given dialect.

3. There was some disagreement on whether some shape drawings were complete and matched the examples. The Country Manager reviewed what constitutes a 'correct' and 'incorrect' shape according to the enumerator manual.

Given the constraints and challenges of the data collection (as documented in Limitations and Lessons Learned), any additional IRR collection was deemed impractical so that all stakeholders could focus on delivering the fundamentals of a successful data collection.

Annex E: Intra-class Correlation (ICC)

Long one-way ANOVA techniques were used to calculate the intra-class correlation within schools for a measure of ICC for the outcomes upon which the impact evaluation will rely. Overall, it appears that 0.12 is a good summary measure of ICC to refine sample size calculations for EQIE impact evaluation.

Table E.1: ICC for Learner Assessment outcome measures

Measure	ICC	Sample size (across n schools)
% letters correct	0.15	732 (40 schools)
% phonemic awareness correct	0.15	1056 (40 schools)
% most used words correct	0.11	310 (20 schools)
Reader / nonreader	0.04	310 (20 schools)
Reading accuracy	0.13	292 (20 schools)
Fluency (total duration)	0.05	253 (20 schools)
% reading comprehension correct	0.17	296 (20 schools)
Reader with comprehension	0.04	312 (20 schools)
Average ICC across reading skills	0.11	N/A
% respect for others correct	0.10	1057 (40 schools)
% concentration correct	0.04	1057 (40 schools)
% problem-solving correct	0.12	1059 (40 schools)
% self-confidence correct	0.16	1059 (40 schools)
% teamwork correct	0.08	1058 (40 schools)
% communication correct	0.03	1057 (40 schools)
% combined life skills	0.13	1059 (40 schools)

This ICC is higher than the ICC assumed for original sample size calculations (0.1). If RTP wants to maintain the same probability and confidence of detecting a 0.32-0.36 effect size in its impact evaluation, this would require expanding the midline sample size. If possible, this is most efficiently done by expanding the number of schools in intervention/comparison groups – for example, 15 students from each of 25 intervention and 25 comparison schools would allow detection of a 0.32 effect size with 90% confidence and a 0.36 effect size with 95% confidence. However, there are two caveats to this approach:

1. Additional schools would have to be found that have very similar levels of programmatic exposure to existing intervention/comparison schools.
2. The additional schools would not have baseline scores and therefore no longitudinal gain scores could be calculated, thus the midline would have to rely primarily on a cross-sectional look at midline scores and only secondarily at gain scores.

Alternatively, if the original sample size is maintained (15 students from each of 20 intervention and 20 comparison schools), the minimum detectable effect sizes would increase to 0.36 (with 90% confidence) and 0.4 (with 95% confidence). RTP may decide that these are sufficiently small minimum detectable effect sizes, accepting the risk that if the actual effect size is smaller it may fail to be documented at midline.¹¹

¹¹ Original sample size calculations also assumed equal variance between intervention and comparison samples. This was found to be the case for the actual baseline measures of readers with comprehension and % combined life skills.

Annex F: Equity Regression Tables

Grade 1

VARIABLES	% Letters correct	% Phonemic Awareness correct	% Empathy correct	% Perseverance correct	% Conflict Resolution correct	% Self-Concept correct	% Teamwork correct	% Communication correct
Student is female	0.01 (0.01)	-0.05 (0.05)	-0.01 (0.03)	-0.03 (0.02)	0.02 (0.03)	-0.02 (0.04)	-0.04* (0.02)	-0.02 (0.02)
Socioeconomic status	-0.00 (0.00)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.02* (0.01)	0.00 (0.01)	0.01 (0.01)	0.01 (0.01)
Child reports attending ECD or preschool	0.00 (0.02)	0.14** (0.05)	0.02 (0.03)	0.04 (0.04)	0.10** (0.03)	0.09~ (0.04)	0.04 (0.03)	0.05 (0.03)
Student's age in years	0.00 (0.00)	-0.01 (0.01)	0.01 (0.01)	0.02** (0.01)	0.01 (0.01)	0.03* (0.01)	0.02~ (0.01)	0.01 (0.01)
# of child-reported members of household	0.01** (0.00)	0.01 (0.01)	-0.01 (0.01)	0.01 (0.01)	0.00 (0.00)	0.01 (0.01)	0.01 (0.00)	-0.00 (0.00)
# of types of print in the home	0.01 (0.00)	0.04** (0.01)	0.00 (0.01)	0.00 (0.01)	-0.00 (0.01)	0.01 (0.01)	-0.00 (0.01)	-0.00 (0.01)
Sum of student-reported literacy actions of others in the household	-0.00 (0.00)	-0.01 (0.01)	0.04** (0.01)	0.05** (0.01)	0.03** (0.01)	-0.00 (0.01)	0.04** (0.01)	0.05** (0.01)
Sum of student-reported teacher practices	0.01** (0.00)	0.06** (0.01)	0.04** (0.01)	0.03** (0.01)	0.03** (0.01)	0.03** (0.01)	0.04** (0.01)	0.03** (0.01)

Total environmental threats identified by child	-0.00 (0.00)	-0.01** (0.00)	-0.01 (0.00)	-0.00 (0.00)	-0.01** (0.00)	-0.02* (0.01)	-0.00 (0.00)	-0.00 (0.00)
Summary index of community literacy activity participation	0.00 (0.01)	-0.07* (0.03)	-0.01 (0.02)	0.02 (0.02)	-0.03~ (0.01)	-0.06* (0.03)	0.01 (0.01)	0.02 (0.02)
Urban school	0.01 (0.02)	0.02 (0.03)	-0.00 (0.02)	-0.01 (0.02)	-0.03 (0.03)	-0.06 (0.06)	0.00 (0.02)	-0.01 (0.03)
Principal report: % positive discipline minus % negative discipline	0.03 (0.02)	0.05 (0.05)	0.05~ (0.02)	0.04 (0.03)	0.05~ (0.03)	0.08~ (0.04)	0.04 (0.03)	0.02 (0.03)
Principal report: School has active system for addressing children's concerns	-0.05** (0.02)	-0.11~ (0.06)	-0.12** (0.03)	-0.00 (0.02)	-0.09** (0.03)	-0.37** (0.07)	-0.08** (0.02)	0.06* (0.03)
Principal report: School has access to trained point person for CHILD protection referral	-0.02 (0.02)	0.00 (0.07)	0.08** (0.03)	0.03 (0.02)	0.05 (0.03)	0.12~ (0.06)	0.03 (0.02)	-0.02 (0.03)
CWD based on teacher identification or indirect teacher interview		-0.38** (0.09)	-0.21** (0.04)	0.35** (0.05)	0.35** (0.05)	0.31** (0.06)	0.12** (0.04)	0.40** (0.04)
Constant	0.82** (0.06)	0.29 (0.19)	0.20~ (0.11)	0.14 (0.10)	0.26* (0.12)	0.23 (0.19)	0.25* (0.09)	0.29* (0.11)
Observations	589	603	602	601	603	603	602	601
R-squared	0.08	0.16	0.22	0.20	0.20	0.13	0.35	0.25

Robust standard errors in parentheses, ** p<0.01, * p<0.05, ~ p<0.1

Grade 4

VARIABLES	% Phonemic Awareness correct	% MUW correct	Reader	Accuracy	WPMC	Reading Comprehension	RWC (1000.1)
Student is female	0.01 (0.04)	-0.00 (0.00)	0.00 (0.02)	-0.00~ (0.00)	0.98 (3.19)	-0.01 (0.02)	0.02 (0.03)
Socioeconomic status	0.01 (0.01)	0.00 (0.00)	-0.01 (0.01)	0.00 (0.00)	1.20 (1.01)	0.00 (0.01)	-0.02 (0.01)
Child reports attending ECD or preschool	0.02 (0.05)	-0.00 (0.01)	0.06 (0.04)	-0.00 (0.00)	3.66* (1.50)	0.00 (0.03)	0.07 (0.05)
Student's age in years	-0.02 (0.01)	-0.00* (0.00)	-0.02* (0.01)	-0.00 (0.00)	-0.06 (1.24)	-0.01 (0.01)	-0.02 (0.01)
# of child-reported members of household	-0.00 (0.01)	0.00 (0.00)	-0.01~ (0.00)	0.00 (0.00)	0.41 (0.58)	0.00 (0.01)	-0.01 (0.01)
# of types of print in the home	0.01 (0.01)	-0.00 (0.00)	0.01 (0.00)	-0.00 (0.00)	0.34 (0.64)	-0.01 (0.01)	0.00 (0.01)
Sum of student-reported literacy actions of others in the household	0.01 (0.01)	-0.00 (0.00)	-0.00 (0.01)	0.00 (0.00)	0.80 (0.70)	0.01 (0.01)	-0.00 (0.01)
Sum of student-reported teacher practices	0.00 (0.01)	0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)	-1.33 (0.87)	-0.01 (0.00)	0.00 (0.01)
Total environmental threats identified by child	0.00 (0.01)	0.00 (0.00)	0.01* (0.00)	0.00 (0.00)	0.14 (0.22)	0.00 (0.00)	0.00 (0.00)
Summary index of community literacy activity participation	-0.03 (0.02)	-0.00 (0.00)	0.01 (0.01)	-0.00 (0.00)	0.49 (1.25)	-0.00 (0.02)	0.02 (0.02)
Urban school	-0.05~ (0.03)	-0.00 (0.00)	-0.01 (0.01)	-0.00 (0.00)	-3.73* (1.62)	-0.01 (0.02)	-0.01 (0.02)
Principal report: % positive discipline minus % negative discipline	0.03 (0.03)	0.01 (0.00)	0.03 (0.02)	0.00 (0.00)	3.97~ (2.23)	0.03 (0.03)	0.02 (0.02)
	-	-	-	-	-	-	-

Principal report: School has active system for addressing children's concerns

Principal report: School has access to trained point person for CHILD protection referral	-0.02 (0.04)	0.00 (0.00)	-0.02 (0.02)	0.00~ (0.00)	3.36 (3.00)	0.01 (0.04)	-0.03~ (0.02)
CWD based on teacher identification or indirect teacher interview	-0.29** (0.04)	-0.00 (0.01)	0.03 (0.02)	0.00~ (0.00)	-6.06 (3.75)	-0.17** (0.04)	0.06* (0.02)
Constant	0.97** (0.19)	1.02** (0.02)	1.21** (0.11)	1.00** (0.01)	33.52* (15.46)	0.89** (0.09)	1.16** (0.13)
Observations	253	253	253	243	210	247	253
R-squared	0.09	0.06	0.09	0.07	0.08	0.05	0.06

Robust standard errors in parentheses, ** p<0.01, * p<0.05, ~ p<0.1

Grade 4						
VARIABLES	% Empathy correct	% Perseverance correct	% Conflict Resolution correct	% Self-Concept correct	% Teamwork correct	% Communication correct
Student is female	0.00 (0.03)	0.01 (0.02)	-0.01 (0.02)	0.06 (0.04)	0.01 (0.02)	-0.02 (0.02)
Socioeconomic status	0.02 (0.01)	-0.02 (0.01)	0.01 (0.01)	0.02 (0.02)	-0.01 (0.01)	-0.01 (0.01)
Child reports attending ECD or preschool	0.01 (0.04)	0.02 (0.02)	0.00 (0.04)	0.01 (0.08)	0.01 (0.02)	0.02 (0.04)
Student's age in years	0.02 (0.01)	0.00 (0.01)	0.01 (0.01)	0.01 (0.02)	0.00 (0.01)	0.00 (0.01)
# of child-reported members of household	-0.01 (0.01)	0.01 (0.01)	0.00 (0.01)	-0.01 (0.01)	0.00 (0.00)	-0.00 (0.01)

# of types of print in the home	0.01 (0.01)	0.00 (0.01)	0.00 (0.01)	-0.00 (0.02)	0.01 (0.00)	0.01 (0.01)
Sum of student-reported literacy actions of others in the household	0.04** (0.01)	0.05** (0.01)	0.03** (0.01)	0.06** (0.02)	0.05** (0.01)	0.05** (0.01)
Sum of student-reported teacher practices	-0.02~ (0.01)	0.00 (0.01)	-0.00 (0.01)	-0.02~ (0.01)	0.01 (0.01)	-0.01 (0.01)
Total environmental threats identified by child	-0.01 (0.01)	-0.00 (0.01)	-0.01 (0.00)	-0.01 (0.01)	-0.00 (0.00)	-0.01 (0.00)
Summary index of community literacy activity participation	-0.02 (0.02)	0.03~ (0.01)	0.00 (0.02)	-0.04 (0.04)	0.02 (0.01)	0.02~ (0.01)
Urban school	-0.01 (0.04)	-0.00 (0.02)	-0.00 (0.03)	-0.03 (0.07)	-0.02 (0.02)	0.01 (0.02)
Principal report: % positive discipline minus % negative discipline	-0.09* (0.04)	0.04 (0.03)	0.03 (0.04)	0.05 (0.05)	0.04~ (0.02)	0.02 (0.03)
Principal report: School has active system for addressing children's concerns	-	-	-	-	-	-
Principal report: School has access to trained point person for CHILD protection referral	0.06 (0.05)	-0.01 (0.04)	0.05 (0.04)	0.02 (0.06)	0.00 (0.02)	0.02 (0.04)
CWD based on teacher identification or indirect teacher interview	-0.06 (0.07)	-0.20** (0.04)	-0.05 (0.06)	-0.68** (0.09)	-0.19** (0.03)	-0.32** (0.04)
Constant	0.46** (0.13)	0.54** (0.11)	0.52** (0.13)	0.37~ (0.20)	0.57** (0.09)	0.65** (0.09)
Observations	253	253	253	253	253	253
R-squared	0.10	0.18	0.09	0.10	0.31	0.17

Robust standard errors in parentheses, ** p<0.01, * p<0.05, ~ p<0.1

Annex G. Learner Assessment Details

Learner Background Questions

Table G.1: Summary of Learner Assessment background items

Topic	Examples
Student background	
General	Sex, age, household size
School-related	Prior preschool attendance
Home Literacy Environment/Relationships	
Access to print	Materials present in home, types of materials
Reading activities at home	Household members whom children see read and who engage in literacy activities with children in past week
Community Literacy Environment	
Extracurricular activities	Reading clubs and out-of-school reading activities administered in response to the COVID-19 pandemic
School Experience	
Play-based learning (PBL)	Teacher practice in past week (reading, asking questions, songs, games, etc.)
Positive-learning-environment (PLE)	Child-child and adult-child interactions (teasing, fighting, yelling, etc.)

Reading Assessment

The reading assessment assessed early grade Swahili literacy proficiency through an individual oral assessment of foundational reading skills. Due to the length of the Learner Assessment, the reading assessment portion was abbreviated to include only the most important skills by grade level.

Table G.2: Summary of reading assessment subtests

Reading subtest	Grade 1	Grade 4
Letter knowledge	Name or sound of 24 Swahili letters	N/A
Phonemic awareness	Beginning sounds of 10 common words	
Most used words	N/A	Reading of 46 common words
Reading Passage (for accuracy and fluency)	N/A	119-word grade-level story not yet covered by curriculum

Comprehension questions	N/A	10 comprehension questions about the reading passage (listening comprehension for non-readers, reading comprehension for readers)
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Life Skills Assessment

The life skills assessment assessed the development of social and emotional learning (SEL) skills in children between the ages of 6 and 12 years. Students were asked questions and participated in activities that measured RTP Tanzania's six life skills of Respect for others, Concentration, Problem-solving, Self-confidence, Teamwork, and Communication. Secondly, information was gathered on students' social network size.

Table G.3: Summary of life skills assessment subtests

Construct	Description	# of items
Respect for others	Reflection on photos on sad and mad children - How is the child in this picture feeling?/What would you do to help him/her feel better? Also relationship questions about child's ability to empathize with others.	9 questions
Concentration	Whether student is able to draw shapes of increasing difficulty with their dominant hand. Additional relationship questions about seeking assistance from social network when needed.	4 drawings plus 4 relationship questions
Problem-solving	What to do in hypothetical situation when another child wants a toy student is playing with? What to do if another child takes the toy?	4 questions
Self-confidence	Child imagines self in future and asked questions about the drawing, including what will help them accomplish the goal and who would be available to support them.	6 questions
Teamwork	What are some good ways to show teamwork? In the last week, has student: Played a game with friends? Worked with friends on	7 questions

	coursework/homework? Worked with a friend to accomplish a common goal?	
Communication	Child's ability to seek out assistance from friends, family, or other trusted adults when sad or having problems with others.	6 questions
Child protection	What would student do if they or a friend were being harmed by someone else?	1 question
Social network size	Number of household members, number of good friends, and number of adults at school the student talks to almost every day.	3 questions

Washington Group Short Set¹²

The Washington Group (WG) Short Set is a set of questions designed to identify (in a census or survey format) people with a disability. The questions ask whether people have difficulty performing basic universal activities (walking, seeing, hearing, cognition, self-care, and communication). Given the young ages of children in this baseline, WG Short Set was altered slightly to be more child-friendly. For example, an original Washington Group question was: "Do you have difficulty seeing, even if wearing glasses?" InformEd re-worded the question slightly to be: "Do you have difficulty seeing words in your books or on the blackboard, even if wearing glasses?"

Disability is complex and there are many levels and differences within disabilities. Disability typically requires specialists to identify and diagnose type and severity. Therefore, the WG data is considered a secondary means of identifying CWD. Primarily, the baseline relies on school identification of CWD, though even this information may be incomplete or faulty due to the aforementioned difficulty in precise diagnosis.

Table G.4: Grade 1 Learner Assessment – Comparison Students

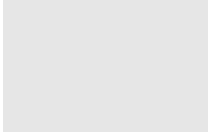
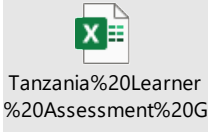
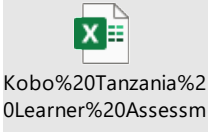
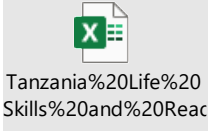
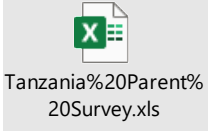
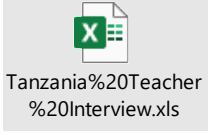
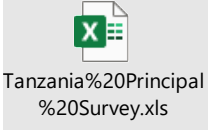
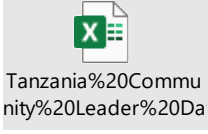
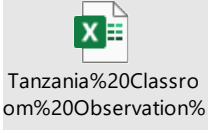
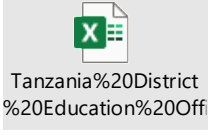
	n	Avg Score	M	F	Sig Diff?
Background Characteristics					
Age	369	7.7	7.9	7.5	Y~
ECD attendance	369	86.5%	88.2%	84.7%	N
Number of household members	368	7.1	7.2	7.0	N

¹² <http://www.washingtongroup-disability.com/washington-group-question-sets/short-set-of-disability-questions/>

Disability status	369	0.3%	0%	0.6%	N
Reading Skills					
Letter Knowledge					
Percent of letters read correctly	360	89.9%	89.8%	90%	N
Students scoring 0 on letter knowledge	360	0%	0%	0%	N
Phonemic Awareness					
Percent of phonemes correctly identified	369	60.9%	64.6%	57.1%	N
Students scoring 0 on phonemic awareness	369	29.8%	26.3%	33.3%	N
Life Skills					
Communication	368	71.1%	72.7%	69.5%	N
Concentration	368	70.2%	72.3%	68.1%	N
Problem-solving	369	64.8%	63.9%	65.7%	N
Respect for Others	367	46.6%	48%	45.2%	N
Self-confidence	369	40.7%	42.3%	39.2%	N
Teamwork	369	69.5%	72.3%	66.7%	N
After School Reading Activity Participation					
Do you attend after-school reading activities, like reading camps, reading centers, or reading days out?	368	21.7%	20%	23.5%	N
If yes, did you attend last week?	80	82.5%	81.1%	83.7%	N
Do you participate in out-of-school reading activities, like those available through radio, TV, or mail?	369	8.1%	7.5%	8.7%	N
If yes, did you attend last week?	30	86.7%	92.9%	81.3%	N

Annex H. Baseline Documentation

Tools

Learner Assessment	Grade 1 	Grade 4  Tanzania%20Learner%20Assessment%20G  Kobo%20Tanzania%20Learner%20Assessm
Life Skills and Reading Teacher Interview for CWD	 Tanzania%20Life%20Skills%20and%20Reac	
Parent/Caregiver Survey	 Tanzania%20Parent%20Survey.xls	
Teacher Interview	 Tanzania%20Teacher%20Interview.xls	
Principal Interview	 Tanzania%20Principal%20Survey.xls	
Community Leader Interview	 Tanzania%20Community%20Leader%20Da	
Classroom Observation	 Tanzania%20Classroom%20Observation%	
Education Official Interview	 Tanzania%20District%20Education%20Off	

Supporting Documents

Inception Report  RTP%20EQIE%20Baseline_Inception%20Rep	Country Manager Manual (see Annex for TOR)  Country Manager Manual_Tanzania.pdf
Enumerator Manual  Enumerator%20Manual%20Kiswahili.pdf	Validation Workshop resource  Data Placemats.pdf