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CONSULTANTS, INC.**



IMPACTLOOP

Midline Evaluation Report - Ethiopia

Impact Evaluation of the Enhancing Quality and Inclusive
Education Project in Ethiopia and Tanzania

Client: Right to Play

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ABBREVIATIONS

CSO	Civil Society Organization
CWD	Children with disabilities
DAP	Developmentally appropriate practices
DID	Difference-in-difference
EGRA	Early Grade Reading Assessment
EQIE	Enhancing Quality and Inclusive Education Project
FGD	Focus Group Discussion
FGM	Female genital mutilation
GBV	Gender-based violence
HCI	Human Capital Index
IDELA	International Development and Early Learning Assessment
INEE	Inter Agency Network for Education in Emergencies
IRR	Inter-rater reliability
ISELA	International Social and Emotional Learning Assessment
ITT	Intended to Treat
KII	Key Informant Interview
LMIC	Low and middle income countries
MEL	Monitoring, evaluation and learning
MoE	Ministry of Education
OLS	Ordinary Least Squares
PBL	Play-based learning
PTA	Parent Teacher Association
RCA	Reflect, connect and apply
RTP	Right to Play
SEL	Socio-emotional skills
SIC	School Inclusion Committee
SMC	School Management Committee
THT	Tafakari, Husisha, Tzumia (Think, relate, use)



ToR	Terms of reference
TPD	Teacher professional development
WP	Work package
WPM	Words per minute



EXECUTIVE SUMMARY

Context

Right To Play (RTP) is executing a five-year “Enhancing Quality and Inclusive Education” (EQIE) initiative in five countries (Ethiopia, Lebanon, Mozambique, Palestine, and Tanzania) from January 2020 to December 2024. The project’s primary goal is to enhance the overall learning results of boys and girls, including children with disabilities, in target educational institutions, by strengthening teachers’ knowledge and pedagogical skills using play-based learning instructional approaches. The project also supports activities to build a culture of reading in the targeted schools/communities, create a safe and inclusive learning environment in schools, and campaign to enroll out-of-school girls and children with disabilities. ImpactLoop, in partnership with Inno-Change International Consultants, carried out a midline assessment of the project, concentrating on two countries: Ethiopia and Tanzania. The overall objective of the midterm evaluation was to see the impact of the EQIE project towards improving the reading proficiency of children (grade 1-4) after the first three (3) years of implementation. Hence, 20 project schools receiving treatment/support and 20 non-project schools randomly selected at baseline in 2020 were followed and reassessed (in terms of project objectives and outcomes) at midline evaluation in 2023. Both qualitative and quantitative methods were applied in the study. This report presents and discusses findings for *Ethiopia’s* midline evaluation.

Evaluation Questions

The six evaluation questions are presented below. The first five questions assess project impact; the sixth evaluates the sustainability of the project.

1. What is the causal effect of the EQIE project on the midline levels of literacy (specifically reading skills) and socio-emotional (SEL) skills among grade 4 students in Ethiopia?
2. What is the state of teachers’ pedagogical practice in the classroom? Did the project trigger any improvement in pedagogical practices (in terms of adoption of play-based learning, active and stimulating student engagement, inclusive learning etc.)?
3. Does the Play Based Learning (PBL) in-service teacher professional development under the EQIE project lead to improved learning outcomes or intermediate indicators towards improved learning outcomes in treatment schools? If so, how?
4. What explains the key characteristics of schools that can effectively implement the PBL pedagogy compared to those that are not able to?
5. What is the potential impact of after-school supplemental learning activities on improving learning outcomes in treatment schools?
6. Is there early evidence that local partners and government partners have the capacity, positive attitude, and ownership mindset to continue the pedagogical practices and safe/inclusive learning environment activities of the project?

Methodology

The team utilized a rigorous impact evaluation technique by adopting a quasi-experimental evaluation design and combining quantitative and qualitative instruments. For the midline assessment, data were gathered from 40 schools, with 20 schools being part of the project and the other 20 schools not being part of the project in Ethiopia. The selection of project schools for implementation of the EQIE project was made in collaboration with local government authorities to target schools requiring assistance. Hence 36 schools selected for the project implementation were in most cases deprived and needing urgent support. Given this situation, the randomly selected 20 schools from the 36 project schools for evaluation data collection were not always comparable to the 20 non-project schools chosen purposefully from the same project district to act as a comparison group.



We employed several tools to compile data on student's learning outcomes, teaching practices, and changes in behaviors among stakeholders, especially parents. We employed EGRA to assess reading skills, and ISELA to assess socio-emotional skills among grade 4 children who were a part of the baseline study when they were at grade 1. All parents of children who were included in the test were interviewed regarding their behaviors and perceptions towards children/school. Independent assessors were mobilized to conduct classroom observations in both project and non-project schools. Teacher, Principal, and Community Member Surveys collected viewpoints on teaching and learning techniques in project and non-project schools. In addition, qualitative interviews and discussions were conducted to gain more insights.

The team adhered to the sample size and sampling procedure developed during the baseline investigation in 2020. To facilitate meaningful comparisons, adjustments were made to maintain a sufficiently large sample size for the EGRA/ISELA skill assessments. The data for the midline study was gathered from October 31 - November 27, 2023. The training for all enumerators consisted of a 5-day workshop, which incorporated two days of piloting and practical exercises. We used difference-in-difference and intend-to-treat effects estimators on the quasi-experimental design to assess whether the changes were statistically significantly different. A grounded theory approach was used to conduct qualitative data analysis.

Results

Evaluation Question 1. What is the causal effect of the EQIE project on the midline levels of literacy and SEL skills?

After analyzing the data from the baseline and midline assessments, we found that the EQIE project succeeded in improving the socio-emotional skills and certain pre-reading skills such as phonics, phonetics, and advanced reading skill such as reading fluency and comprehension for children in project schools. However, the magnitude of improvement was very small. For some reading skills such as common words and reading speed, the children who were reported to have participated in specific supplemental project activities such as reading clubs/centers scored better than children who did not participate in those activities. The findings suggest that the participation of children in different sets of activities was more important to drive the results, even if a school has received in-service teacher professional development support from the project.

Table 1: Summary of values for core metrics¹

Sub-Tests	Midline		Is the difference significant? *
	Project	Non-project	
Reading comprehension (out of 6)	4.0 (2.10)	3.8 (2.13)	Yes, for the ISELA score. No difference in the reading comprehension and classroom quality score.
Reading Fluency (words per minute)	56.6	55.7	
ISELA score (Out of 70)	38.41* (13.81)	35.90 (14.60)	
Classroom quality score (out of 50)	27.8	24.5	

Note: Statistical significance based on a p-value of 0.05 or less. The values in parenthesis are standard deviations.

¹In the table above, 'reading comprehension' represents the average number of correct answers (out of 6) on questions related to reading comprehension. The 'ISELA score' is an index, scored out of 70, that encompasses various factors including stress management, empathy, perseverance, conflict resolution/problem solving, self-concept/confidence, collaboration, and relationship. Meanwhile, the 'classroom quality score' is an index measured during classroom observation, which evaluates participatory learning aspects such as teacher and student behavior, as well as the utilization of play-based and RCA teaching approaches.



Evaluation Question 2: What is the state of teachers' pedagogical practice in the classroom? Did the project trigger any improvement in pedagogical practices?

Although the teacher's self-reported awareness on PBL methodologies improved together with their use of certain PBL techniques in the classroom, there was no observable improvement in the aggregate pedagogical practices that could be attributed to the project. Even though we found no significant attributable difference in the classroom quality scores between project schools and non-project schools determined from the external classroom observations conducted during the midline evaluation study², we observed some signals of improvement in the following sub-components of teaching practice: classroom environment and use of space, teacher's use of disciplinary behaviors, teacher's encouragement to children, teacher's way of communicating with children, and the use of participatory learning activities inside the classroom (see Appendix 7). Neither teacher characteristics including whether teachers received PBL training, their experience, sex, educational attainment nor classroom related factors such as availability of reading materials inside the classroom significantly predicted the classroom quality score. It is apparent that the change in teacher's knowledge state on PBL did very little in translating into sustained changes pedagogical practices of teachers in the classroom in the teaching and learning process. Several external factors (such conditions of service, high turnover leading to overburdened teachers, etc.) might have affected the teacher's motivation and their ability to improve and sustain the innovative classroom teaching learning process.

Evaluation Question 3. Does the PBL in-service Teacher Professional Development (TPD) under the EQIE project lead to improvements in learning outcomes or intermediate indicators toward improved learning outcomes in treatment schools? If so, how?

There is evidence to support that the PBL-focused in-service TPD under the EQIE project contributed to improving socio-emotional skills of children in project schools, and a couple of reading sub-skills. The changes were mediated through some changes in the classroom practices that led to increased attendance and classroom participation among children in project schools. However, the implementation of the PBL approach in the classroom was subpar and irregular in the classroom partly because of some irregularity in coaching and mentoring support to teachers and other external factors beyond the control of the project such as teacher high turnover, low motivation among teachers, limited school-wide approach to embedding playful learning, and resource constraints facing schools to effectively implement playful learning. These factors limited the realization of full impact of in-service TPD under the EQIE project on improvement in foundational learning outcomes.

Evaluation Question 4. What are the key characteristics of schools that are able to effectively implement the PBL pedagogy compared to those that are not able to?

From the data, there was no conclusive evidence that school characteristics matter in determining the outcomes of the project. The changes in reading skills and socio-emotional skills attributed to the project were universal - not much depended on the school. Students from all project schools have improved regardless of the school's features. However, some of the aspects related to the schools such as the availability of qualified teachers available in adequate numbers, availability of physical infrastructure including clean drinking water and electricity, and access to reading materials including the availability of a library, were identified as important factors during the qualitative discussions. Stakeholders connected the unavailability of these facilities with a lower ability of schools/teachers to implement PBL.

² The classroom quality score (out of 50) was also not significantly different between the project schools during the baseline. The average classroom quality score was 11.2 for the project schools and 14.5 for the non-project schools.



Evaluation Question 5. What is the potential impact of after-school supplemental learning activities on improving learning outcomes in treatment schools?

Although it is difficult to separate what portion of the impact was contributed by the in-school PBL through in-service TPD and what portion was contributed by out-of-school supplemental learning activities because they are interconnected, we also found effects of supplemental learning activities on some sub-skills within reading and SEL skills (familiar words, reading fluency, reading comprehension, stress management, empathy, and collaboration). For the above-mentioned skills, participation in project activities was associated with the improvement in scores compared to the baseline. Although the project was successful in bringing out-of-school girls and children with disabilities back to the school system, we found no differential impact of the project on reading and SEL scores for girls, and/or children with disabilities.

Evaluation Question 6. Is there early evidence that local partners and government partners have the capacity, positive attitude, and ownership mindset to continue the pedagogical practices, and safe/inclusive learning environment activities of the project?

Yes, there are some signals that parents, teachers, and school management committees have improved their capacities, attitudes or ownership mindsets compared to before the project. However, the positive outcomes have already started to diminish with time. It will be a challenge to sustain the practices started by the project given that local governments and schools are facing several financial challenges. As a result, schools have a shortage of qualified and trained teachers, possess poor physical infrastructure, and are not able to pay teachers well. The local government as well as civil society organizations, however, find the PBL to be valuable and are also able to utilize the methodology. Although many school leaders participated actively in the project and appreciated the project interventions, they were mostly concerned with resource mobilization and were also heavily dependent on external resources, including that offered by EQIE, to implement their plans.

Conclusion

The midline study found that the **EQIE project had a significant impact in improving children's pre-reading skills (not so much on advanced reading skills) and socio-emotional skills.** More importantly, the quasi-experimental evaluation confirms that the play-based learning approach together with supplemental reading classes such as reading centers and reading clubs can improve reading and socio-emotional skills among children in early grades (between grades 1-4). There was significant improvement from baseline to midline in most of the assessed skills including proportion of children who can read grade appropriate passage with comprehension. This finding is further supported by global literature from other LMICs which points to the potential impact of PBL on students' academic performance and broader skills development (UNICEF, 2021). The improvement in the learning outcomes corroborates with the adaptation of PBL practice, participation in reading clubs, and supportive parental behaviors. We found that the children who benefited from the project activities improved more in reading and SEL skills than the children who attended the project schools but did not participate actively in project activities such as the reading clubs, and regular school attendance. The finding is important given that the Ethiopian government is prioritizing improvement in literacy skills.

Although the project succeeded in demonstrating significant impact on reading and SEL skills, the magnitude of the impact was small. Several challenges external to the project affected the rigor of PBL implementation and take up in school. By the time of the midline, PBL implementation project schools were already fading, and at least 6 in 10 children missed out on attending reading centers/clubs³. The rigor of the project implementation was affected by several external factors affecting the schools and teachers such as shortage of teachers, lower qualification of teachers, lack of subject-specific training to teachers, lower-level of motivation for teachers due to low pay, and poor physical infrastructure in the school. On top of that,

³ All schools had reading clubs, but reading centers at selected communities were only established in 9 out of 20 schools.



COVID-19 disrupted the regular operation of school for more than a year despite the efforts made by EQIE in supporting schools to resume safely. Given that the external challenges are likely to remain the same while the school leadership and local government depend on EQIE to provide additional financial support to meet continuous coaching/mentoring support needs of teachers, and the basic infrastructural needs for children, it is least likely for the impact to sustain in absence of EQIE's direct or indirect support. Previous literature on the sustainability of education projects show that sustaining the results does not only require transferring of the project to the ownership of local government but also require incentives for the actors who steer the implementation, especially teachers ([Curtis Wyss et al., 2023](#)).

Recommendations

We urge RTP to deep dive on the evaluation results and collaborate with national offices to develop recommendations based on the findings and conclusions. Here are some potential recommendations drawn from the midline evaluation:

Improve and strengthen.

- **Prioritize school-focused interventions over community level activities** so that all resources are mobilized to support the cause that directly drives the student learning. We do recommend continuing working with SMC and other stakeholders to bring back out-of-school children to school.
- **Work directly with schools to ensure that teachers are motivated to implement the PBL.**
 - Advocate to integrate PBL related elements in teacher performance evaluation by local education officials and create a mechanism to incentivize teachers in the short run.
 - Set up a mechanism to train new teachers on PBL immediately after they start with a school to deal with the challenge of periodic transfer of trained PBL teachers.
 - Provide necessary teaching and learning materials (TLMs) through the schools and possible financial or possible recognition incentives for teachers to prepare engaging and stimulating educational materials that supports continuous and sustained adoption of PBL in classroom.
 - Increase resourcing of reading clubs already set up in all schools and encourage all children to participate in the reading clubs, while expanding the availability of community reading centres to some communities which need them most.
- **Strengthen MEL practices to continuously inform and update the theory of change** by shifting the focus of monitoring from compliance to outcomes, implementing bottleneck monitoring and management mechanism, and prioritizing observable metrics over self-reported metrics.
 - Map out key assumptions of the project, continuously monitor how far the assumption is true (bottleneck is the value in percentage that measures to the extent an assumption is false) and determine actions to minimize the bottlenecks. Because the project results were impacted by the external factors and some children/parents did not benefit from certain project activities, bottleneck monitoring helps to identify those external factors early on and contributes to ensure that the project benefited all children.
 - Map out external factors that could affect the project (such as low motivation among teachers) and work with school stakeholders and local government to address the external factors that could affect the project.
- Set up a memorandum of understanding with the local government and schools with the following elements:
 - Detailed list of support to be provided by the project.



- Responsibilities and expectations from the school and local government in response to the support provided by the project.
- Identify actions/activities that SMC and schools can initiate without any financial support from EQIE.
- Regular participatory review and reflection events

Scale

- **Build foundation to scale on PBL method and reading clubs to more schools.**

Although the project did not have a big magnitude of impact, the impact was still significant and scalable with some improvements. Once the interventions are strengthened to surmount the external challenges, we recommend RTP to collaborate with the local government to start on the following activities to set up a strong foundation to scale:

- advocate to integrate PBL in the government's pre-service teacher training curriculum,
 - Secure alignment of the PBL training and material development with the school curriculum
 - advocate to integrate PBL related elements in teacher performance evaluations,
 - strengthen school-based in-service training, supervision and support mechanisms to keep teachers motivated to apply PBL.
- **Set up a mechanism to identify, trim and scale successful project components** by breaking the project into different components and running experiments accordingly to identify more precisely which elements in the project were valuable in driving the results.



CHAPTER 1 BACKGROUND

1.1. Context

Foundational skills are critical to young children's educational success. Proficiency in literacy, numeracy, and social-emotional learning provides the fundamental building blocks for academic achievement across subjects and grade levels and equips children with essential skills to navigate the world around them and become active members of society. Yet globally, estimates suggest that by the age of ten, nearly 3 out of 5 children (57%) will be unable to read a simple text designed for their age ([World Bank, 2022](#)). Children from marginalized groups, including girls and learners with disabilities, are even more at risk of not developing the necessary skills for school success, due to attitudinal and environmental barriers that hinder their access to education and quality learning. This points to an urgent need to strengthen all learners' access to quality education in the early years, including through age-appropriate curriculum and strategies, such as play-based pedagogy and teacher professional development ([Bendini & Devercelli, 2022](#)).

Play-based learning (PBL) is a crucial avenue for fostering the holistic development of children, particularly those from vulnerable communities. Research suggests that play not only enhances cognitive abilities and academic performance but also cultivates vital social-emotional skills critical for navigating diverse environments ([Jensen et al., 2019](#)). In East Africa, PBL has been used to effectively support marginalized communities, especially those learners affected by displacement, conflict or violence (Play Matters, & Sesame Workshop, 2023). However, challenges persist, notably rooted in misconceptions among educators and parents regarding play's efficacy as a pedagogical tool ([UNICEF, 2021](#)). Addressing these challenges necessitates comprehensive teacher professional development initiatives aimed at equipping educators with the knowledge and skills to effectively integrate play-based methodologies into their teaching practices ([Mendenhall et al., 2021](#)). Further, teaching and learning environments in many LMICs are often inconducive to play-based pedagogies, due to overcrowding or limited access to teaching and learning materials (Bendini & Devercelli, 2022). Therefore, creating enabling school and policy environments is imperative to institutionalize and sustain the incorporation of play-based pedagogies (Mendenhall et al., 2021), ensuring equitable access to quality education for all children.

Ethiopia country context

Ethiopia, is a diverse country, situated in East Africa, with a population of 115 million people and over 90 ethnic and linguistic groups. Ethiopia has a young population; approximately 40 percent of Ethiopia's population is under the age of 15⁴. Despite the major progress Ethiopia made during the last decade towards achieving universal primary school enrolment, recent crises have worsened the situation. In the last two years, Ethiopia's education systems have suffered significant setbacks due to overlapping crises of armed conflict, drought, and COVID-19. Eight thousand schools have been damaged, looted and destroyed since 2021, denying millions of children and youth of their right to an education.

As of 2020/2021, more than a quarter of 7-14 years old children were out of school. Recent estimates show that children's learning has also suffered. The percentage of early-grade learners with reading proficiency in grade 2 dropped from 25 percent in 2017/2018 to 13

⁴ USAID (2020) Ethiopia Fact Sheet, Retrieved from <https://files.eric.ed.gov/fulltext/ED628406.pdf>



percent in 2020/2021⁵. Other estimates published by the World Bank⁶ show that both access and learning poverty are challenges in Ethiopia: 14 percent of school-age children are not enrolled in school, 89 percent of children who are enrolled in the primary level do not meet minimum proficiency requirements for the primary level; and learning poverty is as high as 90 percent, meaning 9 out of all 10 year old are not proficient in reading a text designed for their age. The results corroborate with the very low investment in the education sector. The same World Bank report pointed out that per-child investment on education is \$121 which is 79 percent below the average sub-Saharan African countries, and 321 percent below the average low-income countries. During the last five years, Ethiopia has often turned to external support to bring the education sector back on track, and improvement in literacy and inclusion are the top priorities for the country. As such, RTP's EQIE project is both a relevant and needed initiative in the country.

1.2 The project

Right To Play (RTP) has been implementing a five-year long EQIE project in five countries (Ethiopia, Lebanon, Mozambique, Palestine, and Tanzania) from January 2020 to December 2024. The primary objective of the project is to improve the holistic learning outcomes of boys and girls, including children with disabilities, in target educational institutions by increasing teachers' knowledge and improving their pedagogical skills. The project assumes that the improvement in holistic learning achievement is manifested through improved reading skills and socio-emotional skills. EQIE supported starting and/or maintaining already existing reading clubs to increase children's participation in supplemental reading activities inside and outside school. Additionally, EQIE expected to collaborate with civil society organizations to bring children with disabilities and girls back to school. (See Appendix 9 for the detailed program theory assessment).

In Ethiopia, the project was implemented in 36 primary schools supporting teaching and learning in grades 1 to 4; while providing some infrastructure support for kindergarten classes (referred to as O' class in Ethiopia) in most of the 36 schools. About 311 kindergarten and grades 1-4 teachers have received professional development support (training, coaching/mentoring, teaching, and learning materials, peer learning) in using playful learning pedagogy for literacy and SEL skills improvement, provided over a three-year period. Local education officials were trained on and supported with financial resources and tools to provide ongoing coaching and mentoring to teachers in the project schools and other schools within the district.

⁵ USAID in Ethiopia, please see the link for details:

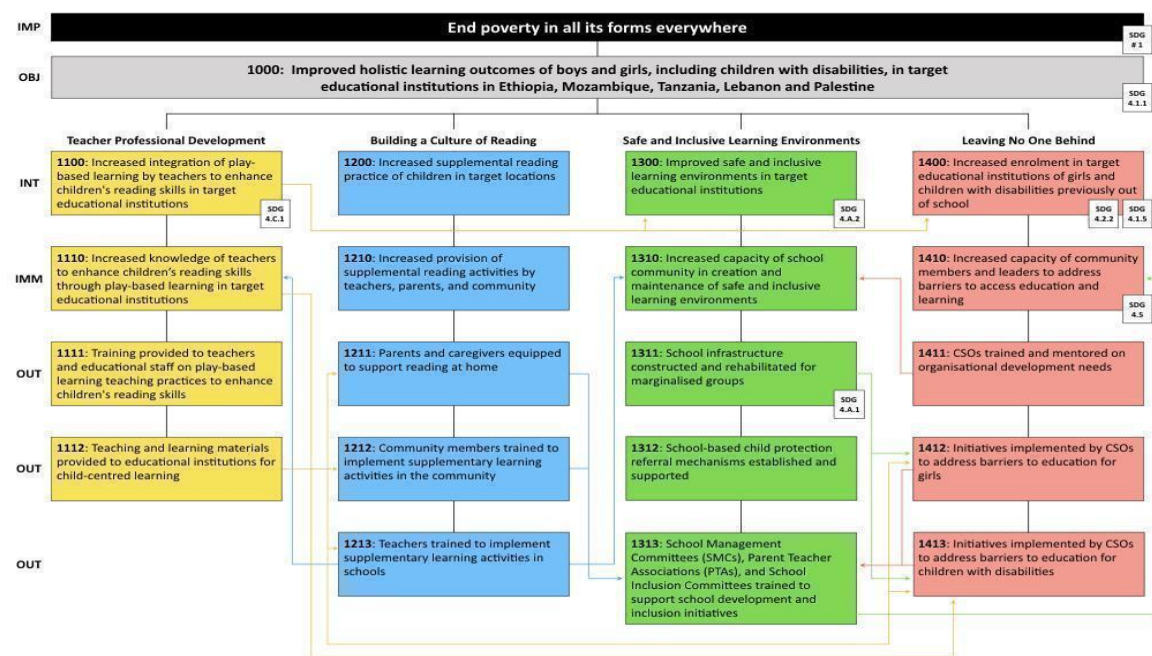
<https://www.usaid.gov/ethiopia/education#:~:text=In%20the%20last%20two%20years,their%20right%20to%20an%20education>

⁶World Bank (2019) Ethiopia Learning Poverty Brief. Retrieved from

<https://thedocs.worldbank.org/en/doc/431381571223517237-0090022019/original/SSAAFCE3ETHLPBRIEF.pdf>



Chart 1. Theory of change of EQIE



Source: RTP, EQIE, MEL Plan 2021

1.2 Evaluation Objectives

The midline impact evaluation sought to draw causal conclusions about the effects of two critical aspects of the EQIE project on improving teaching quality and students' learning outcomes (in reading and SEL skills):

- In-service teacher professional development through training, coaching, and mentoring, and professional learning communities/communities of practice in play-based learning (PBL) pedagogy, and
- After-school supplemental learning activities at the community and household level.

Evaluation Questions. The priority for the midline evaluation was to examine the impact and sustainability of the project. The evaluation answers the following questions:

Impact

1. What is the causal effect of the EQIE project on the midline levels of literacy, and SEL skills among grade 4 students in Ethiopia and Tanzania?
2. What is the state of teachers' pedagogical practice in the classroom? Is there any marked difference in teacher pedagogical practice between the treatment and comparison groups?
3. Does the PBL in-service teacher professional development under the EQIE project lead to improved learning outcomes, or intermediate indicators (e.g., teacher literacy instructional quality, positive classroom climate, etc.) towards improved learning outcomes in treatment schools? If so, how?
4. What explains the key characteristics of schools that can effectively implement the PBL pedagogy compared to those that are not able to?
5. What is the potential impact of after-school supplemental learning activities on improving learning outcomes in treatment schools?

Sustainability

6. Is there early evidence that local partners and government partners have the capacity (institutional, financial), positive attitude, and ownership mindset to continue the



pedagogical practices and safe/inclusive learning environment activities of the project? What are the key factors or risks that are likely to affect the persistence of positive effects of the EQIE project in the short, medium, and long term?

1.3 Methodology

We applied rigorous impact evaluation methodology employing quasi-experimental evaluation design with a mixed use of quantitative and qualitative tools. For the midline evaluation, we collected data from 40 schools (20 project and 20 non-project schools). The project schools were picked in consultation with local government officials to cover schools that are in the need of support, and additional 20 non-project schools were selected purposefully to serve as their comparison. The project schools benefited from the direct project support while the comparison schools, hereafter called 'non-project schools' did not receive any project intervention. During the baseline, characteristics related to schools, teachers, parents, and children in both types of schools were more or less similar.

1.3.1 Tools

Early Grade Reading Assessment (EGRA)

EGRA, short for Early Grade Reading Assessment, is a tool used to evaluate the reading abilities of young students in the initial years of primary education. EGRA evaluates fundamental reading abilities, including letter identification, phonemic awareness, decoding, fluency, and reading comprehension. In this study, the EGRA included four primary subtests, namely i) letter knowledge, ii) phonetic awareness, iii) familiar and unfamiliar (or invented) words, and iv) reading fluency and comprehension. Following the normal EGRA administration standards, the test stopped if the child was unable to reply to even the first 5–10 items correctly; these pupils received a "zero score" on that subtest. Giving no response at all was considered not responding correctly.

International Social and Emotional Learning Assessment (ISELA)

The ISELA is a specialized instrument developed to evaluate the proficiency of students in social and emotional learning (SEL) abilities. SEL encompasses the cultivation and comprehension of one's emotions, the establishment and sustenance of healthy relationships, the exercise of responsible decision-making, and the proficient management of conduct. As such, ISELA assesses a range of SEL abilities, including self-awareness, self-control, empathy, interpersonal skills, and making responsible choices. The examination offers valuable insights into students' social and emotional aptitudes, enabling educators to identify specific areas that require improvement and interventions to enhance students' overall well-being and social-emotional growth. ISELA is a scenario- and performance-based measure designed to assess the development of self-concept, stress management, perseverance, empathy, relationship management, and conflict resolution in children ages 6 - 12 years old. It is intended to provide data for program monitoring and evaluation purposes. In this study, seven (7) SEL skills were assessed using an adapted tool specifically for this study. The SEL skills are i) stress management, ii) empathy, iii) perseverance; iv) solving conflict or problem solving, v) self-concept, vi) Collaboration, and vii) social relationship. In each skill, scenarios and questions were presented to the children. They either gave narrative responses or responded to a scale.

Parental Survey

During the midline study, we conducted a survey with parents of each child included in the reading and SEL assessment. The survey with parents covered the socio-economic status of the family, parental attitudes towards education, and parenting practices.

Classroom observation



We mobilized enumerators to conduct classroom observation in both project and non-project schools during the midline study. The classroom observations, conducted randomly, compiled information on the actual teaching-learning practices inside the classroom.

Teacher, Principal & Community Member Survey

During both the baseline and midline evaluations, surveys were conducted with teachers, principals, and community members in project schools. During the midline, we also surveyed teachers in control schools to get a comparative perspective of teaching and learning practices.

Qualitative discussions and interviews

To obtain a deeper understanding of various stakeholders' perceptions, we conducted focus group discussions with parents and school management committees (SMCs), in-depth interviews with teachers, and in-depth interviews with selected children and their parents.

1.3.2 Sampling and Sample Size

We followed the sample size and sampling strategy adopted during the baseline study. We interviewed parents or caregivers of all children who were included in the tests. The following table provides details on the expected and actual samples.

Table 2: Target & actual sample sizes

Tools	Who is responsible?	Expected sample size		Actual sample size	
		Project	Non-project	Project	Non-project
EGRA/ISELA	Enumerators	400	400	292	255
Teacher survey	Lead enumerator	40	20	34	20
School leader survey	Lead enumerator	20	20	20	20
Parents/Caregivers Survey	Enumerators	400	400	254	202
Classroom observation form	Education officers	40	20	29	20
Teacher's mood metre	Education officers	40	20	39	19
School information form	Lead enumerator	20	20	17	13
In-depth interview with teachers	Qualitative researchers	10	-	9	-
FGD with school stakeholders	Qualitative researchers	10	-	8	-
FGD with parents/caregivers	Qualitative researchers	10	-	8	-
Case study interview with children	Qualitative researchers	5	-	10	-
Case study interview with caregivers	Qualitative researchers	5	-	9	-
KII with government officials	Country consultant	4	-	4	-
KII with EQIE staff	Country consultant	4	-	4	-

Note. The actual sample size from project and non-project schools for EGRA/ISELA and parental survey is the number of children who were tracked from the baseline without any replacement. We interviewed all parents/caregivers of children included in the cohort regardless of whether they were included in the baseline. The classroom observations are not tracked from the baseline.



Additional details on the sample covered is provided in **Appendix 3**. The midline study data was collected during October 31 - November 27, 2023. All enumerators were trained in a 5-days long workshop that also included 2 days of piloting and practice (see Appendix 2 for field implementation report).

1.3.3 Analysis

The quantitative data analysis utilized a parametric T-test for the comparison of means between project and non-project schools, and a Difference in Difference (DID) estimator to estimate the Intention to Treat (ITT) effects whenever the data on a metric was available for project schools and non-project schools during baseline and endline.

Intention to Treat (ITT) analysis assuming baseline equivalence

Assuming that the estimates for the outcome metrics were equal during the baseline for the selected project and non-project schools, we applied a basic ordinary least square (OLS) regression model to estimate the effect of the project on the outcome variables such as EGRA and ISELA score. We controlled for the socio-economic status of the family, district, number of siblings, parental education, participation in project activities, availability of reading materials at home, parental rating of school safety, parental rating of accessibility of schools, especially for children with disabilities, and parental rating of gender equality in schools.

$$Y_i = \beta_0 + \beta_1 \cdot Treatment + \theta \cdot X_i + e_i \dots\dots\dots (1)$$

Where Y_i is the dependent variable, i.e., EGRA/ISELA or learning outcomes, X_i is a set of confounding variables, i denotes an individual observation, β_1 is the effect size of the treatment interacted with after (variable denoting the pre- and post-intervention periods) compared to all other alternatives, and e_i is the standard error.

Difference in Difference (DID) Estimator

We used a DID estimator for the analysis merging baseline data with the midline data. We predicted whether the difference in difference is statistically significant after controlling for the girl or boy, socio-economic status of the family, district, number of siblings, parental education, participation in project activities, availability of reading materials at home, parental rating of school safety, parental rating of accessibility of schools, especially for children with disabilities, and parental rating of gender equality in schools.

$$Y_i = \beta_0 + \beta_1 \cdot Treatment * After + \theta \cdot X_i + e_i \dots\dots\dots (2)$$

Where Y_i is the dependent variable, i.e., EGRA/ISELA or learning outcomes, X_i is a set of confounding variables, i denotes an individual observation, β_1 is the effect size of the treatment interacted with after (variable denoting the pre- and post-intervention periods) compared to all other alternatives, and e_i is the standard error.

There was around 30% attrition between the baseline and midline children. The attrition was because of not being able to trace the children based on their names and ids, and the drop out from schools and movements. The attrition was, however, random and was not systematically triggered. There was no difference between the groups that were tracked from the baseline, and the group that missed out from the baseline to midline. The baseline results were also not different for children who were tracked from the baseline and the children that were added as a replacement during the midline. It means that the attrition did not affect results, and the analysis on DID remains valid regardless of attrition.

In all key regression models applied in the analysis, there was no multicollinearity to the extent to affect the results. The variance inflation factor was less than 10 which shows that the



variables are not heavily correlated with each other. The only two variables that were heavily correlated were treatment (project schools) and participation in project activities such as reading clubs and reading centers. The tests conducted to check whether the models meet Gauss-Markov assumptions revealed that the errors were normally distributed (See Appendix 4 for the properties of unexplained factors in the model or the residuals/error). The models had a decent r-squared value (above 0.20) which meant the model explained at least 20 percent variance in the outcome variables. However, the model suffers from heteroskedasticity (a pattern in the error related to the confounding variables) and omitted variable bias (a test showing that the model misses some confounding variables). We used robust standard error to minimize the effect of heteroskedasticity.

Qualitative Analysis

We used a combination of deductive and inductive analysis tools to determine themes from the data and draw out themes from domains of inquiry. All qualitative data, open-ended survey questions, key informant interviews (KIIs), and focus group discussion (FGD) responses were analysed using a rapid-analysis approach. Open-ended survey responses were aggregated into the document by a stakeholder group for further coding and analysis. All recordings were transcribed and translated into English before beginning the analysis. The research team employed contribution analysis techniques to decipher the extent to which the outcomes can be attributed to the activities of the EQIE project. Upon completing the qualitative data analysis, researchers summarized the findings by country and research question and integrated them into the final report.

CHAPTER 2 RESULTS

We have organized study results by the evaluation questions identified for the study.⁷

2.1 Evaluation Question 1. What is the causal effect of the EQIE project on the midline levels of literacy and SEL skills?

Summary

The EQIE project succeeded in improving the socio-emotional skill and a couple of reading skills such as phonetics and comprehension skills for children in project schools. The latter was only true for children who participated in project activities such as reading clubs/centers. In both cases children in the project schools were able to catch up and go a bit ahead of children from non-project schools who had a greater score during the baseline.

Results

EGRA results consist of four skills: i) letter knowledge, ii) phonetic awareness, iii) reading familiar and unfamiliar (or invented) words, and iv) reading fluency and reading comprehension.

Reading Skill 1. Letter Knowledge

Letter knowledge refers to a child's understanding and recognition of the letters of the alphabet, regardless of the language. It assesses the child's ability to identify and name letters, both in isolation and within words. We asked children to identify the letters they were provided within 60 seconds. The number of letters that are presented to children in Ethiopia differs between the baseline and midline. A total of 100 letters were shown in the midline, compared to 33 in the baseline. Children from project schools and non-project schools could read 55% of the total letters surfaced to them during the baseline. During the midline, children in both

⁷ Any observations outside of the direct purview of the study questions have not been presented in the report.



schools improved: 86% of all time for project schools compared to 85% for children in non-project schools. **They were not statistically different.** There were no children who could not identify a single letter.

Table 3: EGRA Letter Knowledge

Sub-Tests	Baseline (Grade 1, out of 33 items)		Midline (Grade 4, out of 100 items)		Is the difference significant?
	Project (N=399)	Non-project (N=390)	Project (N=292)	Non-project (N=255)	
Average Letter read correctly	18.4 (12.41)	18.04 (11.54)	86.03 (34.27)	84.7 (34.94)	The DID estimator was not significant. No significant differences were found between project and non-project schools.
Average Letters Read incorrectly	14.5 (12.47)	14.9 (11.59)	0.61 (3.61)	1.5 (8.1)	

Note: The test of whether the difference was significant was performed using two-tailed t-test assuming equal variances in population.

After controlling for all key confounding variables⁸, we confirmed that the project has no effect on the identification of letters (see appendix 2 for the demographic details of the midline sample used in the analysis). The improvement from baseline to midline was 42 letters for both project and non-project schools. Children who repeated a grade previously scored lower in the letter identification skill, and children from a family with lower socio-economic index improved more. No other variables including sex (girls vs boys) significantly predicted the midline score or the increase in the score compared to the baseline.

Reading Skill 2. Phonetic Awareness

Phonetic awareness in EGRA refers to a child's ability to understand and manipulate the auditory or sound components of spoken language. During this subtest, students were presented with ten (10) words and instructed to determine the phonetic sound produced by the first letter of each word. Children attending project schools demonstrated markedly superior phonological awareness scores in comparison to their counterparts in non-project schools. The disparity in results, when compared to the baseline, was notably greater for project schools in contrast to non-project schools.

There was significantly greater improvement in the phonetics scores of children from project schools compared to children from non-project schools. At the baseline, the project schools had a significantly lower score of 2.7 compared to the non-project schools that scored an average of 4.9 words, which suggests that the project schools recognized fewer letter sounds than the non-project schools. However, there was no significant difference in the performance of children from project schools and non-project schools during the midline assessment. Both groups were able to recognize 8.4 and 8.1 sounds, respectively. The results show that project school children were able to catch up, despite scoring less during the baseline. The findings, therefore, suggest that **the EQIE project has had an impact on the project schools.**

Table 4: Results of EGRA Phonetic Awareness Subtest, by Treatment and Control Group

Sub-Tests	Baseline (Grade 1)		Midline (Grade 4)		Is the DID estimator significant?
	Project (N=399)	Non-project (N=390)	Project (N=292)	Non-project (N=255)	
Average Phonemes correctly identified	2.7 (3.73)	4.9** (4.21)	8.4 (2.96)	8.1 (3.18)	

⁸ The confounding variables included age, sex (girl or boy), class repetition status, risk profile to the child, socio-economic index of the family, education level of parents, number of children at home, total household size, parental job in town or out of town, rating on schools safety, rating on school accessibility, rating on gender equality in school, participation in project activities, and availability of reading materials.



Average Phonemes incorrectly identified	7.3 (3.73)	5.1 (4.21)	1.5 (2.77)	1.7 (2.97)	Non-project schools were significantly better during baseline. The DID estimator that shows improvement from baseline to midline is also significantly different for project school.
Difference in phonetics score			5.63** (4.37)	3.07 (4.44)	

*Note: Standard deviation in parenthesis. ** significant at 99%, * significant at 95% and ~ significant at 90% confidence level. The test of whether the difference was significant was performed using two-tailed t-test assuming equal variances in population.*

The multi-variable regression estimates controlling for several confounders also confirmed the results from the t-test. On a 10-point scale, the children in the project school were likely to improve by 2.4 more points than the non-project school students compared to baseline after controlling for confounders. Children of a higher age were likely to improve by a smaller amount in their phonetics score compared to the baseline, and children from families with lower socio-economic index gained more compared to the baseline. However, the project did not have a different level of impact for girls vs boys, children from different age groups, and different socio-economic status.

Reading Skill 3. Familiar and Unfamiliar (Invented) Words

The **Familiar Words** subtest measures a child's ability to recognize and comprehend sight words, which are crucial building blocks for developing reading fluency. Initially, the project schools administered a set of 10 words to the students. During the baseline, children in project school successfully identified 79% of the words, equivalent to 8 out of 10. During the midline, however, a total of 50 words were shown instead of 10 words. Children from project schools identified 58% of the words correctly compared to just 44% from non-project schools. **This difference was statistically significant.** The number of children who could not read any familiar words provided to them was 16.6% for project schools compared to 21.1% for non-project schools but the difference was not statistically significant.

Table 5: Average number of words identified correctly

Sub-Tests	Baseline (Grade 4)		Midline (Grade 4)		Is the difference significant?
	Project (N=399)	Non-project (N=390)	Project (N=292)	Non-project (N=255)	
Number of words identified correctly	7.86 (3.16)	--	28.9 (22.37)	22.3 (21.93)	Yes, scores of project schools were significantly higher than scores of non-project schools.
Number of words identified Incorrectly	2.06 (3.16)	--	0.78 (3.89)	1.08 (4.9)	

Note: No data for the control group at the baseline. Standard deviation in parenthesis. The baseline values presented in the table for the treatment group comes from the benchmarking data collected from a small sample of children during the baseline.

After controlling for several factors affecting the score, there was no difference in the number of familiar words identified by children in project schools compared to children in non-project schools. Although we found no intent-to-treat (ITT) effect, we did find that the children who reported to have participated in project activities were likely to identify more common words compared to children who did not participate in the project activities. There were no differential impacts of the project observed including that for girls (vs boys).

The **Unfamiliar Words sub-test, also known as Invented Words**, assesses the child's proficiency in reliably and fluently decoding and reading unfamiliar words. During the testing



process, children were given a list of 50 words that were unfamiliar to them. These words are frequently selected for their intricacy or scarcity, rendering them unfamiliar to most young readers. Children in project schools identified an average of 30 words (60%) compared to 28 words (56%) for children in non-project schools. The average number of invented words identified by children was **not statistically different** between project and non-project schools. The number of children who could not correctly read any invented words provided to them was 35.4% for project schools compared to 40.5% for non-project schools but the difference was not statistically significant.

Table 6: Results of EGRA Unfamiliar Words

Sub-Tests	Baseline		Midline (Grade 4)		Is the DID estimator significant?
	Project (N=)	Non-project (N=)	Project (N=292)	Non-project (N=255)	
Words correctly read	--	--	29.8 (23.41)	28 (39.95)	No, there is no significant difference between project and non-project schools. DID estimator is not available.
Words incorrectly read	--	--	0.67 (3.67)	1.02 (5.19)	

Note: No data available on invented words during the baseline. Standard deviation in Parenthesis. The test of whether the difference was significant was performed using a two-tailed t-test assuming equal variances in population.

The multiple variable OLS regression results show that children in the project schools are likely to read the same number of unfamiliar words compared to children in non-project schools, after controlling for several confounded variables as mentioned above. Children who repeated a grade were likely to identify fewer numbers of invented words, and children of parents with a higher socio-economic index were likely to identify more numbers of invented words. We found no other significant predictors of the skill to identify invented words.

Reading Skill 4. Reading Accuracy, Fluency & Comprehension

Reading accuracy

The **reading subtest** assesses the student's proficiency in word decoding, text comprehension, and reading fluency. The assessment commonly measures letter and word recognition, decoding, fluency, vocabulary, and comprehension. A reading passage was offered to children in the local language, and they were instructed to read it aloud. There was **no significant difference** in the percentage of readers between project and non-project schools during baseline, midline, and among those who improved from baseline to midline. During the midline, 69.5% children in project schools were found to read compared to 67% in non-project schools. Similarly, 56.6% children improved in midline compared to the baseline in project schools compared to almost the same (55.6%) children in non-project schools.

Table 7: Results of EGRA Reading Subtest, by Treatment and Control Group

Sub-Tests	Baseline (Grade 1)		Midline (Grade 4)		Is the DID estimator significant?
	Project (N=399)	Non-project (N=390)	Project (N=292)	Non-project (N=255)	
Reader – Can Read	11.03%	8.72%	69.5%	67.1%	No, there is no difference between project and non-project schools.
Non-reader – read more than five words incorrectly	88.97%	91.28%	30.5%	32.9%	

Note: Standard deviation in parenthesis. The test of whether the difference was significant was performed using a two-tailed t-test assuming equal variances in population.

Reading fluency



When evaluated in terms of words per minute, the **reading fluency of children enrolled in project schools was found to be like that of their peers attending non-project schools**. When asked to read a paragraph, children in project schools on an average read 57 words compared to 56 words per minute for children in non-projects.

Table 8: Reading Fluency

Sub-Tests	Baseline (Grade 1)		Midline (Grade 4)		Is the DID estimator significant?
	Project (N=399)	Non-project (N=390)	Project (N=292)	Non-project (N=255)	
Reading speed for most common words (wpm)	-	-	28.9 (22.37)	22.3 (21.93)	Except for common words, there is no significant difference between the project and non-project schools
Reading speed for invented words (wpm)	-	-	29.8 (23.41)	28.0 (39.95)	
Reading speed while reading a passage (wpm)	35.6 (6.18)	37.0 (0.37)	56.6 (61.0)	55.7 (60.6)	
% of children who meet fluency benchmark for Ofan oromo lanaguage: ⁹	0%	0%	40.8%	41.6%	

Note: No data available from baseline. Standard deviation in parenthesis. The test of whether the difference was significant was performed using a two-tailed t-test assuming equal variances in population.

Although there was no difference in reading fluency between children of project and non-project schools, the results from multivariable OLS regression shows that **children who participated in project activities and had reading materials at home had significantly higher reading speed compared to other children**. They were able to increase their reading speed by 2 words per minute compared to the children who did not take part actively in the project activities. This translates into 0.03SD effect size in the reading speed. The results show that **engaging actively in the project activities such as reading clubs had a small impact on reading fluency**. Children who repeated grades, in general, were likely to read 35 words less compared to other children, and girls, higher age children, and children with reading materials at home were likely to read significantly more words than their counterparts.

Reading comprehension

The assessment of reading comprehension involved asking questions to children after their reading of a passage. On an average, children in project as well as non-project schools got 4 out of 6 questions correct. There was **no significant difference** in the reading comprehension skills of children in project schools and non-project schools during the baseline, midline, and also in terms of the improvement from baseline to midline.

Table 9: Results of EGRA Reading Comprehension, by Treatment and Control Group

Sub-Tests	Baseline (Grade 1)		Midline (Grade 4)		Is the DID estimator significant?
	Project (N=355)	Non-project (N=365)	Project (N=276)	Non-project (N=242)	
Correct Response (out of 6)	3.2 (2.26)	3.6 (1.87)	4.0 (2.10)	3.8 (2.13)	No, the DID estimator was not significant. There was no difference between project and non-project schools.
Incorrect response (out of 6)	2.6 (2.25)	2.1 (1.80)	1.8 (1.99)	2.0 (2.04)	
Difference in comprehension score			0.65 (3.15)	0.30 (2.58)	
% of students who qualify as readers with comprehension ¹⁰	9.3%	7.1%	47.5%	42.4%	

⁹ The benchmark for ofan oromo language was picked up from the following resource: https://ierc-publicfiles.s3.amazonaws.com/public/resources/10746_Benchmarks_brief_02-16-17_r6.pdf.

¹⁰ A reader with comprehension has a comprehension score greater than 80%.

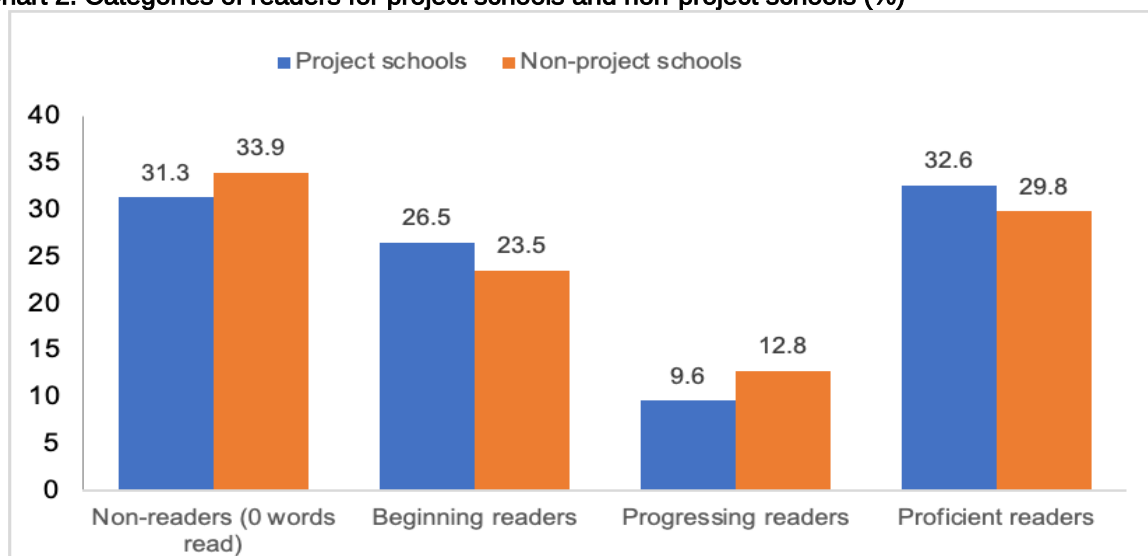


Note: Standard deviation in parenthesis. The test of whether the difference was significant was performed using a two-tailed t-test assuming equal variances in population.

The results from the t-test remained true also when controlled for key confounders. We found no impact of the project on reading comprehension. Although there was no difference in comprehension skill just based on whether the project was implemented, children who participated actively in project activities were likely to improve by 0.10 points more in their comprehension score compared to the baseline. Children who repeated a grade previously had significantly lower comprehension scores improvement compared to the students who did not repeat a grade. There was no differential impact of the project on those children. There were no other significant predictors of the improvement in the comprehension score.

We also discovered that 47.5% of students in project schools and 42.4% in non-project schools demonstrated reading comprehension above the national benchmark, defined as correctly answering at least 5 out of 6 comprehension questions. The disparity between the two groups was not statistically significant. However, we found that the **children who participated actively in project activities had higher odds to meet the comprehension benchmark** compared to the children who did not participate actively in the activities. Based on the categorization of readers by their reading proficiency levels¹¹, there were 33% proficient readers, 9.6% progressing readers, 23% beginning readers, and 34% non-readers (see Chart 2).

Chart 2. Categories of readers for project schools and non-project schools (%)¹²



To better understand the nature of scores and differences between project and non-project schools, we looked at the distribution of scores by plotting box-whisker plots. The plots clearly show that the nature of the distribution was similar between project and non-project schools,

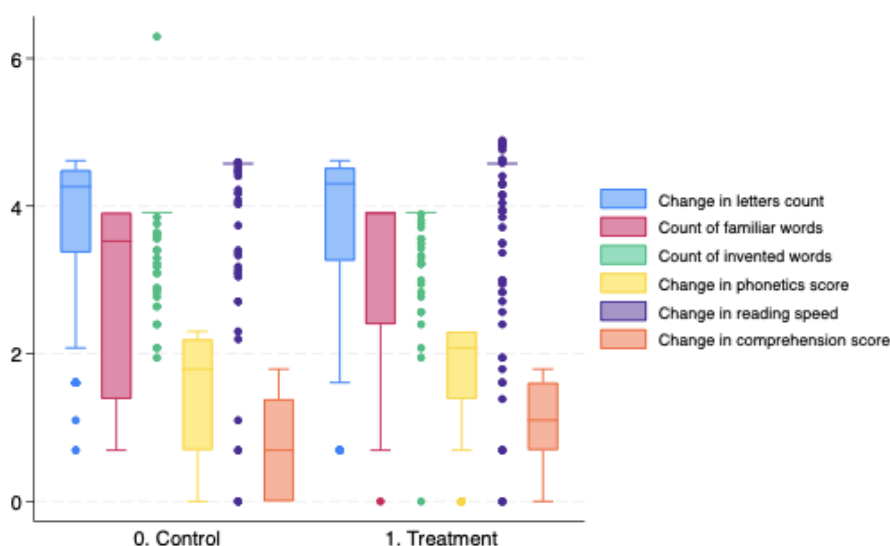
¹¹ We divided children into four categories of readers: (i) non readers - unable to read a single word of the passage, (ii) beginning readers - read between 1 to 29 words of the story in one minute, (iii) progressing readers - read at least 30 words per minute, and (iv) proficient readers - read more than 57 words per minute with comprehension score at least 80%. The benchmark values were taken from the national benchmarking workshop as reported in: http://213.55.101.25/images/sirna_bar/EGRA_2016.pdf

¹² The categorization is based on a study conducted by USAID in 2018 (<https://2017-2020.usaid.gov/sites/default/files/documents/1865/Ethiopia-Early-Grade-Reading-Assessment-2018.pdf>). Among grade 3 students, the study found the following distribution for Afan Oromo language: 28.3% non-readers, 41.4% beginning readers, 21.2% progressing readers, and 9.1% proficient readers. The children in non-project schools also performed better compared to the national average because the sample taken for the evaluation includes children who completed the academic year at grade 4 and were in the transition to grade 5.



except for number of familiar words correctly identified by a child, change in phonetics scores from baseline to midline, and change in comprehension score from baseline to midline.

Chart 3. Box-whisker plots of EGRA scores between project and non-project schools



Source: EGRA results from midline 2023, by test domains in a logarithmic scale

2.1.2 Socio-emotional Skills

ISELA results can be broken down into seven sub-skills (see Appendix 10 for detailed questions used to assess SEL skills):

SEL skill 1: Stress management

Stress Management focuses on a student's capacity to recognise and successfully handle stress. For ISELA's stress management, the children were asked three (3) questions about what they do when they get angry or upset. The results suggest a **significant change in the project schools compared to the non-project schools, and also compared to the baseline scores in stress management**. This suggests that children in the project schools have observed a notable improvement in their ability to manage stress from baseline to midline: 0.611 points compared to a drop in non-project schools of 0.008 points, respectively. The stress score was significantly higher for the project school (compared to non-project schools) during the baseline, while the score was not different during the midline.

Table 10: Stress Management

ISELA Components	Baseline (Grade 1)		Midline (Grade 4)		Is the DID estimator significant?
	Project (N=294)	Non-project (N=246)	Project (N=251)	Non-project (N=294)	
Stress management (out of 3)	0.81 (1.10)	1.30** (1.24)	1.41 (1.13)	1.29 (1.17)	The DID estimator is significant. Non-project schools were better during the baseline but no difference during the midline.
Stress management (%)	27.0%	43.3%**	47.2%	43.2%	
Improvement in stress score from baseline	-	-	0.60** (1.44)	0.01 (1.69)	
% of children who improved	-	-	49.5%**	38.5%	

Note: Standard deviation in parenthesis. ** significant at 99%, * significant at 95% and ~ significant at 90% confidence level. The test of whether the difference was significant was performed using a two-tailed t-test assuming equal variances in population, at 95% confidence level.



The stress score was likely to increase by 0.60 points more in the project schools compared to the non-project schools from baseline to midline, after controlling for children's age, sex, repetition of the class, risk profile, socio-economic index of the family, education level of parents, number of children in the family, family size, school safety rating, school accessibility rating, gender equality rating, participation in project activities, and availability of reading materials in the house. There seems to be treatment in treated effects: children who participated actively in the project activities were likely to score more in the stress management compared to those who did not participate in the project activities. Children with a higher age and better availability of reading materials in the home were better in managing stress. The children with lower academic performance, especially those who repeated a grade, were more likely to score lower in the stress management score.

SEL Skill 2: Empathy or Respect for Others

Empathy refers to the capacity to comprehend and share the emotions of others. It is often tested in ISELA by evaluating a student's comprehension of other people's feelings and perspectives, capacity to respond compassionately to others' needs, and showing positive and supportive conduct toward others. In this study, four (4) scenarios were presented to children, and they were asked to respond accordingly on what they felt in these four scenarios. Compared to the baseline, **children in the project schools gained significantly more in empathy score compared to children in non-project schools for all empathy items** (See Table 11). The raw scores were significantly higher for non-project schools during the baseline, and the raw scores were not statistically different during the midline. This suggests that the project helped children to excel more in their empathy skills between baseline to midline period.

Table 11: Empathy Skills

ISELA Components	Baseline (Grade 1)		Midline (Grade 4)		Is the difference significant?
	Project (N=362)	Non-project (N=346)	Project (N=377)	Non-project (N=370)	
Empathy A - (3 items)	1.11 (1.29)	1.36** (1.41)	1.95 (1.16)	1.99 (1.20)	During the baseline, non-project schools were significantly better than the project schools, and during the midline, there was no significant difference. The difference in difference was significant.
Empathy B - (2 items)	0.54 (0.84)	0.75** (0.95)	1.31 (0.89)	1.23 (0.91)	
Empathy C - (3 items)	1.06 (1.27)	1.70** (1.37)	1.90 (1.17)	1.78 (1.23)	
Empathy D - (3 items)	0.31 (0.69)	0.75 ** (0.96)	0.86 (0.93)	0.93 (0.95)	
Empathy score (out of 11)	3.01 (3.27)	4.56** (3.84)	6.02 (3.27)	5.93 (3.33)	
Empathy score (%)	30.1%	45.6%**	60.2%	59.2%	
Improvement in empathy score from baseline to midline	-	-	3.01 (5.0)	1.37 (4.32)	
% of children who improved compared to baseline	-	-	67.5%	56.8%**	

Note: ** significant at 1%, * significant at 5%, and ~ significant at 10%. Standard deviation in parenthesis. The test of significant difference was performed using two-tailed t-test assuming equal variances in population.

After controlling for all key confounders, the children in the project schools were likely to observe one point more increase in a ten-point skill score from baseline to midline compared to children in non-project schools. Interestingly, **children who participated in several project activities had significantly higher empathy skills** while children who repeated a grade earlier had significantly lower empathy scores compared to children who did not repeat any grade. Children of grade-appropriate age (9-10) and children from a family with a lower socio-economic index gained more compared to the baseline. The scores were not different for different levels of parental education, girls/boys, availability of reading materials, and other variables.



SEL Skill 3: Perseverance or concentration

Perseverance and attention span test a student's ability to keep concentration, exert effort, and persist in pursuing objectives or finishing assignments. In ISELA, persistence and attention span are often assessed using a range of markers. This involved evaluating a student's level of participation during classroom activities or assignments, such as their ability to stay focused and ignore distractions. To test perseverance, we asked children to draw four images. Based on the data, we found that there is a **significantly higher increase in the percentage of children who could complete all four drawings during the midline compared to the baseline**. The percentage was higher for non-project schools during the baseline, when children were allowed to draw without time limits.

Table 12: Perseverance and Attention Span

ISELA Components	Baseline (Grade 1)		Midline (Grade 4)	
	Project (N=362)	Non-project (N=346)	Project (N=377)	Non-project (N=370)
% of children who completed all 4 drawings	57.5	71.5**	55.6	49.6
% completed drawing 1 in 60 seconds	68.0	89.0**	82.0	82.9
% completed drawing 2 within 60 seconds	63.3	83.7**	74.6	70.2
% completed drawing 3 within 60 seconds	59.9	76.0**	64.1	60.2
% completed drawing 4 within 60 seconds	57.5	71.4**	55.6	49.6
Average perseverance score	2.48 (1.85)	3.20 (1.40)	2.76 (1.59)	2.63 (1.58)
Change in the perseverance score			0.27 (2.31)**	-0.59 (2.04)
Perseverance score in percentage	62.2%	80.0%**	69.1%	65.9%
% of children who improved compared from baseline to midline			31.2%**	21.8

*Note. ** significant at 1%, * significant at 5%, and ~ significant at 10%. The test of significant difference was performed using a two-tailed t-test assuming equal variances in population, at 95% confidence level. In the baseline, there was no time limit of 60s, hence the scores were higher than midline for non-project schools.*

The children in project schools saw a significantly larger increase in the perseverance score (out of 4) from baseline to midline compared to the children from non-project schools. The children who repeated the class continued to struggle in demonstrating perseverance regardless of the project's intervention.

SEL Skill 4. Conflict resolution and Problem Solving

Conflict resolution or the Solving Conflict component of the ISELA evaluated children's capacity to handle and resolve problems in a positive and productive way. In ISELA, conflict resolution was assessed using a variety of questions, like "What would you do in this situation?". **Children in project schools improved significantly more compared to children in non-project schools in solving conflicts**. Although children in non-project schools were significantly better during the baseline, the children in project schools caught up. The difference in difference from baseline to midline was significantly larger for project schools compared to non-project schools.


Table 13: Conflict resolution skills

ISELA Components	Baseline (Grade 1)		Midline (Grade 4)		Is the DID estimator significant?
	Project (N=362)	Non-project (N=346)	Project (N=294)	Non-project (N=255)	
Solving conflict, A (2 items)	0.97 (0.85)	1.39** (0.87)	1.51 (0.69)	1.43 (0.68)	The difference in difference is significant, but the midline values are not different for project and non-project schools.
Solving conflict, B (2 items)	0.37 (0.75)	0.72** (0.95)	0.85 (0.94)	0.73 (0.90)	
Solving conflict score (%)	33.5%	52.8%**	58.9%	54.1%	
% children who answered all 4 correctly	16.3%	34.6%**	37.4%~	30.2%	
Difference in conflict score from baseline to midline			1.01**	0.03	
% of children who improved compared to the baseline			60.7%	43.2%	

Note: ** significant at 1%, * significant at 5%, and ~ significant at 10%. Standard deviation in parenthesis. The test of whether the difference was significant was performed using a two-tailed t-test assuming equal variances in population, at 95% confidence level.

Children in project schools were likely to see 23% more improvement (0.94 more points out of 4) in their conflict score from baseline to midline compared to children from non-project schools. **Children from families with lower socio-economic index scores improved more compared to the baseline.** There were no other significant predictors of the change in the conflict score from baseline to midline.

SEL Skill 5. Self-concept or self-confidence

Self-concept refers to an individual's perception and understanding of themselves, including their beliefs, attitudes, and values. The ISELA tool used in this study included scenarios related to: i) self-esteem, ii) self-efficacy, iii) self-awareness, and iv) self-identity. **The children in project schools saw significantly higher improvement from the baseline** compared to the children from the non-project schools. The percentage of children who could draw correctly and involve themselves in the drawing was significantly higher for non-project schools during the baseline. The aggregate self-awareness score improved by 1.8 points for project schools compared to 1.1 points for non-project schools.

Table 14: Self-Awareness Concept

ISELA Components	Baseline (Grade 1)		Midline (Grade 4)		Is the DID estimator significant?
	Project (N=362)	Non-project (N=346)	Project (N=295)	Non-project (N=257)	
Self-Concept A - % of children who attempted the drawing correctly	65.3%	86.2%**	79.3%	75.9%	The DID estimator was significant even if the raw midline scores were not.
Self-Concept B - % of children who include themselves in the drawing correctly	43.5%	52.0%**	57.0%	51.6%	
Self-concept score (up to 8 points possible)	2.1	1.8~	3.6~	3.2	
Difference in self-concept score from baseline to midline			1.86**	1.14	
Self-concept score (%)	37.2%	42.6%*	45.5%~	40.2%	
% of children who improved compared to the baseline			62.4%	56.0%	

Note. ** significant at 1%, * significant at 5%, and ~ significant at 10%. The test of difference was performed using a two-tailed t-test assuming equal variances in population, at 95% confidence level.



When controlled for all key confounding factors, we found a slight improvement in the aggregate self-concept score in project schools compared to the non-project schools. The children in project schools were likely to improve in their self-concept score by 0.6 points (in a 8-points scale) more from baseline to midline compared to non-project schools. and children whose parents/caregiver traveled for work and whose parents find the school accessible were more likely to improve in self-concept score by a larger margin compared to their counterparts.

SEL Skill 6: Social relationships or communication

Social relationship skills cover a child's ability to seek out assistance from friends, family, or other trusted adults when sad or having problems with others. We asked children what they would do at home or school when feeling sad, and check whether they are aware about ways of getting necessary help in such situations. In a two-tailed t-test of average social relationship score, there was **no significant difference between children from project schools and non-project schools**: increased by 2.89 points compared to the baseline for project schools compared to 2.48 points compared to the baseline for non-project schools.

Table 15: Social relationships (11 items)

ISELA Components	Baseline (Grade 1)		Midline (Grade 4)		Is the DID significant?
	Project (N=294)	Non-project (N=246)	Project (N=295)	Non-project (N=257)	
% of children who talk to someone in the family when they are sad	54.8%	58.1%	57.3%	52.5%	The difference in difference estimator is not significant.
% of children who talk to friends at home or school when they are sad	63.3%	63.8%	74.0%	76.9%	
Social relationship score (up to 11 points possible)	4.63 (2.98)	4.78 (2.92)	7.53 (4.14)	7.28 (5.19)	
Difference in the social relationship score	-	-	2.89 (4.97)	2.48 (5.40)	
Social relationship scores in percentage	42.1%	43.5%	68.5%	65.6%	
% of children who improved in social relationship score	-	-	70.9%	68.9%	

*Note: ** significant at 1%, * significant at 5%, and ~ significant at 10%. Standard deviation in parenthesis. The test of whether the difference was significant was performed using a two-tailed t-test assuming equal variances in population, at 95% confidence level.*

Although the t-test of difference in difference found no significant difference, the results from multivariable OLS regression model that controlled for several confounders found that children in project schools were likely to have 1.1 points more increase in the social relationship score compared to the baseline and compared to the non-project schools. The association was significant at 10% confidence level. No other parent, children or school related characteristics were significant predictors of the social relationship score.

SEL Skill 7: Collaboration and teamwork

We asked children how they show teamwork, and also asked whether/how they collaborate with their classmates. There were four questions asked to children. During the baseline, children in non-project schools were significantly better than project schools (1.49 points for project schools compared to 1.70 for non-project schools). During the midline, the comparison flipped. The **magnitude of improvement from baseline to midline was significantly greater for project schools compared to non-project schools**. The children in project schools improved by 0.49 points in their collaboration score compared to 0.08 points for children in non-project schools.


Table 16: Collaboration score (4 items)

ISELA Components	Baseline		Midline		Is the DID significant?
	Project (N=294)	Non-project (N=246)	Project (N=295)	Non-project (N=257)	
Collaboration score	1.49 (1.23)	1.70* (1.25)	1.98~ (1.36)	1.76 (1.29)	The DID estimator is significant even if the midline scores are not significantly different.
Difference in the collaboration score	-	-	0.49** (1.82)	0.08 (1.72)	
Collaboration score (%)	37.2%	42.6%*	49.6%~	44.1%	
% of children who improved in collaboration score compared to the baseline	-	-	49.8%	45.1%	

Note: ** significant at 1%, * significant at 5%, and ~ significant at 10%. Standard deviation in parenthesis. The test of whether the difference was significant was performed using a two-tailed t-test assuming equal variances in population, at 95% confidence level.

When controlled for several confounding variables, the improvement in collaboration score from the baseline to midline was significantly higher for project schools compared to non-project schools. For children who directly participated in the project activities, the improvement in collaboration score was likely to be higher than children who did not engage with the project activities. The children who repeated a grade were likely to score less and children whose parents found the school to be accessible and with more availability of reading materials in the house were likely to score more compared to their counterparts.

We created a comprehensive ISELA score index compiling all items under ISELA described above as a proxy of aggregate life skill (SEL) measure. In the aggregated score (1-70 scale), children in project schools scored 38.41 points compared to 35.90 points for the children in non-project schools. During the baseline, children in project schools had significantly lower scores compared to children in non-project schools (see Table 17). And the DID estimator was significantly different from zero.

Table 17: ISELA score (out of total 70)

ISELA Components	Baseline		Midline		Is the difference significant?
	Project (N=162)	Non-project (N=191)	Project (N=294)	Non-project (N=246)	
ISELA score	24.5 (13.50)	32.0** (11.55)	38.41* (13.81)	35.90 (14.60)	Yes, DID estimator is significant. And the percentage of children who improved in their SEL skill was significantly higher for project schools compared to non-project schools.
ISELA score (%)	35.0%	45.7%**	54.7%*	40.9%	
Difference in ISELA score from baseline to midline	-	-	13.94** (17.39)	3.90 (17.26)	
% of children who demonstrated life skills ¹³	13.9%	31.1%**	41.7%	43.2%	
% of children who improved in ISELA score	-	-	79.3%**	57.6%	
% of boys who improved their ISELA score	-	-	81.7%**	55.2%	
% of girls who improved their ISELA score	-	-	76.8%**	59.9%	

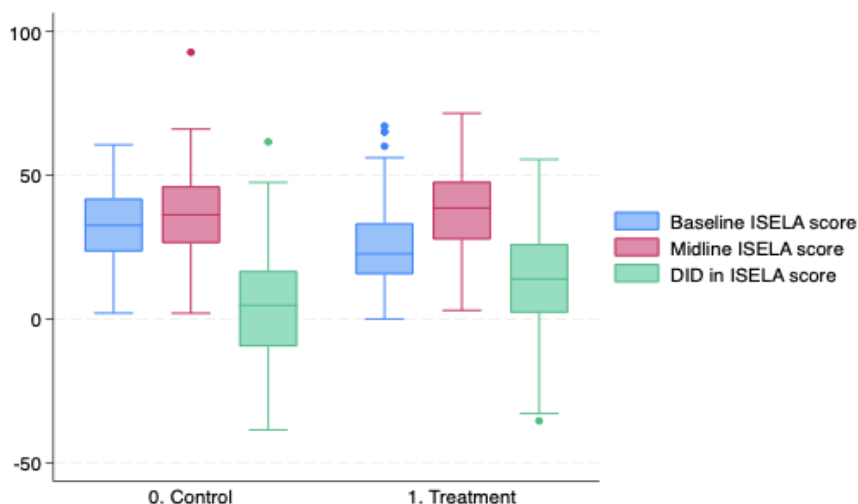
Note: ** significant at 1%, * significant at 5%, and ~ significant at 10%. The test of whether the difference was significant was performed using a two-tailed t-test assuming equal variances in population, at 95% confidence level.

Unlike EGRA, ISELA score was distributed evenly in both project and non-project schools.

¹³ Children who had no zero score in any of the sub-components of ISELA.



Chart 4. Box-whisker plot of aggregated ISELA score



Source: ISELA index from baseline 2020 and midline 2023

After controlling for key confounders, we found that **children in project schools were likely to have 9 points or 13% more improvement in their ISELA score from baseline to midline compared to non-project schools.** The intend-to-treat (ITT) effect size of the project on ISELA was 0.52SD which means that the project was able to move the mean score by +0.52SD from where it would have been without the project interventions. It means the project was able to have a medium-level effect on children's socio-emotional learning. **The project had a differential impact on girls:** girls in project schools had a higher probability to increase in their ISELA score from baseline to endline compared to other children including boys in project schools.

Challenges & bottlenecks

Although the difference in difference (DID) estimator was significant for several reading and SEL sub-skills, the effect size was small on reading skills and medium on SEL skills, we did not find any impact of the project in certain reading sub-skills such as reading comprehension. There might be several reasons behind the results. We identify the following challenges/bottlenecks:

- **The low magnitude impact might be because PBL methodologies were not implemented in project schools with the expected rigor.** It is to be noted that the project schools are located in communities affected by conflict, and are facing several issues including teacher shortages, and poor physical infrastructure.
- **For all sub-skills under reading and SEL skills, one observation was consistent: the baseline values are significantly higher for control which means that the project was implemented in schools that had a lower level of learning and were facing some significant challenges.** The lack of baseline equivalence makes it difficult to estimate the exact effect size of the project. In addition, there is a possibility that the control might have been contaminated. Project schools and non-project schools were clustered under the same resource centers that take charge of teacher training, learning and sharing. One of the government representatives interviewed during the midline study shared that they are promoting exchanges between project and non-project schools so that non-project schools could learn and implement the practices in the project schools. Although this observation alone may not establish that the project effect size was greatly underestimated, these limitations might have biased our estimates to some extent.



2.2 Evaluation Question 2. What is the state of teachers' pedagogical practice in the classroom? Is there any marked difference in teacher pedagogical practice between the treatment and comparison groups?

Summary

Although teacher's awareness on PBL methodologies improved together with their use of certain PBL techniques in the classroom, there was no observable improvement in the pedagogical practices that could be attributed to the project. We found no significant difference in the classroom quality scores between project schools and non-project schools determined from the external classroom observations conducted during the midline evaluation study. It is apparent that the change in teacher's knowledge state on PBL did not translate into sustained changes in the classroom teaching learning process. Several external factors might have affected the teacher's motivation and their ability to improve and sustain the classroom teaching and learning process.

Results

The quality of the classroom teaching and learning process did not improve as expected. Although the overall classroom quality score improved from baseline to midline (from 11.2 points to 27.8 points in the scale of 0 to 50), there was no significant difference between the midline scores for project and non-project schools. It is to be noted that 93% of teachers from project schools included in the classroom observation received training from EQIE on play-based learning while 95% teachers in non-project schools did not receive any training from EQIE. However, both schools shared the same set of resource centers responsible for teacher training and learning transfer. Although there was no difference in the aggregate score, we observed some signals of improvement in the following sub-components: classroom environment and use of space, teacher's use of disciplinary behaviors, teacher's encouragement to children, teacher's way of communicating with children, and the use of participatory learning activities inside the classroom (see Table 18 & Appendix 7 for details). The classroom quality index was independent of teacher characteristics. It means that there was no difference in the classroom quality index by teacher's sex (male or female), teacher's qualification, years of experience, and training status.

Table 18: Classroom quality details

Classroom observation details	Baseline		Midline	
	Project schools (N=40)	Non-project schools (N=20)	Project schools (N=29)	Non-project schools (N=20)
Classroom quality score	11.2	14.5	27.8	24.5
Safe environment (out of 4)	0.24*	0.00	1.24	1.15
Classroom environment (out of 5)	1.1	1.55	2.20**	1.5
Literacy environment (out of 4)	0.025	0.20	1.07	0.85
Teacher's disciplinary behaviors (out of 5)	1.12	2.20**	1.72	1.50
Teacher's encouragement to children (out of 3)	1.14	2.10**	1.69	1.70
Teacher's communication to children (out of 4)	1.50	2.20**	2.17	1.90
Equality in participation of girls and boys (out of 3)	0.97	1.00	1.31	1.30



Classroom observation details	Baseline		Midline	
	Project schools (N=40)	Non-project schools (N=20)	Project schools (N=29)	Non-project schools (N=20)
Inclusive behaviors by teacher (out of 4)	0.55	0.90	1.72	1.45
Inclusion of children with disability (out of 5)	1.00	1.16	0.35	0.52
Children's participation in the classroom (out of 5)	1.13	1.70*	2.41	2.25
Participatory learning practices (out of 7)	0.63	1.35**	3.10	3.30
RCA teaching approach (out of 6)	0.65	1.35	2.79~	2.30
Use of active learning approach (out of 3)	0.20~	0.0	1.58	1.35
Focus on reading skills during the class (out of 6)	0.60**	0.00	2.10	1.75
Playful reading activities (out of 6)	0.65**	0.00	2.10	1.25

Note. ** significant at 1%, * significant at 5%, and ~ significant at 10%. The test of whether the difference was significant was performed using a chi-square test of distribution, at 95% confidence level. (See Appendix 6)

The awareness of certain PBL methodologies improved for teachers in project schools. Compared to the baseline, teachers in project schools were significantly more aware of four out of eight play-based approaches to teaching and learning compared to teachers in non-project schools: RCA approach, asking open-ended questions, promoting discussion among students, and giving leadership roles to students. However, there was no significant difference between project schools and non-project schools in the following techniques even if the awareness level improved: using games and play activities, using arts, drama, and drawing, using songs, rhymes, and chants, and ensuring equitable participation of children in the class/activities. We did not find any significant difference in the adaptation of PBL methodology between male and female teachers (see Table 19).

Table 19: Awareness about PBL methodologies

Technique	Baseline	Midline		Is the difference significant?
	Project schools (%)	Project schools (%)	Non-project schools (%)	
Reflect, connect & apply approach	69.2%	83.3%**	53.3%	Yes
Games and play activities	51.3%	75.0%	80.0%	No
Arts, drama, and drawing	28.2%	79.2%	60.0%	No
Songs, rhymes, and chants	33.3%	75.0%	93.3%	No
Open-ended questions	25.6%	83.3%**	46.7%	Yes
Discussion among students	33.3%	75.0%~	45.7%	Yes
Giving students leadership roles	28.2%	58.3%~	26.7%	Yes
Ensuring equitable participation of children in the class/activities	20.5%	45.8%	20.0%	No



Note. ** significant at 1%, * significant at 5%, and ~ significant at 10%. The test of whether the difference was significant was performed using a chi-square test of distribution, at 95% confidence level. There is no baseline data available for non-project schools.

Teachers in project schools had significantly more time dedicated to activities that improve children's learning. Teachers in project schools more frequently used free time for children, allowed children to play games, allowed children to have group discussions with each other, encouraged to have RCA discussions, used any form of arts/drawing activities, and used singing, rhymes and chanting for the teaching-learning activities. The differences in the frequency of the activities differed significantly between teachers in the project schools compared to teachers in non-project schools except for the activity of assigning leadership or facilitating roles to children.

Table 20: Teachers who provided productive time to children at least once a week

Techniques	% of teachers who use it at least once		Average frequency per week (0-5 scale)		Significant difference?
	Project	Non-project	Project	Non-project	
Free time for children to dedicate for their own learning	100.0%	93.3%	2.9**	2.1	Yes
Subject-specific games and play activities	100.0%	93.3%	2.8**	1.8	Yes
Group discussion activities	100.0%	93.3%	2.9~	2.4	No
Reflect, Connect & Apply Discussion	100.0%	93.3%	3.1**	1.9	Yes
Arts, drama, and drawing	75.0%	73.3%	1.9	1.3	No
Singing, rhymes, and chanting	87.5%	93.3	2.0	2.1	No
Giving leadership roles to children	100%	100%	3.0	3.0	No

Note: ** significant at 1%, * significant at 5%, and ~ significant at 10%. The test of whether the difference was significant was performed using a chi-square test of distribution, at 95% confidence level.

Although we found a significant improvement in teacher's awareness of PBL methodology based on self-reported response from teachers, we found no significant difference between the project schools and non-project schools in the observable behaviors such as availability of materials, actual involvement of children in the classroom activities, and use of various techniques to promote inclusive teaching learning practices.

- The availability of teaching and learning materials inside the classroom to aid teachers and children in adopting play-based learning activities were also similar between project and non-project schools, as observed during the classroom observation. The only slight difference was in word cards and some printed reading materials. 4 out of 29 project classrooms had printed learning materials such as word cards compared to 0 out of 20 non-project classrooms.
- There was no difference between project schools and non-project schools in terms of children's involvement in classroom activities. For both groups, the techniques were used only up to 3 days a week. There was also no difference between project and non-project schools in terms of how teachers are encouraging girls compared to boys.
- When asked what they do to maintain discipline in the classroom, there was no significant difference between teachers in project schools and non-project schools except for one behavior - establishing rules/routines. Compared to 20% teachers in



non-project schools, 58% teachers in project schools had a practice of establishing rules and routines to keep children disciplined inside the classroom. The classroom observation also showed better application of disciplinary practices in project schools compared to non-project schools. Although the practices improved in terms of setting up rules/routines, there was no difference in the existence of harmful practices to manage student behavior between project and non-project schools. Although harmful practices such as physically punishing children or yelling at them have decreased, they are yet to be annihilated.

When we ran a multi-variable OLS regression model to examine the factors that are associated with the classroom performance of teachers as measured by classroom quality score, none of the confounding factors, including receiving RTP's training vs not receiving it, were significant. Teacher's years of experience, education level, class size, and other external factors related to the classroom, school, and teachers also did not matter. The project schools, which had lower classroom quality during the baseline, improved to the level of non-project schools.

Drawing on both quantitative and qualitative data, we see two plausible explanations behind why the pedagogical practices did not improve as expected: (i) teachers might have changed their classroom practices immediately after receiving the training when they had enough materials to use and were motivated to take an action, but the energy died down later. (ii) Because we have also seen an improvement in the classroom quality score of the non-project schools, teachers in non-project schools might have also received similar training but not directly from EQIE. The mediocre classroom quality score for both project and non-project schools (~25 points in 50 points scale) suggests that both types of schools improved compared to the baseline but only to some extent. In an interview, district educational officials shared that they tried to replicate the learnings from project schools to non-project schools.

During the qualitative interviews, teachers, parents, and government representatives shared that the overall teaching learning process has improved after the PBL training. Parents noticed that the teaching approach has improved with adaptation of new techniques. Teachers are taking special care of low performing learners and are behaving nicely with all children. As a result, children have started to love going to school, and get along better with their teachers and friends. Some children shared that they love their teachers, and they enjoy going to school.

"I am happy at school because I feel loved by my teachers. I get to meet and play with friends, and learn from each other. I enjoy meeting my friends every day. I also love my teachers so much that I enjoy going to school to learn new things from them." (Child, Kataba)

"This project has improved the quality of teaching in the school. In the past, children used to move to the next grade without really learning. Teaching [and] learning processes were also poor. All children received the same treatment. Now, they monitor student's progress and treat each student differently. This has particularly benefited slow learners in the class. Teacher's behaviour has also improved. They now treat children in a good, disciplined manner." (Parents, Denkaka)

"Teachers are specifically targeting slow learners. In a class, they have divided children into two groups - children who are proficient at reading, and children who are not proficient at reading. They are arranged together and given special treatment." (Parents, Denaka II)

"The teachers teaching in grades 1-4 were trained. The overall teaching learning has improved. As a result, our children have improved in their literacy skills. They have also improved in overall behaviour." (Parents, Kataba)

Government representatives also validated that teaching and learning activities have improved in project schools thanks to the PBL training. They shared that the project has



fulfilled the gap in teacher training. There are teachers in the schools who have received no previous training, and it was their first time receiving the training. In their opinion, without EQIE's support, they would not have been able to provide any training to the teachers.

"EQIE helped to strengthen the teaching capacity of our teachers through various training sessions. It would have been impossible to deliver those training through the government budget. We still do not have a mechanism in place to train teachers on subject-teaching." (Government official, Ada'a)

"Teachers were trained through local teachers on various ways of handling and teaching students through play, and techniques to manage the classroom. I think training was a big success. We have seen strong differences in the schools where the project is implemented and the schools where EQIE is not present." (Government official, Dachasa)

"Another thing related to teacher training is that the teachers of this district have never received any training since they were hired until EQIE came and provided the training on PBL. Because of the training, teachers have been able to deliver a much better classroom learning experience than before." (SMC member, Borortina)

PBL, particularly, helped teachers to be more intentional about ensuring that all children are getting equal opportunities to participate. Teachers in project schools, in general, adopted the following practices: (i) providing equal leadership opportunities to all students including girls and boys, (ii) being aware about gender equality in the classroom, (iii) altering seating arrangements to keep boys and girls together in a row, and (iv) encouraging girls just as much as boys to take on leadership roles.

I provide equal opportunities for girls as that of boys. When I ask questions, I pick girls and boys equally. (Teacher, Kataba)

For example, if female students are facing some challenges or are losing morale in their studies, I try to understand more and try to stop if she is facing any harassment. In our school we try to tailor the teaching learning process to support girls. (Teacher, Denkaka)

Challenges/Bottlenecks

As mentioned earlier, we do not have evidence to support that teacher in project schools, who received EQIE's training, are doing better than teachers in non-project schools who did not receive EQIE's support. There were several challenges at the school and community level that prevented the project from achieving desired pedagogical changes. Some of those are described below:

- **Low motivation among teachers:** One of the challenges in implementation was the teacher's lack of motivation to implement learnings from the training and continue to do so. During qualitative interviews, some parents shared that teachers are not motivated enough to teach. Some parents share that school and teachers are not doing enough to deliver a quality education for their children.

"Even if EQIE has trained teachers, they are not able to deliver as expected because the school environment is not good." (Parents, Dachasa)

"EQIE provided training to us many times. We like it. EQIE would need to prepare modules specific to the skills we want to improve on which relates to the new curriculum. I want two things from EQIE: learning materials for students, and training for teachers delivered specific to the curriculum." (Teacher, Borortina)

- **Teacher shortage and over-burdened teachers:** During the qualitative interviews, stakeholders shared that the region is facing acute teacher shortages. Not only are



there not enough teachers, the teacher drop-out rate is also high. This resulted in two key consequences: (i) increased student to teacher ratio as there are fewer teachers available to take care of many classrooms and many children at the same time, and (ii) new hires because of the high drop-out rate among teachers¹⁴. Although we do not know exactly what percentage of teachers are leaving their profession and/or school, the results from our teacher survey are like the recent results from a study conducted by Hadush & Khateriyar (2023) where 1 in 2 teachers were considering quitting their job. Project schools had significantly higher student teacher ratio (57 students per teacher) compared to non-project schools (29 students per teacher) in the primary level. In absence of a regular mechanism to train teachers before they start their work in schools, new teachers struggled to deliver a high-quality classroom teaching and learning.

“Because there is a shortage of teachers and there are no teachers with the skills required to teach children, they are forced to teach with their learned skills. This negatively impacts students.” (Parents, Ada’a)

“Newly assigned teachers have not received the training on play-based learning which makes it difficult for universal application of PBL in the school.” (SMC members, Borortina)

- **Low academic qualification of teachers:** Parents as well as government officials shared that teachers in project schools do not have the qualifications to deliver a quality teaching learning process. Because teacher’s pay is low, irregular, and is not based on their qualifications, those teachers that are qualified are dropping out and being replaced by less qualified teachers. In project schools, based on the teacher survey¹⁵, 8.3% teachers had only completed secondary school only, 29.2% have completed some university education but did not graduate, 33.3% have completed some technical education and 29.2% are university graduates. The average years of work experience for teachers in project schools is 10.4 years.

“Teacher shortages are having a significant impact on the quality of education. Teachers are forced to teach even if they are not motivated to teach and are also paid inadequately and irregularly. In addition, a teacher with a bachelor’s degree is being paid equal to a diploma which demotivates highly qualified teachers to continue. This has led to drop-out of many qualified teachers and has severely impacted the quality of classroom teaching learning process.” (Government official, Dachasa)

“Some teachers are not academically qualified in the specific subjects. They simply cannot deliver as expected. (Parents, Adea)

- **PBL and possible local need mismatch:** While stakeholders appreciated PBL as a technique, some need subject-specific and structured training so that they could deliver the curriculum in the subject of their choice and/or demand. In the interviews, teachers requested structured PBL pedagogical training even for grades outside the project scope (such as grades 5-8), and expansion of the training beyond PBL for literacy to

¹⁴ The latest available data from Ethiopia (2016) reported by UNESCO shows that the student teacher ratio is about 48:1.

¹⁵ The teacher survey was not conducted among the randomly selected teachers hence should not be interpreted for the entire school. However, it does provide the qualification for teachers who are currently teaching in the primary level.



cover other subjects which was not under the scope of EQIE¹⁶. On top of that, not all teachers participated fully in the PBL training.

"Some teachers attended PBL training while others did not. It would benefit us if we could get subject-specific training, and necessary materials to keep students engaged in the classroom." (Teacher, Adea)

"I like the training that EQIE provides. However, I am more interested in taking the training on teaching grades 5-8 students. There are no teachers available for those grades. It would be great if EQIE could provide specific training to fill the skill gap among teachers instead of running one-size-fit-all training." (Teacher, Ada'a)

Teachers' job satisfaction worsened compared to the baseline. Despite the project's support to apply PBL approach in the classroom and community level activities to arrange parental support for children's education, teacher's job satisfaction worsened. When asked to rate how rewarding they find their careers, the rating provided by teachers was significantly lower in project schools (2.5 in a 5-point rating scale for project schools compared to 3.5 for non-project schools). Alarming, 4 out of 10 teachers reported that they would like to quit their job. The same proportion of teachers considered leaving the job in both project and non-project schools. Among them who were considering leaving the job, 55% wanted to do so because the pay is very low, and 33% wanted to do so because they are not getting the training they need to teach in the classroom (referring to the subject-specific training for higher grades, i.e., 5 to 8 standard). During the baseline, the proportion of teachers who were considering quitting was only 23% for project schools. The low job satisfaction also explains why teachers are not motivated to apply PBL techniques and why the quality of classroom teaching learning process is not as expected.

Despite the PBL training and interventions, schools were not entirely safe for children. Children reported that teachers continue harmful practices such as corporal punishment. There were at least 7-10% teachers who reported actively using corporal punishment techniques. During the qualitative discussion, children shared that they do not find the school environment entirely safe. Not only do they fear being beaten by teachers, but there were also not enough efforts to minimize bullying.

"It is not right to beat a child or an adult with a stick, instead of beating them, we should be guiding them through teachers, family and friends. Our teachers should counsel children with bad behavior but not threaten them with sticks. If the school environment is safe, we could focus on our education." (Children, Kataba)

Below is a story of a student who was brought back to school through the leave no one behind campaign but ended up staying more at home than school in fear of bullying.

¹⁶ During the evaluation study, we observed primary grades (below 5), interviewed teachers who were teaching in lower grades (till 5) and/or have received training on PBL. The reference to training related to grades 5-8 came as an inductive theme.



Sefu does not go to school regularly because teachers are not qualified, and other students bully her.

We are foster parents of Sefu. We have 3 other children. Sefu is 8 years old and is a 3rd grader. Our other children are 17, 14, and 4 years old. Sefu is diabetic. Because of that, she attended school irregularly. She is ranked 1st in the third grade, and qualifies to be in grade 4. We are happy that the teachers in the school have been trained by RTP and they are using play-based techniques inside the classroom. I have seen my daughter improve in reading skills as well as overall behavior. She has also received educational materials from RTP. We appreciate RTP's help in bringing some children from poor families, and children with disabilities back to school. Although my child is progressing, there are various issues in school that hinders the learning process. Teachers are not as qualified, the school hours are short, and there are water shortages. Because children are bullied and the school is not able to solve the issue, Sefu prefers to study at home rather than go to school.

Source: Interview conducted with parents/children, Dhertu

2.3 Evaluation Question 3. Does the PBL in-service TPD under the EQIE project lead to improvements in learning outcomes or intermediate indicators towards improved learning outcomes in treatment schools? If so, how?

Summary

We found that PBL-focused in-service TPD under the EQIE project contributed to improving socio-emotional skills, and some reading skills among children in project schools. The changes were mediated through some changes in the classroom practices that led to increased attendance and improved participation in classroom activities. However, the implementation of the PBL approach in the classroom was subpar and irregular in the classroom because of external factors beyond the control of the project such as teacher irregularity and lack of motivation among teachers, and resource constraints facing schools.

Results

The EQIE project prioritized five key reading skills: letter knowledge/phonics, phonemic awareness/awareness of sounds, vocabulary, reading fluency, and reading comprehension. Although an average teacher in project schools and non-project schools could identify the same number of reading skills (3 out of 5 reading skills), the awareness of the PBL technique was better for teachers in project schools. Teachers in project schools reported to have used six out of eight PBL techniques compared to only 4 out of 8 techniques for teachers in non-project schools. During the baseline, the teachers in project schools reported to have used three techniques. (see Table 21).

Table 21: Awareness to reading skills and use of PBL skills

Rating (scale of 1-5)	Baseline	Project schools	Non-project schools	Significant difference?
Average number of reading skills identified by teachers (out of 5)	4.61 (0.93)	3.58 (1.64)	3.33 (1.50)	No
Average number of PBL techniques used by teachers (out of 5)	2.90 (2.87)	5.75 (1.96)	4.27 (1.62)	Yes

*Note: Standard deviation in parenthesis. ** significant at 1%, * significant at 5%, and ~ significant at 10%. The test of significant difference was performed using a chi-square test of distribution, at 95% confidence level.*



In a similar line with what teachers shared, **there were significantly more children in project schools who reported participating in reading activities with their teachers** during the last 7 days compared to children in non-project schools. During the baseline, there were more children in non-project schools who reported to have engaged in reading activities with their teachers.

Table 22: Reading activities involving children

Teaching learning practices during the last 7 days	Baseline		Midline		Significant difference?
	Project (N=294)	Non-project (N=246)	Project (N=295)	Non-project (N=257)	
My teacher read to me.	77.6%	81.0%	85.1%	87.2%	No
My teacher asked me questions about what you read.	47.3%	42.7%	74.9%**	58.0%	Yes
Read with a classmate in school	44.9%	58.1%**	74.9%**	64.6%	Yes
Read quietly by yourself without help	33.3%	41.1%~	77.3%*	69.6%	Yes
Learn songs or games in class	24.5%	33.3%*	26.8%*	17.5%	Yes
Teacher taught the sounds of letters and words	71.4	84.6**	71.5%	78.2%	No

*Note: Standard deviation in parenthesis. ** significant at 1%, * significant at 5%, and ~ significant at 10%. The test of significant difference was performed using a chi-square test of distribution, at 95% confidence level.*

Which activities were most helpful?

Teachers shared that all techniques are valuable and should be applied depending on the context. **Among the techniques, four techniques were frequently used and stood out: (i) fluently reading with expressions, (ii) reading in groups followed by a group discussion, and (iii) reading with illustrations, and (iv) asking questions to students to open the discussion.** Teachers found reading in groups to be a more effective technique given that it allowed students to openly discuss in the group and share their learning with each other. Overall, teachers suggested that employing a combination of these methods at the right time positively impacts student learning and development, fostering analytical skills, communication, and understanding.

“Providing children with a story to read and review with each other is the best technique for me because the technique provides an opportunity for students to collaborate, learn, and share their knowledge with each other. This will also help them to practise the same exercise with their parents.” (Teacher, Ada’a)

“I like the RCA approach because it helps students to show their knowledge and reading skills and to reflect what they understand. I have applied this technique from time to time.” (Teacher, Adea)

In the qualitative discussion, parents, teachers and other stakeholders shared that play-based learning led to improved learning through increased attendance. In their opinion, these changes were possible due to the teacher training in play-based learning. Because the play-based learning has made the classroom environment more enjoyable, the attendance has



improved, and school drop-out has also decreased. In the school level data¹⁷, we found that the student drop-out rate was about 3% in project schools compared to 7% in non-project schools despite poor physical infrastructure. Parents, however, warned that not all students are benefiting to the same extent.

“After the project, students have started to give more time to study at school as well as at home and collaborate with each other. They also come to school more often, as teachers encourage them to come regularly. Previously, children would miss school with a fear of being beaten if they were late to reach the school.” (Parent, Erer)

“Children who could not read at all in grades 3 and 4 have now learned to read in early grade.” (Parents, Denaka)

“Thanks to RTP for providing us with training. It has certainly helped in improving writing and reading skills. Once we started giving more priority to children inside the classroom, things have changed. We will still need better integration of the training with the school curriculum.” (Teachers, Ada’a.)

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In conflict-affected and unsafe settings, the project has contributed to make the schools safer for children. Parents provided a significantly high rating to the project schools on safety, accessibility, and gender equity (see Table 23). Parents found the school to be safer, more accessible, and gender friendly where girls and boys are equally supported and prioritized.

Table 23: Parental perception on school safety

Statements (rating scale of 1-5 from strongly disagree to strongly agree)	Midline		Significantly different?
	Project (N=238)	Non-project (N=198)	
My child’s school is safe.	4.47** (0.57)	4.30 (0.55)	Yes
My child’s school is accessible and inclusive for children with disabilities.	4.31* (0.62)	4.16 (0.65)	Yes
My child’s school promotes gender equality and supports the education of girls and boys equally.	4.40** (0.57)	4.23 (0.63)	Yes

*Note: Standard deviation in parenthesis. ** significant at 1%, * significant at 5%, and ~ significant at 10%. The test of significant difference was performed using a chi-square test of distribution, at 95% confidence level.*

Challenges/Bottlenecks

While there was an agreement that student attendance has improved and the teaching learning process has become enjoyable compared to the past, because the PBL was not implemented as expected, the return in terms of improvement in reading and SEL skills was small. Throughout the qualitative discussions in Ethiopia, there was limited discussion about the improvement in socio-emotional development, and the reading skills were most of the time put together with writing and numeracy skills. In addition to the factors that affected the application of PBL as discussed in the earlier section, the following were additional challenges/bottlenecks observed:

- **Not all students improved in their learning:** Although teachers reported to have focused on slow learners, as observed in the quantitative data, the students who repeated a

¹⁷ We had school level data obtained from 17 project schools and 13 non-project schools. Because the data is self-reported by schools, the results need to be interpreted with caution.



grade were consistently scoring lower in their EGRA or ISELA score. Parents also shared that though schools have improved compared to the past, teachers and schools need to do more to support low-performing children.

“We cannot say that we have received inclusive and quality education but there is improvement over the period. For example, EQIE has helped some families to arrange electricity powered by solar panels, but the books are only available in the ratio of 1 book per 3 children.” (Parents, Bakajo)

“Students have improved in their reading skill, but not all students are equal and literacy skills cannot be said to have accumulated equally from class to class. Some students are doing great while others are not.” (Parent, Hofu school)

- **Unavailability of textbooks and other reading materials:** School stakeholders found the support provided by EQIE to be insufficient. The issue has less to do with EQIE's implementation and more to do with the realities of the project schools. The schools are facing challenges beyond the ability and mandate of the project to fix. For example, because there was a recent curriculum change, textbooks were not available for purchase, and children are required to share printed copies of textbooks available with school. Even if the EQIE project provided schools with sufficient reading materials, schools were not able to create a mechanism to distribute and share adequately among students in absence of a library in school. It is also beyond the financial capability of parents to purchase and make the reading materials available to their children in sufficient numbers.

“Our child is sharing the textbooks and other reading materials with three other children in school.” (Parent, Bakajo)

“Children do not have access to sufficient reading materials in schools and at home. The support provided to children from poorest families is also inadequate. Many children/families cannot afford basic school supplies such as textbooks, notebooks, pencils, uniforms, and other educational materials. Schools are facing several other problems such as water shortages, poor infrastructure, teacher quality etc.” (Parents, Denaka)

- **Short school hours:** The actual teaching learning time that a student got per day was insufficient. During the qualitative discussion, parents pointed out that schools only open for 4 hours and deliver lessons only on two subjects per day. Based on the information provided by schools, four hours are divided into six periods each of 40 minutes.

“Teachers and schools are not doing enough. The school only opens for a few hours and each day teachers only get to deliver lessons in two subjects. This is much less than what we expected them to do.” (Parent, Denaka)

2.4 Evaluation Question 4. What are the key characteristics of schools that are able to effectively implement the PBL pedagogy compared to those that are not able to?

From the data, there was no conclusive evidence that schools matter in determining the outcomes of the project. The changes in reading skills and socio-emotional skills attributed to the project were universal - not much depended on the school. Students from all project schools have improved regardless of the school's features. The midline evaluation captured various school features, including the experience of school leaders and the availability of school infrastructure. The treatment effects were significant to the same extent even when



school fixed effects were applied. It means that at the school- level, differences were not strong enough to affect the treatment results, and hence, the project can be replicated in any school.

Having said that, from the qualitative data, stakeholders identified some school related factors that could negatively affect the children's learning. Although we don't have enough data to check how combination of these factors affected student outcomes, the following factors were considered important:

- **Availability of qualified teachers:** The availability of qualified teachers mattered in determining the time that teachers could dedicate to lesson planning. The availability of fewer teachers reduced the time they could give to prepare per each class. The newly recruited teachers are less likely to have received any training including the training on PBL. Hence, they are less likely to utilize PBL in the classroom.
- **Good school infrastructure and community facilities including availability of electricity:** The availability of school buildings, toilets, and other facilities mattered in shaping up the school and classroom environment and were one of the drivers behind student's regular attendance. For example, students were reluctant to go to school if the toilet facilities were not clean, and if there was no drinking water available in the school. The availability of electricity in the community also affected the time that children could dedicate to using the available reading materials during the evening. 10 out of 17 project schools did not have drinking water and 14 out of 17 project schools did not have running water available in school. The proportions were similar in the non-project schools.

"While most things in our school are nice, I don't like toilets. The toilets are dirty and uncomfortable. Students do not use the toilets properly. It is very important to work on toilet cleanliness. I don't like coming to school because of the poor condition of the toilets." (Children, Denkaka)

- **Availability of reading materials and libraries:** Schools with libraries have been able to directly support children to promote reading habits. Having a library means having books for children to read. The schools with libraries were able to create reading materials available for children more than schools without library.

"We have a library in our school where children are provided with the opportunity to read various materials. There is a reading campaign or a writing campaign in the school to improve students' literacy skills. There was also a six-week reading campaign in schools. It is not occasional, but continuous." (SMC members, Okiyo)

2.5 Evaluation Question 5. What is the potential impact of after-school supplemental learning activities on improving learning outcomes in treatment schools?

Summary

There were 10 school-based reading clubs and 2 community-based reading centers established in the 20 assessed project schools. Although it is difficult to separate what portion of the impact was contributed by the PBL and what portion was contributed by supplemental activities because they are interconnected, we found effects of supplemental learning activities on some sub-skills within reading and SEL skills (familiar words, reading fluency, reading comprehension, stress management, empathy, and collaboration). For the above-mentioned skills, participation in project activities was associated with the improvement in scores compared to the baseline while the assignment into project or non-project schools may not be associated with the scores.



Results

Parents highly appreciate the availability of after-school programs including reading centers/clubs. In their opinion, reading centers, reading clubs, in-school supplementary classes, and summer camps were instrumental in triggering improvement in the reading skills among children.

“Since the beginning of the project, young children in grades 1-4 have started to receive supplementary reading support three days in a week. They were also invited to school during the summer break and included in reading and writing sessions. If some children did not grasp the concept well or were not up to the speed, they were called in school for supplementary classes. I believe there is a big improvement in the literacy skills among these children.” (Parents, Denaka)

“I think the reading-specific activities are more impactful. EQIE helped to create reading parks, reading centers, reading corners, supplementary reading classes during the weekends and summer holidays. All these had a positive impact on reading skills.” (SMC representative, Ada’a)

“Before the project, our children in grades 3 to 4 were poor in reading and writing. Now, they have learned to read and write properly. The summer course was super helpful.” (Parents, Denaka)

Although stakeholders reported positive outcomes of participation in the project activities, the actual level of participation was comparatively low. About 40% of parents in project schools compared to around 10% of parents in non-project schools benefited from the project other than teacher training. Among the activities, the coverage of after-school reading classes was the lowest among parents in project schools (Table 24). There were 29% of parents in project schools who reported that they send their children to extra-curricular reading classes after school.

Table 24: Participation in project activities as reported by caregivers/parents

Support	Project schools	Non-project schools	Significant difference?
Received reading materials	40.0%	13.0%	Yes
Children participated in reading centres	42.3%	6.5%	Yes
Children member of a reading club	31.7%	7.5%	Yes
Children member of a child club (e.g., girls' club or boys' club)	28.9%	9.5%	Yes
Awareness raising and training on girls' education	40.0%	9.0%	Yes
Awareness raising and training on importance of education for children with disabilities	30.9%	8.0%	Yes
Out of school children brought back to school	34.2%	13.5%	Yes
After-school or extra-curricular reading classes	28.9%	11.5%	Yes
Participated in any training (for example, on how to support your child's literacy or broader education)?	36.2%	8.5%	Yes

*Note: Standard deviation in parenthesis. ** significant at 1%, * significant at 5%, and ~ significant at 10%. The test of significant difference was performed using a chi-square test of distribution, at 95% confidence level.*



One of the activities that parents appreciated a lot was the provision of solar lights for poor families. EQIE distributed solar panels to some poor families who could not afford having electricity or other forms of light for children to study at home. Not only was the activity addressing the local community's needs, it also directly contributed to children's reading habits. As shared by parents, children could dedicate more time to reading because of the solar lamps. However, there were only a few families that benefited from solar lamps, although the need was widespread. Parents were also concerned that the government did nothing on top of EQIE's support.

"Our children's attitudes towards school and learning have changed dramatically. Since this project came and gave us solar support, the children have increased their interest in studying and reading in the evenings. The support encouraged children to dedicate more time to reading." (Parent, Denaka)

"It was great that some families received solar panels and that helped children without electricity at home. However, there were only 26 poor families that benefited. There are still many children who do not have light to study during the evening." (Parents, Hofu school)

"Although the way we support our children has not changed from the past, the project has brought many changes. There is a big improvement in the reading and writing skills of children. They are learning. The solar panel has motivated children to practise reading during the evening. Our lives have improved a lot after the project." (Parents, Erer)

School management committees and government officials also appreciated the support they received from EQIE during the COVID period. In their opinion, the provision of sanitary materials /hygiene kits in schools was very helpful to continue the school.

"During covid -19, RTP supported schools with various sanitization materials and equipment that helped the schools to continuously run the teaching learning activities. They provided hand washing facilities for many schools, starting with rootstock and liquid soap, sanitizer, and alcohol-based wipes. (Government representative, Ada'a)

School stakeholders appreciated the role EQIE has played in bringing back out of school children (girls and children with disabilities) to school, and in keeping girls retained in school through campaigns on female genital mutilation and menstrual hygiene. In their opinion, EQIE not only helped to bring girls from poor families back to school but also helped to keep girls regular to school. In the conflict affected communities, parents also appreciate the support provided by EQIE to keep girls safe in the community and school. The project records show that more than 500 children were brought back to school through community campaigns initiated by the project and local CSOs. As a result, we found a larger proportion of children with disability (1.9%) enrolled in project schools (compared to 1% in control school) and lower student drop-out rate among children project schools (3% compared to 7% in non-project schools).

"EQIE has specifically impacted children with disabilities and girls from marginalized communities. The project has provided sanitary pads to girls during their menstrual cycle, and has trained them to produce those pads using local materials. Before the project, some girls missed school during their menstrual cycle." (SMC member, Borortina)

"At the community level, EQIE has helped many poor students by buying school supplies for poor students, providing textbooks as well as toys for students." (Parent, Hofu)

"Through EQIE's support, we carried out an awareness campaign in partnership with the women's affairs office. The incidence of kidnapping of girls has decreased. Now, the number of girls in schools has almost equaled that of boys. The dropout rate has decreased for girls." (Government representative, Woreda)



Challenges/Bottlenecks

The participation of children in RCs was low. Six in 10 parents reported that their children missed out on taking benefits from those reading clubs/centers (RCs). It might be because (i) RCs were only available in 12 out of 20 assessed schools, (ii) some parents and children were not aware of the availability of a RC in their school or community, and (iii) reading centers and reading clubs were not organized on a regular basis or would not be able to accommodate all children in the community/school at once. The lower participation in a set of activities with a proven impact on reading and SEL skills limited the magnitude of the project's impact on children's learning. The results also suggest that had the participation in project activities improved, the impact on reading and SEL skills could have been more pronounced in the data.

Communities questioned fairness in distribution of solar lamps. While all poor parents in the community expected to receive solar lamps because they did not have a source of electricity in their house, the number of solar lamps available for the distribution was limited. In fact, it was difficult for the SMCs to manage the distribution. Although EQIE set a criterion to select families to provide solar lamps, parents were concerned that SMCs distributed the solar lamps unfairly and many deserving and poor families missed out. They wanted direct intervention of EQIE in determining who should receive the support. Making the selection criteria and the distribution process more transparent will help schools to demonstrate their accountability to parents, and might be helpful in acquiring additional resources to finance the support for all parents in need.

"We have provided solar panels to some poor families so that children could read during the night. However, there is an issue with the distribution. There is an allegation that rich families and relatives of village leaders have received the support." (SMC, Bakajo)

"We doubt that the school distributed the materials and support provided by the project in a justified manner. We were not informed what criteria were used to determine who qualifies and does not qualify to receive the panels." (Parent, Denaka)

2.6 Evaluation Question 6. Is there early evidence that local partners and government partners have the capacity (institutional, financial), positive attitude, and ownership mindset to continue the pedagogical practices, and safe/inclusive learning environment activities of the project?

Summary

Yes, there are some signals that parents, teachers, and school management committees have gotten better than before the project. However, the outcomes have already started to diminish. It will be a challenge to sustain the practices started by the project given that local governments and schools are facing several financial challenges. Although many school leaders participated actively in the project and appreciated the project interventions, they were heavily dependent on external resources, including that offered by EQIE, to implement their plans.

Results

The project contributed to notable changes in parental behaviors, and parents' understanding of what it takes to support children and why it is important. Parents reported that their behaviors have also changed with regards to supporting children in their studies. Two notable changes in behavior were noted: (i) parents ensured that necessary supplies for their children are available so that they do not miss school, and (ii) they have started to track the progress of their children and provide support to them as necessary. Some parents shared that they



have also become more literate in the process. Through the orientation provided to them, they have not only learned how to monitor and support their children but were also trained on recognizing, reading, and writing alphabet letters. It is likely that the parental behaviors will sustain if school delivers PBL.

“Before the project, many of us were illiterate, so we couldn’t ask and keep track of what our kids were learning. Now, however, that situation has changed completely. We are able to track the progress of our children. (...) At the household level, our support for children has increased significantly, since this project came here and started work. We have started monitoring our children’s learning as advised by EQIE. We will look at what they have learned from their notebooks and ask questions to see how well they understood. We provide them with necessary school supplies such as notebooks, pens and clothes. We try to meet their needs so that they do not have to miss school.” (Parents, Denaka)

“This project has also taught us how to support our children to read and write. Before the project, we did not know anything about the letters, but now we know how to read and write. Last year, we were given classes for four days a week. Because of that we can monitor our children and support them as needed. Before this project came along, many of us were illiterate, so we couldn’t ask and keep track of what our kids were learning.” (Parents, Hofu)

The project interventions, especially the priority on reading skills, and the efforts to bring back out-of-school girls and children with disability to schools, and training of teachers on PBL were relevant to the local context. Government officials and SMC appreciated that the project picked up the outcomes that were also in their top list. They especially appreciated the support received from EQIE to improve the physical infrastructure of some schools.

“EQIE has initiated actions in the community that should have been initiated by our committee. For example, finding out students who dropped out of the school and bringing them back to the school is something that we should be working on. EQIE’s community level work to bring back children to school has helped to release some load from the shoulders of SMC. Similarly, we had a goal to improve literacy skills among children even before EQIE started the project. But the implementation was very poor. After EQIE started the project, teachers were trained on how to facilitate reading activities, and students are also benefiting from the reading centers. We have seen a huge improvement in the reading skills among children in our school.” (SMC, Borortina)

“The project helped to construct a separate toilet for girls. They also donated items such as cups, soaps and other items to encourage students to come to the school after COVID.” (SMC members, Okiyo)

Some mechanisms were institutionalized in the school. SMC appreciated the formation and mobilization of the school inclusion committee, and their role in bringing out-of-school children, especially children with disabilities and girls from poor families, back to school. EQIE trained the committee and mobilized them to raise awareness at the community level. The committee collected local donations and utilized funds from EQIE to financially support some families and children to attend school. Because the amount of resources schools could mobilize was small, the program only benefited a few children (~20-30 per school) much less than the actual demand.

Government stakeholders interviewed for the midline shared that the project was relevant to the local context, and also matched with the national educational policy priorities. For example, providing training to teachers who have previously not received any training was very helpful. They appreciated that EQIE implemented the project in close collaboration with the government, and the government was involved in making project-related decisions. Some officials also highlighted that the government should look to replicate the project to non-project schools.



“The objectives and activities of the EQIE project are consistent with the education policy and goals of the Ethiopian government. Student literacy campaign is one of our top national priorities. We know that our children have a low level of literacy skills. Gender and social inclusion is also our top priority. I am glad we are collaborating with EQIE on that. There is nothing in the EQIE that is contrary to the government's policies and priorities.” (Government representative, Ada'a)

“What I like about EQIE is the collaboration. We plan the project activities together with EQIE. We also collaborate in implementing the project. We work together as a team even if they are an NGO and we are the government. This is unique to EQIE. We seldom have such collaborations with other NGOs.” (Government representative, Ada'a)

“The project is implemented in only a few schools. Our office should implement the same project to other schools with support from EQIE.” (Government representative, Adea)

Challenges/Bottlenecks

Although we heard anecdotes from some parents about the change in their behaviors, the quantitative data does not exactly corroborate. **There was no difference in the availability of reading materials in the household and/or adoption of reading practices among children. The parental behaviors were either not different between the two groups or were better for non-project schools.** It suggests that the behavioral transformation in parents has not happened at scale.

Table 25: Additional reading support for children at home

Support	Midline	
	Project schools (N=246)	Non-project schools (N=200)
Reading material availability index	1.74 (1.01)	1.81 (1.26)
Parents who read books/articles/newspapers	6.5%	12.1%*
Helped children with their homework in the past week	30.9%	28.5%
Read a book to the child in the past week	14.6%	19.0%
Told a story to the child in the past week	13.5%	21.5%*
Play literacy games with the child in the past week	15.5%	19.3%

*Note: Standard deviation in parenthesis. ** significant at 1%, * significant at 5%, and ~ significant at 10%. The test of significant difference was performed using a chi-square test of distribution, at 95% confidence level.*

There was a sense of dependency among schools on the EQIE project. In fact, one of the key themes in the qualitative data was 'insufficient support'. There was a general feeling that the support provided by EQIE did not cover all aspects of the school's needs. The stakeholders were concerned that EQIE is not supporting schools in their areas of need such as lack of physical infrastructure including school buildings, lack of drinking water facilities, inadequate number of toilet facilities, a compound wall, and many more. They wanted more financial support. In all discussions, parents/SMC members shared that it would not have been possible for the local government to do things that the EQIE has done even if they had budget allocations. While we understand that EQIE needs to be selective about its investment and it is beyond the scope of the project to address these needs, the outcry for resources shows that schools are in dire need of external financial support and may value less the technical support made available to them by the project.



“It would not have been possible for the government to implement the set of activities that EQIE has implemented in the schools even if sufficient budget was allocated. Government does not have the technical capacity and the willpower to that extent.” (Government representative, Ada’a)

The school management committee, though contributing to the improvements, did not really own the changes and were seeking more financial support from EQIE. Instead of taking ownership of the project’s interventions and thinking about the way forward, SMC complained that the project did not support the schools to overcome all the problems that the schools are facing such as water shortages, poor school infrastructure, inadequate reading materials, absence of library etc.

“Some of the positive impacts of the committee have been acquiring donations from EQIE and other agencies. We provided solar power support to poor families in the community. With the positive influence of the school committee, a compound wall was constructed around the school together with additional classrooms and teachers' houses.” (SMC members, Okiyo)

“We cannot say that the project has adequately supported the needs of the school and students. EQIE did not help us to address problems such as shortage of drinking water and poor physical condition.” (SMC, Bajako)



CHAPTER 3 CONCLUSION & RECOMMENDATION

3.1 Conclusion

The midline study found that the **EQIE project had a significant and attributable impact in improving children's socio-emotional skills and some reading sub-skills**. More importantly, the quasi-experimental evaluation confirms that the play-based learning approach together with reading centers, reading clubs, and supplemental reading classes can improve reading and socio-emotional skills among children in early grades (between grades 1-4). This finding is further supported by global literature from other LMICs which points to the potential impact of PBL on students' academic performance and broader skills development (UNICEF, 2021). This finding is important given that Ethiopia is prioritizing improvement in literacy skills. The improvement in the learning outcomes corroborates with the adaptation of PBL practice, participation in reading clubs, and supportive parental behaviors. We found that the children who benefited from the project activities improved more in reading and SEL skills than the children who attended the project schools but did not participate actively in the reading club/center activities.

Although the project succeeded in demonstrating moderate impact on SEL and small impact on some reading sub-skills, the project also faced several challenges in Ethiopia. The implementation of PBL in project schools was already fading by the time of the midline, and many children did not engage with reading clubs/centers. The implementation of PBL in classrooms was, particularly, affected by several external factors such as shortage of teachers, lower qualification of teachers, lack of subject-specific training to teachers, lower-level of motivation for teachers due to low pay, and poor physical infrastructure in the school. Given that the external challenges are likely to remain the same while the school leadership and local government depend on EQIE to provide additional financial support to meet the basic infrastructural needs for children, it is unlikely that the impact will sustain in the absence of project's direct or indirect support. Previous literature on the sustainability of education projects show that sustaining the results does not only require transferring of the project to the ownership of local government but also require incentives for the actors who steer the implementation, especially teachers ([Curtis Wyss et al., 2023](#)). Teacher incentives proved to be successful in the global literature including top-up financial payments based on performance, top-up amount to support purchase of educational materials/resources needed for PBL, and official linkage to performance evaluation and promotion (Glewwe et.al, 2010; Santibenz, 2020).

The program theory assessment shows that the project has four distinct components (teacher professional development, reading culture, safe learning environments, and leave no one behind) that are interrelated and complementary to each other. All components were equally valuable. The interventions on TPD helped develop children's reading and socio-emotional skills but depended on teachers to deliver as expected. The results may not be as strong if teachers are not motivated to transfer their learning into practice because of systemic and country-specific reasons such as low pay and limited opportunities to grow their careers. The theory of change depends on the teacher's performance to the extent that any deviation from expectation due to the local externalities such as those in Ethiopia could directly affect the magnitude of impact. And, if that component is weakly implemented, the stress will be on the interventions outside the day-to-day classroom such as reading classes and supplementary classes to fulfill the learning gaps.

The project component on reading culture was well targeted to improve reading skills, and it also released the over-dependency of the project on teachers. The evaluation results also show that there could be bottlenecks in actual use of the activities to promote reading culture. Some efforts might be necessary to ensure that parents/children take advantage of all core



activities to promote reading culture such as reading clubs, reading centers, and supplementary classes. Although the components of creating a safe learning environment in schools had a theoretical connection to the desired goal, harmful practices such as corporal punishments are yet to be annihilated. The adaptation project in providing solar lights for children from poorest families and supporting schools with sanitization materials during the COVID-19 pandemic were commendable. They not only fit within the theory of change but leveraged its flexibility. The monitoring mechanisms were used more to ensure that the project complies with its implementation plan rather than to generate learning to iteratively update the theory of change or make improvements to implementation. As a result, it missed out the opportunity to map external risks such as teacher shortages, and plugin actions to minimize the risks and/or prioritize the project activities that are least affected by the unavoidable risks.

In summary, the midline evaluation found conclusive evidence to support that EQIE led to improved reading and SEL skills among children in project schools, but the magnitude of effects remained low because of external factors beyond the direct control of the project. In the remaining part of the project and in the coming phases, we recommend EQIE to assess external risks, identify mitigation measures, and update theory of change as needed.

3.2 Recommendations

We recommend EQIE review the results of the midline evaluation and determine a set of contextually specific recommendations in consultation with the Ethiopian country office. The following are the key recommendations:

Strengthen and Improve

- **Prioritize school-based interventions**
 - Bring the priority back to school-based interventions by focusing on PBL methodology and reading clubs and reach out to parents/communities through SMC and PTAs.
 - Establish Leave No One Behind as a separate project implemented only in schools and communities where there is many students outside of school. We recommend EQIE try out a modality that fosters school leadership (amongst principals, SMCs, and PTAs), and accountability of local government authorities to bring out-of-school children back to school.
 - Collaborate with school leadership to set up child protection mechanisms in schools, including teacher codes of conduct and zero tolerance policies on corporal punishment.
- **Improve project implementation effectiveness by strengthening bottleneck monitoring**
 - Build bottleneck monitoring and analysis mechanism to spot the external factors that affect the project's outcomes so that timely actions can be taken to minimize the bottlenecks.
 - Map out key assumptions of the project, and generate value for the bottlenecks, i.e., give value to what percentage the assumptions are true. For example, now we know that only 40% of children benefit from the reading culture support. The existing bottleneck is 60%, and the project would need to prioritize minimizing the bottleneck to optimize the impact.
 - Map out external factors that could affect the project and work with school stakeholders and local government to address the external factors that could affect the project. For example, if the teacher's motivation is low and that might affect the project badly, the project would need to work with schools and local governments to find ways to motivate teachers.



- Shift the focus of the monitoring mechanism from compliance to learning. We recommend EQIE set up a monitoring mechanism that ties very closely with its theory of change, so that data collected can be used to make changes to the theory of change and project activities throughout the project cycle.
- Prioritize observable metrics over self-reported data points. EQIE depended on self-reported metrics (such as the percentage of children who believe their school is safe) to report on project performance. These metrics are unreliable and less helpful in making robust evidence-informed decisions.
- **Take initiation to sustain results**
 - Work directly with schools to ensure that teachers are motivated to implement the PBL.
 - Advocate to integrate PBL related elements in teacher performance evaluation and explore options to incentivize teachers in the short run.
 - Provide top-up financial incentives for teachers to prepare educational materials through school.
 - Set up a mechanism to train new teachers on PBL immediately after they start with a school in collaboration with local government.
 - Set up reading clubs in all schools and encourage all children to participate in the reading clubs.
 - Work with school leadership and local governments to set up teacher performance evaluation mechanisms that incentivize teachers to utilize PBL approach (and/or invest enough time to prepare for the classroom and ensure full participation of children in the teaching learning activities).
 - Equip SMCs and PTAs with knowledge, skills and incentives to conduct community outreach and campaigns to continue enrolling marginalized learners, such as girls and children with disabilities.
- Set up a memorandum of understanding with the local government and schools with the following elements:
 - Detailed list of support to be provided by the project.
 - Responsibilities and expectations from the school and local government in response to the support provided by the project.
 - Identify actions/activities that SMC and schools can initiate without any financial support from EQIE.
 - Regular participatory review and reflection events.

Scale

- **Build foundation to scale on PBL method and reading clubs to more schools**

Although the project did not have a big magnitude of impact, the impact was still significant and scalable with some improvements. Once the interventions are strengthened to surmount the external challenges, we recommend EQIE to collaborate with the local government to start on the following activities to set up a strong foundation to scale:

 - advocate to integrate PBL in the government's pre-service teacher training curriculum,
 - Secure alignment of the PBL training and material development with the school curriculum
- **Run experiments to identify scalable and effective low-cost interventions**

Rather than running a quasi-experimental study covering project schools, we recommend EQIE to break the project into different components, and run experiments to identify low-cost yet impactful interventions, such as providing solar lamps to poor families. Being more intentional about measuring the impact can enable the project to



generate precise estimates on the effects of individual interventions. The experiments will help EQIE to cut down activities that have the least value for money and make the project more efficient as well as scalable.

3.3 Limitations

In Ethiopia, the field implementation was delayed because of the delay in the IRB approval process. However, that did not significantly impact the quality of the data collection. Because violence was ongoing in the region during the period of data collection, the enumerators had to take extra care during their travel, stay, and actual data collection.

Although we were able to convincingly use difference in difference (DID) estimators, the actual sample size available for the DID analysis was only 70% of the actual sample size. We only replaced the baseline cohort with new midline entries when the number of students covered per school was less than 10. Although the attrition was close to 30%, it did not impact the analysis because we found that the attrition rate was not significantly different for project and non-project schools, and the children from baseline who did not have the midline records had equal EGRA and ISELA score compared to the children who were tracked from the baseline to midline.

There were two additional issues related to the experiment that might have slightly affected the analysis. First, the baseline figures were higher for children from non-project schools compared to the children from project schools. As a result, the only analysis possible was of the difference in difference (DID). We could not compare midline observed data for project and non-project schools. Second, there was a sign of contamination of TPD efforts from project schools to non-project schools. Government officials shared that they tried to promote learning transfer from project to non-project schools.

We anticipated using school-level data to validate the results from other sources of data, especially related to the learning outcomes. However, we did not get reliable data from schools, and the data available was either missing or inaccurate to the extent that we were not able to use it.



REFERENCES

- Allee-Herndon, K.A., Roberts, S.K., Hu, B. *et al.* Let's Talk Play! Exploring the Possible Benefits of Play-Based Pedagogy on Language and Literacy Learning in Two Title I Kindergarten Classrooms. *Early Childhood Educ J* **50**, 119–132 (2022). <https://doi.org/10.1007/s10643-020-01141-6>
- Bendini, M., & Devercelli, A. E. (2022). *Quality Early Learning: Nurturing Children's Potential*. World Bank. <https://doi.org/10.1596/978-1-4648-1795-3>
- Elimu. H. (2020). The state of violence against school children in Tanzania Mainland: An exploratory study. 1–128. <https://www.end-violence.org/sites/default/files/paragraphs/download/The%20State%20of%20Violence%20Against%20School%20Children%20in%20Tanzania%20Mainland.pdf>
- Glewwe, P., Ilias, N., & Kremer, M. (2010). Teacher incentives. *American Economic Journal: Applied Economics*, 2(3), 205-227.
- Hadush, A.Z. & Katheriyar, M.M., (2023). Effect of teachers' gender, poor income, and poor working condition on teacher turnover intention and its impact in Saharti District, Tigray, Ethiopia. *Social Sciences & Humanities Open*, 8(1), p.100576. Vancouver
- Jensen, H., Pyle, A., Zosh, J. M., Ebrahim, H. B., Scherman, A. Z., Reunamo, J., & Hamre, B. K. (2019). *Play facilitation: The science behind the art of engaging young children*. The LEGO Foundation. https://cms.learningthroughplay.com/media/ok2hjr/bh/play-facilitation_the-science-behind-the-art-of-engaging-young-children.pdf
- Mardell, B., Ryan, J., Krechevsky, M., Baker, M., Schulz, S., & Constant, Y. L. (2023). *Pedagogy of Play: Supporting playful learning in classrooms and schools*. ProjectZero. <https://pz.harvard.edu/sites/default/files/PoP%20Book.pdf>
- Mendenhall, M., Chopra, V., Falk, D., Henderson, C., & Cha, J. (2021). *Teacher Professional Development & Play-based Learning in East Africa: Strengthening Research, Policy, and Practice in Ethiopia, Tanzania, and Uganda*. Teachers College, Columbia University. <https://inee.org/resources/teacher-professional-development-play-based-learning-east-africa-strengthening-research>
- Play Matters, & Sesame Workshop (Directors). (2023, June 14). *Defining and Framing Learning Through Play in East Africa: A Cross-Country Dialogue of Findings from PlayMatters Formative Research*. <https://www.playmatters.org/en/events/defining-and-framing-learning-through-play-east-africa-cross-country-dialogue-findings>
- Popova, A., Evans, D. K., Breeding, M. E., & Arancibia, V. (2022). Teacher professional development around the world: The gap between evidence and practice. *The World Bank Research Observer*, 37(1), 107-136.
- Santibanez, L. (2020). Teacher incentives. In *The economics of education* (pp. 431-441). Academic Press.
- UNICEF. (2018). *Learning through play: Strengthening learning through play in early childhood education programmes*. United Nations Children's Fund (UNICEF) and The LEGO Foundation. <https://www.unicef.org/sites/default/files/2018-12/UNICEF-Lego-Foundation-Learning-through-Play.pdf>
- World Bank. (2021). Program Information Document: Boost Primary Learning Program. Dar-e-Salam: World Bank.
- World Bank, Bill & Melinda Gates Foundation, FCDO, UNESCO, UNICEF, & USAID. (2022). *Guide for Learning Recovery and Acceleration: Using the RAPID Framework to Address COVID-19 Learning Losses and Build Forward Better*. World Bank. <https://thedocs.worldbank.org/en/doc/e52f55322528903b27f1b7e61238e416-0200022022/related/Guide-for-Learning-Recovery-and-Acceleration-06-23.pdf>



Appendix 1. List of metrics, baseline value, and source of information

Table 26: List of key indicators

Code	Indicators	Definition	Disaggregation	Tool	Ethiopia		Remarks
					Baseline	Midline	
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). Benchmarks should be contextualised in each country and project to meet MoE policy objectives.	Sex, impairment, marginalized identity markers ¹	Learner Assessment (EGRA)	36%	Project Schools: 47.5% Boys: 44.5% Girls: 50.4% Non-project schools: 42.4%	During the baseline, the benchmark used was 80% of comprehension questions are marked correct to be a reader with comprehension.
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 a comparison group, a change in the skill value could be attributed to the project intervention.	Sex, impairment, marginalized identity markers	Learning Assessment (ISELA)	Range 30-40% (No data available)	Project Schools: 53.8% Boys: 54.6% Girls: 53% Non-project schools: 50.7%	% difference in the SEL score of project and non-project schools
1100.1	#/% of teachers demonstrating improved teaching practices to enhance children's reading skills	Teachers are expected to demonstrate knowledge and practice in teaching the five core skills using PBL (use of 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.	Sex, Training Status teaching grade; teacher qualification	Classroom observations	23%	Project Schools: 46.4% Male teacher: 47% Female teacher: 45.7% Non-project schools: 41.6%	During the baseline, a teacher practice index was constructed, drawing from the classroom observation questions corresponding to the sections Teacher approach and ability to implement Literacy-PBL, Inclusive Learning, Behavior Management, and Children Interaction/



							Engagement within the classroom. A threshold for the teacher practice index was set at the 75th percentile of classroom observation score (=0.8).
1100.2	#/% of children who report feeling that the PBL activities their teacher practiced had a positive effect on their reading and life skills	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.	Sex, grade, impairment	Learner Assessment	9%	Project Schools: 16.4% Boys: 20.7% Girls: 12.5% Non-project schools: 10.9%	These were the questions used during the baseline: 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)
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 supervisory mechanism provides for regular assessment, monitoring and support for teachers (guidance notes 2-3). Teachers receive coaching and mentoring support.	Sex, Training Status (RTP or No RTP training); teaching grade	Teacher Survey	0%	Project Schools: 64.6% Male teacher: 62.5% Female teacher: 68.8% Non-project schools: 91.7%	# of teachers trained in at least 4/6 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



		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 meetings/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).	Sex, impairment, Grade 1, Grade 4	Learner Assessment (Background)	9%	Project Schools: 22.3% Boys: 21.4% Girls: 23% Non-project schools: 14.1%	Baseline asked this question: Did you attend any after-school reading activities, like reading camps, reading centers, or reading days out? # 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 home literacy environment expectation	Sex, impairment, marginalized identity markers	Learner Assessment (Background)	5%	Project Schools: 12.3% Boys: 12.1% Girls: 12.5% Non-project schools: 8.2%	Questions used during baseline: 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 out-of-school reading activities, like those available through radio, TV, or mail?
1210.1	#/% of parents that report using home-based reading activities with their children (by type)	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.	Sex; type of activity, marginalized identity markers	Learner Assessment	32%	Project Schools: 54.5% Boys: 56.4% Girls: 52.6% Non-project schools: 55.3%	Questions used in the baseline: (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)? Calculation: # caregivers report at least 2 activities / total # caregivers interviewed
1210.2	# of reading initiatives provided by parents, teachers, children, and	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	N/A	N/A – to be captured through monitoring	Not recorded in the baseline	(To be added)	To be compiled from the RTP's monitoring system



	community (disaggregated by type)	reading competition, learning days, reading events, radio broadcasting, reading olympics, reading marathon, international reading days, and reading summer activities.					
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 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)	Geography/District, size of school, school type, RTP support (if applicable)	Principal Interview	40%	Project Schools: 30% Non-project schools: 50%	# 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 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 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	Geography/District (Rural vs Urban), size of school, school type, RTP support (if applicable)	Teacher Survey	10%	Project Schools: 6.3% Male teacher: 3.1% Female teacher: 12.5% Non-project schools: 8.3%	# 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



							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.	Sex, impairment, marginalized identity markers	Learner Assessment	83%	Project Schools: 77.1% Boys: 80.7% Girls: 73.7% Non-project schools: 72.9%	These questions were included in the baseline: - 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?
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)	Sex, Training Status (RTP or No RTP training); teaching grade	Teacher Survey	3%	Project Schools: 12.5% Male teacher: 6.3% Female teacher: 25% Non-project schools: 0%	Baseline question (psychsupport): Do you have access to a trained point person for psychosocial support? Supporting questions (for conclusion): (rewarding) Working as a teacher has been 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	Sex, Training Status (RTP or No RTP training); teaching grade	Teacher Survey	30%	Project Schools: 36.8% Teacher: 39.6% Principal: 30% Non-project schools: 38.6%	Questions used in the baseline: 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: What is the primary reason for wanting to leave?
1310.1	#/% school community members that exhibit knowledge in creation and maintenance of safe learning environments	School community members are SMC/PTA, School Council, School Inclusion Committee, Coaches, School administrators, District Education Officials, National Education Agencies/Ministries, Political Leaders, Religious Leaders. Exhibition of knowledge in enhancing child protection, disability inclusion, promoting child rights, gender equity, and dealing with corporal punishment, abuse, and/or GBV to achieve physical and emotional safety in the school. Data is disaggregated by school community leader type.	Sex, community members/leaders	Community Leader Survey	37%	Project Schools: 79% Non-project schools: 65%	# 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
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	40%	Project Schools: 52.4% Boys: 52.9% Girls: 52% Non-project schools: 47.1%	Question in the baseline: Child protection: If you or a friend were being harmed by someone else, what would you do? (countries are instructed to contextualise potential multiple choice responses as appropriate)
1400.2	# students (F/M) enrolled in target educational institutions (disaggregated by level of education and CWD)	Number of male and female students that enrol 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		Principal survey	Not recorded during the baseline	(to be added)	Measured and reported by RTP's monitoring system.



		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 have 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.	Sex, community members (parents), community leaders (SMC, PTA, religious leaders), Education Officials (Principals), and CSO Leaders	Community Leader Survey	53%	Project Schools: 68.4% Non-project schools: 75%	During baseline, they asked parents/caregivers and community leaders about the barriers to inclusive education. If they listed any of the 3 barriers, it was counted as being aware of the barriers.



		Parents place less value on education for girls since they will get married - Community attitudes Inability to cover expenses such as assistive technology/aids - Requirements for documentation to enrol 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.	Sex, marginalization type	Learner Assessment	68%	Project Schools: 83.6% Boys: 81.4% Girls: 85.5% Non-project schools: 83.5%	Do you tell an adult if you feel unsafe in the house/school?



Appendix 2. Demographic details of the midline sample

Table 27: Demographic details of the sample

Metrics	Project	Non-Project	Remarks
Children tracked from baseline to midline	295	257	--
Parents interviewed	223	209	--
% of girls	51.9%	48.6%	No significant difference
% of boys	48.1%	51.4%	No significant difference
% of children who repeated a grade	24.7%	40.1%	Significantly lower in project schools
Average age of children	12.3 (1.37)	12.25 (1.57)	No significant difference
Average number of siblings at home	4.3 (1.87)	4.9 (2.13)	Significantly higher in project schools
Average family size	5.5 (1.7)	6.0 (1.79)	Significantly higher in project schools
% of children who attended early childhood development classes	45.9%	44.8%	No significant difference
Average socio-economic index	4.85 (2.39)	4.63 (2.16)	No significant difference
Risk profile index (adversities faced by children)	0.67 (1.09)	0.47 (0.88)	Significantly higher for children in project schools

Appendix 3. Field Implementation Report

Country: Ethiopia

Background

RTP implemented EQIE in Ada'a Woreda with the primary objective to apply play-based learning methodology in schools to improve children's reading and socio-emotional skills. Desalegn Shanko, local country consultant for Ethiopia, led the implementation of midline data collection in 40 schools of the project-implemented regions (20 project schools and 20 non-project schools).

Enumerator's training

Prior to beginning the field work, we conducted a detailed training to enumerators for the field level data collection. The training was conducted face to face and virtually for 3 days plus one day of piloting exercise. The training focused on administering EGRA/ISELA tools, quantitative surveys, and also administering qualitative tools. The local country consultant, subject-matter experts and data management specialist facilitated the training. The training was successful in imparting key knowledge on PBL methodology among the enumerators and teaching them data collection rules. Because the enumerators included many with previous experience of collecting similar data, the training process also involved learning and sharing among the enumerators.

Key Achievements

Mobilizing 20 trained enumerators, we collected data from 40 schools within a period of 3 weeks. The following table provides details of the data collected.

**Table 28: Sample coverage**

Tools	Planned	Non-Project (Actual)	Project (Actual)	Remarks
Children's EGRA/ISELA tests	400	255	292	Some children were not reached because of the drop out, school transfers, and migration.
Parents survey	400	202	254	Not all caregivers were reached for the children included in the test.
School level information form	20	13	17	Although we received forms from 35 schools, five entries were discarded because the data was incomplete and full of validation errors.
Teacher survey	40	20	34	
Teacher interview	10		9	Separate qualitative interviews were conducted with teachers
FGD with parents	10		8	
FGD with SMC members	10		8	
Case study with children and parents	10		10	
Classroom observation	40	20	29	
Teacher mood meter	40	19	39	
Children mood meter	400	255	292	
Head teacher survey	20	20	20	
Community leader survey	20	20	18	
KII with government staff	4		4	
RTP staff	4		4	Including two CSO partners

Key Challenges

The field work started slightly late because of the delay in obtaining IRB approval for ethical clearance. When the data collection was happening, the security situation was poor in the area. Enumerators had to follow stricter security regulations to implement the project. Because of the high movement of population from Ad'a Worda region to Addis due to poor security situation, some students dropped out of schools and were not traceable between baseline to midline. We were able to resolve the challenges in collaboration with RTP and complete the data collection as expected.



Learnings

The collaboration with RTP from the beginning till the end helped in securing necessary support at the field level to complete the data collection. Although some government officers were not inclined to provide data and/or take part in the interviews, RTP's facilitation helped to resolve it. Local approvals and paperwork are necessary to avoid any delay or hold in the data collection process.

Annex 3.1. List of enumerators

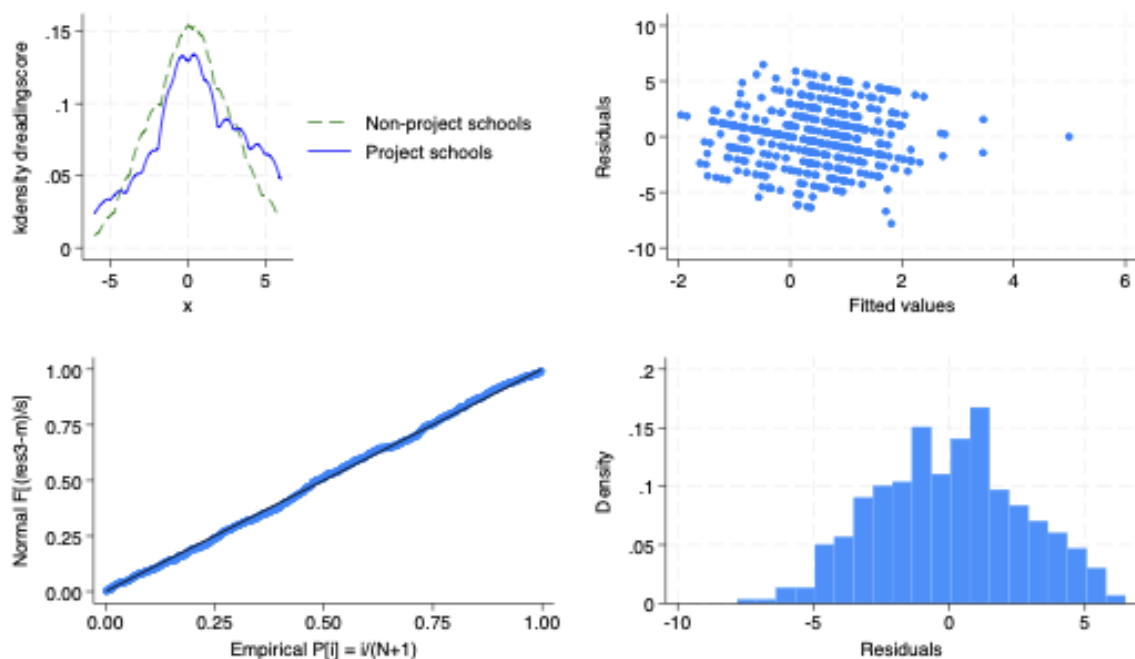
Table 29: List of enumerators

#	Name	Sex	Education	Experience (yrs)
1	Abraham Mekonen	M	BA (Business management)	15
2	Ararsa Abdisa	M	BSc (statistics)	10
3	Nuria Yacob	F	MA (public health)	16
4	Tamirat Kebede	M	MA (Educational Management)	16
5	Tamirat Gudeta	M	BA (management)	16
6	Dereje Misgana	M	BSc (statistics)	4
7	Andualem Girma	M	BA (Rural Development)	4
8	Bethel Asrat	F	BA (Management)	4
9	Roba Korbi	M	BA (Applied Geography)	19
10	Lalisa Takele	M	BSc (statistics)	17
11	Getachew Bayisa	M	BSc (statistics)	15
12	Retta Terefe	M	BA (Economics)	6
13	Natenael Deneke	M	BSC (Health Officer)	7
14	Birkneh Mesfin	M	BSC (statistics)	10
15	Lensa Tekalign	F	MSC (Development Economics)	6
16	Kidist Bekele W/Yohanes	F	BSC (agricultural technology)	4
17	Lidet Teshome Legesse	F	BSc in public health	4
18	Hirpha Abebe	M	BSC	7
19	Bedada Dufera	M	BSC (Demography)	7
20	Azeb Teshome	F	BSC (Maths & Acc.)	7

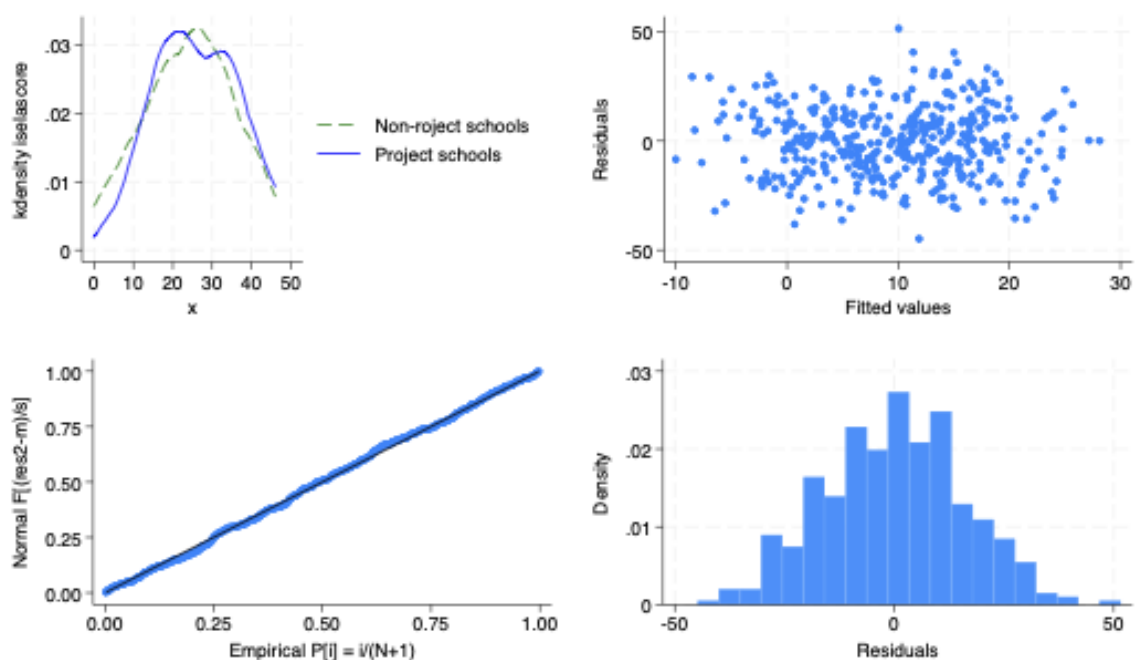


Appendix 4. Properties of residuals

EGRA composite score



ISELA score





Appendix 5. Key OLS regression results table

Outcome: EGRA

VARIABLES	(1) Phonetics	(2) Delta in phonetics	(3) Letters count	(4) Delta in letters count	(5) familiar words	(6) Invent count	(7) Delta invent count	(8) Reading fluency	(9) Delta reading fluency	(10) Comprehen sion score	(11) Comprehe nsion score
Project vs non-project	0.029 (0.328)	2.391*** (0.469)	-3.899 (5.907)	3.773 (2.372)		0.607 (2.613)		-0.990 (5.982)	-6.079 (6.179)	-0.010 (0.213)	
Reading materials	0.161 (0.143)	0.199 (0.204)	1.016 (2.570)	-0.219 (1.036)	-0.500 (1.022)	-2.822** (1.141)	-2.868** (1.123)	8.910*** (2.694)		0.208** (0.096)	0.072 (0.133)
Age	0.137 (0.102)	-0.434*** (0.145)	3.363* (1.822)	1.499** (0.735)	1.497** (0.736)	0.999 (0.809)	0.999 (0.808)	5.109** (2.008)	5.505*** (2.032)	0.187*** (0.071)	-0.107 (0.095)
Girl vs boys	0.224 (0.298)	0.121 (0.427)	0.193 (5.378)	6.369*** (2.158)	6.529*** (2.160)	1.880 (2.377)	1.906 (2.372)	13.571** (5.880)	15.087** (5.966)	0.694*** (0.209)	0.465* (0.281)
Repeated vs regular	-1.975*** (0.313)	-0.664 (0.450)	-27.542*** (5.661)	-10.536*** (2.269)	-11.080*** (2.247)	-6.260** (2.499)	-6.347** (2.468)	-31.809*** (6.196)	-32.877*** (6.289)	-1.344*** (0.220)	-1.288*** (0.293)
Risk profile	-0.026 (0.152)	0.144 (0.217)	-0.082 (2.732)	0.507 (1.101)	0.560 (1.103)	-1.689 (1.213)	-1.680 (1.211)	-0.902 (3.007)	-0.982 (3.039)	0.083 (0.107)	0.216 (0.143)
Socio-economic index	0.058 (0.069)	-0.203** (0.099)	3.366*** (1.244)	-0.002 (0.500)	0.053 (0.500)	1.229** (0.551)	1.237** (0.549)	-0.887 (1.368)	-0.288 (1.319)	0.007 (0.049)	-0.085 (0.065)
Parental education	0.001 (0.003)	-0.003 (0.004)	0.036 (0.054)	0.023 (0.022)	0.024 (0.022)	0.021 (0.024)	0.021 (0.024)	0.069 (0.059)	0.072 (0.060)	0.002 (0.002)	0.006* (0.003)
No. of siblings	0.044 (0.090)	-0.058 (0.128)	1.074 (1.611)	0.601 (0.648)	0.481 (0.645)	-0.169 (0.714)	-0.188 (0.708)	3.018* (1.772)	2.893 (1.793)	0.127** (0.063)	0.098 (0.084)
Family size	0.024	-0.039	-1.775	-0.090	-0.137	0.503	0.495	-0.840	-0.811	0.034	0.100



	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
VARIABLES	Phonetics	Delta in phonetics	Letters count	Delta in letters count	familiar words	Invent count	Delta invent count	Reading fluency	Delta reading fluency	Comprehension score	Comprehension score
	(0.103)	(0.146)	(1.844)	(0.744)	(0.745)	(0.819)	(0.818)	(2.035)	(2.054)	(0.072)	(0.096)
Parental job outside of the town	0.493	0.761	-0.972	-2.245	-2.498	-6.923***	-6.963***	-4.348	-4.449	-0.191	0.237
	(0.325)	(0.466)	(5.864)	(2.355)	(2.354)	(2.594)	(2.585)	(6.394)	(6.521)	(0.227)	(0.306)
Rating on school safety	-0.237	-0.333	0.475	-1.693	-1.537	-0.703	-0.678	2.757	1.860	0.046	-0.063
	(0.304)	(0.433)	(5.447)	(2.198)	(2.200)	(2.421)	(2.416)	(6.014)	(6.054)	(0.214)	(0.285)
Rating on school accessibility	0.337	0.006	-1.107	2.286	2.596	2.105	2.155	1.276	3.184	0.202	0.172
	(0.252)	(0.361)	(4.546)	(1.821)	(1.814)	(2.005)	(1.992)	(4.954)	(5.025)	(0.176)	(0.237)
Rating on gender equality	0.168	0.792*	3.768	2.679	2.768	1.358	1.372	-1.162	-0.868	0.123	0.102
	(0.291)	(0.416)	(5.241)	(2.105)	(2.108)	(2.319)	(2.315)	(5.730)	(5.865)	(0.204)	(0.274)
Participation in project activities	0.067	0.102	-0.791	0.522	0.774**	0.415	0.456				0.108**
	(0.056)	(0.080)	(1.011)	(0.409)	(0.377)	(0.450)	(0.415)				(0.049)
Project activities & materials at home									1.050***		
									(0.356)		
Constant	4.575**	6.949**	-12.767	-9.216	-8.762	7.914	7.988	-32.607	-68.045*	-1.256	-0.201
	(1.963)	(2.808)	(35.367)	(14.211)	(14.234)	(15.652)	(15.631)	(38.874)	(39.471)	(1.382)	(1.851)
Observations	426	418	418	426	426	426	426	426	418	425	418
R-squared	0.135	0.162	0.088	0.130	0.125	0.080	0.080	0.127	0.124	0.172	0.112

Notes. Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

The participation in project activities is an index that took into account the participation of children in the following activities: received reading materials, attended reading centers, attended reading clubs, became a member of the child club, participation in orientation on girls education, participation in orientations on educating children with disabilities, attended extra reading sessions, and attended other training programs organized by RTP. Reading materials is an index that summed up the availability of the following materials in the house: textbooks, religious books, magazines, newspapers, storybooks, coloring books, comics, and other reading materials.

Outcome: ISELA Regression Results



VARIABLES	(1) Stress score	(2) Delta stress score	(3) Persever ance	(4) Delta persevera nce	(5) Self- concept	(6) Delta self- concept	(7) Empathy	(8) Delta empathy	(9) Conflict score	(10) Delta conflict score	(11) Social score	(12) Delta social score	(13) Collabor ation score	(14) Delta collab score	(15) ISELA score	(16) Delta ISELA score
Project vs non-project	0.017 (0.123)	0.579*** (0.173)	0.008 (0.177)	0.789*** (0.248)	-0.013 (0.289)	0.563* (0.320)	8.983 (11.007)	0.985** (0.495)	0.077 (0.162)	0.949*** (0.221)	0.592 (0.540)	1.078* (0.603)	0.067 (0.138)	0.343* (0.191)	0.550 (1.430)	9.237*** (1.831)
Age	0.157*** (0.038)	0.010 (0.053)	0.045 (0.055)	-0.033 (0.076)	0.253*** (0.089)	0.103 (0.107)	-2.225 (3.410)	-0.368** (0.153)	0.122** (0.050)	0.067 (0.068)	-0.057 (0.167)	-0.094 (0.186)	0.054 (0.043)	0.004 (0.059)	1.457*** (0.441)	-0.236 (0.565)
Girl vs boy	-0.146 (0.112)	-0.215 (0.158)	-0.081 (0.161)	-0.375* (0.225)	0.406 (0.264)	0.229 (0.315)	7.626 (10.026)	-0.368 (0.451)	0.298** (0.147)	0.263 (0.201)	-0.738 (0.492)	-0.255 (0.549)	-0.102 (0.126)	0.136 (0.174)	-0.511 (1.302)	-0.993 (1.667)
Repeated vs regular	-0.346*** (0.118)	-0.160 (0.166)	-0.688*** (0.169)	-0.570** (0.237)	-0.620** (0.280)	-0.422 (0.332)	-5.997 (10.559)	-1.096** (0.474)	-0.277* (0.155)	-0.143 (0.212)	-1.165** (0.518)	-0.491 (0.578)	-0.382*** (0.132)	-0.352* (0.183)	-7.374*** (1.370)	-5.018*** (1.755)
Risk profile	-0.086 (0.057)	-0.060 (0.080)	-0.107 (0.082)	-0.129 (0.114)	-0.114 (0.134)	-0.265* (0.160)	2.502 (5.101)	0.131 (0.229)	-0.003 (0.075)	-0.008 (0.102)	0.411 (0.250)	0.412 (0.279)	0.012 (0.064)	0.053 (0.088)	-0.321 (0.661)	-0.110 (0.847)
Socio-economic index	-0.041 (0.026)	-0.100*** (0.036)	0.062* (0.037)	0.092* (0.052)	-0.014 (0.061)	-0.121* (0.073)	1.415 (2.321)	-0.311*** (0.104)	-0.011 (0.034)	-0.110** (0.047)	0.191* (0.114)	0.092 (0.127)	-0.041 (0.029)	-0.052 (0.040)	0.027 (0.301)	-0.841** (0.386)
Parental education	0.001 (0.001)	0.001 (0.002)	0.001 (0.002)	-0.001 (0.002)	0.004 (0.003)	0.007** (0.003)	0.012 (0.101)	0.007 (0.004)	0.002 (0.001)	0.002 (0.002)	-0.002 (0.005)	-0.005 (0.005)	0.002 (0.001)	0.002 (0.002)	0.020 (0.013)	0.018 (0.017)
No. of siblings	0.008 (0.034)	-0.020 (0.047)	0.020 (0.048)	-0.066 (0.067)	-0.041 (0.080)	-0.116 (0.095)	2.488 (3.009)	0.053 (0.135)	0.105** (0.044)	0.050 (0.060)	0.246* (0.147)	0.190 (0.164)	0.096** (0.038)	0.083 (0.052)	0.842** (0.390)	0.228 (0.499)
Family size	-0.005 (0.038)	0.039 (0.054)	-0.025 (0.055)	0.071 (0.077)	0.058 (0.091)	0.186* (0.108)	1.001 (3.443)	0.207 (0.155)	-0.020 (0.051)	0.034 (0.069)	0.063 (0.169)	0.006 (0.188)	-0.073* (0.043)	-0.031 (0.060)	-0.007 (0.447)	0.692 (0.572)
Parental job away	0.191 (0.123)	0.137 (0.172)	0.364** (0.176)	0.517** (0.246)	0.796*** (0.284)	1.043*** (0.342)	-10.292 (10.943)	-0.380 (0.491)	-0.202 (0.161)	-0.131 (0.219)	0.885* (0.536)	0.870 (0.599)	-0.080 (0.137)	-0.098 (0.190)	2.461* (1.420)	2.609 (1.818)
	-0.104	-0.090	-0.084	-0.082	-0.070	-0.437	4.001	-0.168	0.183	0.120	0.381	-0.206	0.045	0.099	0.252	-0.787



			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
VARIABLES			Stress score	Delta stress score	Perseverance	Delta perseverance	Self-concept	Delta self-concept	Empathy	Delta empathy	Conflict score	Delta conflict score	Social score	Delta social score	Collaboration score	Delta collaboration score	ISELA score	Delta ISELA score
Rating on school safety			(0.114)	(0.160)	(0.163)	(0.228)	(0.263)	(0.320)	(10.186)	(0.456)	(0.149)	(0.204)	(0.498)	(0.556)	(0.128)	(0.176)	(1.319)	(1.689)
Rating on school accessibility			0.089 (0.095)	0.093 (0.133)	0.006 (0.136)	0.174 (0.190)		0.765*** (0.266)	3.515 (8.487)	0.655* (0.381)	0.082 (0.124)	0.304* (0.170)	0.810* (0.416)	0.725 (0.464)	0.034 (0.106)	0.263* (0.147)	2.352** (1.101)	4.216*** (1.409)
Rating on gender equality			-0.047 (0.110)	0.062 (0.154)	-0.012 (0.157)	-0.000 (0.220)	0.211 (0.254)	0.408 (0.307)	2.251 (9.774)	0.006 (0.439)	-0.041 (0.143)	0.026 (0.196)	-1.300*** (0.479)	-0.764 (0.535)	-0.065 (0.123)	-0.259 (0.170)	-1.809 (1.269)	-0.743 (1.625)
Participation in project activities			0.043** (0.021)	0.048 (0.030)	0.028 (0.030)	-0.023 (0.042)	0.052 (0.050)		-1.219 (1.892)	0.233*** (0.085)	0.020 (0.028)	0.008 (0.038)	-0.017 (0.092)	-0.056 (0.103)	0.068*** (0.024)	0.067** (0.033)	0.644*** (0.245)	0.506 (0.313)
Availability of reading materials			0.179*** (0.054)	0.144* (0.075)	0.065 (0.077)	0.143 (0.108)	0.187 (0.127)	0.156 (0.144)	0.711 (4.812)	-0.057 (0.215)	0.064 (0.070)	0.018 (0.096)	0.455* (0.235)	0.348 (0.262)	0.244*** (0.060)	0.237*** (0.083)	2.349*** (0.622)	1.852** (0.797)
Constant			-0.440 (0.740)	-0.325 (1.037)	2.126** (1.054)	-1.203 (1.482)	-1.257 (1.655)	-3.885* (2.079)	-28.019 (66.193)	4.664 (2.963)	-0.576 (0.972)	-2.561* (1.323)	4.983 (3.235)	1.969 (3.612)	0.887 (0.829)	-0.828 (1.145)	7.186 (8.562)	-8.935 (10.964)
Observations			419	418	421	418	426	418	422	418	423	418	418	418	426	418	418	418
R-squared			0.138	0.091	0.082	0.095	0.081	0.099	0.020	0.108	0.074	0.108	0.093	0.045	0.134	0.095	0.209	0.180

Notes. Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

The participation in project activities is an index that took into account the participation of children in the following activities: received reading materials, attended reading centers, attended reading clubs, became a member of the child club, participation in orientation on girls education, participation in orientations on educating children with disabilities, attended extra reading sessions, and attended other training programs organized by RTP. Reading materials is an index that summed up the availability of the following materials in the house: textbooks, religious books, magazines, newspapers, storybooks, coloring books, comics, and other reading materials.



Appendix 6. Detailed Analysis of EGRA/ISELA

5.1 Reading activities

Table 30: Household literacy environment

Behaviour	Baseline		Endline		Significant difference (at midline)?
	Project (N=399)	Non-project (N=392)	Project (N=292)	Non-project (N=255)	
During last 7 days, a family member read to the child	44.4%	49%	39.4%	41.6%	No
During last 7 days, a family member told a story to the child	27.1%	32.4%	31.2%	23.9%	Yes
A family member played literacy games with the child	17.8%	16.6%	23.6%	23.5%	No
Talked to a family member when felt sad	53.1%	57.4%	57.5%	52.6%	Yes
Talked to a family member when there was a problem with a friend	41.4%	47.7%	43.8%	43.1%	No
Asked a family member for help when working on something difficult	57.1%	58.7%	20.2%	26.3%	Yes
Received help from family members when working on something difficult and time consuming	39.4%	49.7%	54.8%	57.7%	No
Recognized if someone in the family is sad	22.1%	23.9%	25.3%	18.8%	Yes
Talk to friends when feeling sad	61.9%	63.8%	77.4%	72.6%	Yes
Seek help from friends if facing any problems at school	50.4%	52.8%	67.1%	55.7%	Yes
Ask friends for help if working on something difficult	49.1%	48.2%	62.3%	59.6%	No
Able to identify when friends are sad and try to support them	20.1%	18.1%	24.3%	19.6%	Yes
In last 7 days, played games with friends	45.6%	55.6%	38.4%	34.5%	No
In last 7 days, worked with friends on coursework/ homework	43.4%	54.9%	65.1%	60.4%	Yes
In last 7 days, worked with friends to accomplish a common goal	25.1%	30.1%	41.8%	30.6%	Yes
Average number of adults available for a conversation and help	1.81 (1.36)	1.98 (1.33)	0.8 (1.01)	0.85 (1.07)	No
Share with any other adults in schools	23.3%	28.1%	24.3%	25.9%	No



when you are sad					
Seek help from other adults in schools to solve problems with friends	19.6%	20.7%	21.2%	16.5%	Yes
Identify if any adults in school/home are sad	9.8%	5.4%	5.8%	5.5%	No
Report to a trusted adult if me or my friend were harmed by someone else	35.1%	76.5%	52.4%	47.1%	Yes
Do not have any idea how to deal with the situation if me or my friend were harmed by someone else	51.4%	19.6%	37%	43.5%	Yes

Note. The test of whether the difference was significant was performed using a chi-square test of distribution, at 95% confidence level.

Appendix 7. Detailed Analysis of Changes in Pedagogical Practices

Table 31: Changes in pedagogical practices

Observations	Baseline		Midline		Significant difference (at midline)?
	Project (N=40)	Non-project (N=20)	Project (N=29)	Non-project (N=20)	
Classroom quality index					
Physically safe learning environment					
Students identify safety concerns	15%	0%	13.8%	10%	No
Teacher identifies safety concerns to the observer	0%	0%	13.8%	10%	No
Teacher explains safety concerns to children	10%	0%	13.8%	5%	Yes
Appropriate actions are taken to address safety concerns	0%	0%	20.7%	30%	No
None of these (i.e. there are safety concerns, but they are not addressed)	80%	100%	6.9%	5%	No
There are no safety concerns	—	—	62.1%	60%	No
Classroom's physical environment					
The classroom is well-ventilated	17.5%	25%	96.6%	75%	Yes
The classroom is accessible to children with disabilities	17.5%	30%	27.6%	10%	Yes
The classroom is properly lit	15%	0%	51.7%	40%	No
There are no hazards such as exposed foundations, cracked walls, exposed wires, hanging roofs, or blind spots that could cause accidents or injuries	42.5%	50%	27.6%	10%	Yes



The classroom has sufficient space for children to play games and participate in active learning	17.5%	50%	17.2%	15%	No
Classroom's literacy environment					
There are posters, signs, or other forms of text hanging on the classroom walls	0%	20%	37.9%	20%	Yes
Items, toys, or spaces are clearly labelled to support a literacy-rich environment	0%	0%	17.2%	15%	No
Classroom has an accessible area for shared large group reading	2.5%	0%	24.1%	15%	No
Students' work is displayed throughout the classroom	–	–	27.6%	35%	No
Behavioral management					
The teacher discusses misbehavior with the child/children	5%	70%	62.1%	30%	Yes
The teacher involves the child/children in identifying a solution or alternative behavior	2.5%	65%	48.3%	45%	No
The teacher remains calm, patient, and non-stressed when addressing misbehavior	2.5%	15%	41.4%	55%	No
Teacher uses physical punishment to address misbehavior	10%	5%	–	–	–
The teacher threatens, scolds, or shames the child/children	7.5%	10%	3.5%	5%	No
The teacher ignores misbehavior	65%	0%	17.2%	15%	No
No misbehavior observed	17.5%	25%	34.5%	25%	No
Teacher's encouragement towards children					
The teacher smiles during most of the lesson	17.5%	60%	31%	35%	No
The teacher uses positive, friendly, and caring body language and tone	35%	85%	75.9%	90%	Yes
The teacher encourages and actively acknowledges children, even if they give incorrect answers	62.5%	65%	62.1%	45%	Yes
Teacher's communication style					
The teacher uses age-appropriate language	17.5%	95%	75.9%	60%	Yes
The teacher adjusts volume and speed so s/he can be heard	75%	35%	55.2%	55%	No
The teacher rephrases questions or directions to children if children don't understand	37.5%	85%	41.4%	30%	No



The teacher actively shows s/he is listening when children speak	25%	5%	44.8%	45%	No
Gender participation					
The teacher gives girls and boys equal opportunities to participate in classroom activities	47.5%	80%	86.2%	95%	Yes
The teacher appears to give more opportunities to boys	45%	20%	31%	20%	No
The teacher appears to give more opportunities to girls	5%	0%	13.8%	15%	No
Gender equity and inclusion					
The teacher interjects and takes action when children display any gender-biased behavior towards their peers	2.5%	0%	27.6%	35%	No
The teacher encourages girls and boys to play non-traditional gender roles	0%	5%	55.2%	45%	No
When a behavioral issue occurs, the teacher responds according to the child and his/her development needs, and NOT their gender.	5%	60%	37.9%	30%	No
The teacher does not use derogatory language pertaining to children's gender when addressing them	25%	20%	24.1%	15%	No
The teacher does not predetermine rules of the activity based on gender-conformity	22.5%	5%	27.6%	20%	No
Inclusion of children living with disabilities					
Children with disabilities have a leadership role in the classroom	0%	5%	10.3%	15%	No
Children with disabilities actively participate in the classroom activities or discussions	0%	5%	17.2%	15%	No
Teacher modifies lesson and/or activity to include children with disabilities	0%	0%	17.2%	5%	Yes
Children with disabilities are ignored and not included in classroom activities/discussions	12.5%	25%	6.9%	0%	Yes
Children with disabilities are mocked, ridiculed, or verbally or physically abused by their peers and/or teachers	–	–	0%	0%	No
No children with disabilities in class	87.5%	70%	72.4%	75%	No
Child participation					



Most children share ideas, opinions, thoughts, and/or feelings with their teacher	50%	85%	100%	70%	Yes
Most children interact comfortably with their teacher (they do not look scared or hesitant)	22.5%	65%	65.5%	95%	Yes
Most children look relaxed (smiling, laughing, relaxed posture, no signs of anxiety/stress/worry, etc.)	40%	15%	41.4%	45%	No
Most children assist classmates in solving problems or understanding a question	0%	5%	34.5%	15%	Yes
None of the above	25%	5%	0%	0%	No
Participatory learning					
The teacher asks children closed questions (only one correct answer)	95%	20%	34.5%	35%	No
The teacher asks children open-ended questions (what, why, how questions)	62.5%	75%	72.4%	70%	No
The teacher creates opportunities for children to talk with each other about the lesson	5%	20%	51.7%	60%	No
The teacher creates opportunities for children to practice and expand on what they learn	0%	15%	62.1%	55%	No
The teacher gives children time and opportunities to ask questions	7.5%	10%	41.4%	55%	No
Children ask questions to the teacher without being prompted	–	–	20.7%	10%	Yes
The teacher responds positively to children's questions (i.e. without scolding or mocking them for having asked the question)	–	–	27.6%	45%	Yes
Play-based and RCA teaching approaches					
At the start of the lesson, the learning objectives for the lesson are made clear to the pupils	12.5%	45%	86.2%	80%	No
At the end of the lesson, the teacher provides time for students to discuss what was learned and reflect on their learning using the RCA questions for the lesson/activity	0%	0%	51.7%	35%	Yes
The teacher summarizes what was learned at the end of the activity/lesson	47.5%	85%	65.5%	50%	Yes
The teacher uses games and links the game to the lesson being taught	0%	5%	27.6%	35%	No



The teacher uses songs, art, or drama, and links these to the lesson being taught	0%	0%	24.1%	5%	Yes
The teacher asks students to perform tasks in small groups	2.5%	0%	24.1%	25%	No
Active vs passive teaching style					
Most of the time, the teacher is speaking/doing something, and the children are listening/watching	57.5%	65%	44.8%	65%	Yes
The teacher and children spend equal amounts of time speaking/doing something active	42.5%	35%	62.1%	50%	No
Most of the time the children are speaking/doing activities and the teacher is supervising	5%	0%	27.6%	25%	No
Use of space					
Most of the time, the teacher stands at the front of the class	–	–	17.2%	35%	Yes
The teacher spends equal time at the front of the class and walking around the class	–	–	48.3%	35%	No
Most of the time, the teacher is observed walking around the class	–	–	34.5%	30%	No
Child-led classroom activities					
Children are given opportunities to facilitate activities that contribute to the key message or learning (e.g., leading classroom discussions)	17.5%	0%	79.3%	65%	Yes
Children's facilitation roles are arranged with the children in advance and children are prepared for their facilitation	2.5%	0%	34.5%	35%	No
Children are given free time in which to structure their own activities or games	0%	0%	17.2%	10%	No
None of the above	82.5%	100%	17.2%	25%	No
Five key reading skills					
The teacher uses an activity to teach or review letters	45%	30%	20.7%	15%	No
The teacher uses an activity to teach or review sounds, rhymes, or syllables	25%	0%	51.7%	40%	No
The teacher uses an activity to teach or review new words/ vocabulary	32.5%	15%	37.9%	15%	Yes



The teacher reads aloud to students	–	–	44.8%	55%	No
The teacher asks students to read aloud (e.g., to the whole class, to a partner, or in small groups)	–	–	34.5%	35%	No
The teacher asks students to demonstrate their understanding/ comprehension of a story that was read in class (either by the teacher or by the students)	–	–	20.7%	15%	No
Playful reading aloud					
The teacher reads fluently and with expression (changes tone, makes voices for characters)	22.5%	0%	75.9%	65%	No
The teacher shows illustrations to all children	32.5%	0%	58.6%	50%	No
The teacher asks children questions about the story that relate to children's own lives	0%	0%	24.1%	15%	No
The teacher asks children problem-solving questions about the story	0%	0%	24.1%	25%	No
The teacher asks children predictive questions or asks children to imagine something about the story	2.5%	0%	10.3%	5%	Yes
The teacher gives children opportunities to discuss the story with each other, or other activities about the story in which children can interact with each other	2.5%	0%	17.2%	25%	No
The teacher does not read aloud to students	5%	0%	10.3%	10%	No

Note. The test of whether the difference was significant was performed using a chi-square test of distribution, at 95% confidence level.

Table 32: Involvement of children in classroom as by teachers

Involvement of children (in the rating scale of 1-5)	Baseline	Midline		Significant difference during midline?
	Project schools	Project schools	Non-project schools	
Share ideas, thoughts and opinions	3.77 (9.87)	3.91 (1.10)	3.33 (1.29)	No
Ask questions	3.79 (0.89)	4.04 (0.91)	3.93 (1.09)	No
Yell at or make fun of children who have inappropriate behaviour.	3.93 (0.77)	3.92 (0.93)	3.80 (1.08)	No
Talk to the child in a calm, patient, and non-stress manner.	3.72 (0.76)	2.66 (1.40)	2.53 (1.41)	No



Physically punish the child.	2.05 (0.32)	2.71 (0.99)	2.67 (1.32)	No
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Note. The test of whether the difference was significant was performed using a chi-square test of distribution, at 95% confidence level.

Table 33: Techniques to ensure student discipline in the school

Technique	Project schools	Project schools	Non-project schools	Significant difference during midline?
Establish rules/routines	48.7%	58.3%	20.0%	Yes
Discuss the child's behaviour with him/her and give him/her an opportunity to explain his/her behaviour.	97.4%	87.5%	80.0%	No
Yell at or make fun of children who have inappropriate behaviour.	0%	6.7%	4.2%	No
Talk to the child in a calm, patient, and non-stress manner.	48.7%	79.2%	86.7%	No
Physically punish the child.	0%	13.3%	4.2%	No

Note. The test of whether the difference was significant was performed using a chi-square test of distribution, at 95% confidence level.

Table 34: Reading-specific activities in the classroom (% of teachers who applied the technique)

Technique	Baseline	Project schools	Non-project schools	Significant difference?
Read fluently or with expression (changes tone, makes voices for characters)	97.4%	83.3%	86.7%	No
Show illustrations to all children	61.5%	75.0%	60.0%	No
Ask children questions about the story that relate to children's own lives	43.6%	54.2%	40.0%	No
Ask children problem-solving questions about the story	30.8%	50.0%	26.7%	No
Ask children predictive questions or ask children to imagine something about the story	25.6%	33.3%	40.0%	No
Give children an opportunity to discuss the story with each other, or other activity about the story in which children interact with each other	30.8%	33.3%	46.7%	No

Note. The test of whether the difference was significant was performed using a chi-square test of distribution, at 95% confidence level.



Appendix 8. Children's safety tables

Table 35: Children's safety at home and in community [Updated for Ethiopia]

Observations	Baseline		Midline	
	Project (N=294)	Non-project (N=246)	Treatment (N=297)	Control (N=257)
Had to work to earn money to support family to buy school supplies	5.8%	11.0%*	10.2%	10.5%
Left home because it was not safe	5.4%~	2.4%	4.4%	2.7%
Lived in a community where the child did not feel safe	6.1%**	1.6%	4.4%	3.5%
Lived in a home where people shout or yell at each other	11.2%~	6.9%	10.2%	7.0%
Lived in a home where people push, slap, fight and throw something	9.8%*	5.2%	6.4%	3.9%
Gone hungry any day last month because there was not enough food available	9.2%	6.9%	14.2%*	7.4
Family member been away from home for more than six months	10.8%	8.5%	15.9%	12.1%

Note: Standard deviation in parenthesis. ** significant at 1%, * significant at 5%, and ~ significant at 10%. The test of significant difference was performed using a chi-square test of distribution, at 95% confidence level.

Safety in school

Table 36: Children's safety in school

Safety behaviors, did any of this happen during the last week?	Baseline		Endline	
	Project (N=399)	Non-project (N=392)	Project (N=292)	Non-project (N=255)
Felt afraid in the school	10.8%	4.1%	16.1%	19.2%
Felt afraid on the way to school	10.3%	4.6%	14.4%	17.7%
Saw a child teasing another child to make them angry or bullying	24.3%	21.9%	38.7%	34.1%
Saw a child intentionally discarding another child from an activity/game	26.1%	33.4%	38.4%	31%
Heard a child in school said something mean to another child	20.3%	25.8%	31.2%	25.5%
Felt discarded by other students	14%	14.3%	17.5%	13.3%
Saw children in school get into a fight and a child was hit	35.6%	41.8%	41.1%	37.3%



Got into a fight where someone was hit	13.8%	16.1%	–	–
Saw someone in school threw something at a child to hurt them	24.1%	28.1%	19.5%	19.6%
Threw something to another child to hurt them	9.5%	12.5%	10.6%	12.6%

*Note: Standard deviation in parenthesis. ** significant at 1%, * significant at 5%, and ~ significant at 10%. The test of significant difference was performed using a chi-square test of distribution, at 95% confidence level.*

Safety from adults

Table 37: Children's safety from adults

Safety behaviors, did any of this happen during the last week?	Baseline		Endline	
	Project (N=399)	Non-project (N=392)	Project (N=292)	Non-project (N=255)
Saw an adult in the school screaming or yelling or hitting or kicking a child	39.6%	29.6%	27.1%	27.5%
Heard an adult threatening to hurt a child	11.5%	10.2%	17.5%	17.3%
Faced any of the above-mentioned behaviors from an adult in the school (e.g. yelling, screaming, hitting, threatening)	11.3%	7.1%	11.6%	12.6%

*Note: Standard deviation in parenthesis. ** significant at 1%, * significant at 5%, and ~ significant at 10%. The test of significant difference was performed using a chi-square test of distribution, at 95% confidence level.*

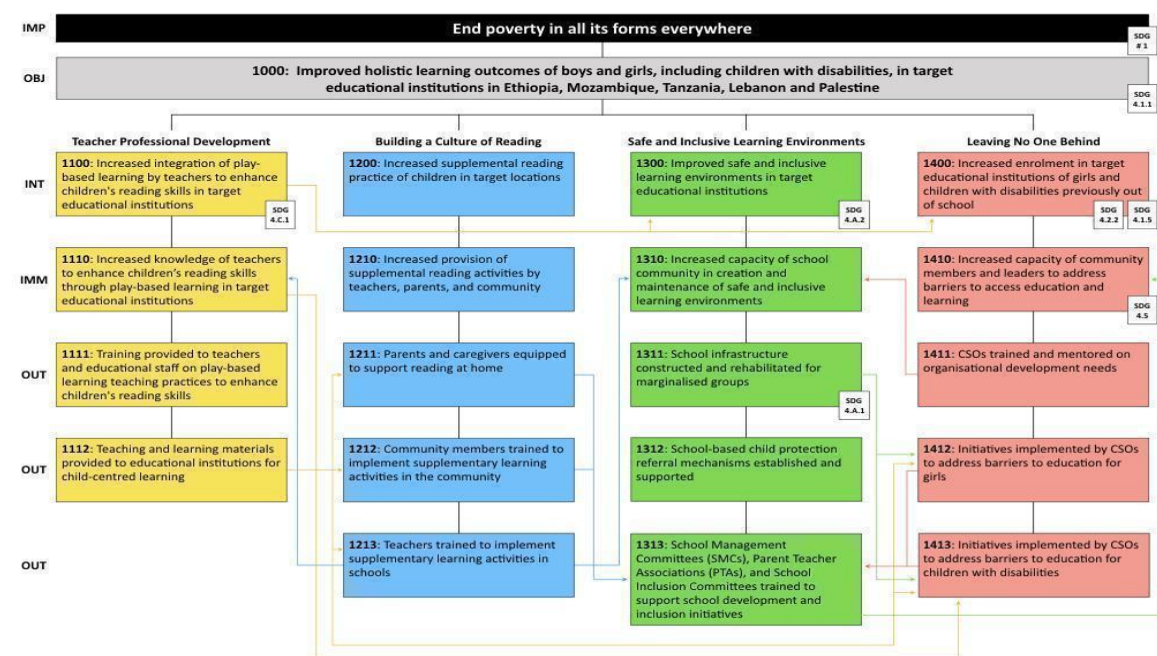


Appendix 9. Program Theory Assessment Results

9.1 Theory of change

RTP has been implementing a five-year long EQIE project in five countries (Ethiopia, Lebanon, Mozambique, Palestine, and Tanzania) from January 2020 to December 2024. The project had four core components: (i) teacher professional development, (ii) building a culture of reading, (iii) safe and inclusive learning environment, and (iv) leaving no one behind.

Chart 1. Theory of change of EQIE



Source: RTP, EQIE, MEL Plan 2021

9.2 Goal

Improve holistic learning outcomes of boys and girls including children with disabilities in targeted educational institutions in five countries.

Assessment of the goal: The goal assumes that the combination of reading and SEL skills form holistic learning outcomes. While SEL and reading skills contribute to holistic learning and were the primary focus of the project, holistic learning encompasses other skills such as numeracy and writing which were not at the direct focus of the project. The goal does not reflect the leave no one behind campaign whose primary purpose was to bring out of schoolgirls and children with disabilities back to school more so than improving their learning outcomes.

9.3 Interventions & Implementation Logic

Component 1: Teacher professional development

Assumptions: The key assumptions under the component of teacher professional development were as follows:

- PBL training delivered through a cascade approach improves subject matter knowledge and awareness on reading strategies among teachers.



- The availability of teaching and learning materials aid teachers to apply PBL methods.
- Teachers enhance **their instructional practices** through **increased integration of Play-Based Learning (PBL)** and continue to do so encouraged and supported by the locally available community of practice.
- The **improved pedagogical practices** contribute to improving **reading proficiency in students**.

Teacher training on PBL + community of practice → *improved instructional pedagogical practices* → improved reading and SEL skills

What worked? Teachers were able to transfer knowledge from the training to improve pedagogical practices. The availability of teaching and learning materials helped to improve the classroom environment.

What did not work? The community of practice was not as effective in encouraging teachers to continue applying PBL methods. Schools were not able to establish an autonomous mechanism to train new teachers who recently joined the school. The theory of change missed to take into account the external factors that might affect a teacher's motivation to improve their teaching learning practice. Teacher's motivation in applying PBL was central to the actual application of PBL methodology in the classroom and continuation of the improvement in pedagogical practices.

Component 2: Building a culture of reading.

Assumption: The key assumptions under the component of building a culture of reading were as follows:

- Reading clubs/centers together with distribution of reading materials help to increase engagement and participation of children in reading activities.
- Parents who participate in EQIE's orientation sessions support their children to read at home.
- All children will get the opportunity to read inside and outside school.
- The increased participation in reading activities leads to improved reading skills among children.
- The distribution of solar lights helps children to read during the evening for families that do not have access to electricity.

Reading center/club + supplementary materials + trainings/community level campaign + both inside and outside school → access to supplemental reading resources → *increased engagement and participation of children in reading activities* → improved reading skills

What worked? Reading clubs and reading materials attracted children to reading materials. Children with access to those facilities were able to read more than before. Parents who participated in the orientation sessions were more open in supporting their children to read while at home.



What did not work? Not all schools had reading clubs and not all centers were running regularly as expected. There were external factors affecting reading centers such as unavailability of public space to run activities, and the unsustainable structure that required locally hired facilitators to run the center. Reading clubs, managed and run by children with support from teachers, also faced challenges to regularly operate. As a result, many children did not get the opportunity to participate in the reading activities. Schools without libraries were not able to store and distribute the reading materials to children as expected.

Component 3: Safe and Inclusive Learning Environment

Assumptions: The safe and inclusive learning environment had the following vertical logic assumptions contributing to the goal:

- School stakeholders once trained and capacitated will be willing and able to set up child protection mechanisms in schools.
- The child protection mechanism in schools will help children to feel safer at school.
- School-level construction will help girls and children with disabilities to find schools safer and accessible.
- The community level campaigns will be helpful in eliminating harmful socio-cultural practices affecting children, especially girls and children with disabilities.
- Play-based learning will help improve teacher and student relationships by helping them to better communicate with each other and also by eliminating any form of violence against children.

Awareness, understanding, experience, acceptance, engagement, capacity building → positive attitude towards PBL + address barriers to education → Improved attendance and SEL skill

What worked well? PBL methodology helped to establish better relationships between teachers and children, particularly when such techniques were applied. Teachers adopted better disciplinary and participatory behaviors.

What did not work well? Although there was an indirect link between a safe school environment and better SEL skills, the connections were not directly established in the project. The implementation of the child protection mechanism and the application of punishment-free classroom teaching learning depended on the local stakeholders including teachers. The school-level construction, though helped to support development of an inclusive school environment, was expensive.

Component 4: Leave no one behind

Assumptions: The following were the assumptions relating to 'leave no one behind' component.

- Community level campaigns heighten awareness on the significance of education for children with disabilities (CWDs).
- The door-to-door campaigns help to identify and enroll out-of-school girls and CWDs back to school.



- The supplies (uniforms and educational materials) help to retain girls and children with disabilities in school.

Campaign, Identification and Supplies → heightened awareness on importance of education (for CWDs) → **improved identification and support** → increased enrollment and retention

What worked well? The assumptions related to door-to-door campaigns and re-enrollment to school worked as expected. The distribution of supplies offered a big help for parents and children who would not be able to afford to purchase those materials.

What did not work well? The assumption did not work for some children whose needs would only be met by a special school. The referrers would only work if a special school is available nearby.

9.4 Continue, stop & initiate.

During the program theory assessment workshops, the project implementers identified three sets of activities (i) activities that are worth continuing based on their relevance to drive the implementation logic as expected, (ii) activities that should be deprioritized given that the implementation logic was not as effective, and (iii) activities that need to be introduced because they have a higher chance to be true given the learning from the implementation.

Top priority (Activities you would continue)
• Teacher training on PBL • Parental campaign on education specifically on girls and children with disabilities • Door-to-door campaign and school supplies to bring back children to school. • Reading clubs in schools • Provision of reading and learning materials • Community of Practice and creating support mechanism for teachers • Orientation for parents
Low priority
• Community level awareness raising campaign on harmful social practices and other topics. • Community level reading centers • School-level construction support
New
• School libraries/stores to distribute books. • Materials and incentives for teachers • Orientation to parents through parent teacher association



Appendix 10. Baseline ISELA Test Questions

Table 38: Baseline ISELA Test Questions

Section	Questions
Household Literacy Environment	Who do you live with?
	In the past week, have you seen anyone in your home reading?
	In the past week, has someone in your family helped you with your homework?
	In the past week, has a family member read to you?
	In the past week, has a family member told you a story?
	In the past week, has a family member played literacy games with you?
	Do you talk to anyone at home when you are sad?
	Do you talk to anyone else at home when you are sad?
	Do you ask anyone at home for help when you have a problem with a friend?
	Do you ask anyone else at home for help when you have a problem with a friend?
	If you are working on something difficult, do you ask anyone at home for help?
	If you are working on something that takes a lot of time and it is difficult to finish, do you ask anyone else at home for help?
	Do you know when someone in your home is feeling sad?
	Can you tell me the names of your good friends?
	Do you talk to any of your friends at home or school when you are sad?
	When you have a problem with another child, do you ask any of your friends at home or school for help?
	If you are working on something difficult, do you ask any of your friends for help?
	Do you know when your best friend is feeling sad?
	What are some good ways to show teamwork?
	In the last week, have you played a game with friends?
	In the last week, have you worked with friends on coursework/homework?
	In the last week, have you worked with a friend to accomplish a common goal?
	Now, I want you to think about adults who you talk to almost every day in your school and community. Can you tell me which adults you talk to almost every day?
	Do you talk to any adult in your school when you are sad?
	Do you ask any adult in your school for help when you have a problem with a



	friend?
	If you are working on something difficult, do you ask an adult in your school for help?
	Do you know when an adult in your school or community is feeling sad?
	If you or a friend were being harmed by someone else, what would you do?
Community Literacy Environment	Over the past week, did your teacher read to you?
	Over the past week, did your teacher ask you questions about what you read?
	Over the past week, did you read with a classmate in school?
	Over the past week in school, did you read quietly by yourself without help?
	Over the past week, did you learn songs or games in class?
	Over the past week, did your teacher teach you the sounds of letters and words?
	Do all your friends come to school regularly? If no, why not?
	Do all the children your age in your community go to school? If no, why not?
	Do you attend after-school reading activities, like reading camps, reading centers, or reading days out? If yes, did you attend last week?
	Do you participate in out-of-school reading activities, like those available through radio, TV, or mail? If yes, did you attend last week?
Stress Management	Can you tell me one thing you do to calm down when you are angry or upset?
	Can you tell me another thing you do to calm down when you are angry or upset?
	Is there anything else you do to calm down when you are angry or upset?
Empathy A	Materials: Picture card of a girl and boy crying. Place the picture in front of the child and say: Now let's look at these pictures. How do you think these children are feeling right now?
	What would you do to help them feel better?
	Is there anything else you would do to help them feel better?
Empathy B	Now I will tell you a story about these children and why they are crying. One day the teacher told all the children in the classroom to make a line so that they can go out to play. All the children rushed to make a line. As they were making the line another child bumped into these children. They fell down and hurt their knees. This is why they are crying in this picture.
	Why did the other child bump into these children while making a line?
	How do you think the other child felt after they started crying?
Empathy C	Materials: Picture card of an angry girl and boy. Place the picture in front of the child and say: Now let's look at this picture. How do you think these children are feeling right now?



	What would you do to help them calm down?
	Is there anything else you would do to help them calm down?
Empathy D	Now I will tell you a story about these children and why they are angry. They have just finished a beautiful drawing for school. They worked on it for a long time and they are really proud of it. Another child came over to look at the drawing. This other child was holding a glass of water. The children turned away for a minute and when they looked back, the other child had spilled water all over the drawing.
	Why did the other child spill water all over the drawing?
	How do you think the other child felt when the children got angry?
Perseverance/ Attention Span	Materials: Card with shapes on it. We will now play a game. First, can you tell me which hand you use to write your name? For this game, you should ask the child to draw using their non-dominant hand. If they use their right hand to write their name, they should use their left hand in the game. If they use their left hand to write their name, they should use their right hand in the game. I am going to show you a picture and I want you to use your <non-dominant> hand to draw that picture. You must always use your <non-dominant> hand. You can use your other hand to hold the paper but you cannot draw using that hand. If you get frustrated or you feel like you want to stop drawing please tell me. We will then move to the next activity. Okay? Are you ready to play this game? 1) Show the child the first laminated card. Give the child 60 seconds to draw the picture. At 20 and 40 seconds if the child is still drawing, say: You can stop at any time and we can move to the next game. IF THE CHILD GIVES UP BEFORE 60 SECONDS THEN MARK "INCORRECT" and the survey will move to the next section. IF THE CHILD FINISHES THE DRAWING WITHIN 60 SECONDS OR IS STILL DRAWING AT THE END OF 60 SECONDS, MARK "CORRECT." If the child is still drawing at the end of 60 seconds tell him/her that he/she has done well and that you will now move to the next drawing. 2) Follow the same instructions as above for each shape.
	Child completed first drawing OR was still drawing at the end of 60 seconds
	Child completed second drawing OR was still drawing at the end of 60 seconds
	Child completed third drawing OR was still drawing at the end of 60 seconds
	Child completed fourth drawing OR was still drawing at the end of 60 seconds
Solving Conflict A	I want you to imagine a situation where you are playing with a toy that you like. Another child wants to play with that same toy, but there is only one toy.
	What would you do in this situation?
	Is there anything else you would do?
Solving Conflict B	Now, I want you to imagine the same situation: you are playing with a toy that you like, another child wants to play with the same toy, but there is only one toy. This time the other child takes the toy away from you and starts playing with it without asking you.
	What would you do in this situation?



	Is there anything else you would do?
Learning Environment Safety	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?
	In the last week, did a child in your school tease another child to make them angry?
	In the last week, did a child in your school leave out another child from an activity or game?
	In the last week, did a child in your school say something mean to another child?
	In the last week, did a child do any of these things to you?
	In the last week, did children in your school get into a fight where someone was hit?
	In the last week, did you get into a fight where someone was hit?
	In the last week, did anyone in your school throw something at a child to hurt them?
	In the last week, did you throw something at a child to hurt them?
	In the last week, did an adult in your school scream or yell at a child?
	In the last week, did an adult in your school hit or kick a child?
	In the last week, did an adult in your school threaten to hurt a child?
	In the last week, did an adult in your school do any of these things to you?
Self-concept	I want you to think about something you hope will happen in your life in the future. It can be anything and at any time in the future—1 year, 5 years, 10 years, any time in the future. I would like you to make a drawing of what you hope for in the future. You can draw whatever you want. There are no right or wrong ways to do the drawing. After you finish your drawing, I will ask you a few questions about your drawing. If the child is hesitant or self-conscious about their drawing abilities, say: Whatever you want to create in the drawing and share with me is fine. If the child does not want to do the drawing then say: I want you to imagine something you hope will happen in your life in the future. Some children may make a drawing that does not represent something in the future (e.g.: drawing a flower); this is okay. Do not try to direct the drawing of the child or give them hints on what to draw. Give the child approximately five minutes to complete the drawing. If the child is still drawing at the end of five minutes, encourage him/her to complete the drawing by saying: I am going to give you one more minute to finish your drawing and then I want to ask you a few questions about your drawing. Once the drawing is complete, say something affirmative like: You worked hard on that drawing. Thank you for sharing this with me. I would like to ask you a few questions about the drawing. Child attempted drawing: If child refused to draw and instead used his/her imagination please mark “Incorrect” If child refuses to do drawing or imagine themselves in the future, mark “No response”



	Child includes self in drawing.
	Can you describe what you hope will happen in your life in the future?
	Can you tell me one thing that could happen that would stop you from reaching what you hope to succeed in the future?
	Can you tell me who or what will help support you in reaching what you hope to succeed in the future?
	Can you tell me one other thing that you hope will happen in your life in the future?
	Can you tell me one thing that could happen that would stop you from being angry?
	Can you tell me who or what will help support you in overcoming your anger?