# Evidence Brief

Learning through Play to Improve Teaching, Learning and Wellbeing in Conflict and Crisis: **Findings from a Randomized Control Trial in Ethiopia**

**PlayMatters** seeks to improve holistic learning outcomes and well-being for **800,000** refugee and host community children ages **3-12+** who live in refugee and host community contexts in **Ethiopia, Uganda and Tanzania** using **Learning through Play** methodologies.

## Key Messages

- **Learning through Play works, even in conflict and crisis:** A randomized control trial (RCT) showed that the PlayMatters program significantly improved teaching quality, children's learning outcomes, social–emotional skills, and wellbeing in Ethiopia's Somali region.

- **Impacts are large and wide-ranging:** Teachers showed major gains in instructional practices, classroom management, and student engagement. Children made large improvements in numeracy and social–emotional learning, and moderate gains in literacy and wellbeing.

- **Exceptional cost-effectiveness:** Compared to education interventions in conflict affected settings, PlayMatters in Ethiopia achieve 4X the impact on children's SEL outcomes, 2X the impact on numeracy, and similar impacts on literacy at one-sixth of the average cost of education interventions in conflict settings (US$38 per child compared to US$240 in the field).

- **Evidence at the global frontier:** This is the first RCT to demonstrate causal, cost-effective impacts of Learning through Play in a conflict-affected education system.

- **Action for policy:** Learning through Play can be integrated into Ethiopia's national teacher professional development frameworks and curriculum reforms, offering a scalable, low-cost model to strengthen quality, equity, and resilience in education.

## Background and Rationale

Ethiopia is among the most crisis-affected countries, facing recurrent droughts, conflict, and large-scale displacement. More than 6.8 million people in drought-impacted areas were in need of urgent humanitarian assistance by mid-2022[1]. In 2023, the impacts of conflict, drought, flooding, and disease outbreaks led to approximately 21.4 million people in need and 7.6 million children being out-of-school[2]. Despite these, the country also currently hosts nearly 1,015,800 refugees, with over 320,000 living in camps and surrounding host communities in the Somali region as of July 31, 2025[3]. These indicate that children, women, and persons with disabilities in Ethiopia face significant risks due to armed conflict, violence, climate shocks, disease outbreaks, new refugee influxes, and large-scale population displacement.

The Ethiopian government and partner organizations have exerted relentless efforts to improve access to schooling, but learning outcomes remain critically low. National assessments show that most Grade 4 and 8 students perform below proficiency levels in reading and mathematics[4]. The rate of learning poverty in Ethiopia is alarmingly high at 90 percent, where nine out of 10 children are unable to read and understand a simple text by the age of 10[5]. Refugee and host-community schools often lack qualified teachers, sufficient materials, and adequate infrastructure, while overcrowded classrooms and high teacher turnover further weaken quality.

Conventional teaching methods centered on rote learning do little to engage children or address the effects of trauma, displacement, and chronic stress. As a result, too many students remain disengaged, unmotivated, and unable to develop foundational and social-emotional skills. Addressing this learning crisis requires innovative, evidence-based approaches like Learning through Play (LtP) that build teachers' capacity, foster student engagement, and support children's holistic wellbeing— even in contexts affected by conflict and displacement.

This evidence brief presents the results of a Randomized Controlled Trial (RCT) that evaluated the impact of LtP in the Somali Region of Ethiopia and translates the study's key findings into evidence-based recommendations to advance LtP within Ethiopia's education system.

[1] UNICEF (01 February 2022). Prolonged drought pushing families in Ethiopia to the brink.
[2] UNICEF (19 February 2024). Ethiopia Humanitarian Situation Report No. 12: January - December 2023 – Ethiopia-ReliefWeb.
[3] UNHCR. (2025). Global trends: Forced displacement in 2024. Copenhagen, Denmark: UNHCR.

## The Promise of Learning through Play

A growing body of research shows that play is one of the most powerful ways for children to acquire knowledge and skills[6][7]. From early childhood through adolescence, play promotes not only academic learning but also physical, social, emotional, cognitive, and creative development[8][9][10][11][12]. LtP approaches have been linked to long-term social and economic benefits through improved holistic outcomes.

In crisis-affected settings such as Ethiopia, play is particularly valuable. Exposure to conflict, displacement, and chronic poverty can undermine children's engagement in learning and social-emotional well-being and development. Providing opportunities for playful, supportive interactions with adults can help buffer these effects and foster healing and resilience[13][14][15]. A recent review of 42 studies on LtP in emergencies found that play-based interventions can strengthen teacher–student relationships, classroom climate, and children's social–emotional well-being[16]. Yet, rigorous causal evidence—especially in formal classrooms—remains scarce, and most existing LtP evidence comes from stable, high-income countries, limiting its generalizability to humanitarian contexts. PlayMatters conducted RCTs in Ethiopia and Uganda to address this gap by testing how a play-based teacher professional development model can enhance instructional quality and children's holistic learning in crisis-affected schools.

## PlayMatters in Ethiopia

PlayMatters is an education initiative implemented by a consortium led by the International Rescue Committee with Plan International, War Child Alliance, Innovations for Poverty Action, and the Behavioral Insights Team in partnership with the LEGO Foundation. The program was implemented in partnership with the Ministry of Education and Regional Education Bureaus to ensure policy alignment and sustainability. The program has reached more than 900,000 refugee and host-community children in Ethiopia, Tanzania, and Uganda, whose learning and development have been disrupted by displacement and trauma.

PlayMatters promotes active, engaging, and joyful learning for children ages 3–12+. LtP as playful instruction involves teachers[17] intentionally designing playful, age-appropriate experiences that encourage children to interact with people and materials, question, experiment, and discover within safe and inclusive environments.

PlayMatters strengthens teachers' capacity and education systems through three pillars: (1) Skills and Practices for LtP, (2) Tools and Materials for LtP, and (3) Enabling Environments for LtP. Accordingly, the PlayMatters' Core Package includes comprehensive teacher training and ongoing professional development, school management capacity building, community engagement initiatives, safe and inclusive learning environments, and the provision of teaching and learning materials.

In Ethiopia, PlayMatters has reached 200,000 children and more than 3000 teachers in over

[4] NEAEA (2023). Ethiopian Sixth National Learning Assessment of Grades Four and Eight Students.

[5] World Bank Group (2022). Learning Poverty in Ethiopia: Status, Key Factors, and Priority Reduction Strategies. Ethiopia, June 2022, Report No: AUS0002949.

[6] UNICEF (2018). Learning through Play: Strengthening learning through play in early childhood education programmes.

[7] Zosh, J.M., Hopkins, E.J., Jensen, H., Liu, C., Neale, D., Pasek, K.H., Solis, S.L., and Whitebread, D. (2017). Learning through play: a review of the evidence. Billund, Denmark: The LEGO Foundation.

[8] Dore R. A., Smith E.D., and Lillard A.S. (2015). How is theory of mind useful? Perhaps to enable social pretend play. Frontiers Psychology.

[9] García, O., Johnson, S., and Seltzer, K. (2017). The translanguaging classroom. Leveraging student bilingualism for learning, Language and Education, 31(6), 590–594.

[10] Shonkoff, J. P., and Phillips, D. A. (2000). From Neurons to Neighbourhoods: The Science of Early Childhood Development. Washington (DC): National Academies Press (US); 2000.

[11] Toub, T. S., Rajan, V., Golinkoff, R. M., & Hirsh-Pasek, K. (2016). Guided play: A solution to the play versus discovery learning dichotomy. In D. C. Geary & D. B. Berch (Eds.), Evolutionary perspectives on child development and education (pp. 117–141). Springer International Publishing/Springer Nature.

[12] Tominey, S.L., and McClelland, M.M. (2011). Red light, purple light: Findings from a randomized trial using circle time games to improve behavioral self-regulation in preschool. Early Education and Development, 22(3), pp.489–519.

180 schools in the regions of Somali, Tigray, Benishangul-Gumuz, Afar, and Gambella. Prior implementation research in Ethiopia confirmed PlayMatters's feasibility, desirability and quality, but could not establish causal impacts - a reason to conduct an RCT evaluation in Ethiopia.

## A Randomized Control Trial of PlayMatters in Ethiopia

Researchers from Addis Ababa University and IRC's Airbel Impact Lab conducted a mixed-methods randomized controlled trial to assess the impact of the PlayMatters Core Package on teachers, classrooms, and children's holistic learning in Ethiopia's Somali region.

The study aimed to answer these questions:

**1)** What is the impact of PlayMatters on teachers' instructional practices and wellbeing?
**2)** What is the impact of PlayMatters on children's cognitive, social, emotional, physical, creative skills, and on their mental health and wellbeing?
**3)** What is the program's cost-efficiency (cost per child) and cost-effectiveness (cost per change in outcome)?

Thirty-five schools were randomly assigned to treatment or control groups, with data collected during the 2024-2025 academic year from over 510 teachers and 3,060 students in grades 1-5 at baseline and endline. Quantitative data from surveys, tests, and observations are complemented by qualitative interviews and focus group discussions with 154 children, 120 teachers, 16 Head Teachers, 16 government officials, and seven program staff to understand implementation quality and experiences across refugee and host-community schools. Cost data are also analyzed to assess value for money. The RCT provides the first causal evidence on the impact and cost-effectiveness of LtP in crisis-affected education systems—generating actionable insights to inform policy and practice in Ethiopia and beyond.

## Key Findings

Results show that PlayMatters had significant, wide-ranging effects on both teachers and children.

- **Box 1. How to interpret impacts**
We interpret intervention impacts applying education-specific benchmarks proposed by Matthew Kraft[18] based on his analysis of over 1000 education studies, where effect sizes below 0.05 standard deviations (SD) are considered small, those between 0.05 and 0.20 SD as medium, and those above 0.20 SD as large. A meta-analysis of foundational learning identified that the average impact of education intervention in conflict affected settings is 0.16 SD on both literacy and numeracy outcomes[19]. A second meta-analysis identified that the average impact of education interventions on social-emotional learning (SEL) skills is 0.06 SD[20].

[13] DELED Institute (June 16, 2024). The Role of Adult-Child Relationships in Shaping Development.
[14] INEE (2016). "Psychosocial support and social and emotional learning for children and youth in emergency settings." Background paper.
[15] VanBronkhorst SB, Abraham E, Dambreville R, et al. (2023). Sociocultural Risk and Resilience in the Context of Adverse Childhood Experiences. JAMA Psychiatry. 2024;81(4):406–413.
[16] Kwok, J., Sable, A., & Smiley, A. (forthcoming). Learning through play in conflict and crisis contexts: A review of education interventions. Education and Conflict Review.
[17] PlayMatters uses the term 'teacher' to include national teachers, refugee incentive teachers, and early childhood development 'caregivers.'
[18] Kraft, M. A. (2020). Interpreting Effect Sizes of Education Interventions. Educational Researcher, 49(4), 241-253.
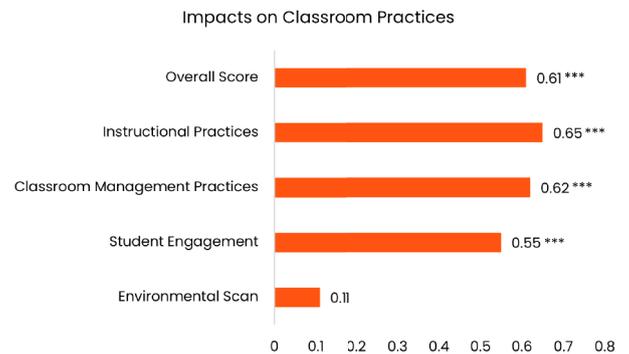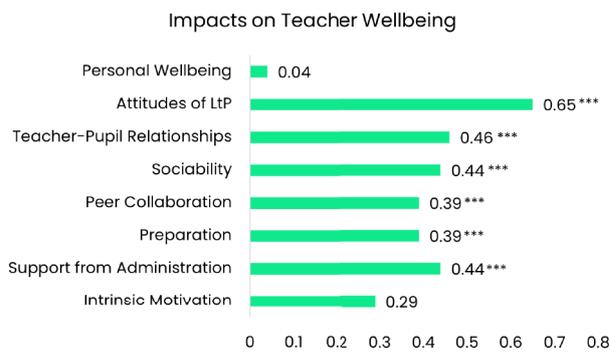[19] Diazgranados, S. & Thuo, B. (December 2025). What works for foundational learning in conflict and crisis settings. ERICC Policy Brief.
[20] Diazgranados, S. and Thuo, B. (October 2025). What works to strengthen social-emotional learning in conflict and crisis: Evidence and policy directions. ERICC Policy Brief.

## 1. Impact on Teachers

Data from classroom observations show that PlayMatters had very large, positive, and statistically significant effects on teachers' instructional practices, classroom management practices and student engagement, representing substantial gains in education quality (0.55 SD – 0.65 SD).

Teacher survey and qualitative findings confirmed that the program also enhanced peer collaboration, support from the school leadership, teacher student relationships, and attitudes towards LtP, among others. These findings suggest that PlayMatters strengthened both teacher skills and the overall classroom environment.

**Impacts on Teacher Wellbeing**

| Indicator | Value |
|---|---|
| Personal Wellbeing | 0.04 |
| Attitudes of LtP | 0.65 *** |
| Teacher-Pupil Relationships | 0.46 *** |
| Sociability | 0.44 *** |
| Peer Collaboration | 0.39 *** |
| Preparation | 0.39 *** |
| Support from Administration | 0.44 *** |
| Intrinsic Motivation | 0.29 |

**Impacts on Classroom Practices**

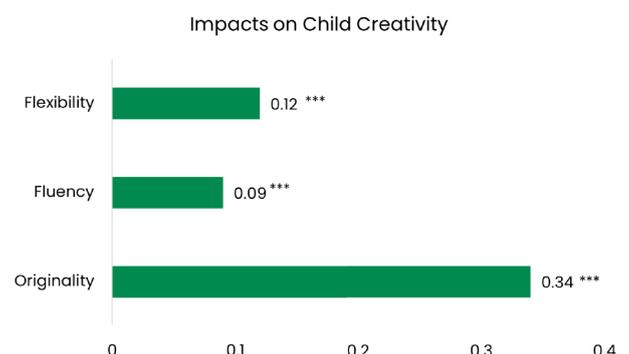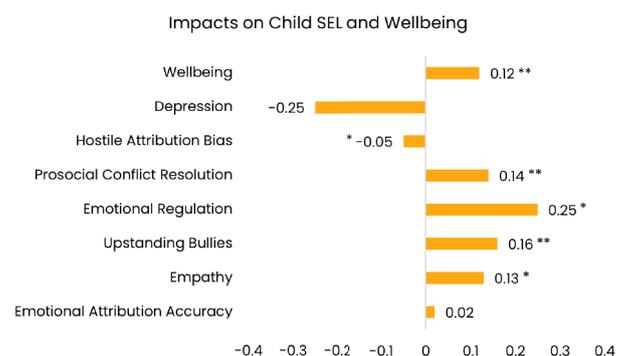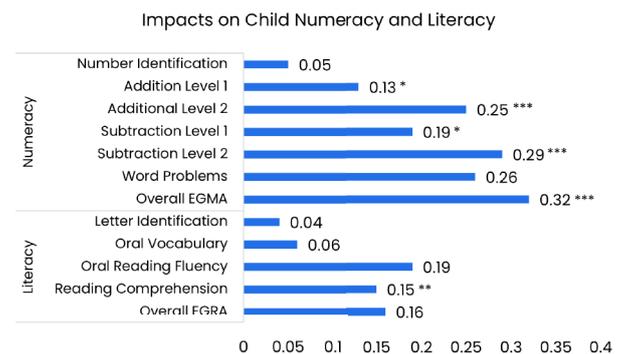| Indicator | Value |
|---|---|
| Overall Score | 0.61 *** |
| Instructional Practices | 0.65 *** |
| Classroom Management Practices | 0.62 *** |
| Student Engagement | 0.55 *** |
| Environmental Scan | 0.11 |

## 2. Impact on Children's Learning and Wellbeing

PlayMatters led to large, significant improvements in numeracy, roughly twice as large as the average impact of comparable education interventions. It also produced moderate, significant gains in reading comprehension, consistent with effects seen in similar programs. Literacy and numeracy outcomes were measured using standardized early grade learning assessment tools adapted for Ethiopia.

**Impacts on Child Numeracy and Literacy**

| | Indicator | Value |
|---|---|---|
| Numeracy | Number Identification | 0.05 |
| | Addition Level 1 | 0.13 * |
| | Additional Level 2 | 0.25 *** |
| | Subtraction Level 1 | 0.19 * |
| | Subtraction Level 2 | 0.29 *** |
| | Word Problems | 0.26 |
| | Overall EGMA | 0.32 *** |
| Literacy | Letter Identification | 0.04 |
| | Oral Vocabulary | 0.06 |
| | Oral Reading Fluency | 0.19 |
| | Reading Comprehension | 0.15 ** |
| | Overall EGRA | 0.16 |

Importantly, PlayMatters showed exceptionally strong effects on SEL—including empathy, emotional regulation, and conflict resolution—up to five times larger than those typically found in crisis-affected settings. The program also showed positive, medium, and significant improvements in children's wellbeing.

**Impacts on Child SEL and Wellbeing**

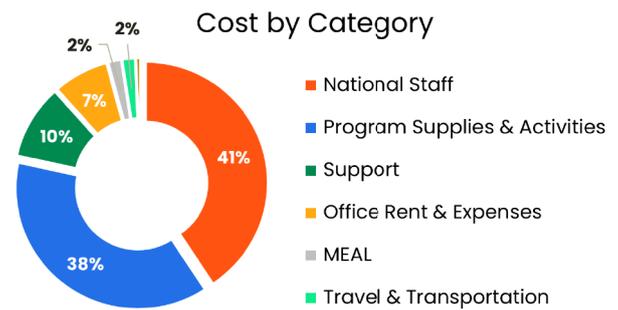| Indicator | Value |
|---|---|
| Wellbeing | 0.12 ** |
| Depression | -0.25 |
| Hostile Attribution Bias | * -0.05 |
| Prosocial Conflict Resolution | 0.14 ** |
| Emotional Regulation | 0.25 * |
| Upstanding Bullies | 0.16 ** |
| Empathy | 0.13 * |
| Emotional Attribution Accuracy | 0.02 |

For the first time in crisis education research, creativity was assessed, and we found that PlayMatters had positive, significant, medium-to-large gains in creativity.

The qualitative data also confirmed that PlayMatters strengthened students' engagement, motivation, relationships and learning.

**Impacts on Child Creativity**

| Indicator | Value |
|---|---|
| Flexibility | 0.12 *** |
| Fluency | 0.09 *** |
| Originality | 0.34 *** |

## 3. Value for Money

IRC's Best Use of Resources conducted cost-effectiveness analysis for PlayMatters. The PlayMatters initiative invested US $761,609 to serve 19,802 learners and 377 teachers in Ethiopia's Somali region—about US $38 per child. This figure reflects all implementation, staffing, and operational costs (see Figure X). The program's cost per child is well below the humanitarian education average of roughly US $240[21]. The main cost drivers were national staff (41%) and program materials and activities (38%), primarily teaching and learning materials (35%), community engagement (23%), and teacher training (21%).

### Cost by Category

- National Staff — 41%
- Program Supplies & Activities — 38%
- Support — 10%
- Office Rent & Expenses — 7%
- MEAL — 2%
- Travel & Transportation — 2%

PlayMatters proved highly cost-effective: improving children's numeracy by one-fifth of a standard deviation costs only US $24 per child, while equivalent gains in literacy, social–emotional learning, and wellbeing cost US $45–52 per child. Enhancing teacher competencies by the same margin costs US $622–1184 per teacher. Overall, we find that compared to education interventions in conflict affected settings (See Box 1), PlayMatters was able to achieve 4X the impact on children's SEL outcomes, 2X the impact on numeracy and similar impacts on literacy outcomes at one-sixth of the cost (USD38 per child compared to USD240 in the field).

These results indicate that PlayMatters delivers strong learning and wellbeing outcomes at a relatively low cost, offering an efficient model for scale up in Ethiopia's education system.

## Implications

- LtP is a highly impactful and cost-effective intervention to improve instructional quality and children's learning outcomes in the Somali region of Ethiopia. The intervention aligns well with national education policy in Ethiopia and can also inform other conflict and crisis settings affected by poverty, displacement, and climate-induced environmental disasters.
- By strengthening teachers' pedagogical practices, classroom management, and student engagement, it is possible to see large and meaningful impacts on children's literacy, numeracy, SEL and wellbeing outcomes.
- Compared to other rigorously evaluated education programs in conflict and crisis affected settings, PlayMatters yielded similar outcomes in reading, and significantly better outcomes in numeracy, SEL and wellbeing, at a lower cost highlighting its potential for sustainable scale-up and promise to adaptability to new contexts.
- This combination of strong impact and cost-effectiveness reinforces the case for scaling up PlayMatters within national education strategies.

## Recommendations

Findings from the RCT in Ethiopia demonstrate that Learning through Play can be integrated into existing education reforms to enhance learning and wellbeing outcomes at scale. We provide recommendations for donors, policymakers, practitioners, and researchers:

### For Donors

- **Finance system integration and long-term sustainability:** Support long-term transition plans so LtP becomes part of routine operations in Ethiopia, not dependent on the PlayMatters project.
- **Prioritize multi-year flexible funding to expand LtP to underserved and hard-to-reach children:** Finance efforts to tailor LtP models for out-of-school children, pastoralist learners, and children affected by acute conflict and crisis, through flexible delivery channels and non-school settings

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[21] Diazgranados, S., Hoyer, K., Haywood, A., Salmon-Letelier, M., & Scheuer, C (2025). What Does It Cost to Educate in Conflict and Crisis? A Comparative Cost-Efficiency Analysis of 125 Early Childhood Development and Education Programs in Humanitarian Settings. Manuscript submitted for review.

(e.g. community-based learning centers, child-friendly spaces, remote or hybrid learning modalities) to help increase coverage.

- **Support rigorous testing of differentiated LtP delivery models:** While the impact evaluation of PlayMatters demonstrates strong effects and great evidence of cost-effectiveness for in-school children in Ethiopia, the strength of the evidence base for LtP would benefit from additional studies documenting impact across different LtP modalities, populations and settings.

## For Policymakers (FDRE MoE & REB)

- **Leverage policy alignment to integrate LtP into national teacher professional development frameworks:** Incorporate PlayMatters' training modules, coaching model, and Teacher Learning Circles into continuous professional development (CPD) systems under EETP to improve instructional quality and classroom engagement.
- **Embed LtP in curriculum and teacher education reform:** Work with Colleges of Teacher Education and directorates of curriculum development, and teacher and educational leaders in Federal and Regional MoE to include active, play-based pedagogies in pre-service training and school leadership development.
- **Scale LtP approaches through national and regional education programs targeting underserved areas:** Expand implementation in crisis-affected and underserved regions since PlayMatters demonstrated high impact at low cost. Explicitly prioritize communities affected by conflict and crisis, such as drought.
- **Sustain and finance LtP through system budgets and partnerships:** Leverage the strong cost-effectiveness evidence and alignment with national policy priorities to mobilize domestic and partner financing, ensuring long-term integration into the national education system.
- **Strengthen a coordinated MEAL system:** Coordinate monitoring and evaluation across government and partners to track learning outcomes and LtP practices, share data, and use insights for policy, teacher development, and scaling decisions.

## For Practitioners (Teachers, School Leaders, Implementing Partners, Cluster Supervisors)

- **Design for systems-integrations from the start, collaborating with local authorities:** Co-create LtP content and training plans in collaboration with MoE, Regional Education Bureau and other relevant authorities to ensure that LtP initiatives are fully aligned with government systems, prioritizing approaches that can be sustained by the government.
- **Adapt LtP components to new delivery modalities for other populations and settings, while preserving key LtP components:** Tailor LtP approaches for diverse groups, such as out of school children, pastoralist communities, and learners affected by school closures or active conflict by adjusting delivery mechanisms to fit each context. Protect core LtP pillars while adjusting dosage, length and packages to match contextual needs, local capacity and existing budgets.

## For Researchers

- **Assess long-term impacts on children's learning and wellbeing and system-level impacts:** Conduct longitudinal follow ups of the Ethiopia RCT cohort to examine whether the impacts persist or fade out over time.
- **Generate evidence on the impact and cost-effectiveness of different LtP delivery models:** Conduct additional experimental or quasi-experimental studies to examine how different LtP delivery models designed to reach the most marginalized children perform.
- **Advance measurement of holistic learning outcomes in crisis settings:** Leverage project data to generate evidence on the feasibility, validity and reliability of SEL, mental health, and creativity tools in Ethiopian humanitarian settings, and refine them, as needed for further use.
- **Generate implementation and political economy evidence:** Conduct mixed-methods studies to examine how LtP is adopted, adapted and sustained within the Ethiopian education system and beyond, exploring how political economy factors -financing flows, incentives, governance structures-, enable or hinder the integration of LtP into routine practice.
- **Strengthen collaborations with Ethiopian policymakers and practitioners to share evidence,** build capacity of early career scholars, and design, implement and evaluate cost-effective delivery models of LtP in conflict and crisis settings.

## Conclusion

Evidence from the PlayMatters RCT in Ethiopia shows that Learning through Play (LtP) greatly improves teaching quality, student motivation and engagement, student learning outcomes, social-emotional development, and overall wellbeing, even in areas affected by crisis. The intervention is highly cost-effective, fits with national education priorities, and provides a model that can scale to boost teacher capacity, encourage inclusive learning, and support child development.

Policymakers, education authorities, and development partners should work together to include LtP in national teacher professional development plans. They should incorporate playful and active teaching methods into curricula and expand this approach in underserved and crisis-affected regions. With proper funding, coordinated monitoring systems, and joint commitment, LtP can sustainably improve learning, equity, and wellbeing for all children throughout Ethiopia.
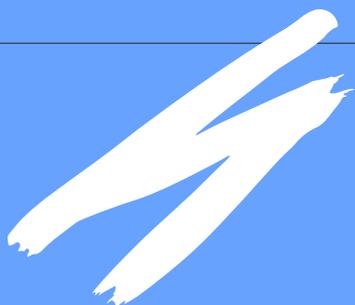


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### I teach children through enjoyment,

– Teacher *Yusuf*

Omar Abdi demonstrates to the class steps in handwashing during a science lesson by Teacher Mohammed.

**Melkadida Host Community Primary School,**
Melkadida, Ethiopia