

Exploring Early Childhood Education Scaling Pathways



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The Evidence for Play-Based Learning

Research suggests that play-based learning is an effective approach supporting both developmental and learning outcomes in children. The LEGO Foundation conducted a scoping review examining the evidence showing a positive association between learning through play and children's holistic skills from birth to 12 years, across a variety of contexts and learning settings. The scoping review documented more than 300 studies across over 40 countries that established a link between learning through play and children's skills.

Within this scoping review, literacy is one of cognitive sub-skills most strongly linked to learning through play.¹ Positive relationships have been demonstrated between play, storytelling, and language abilities. For instance, children who play more frequently with their peers have greater receptive vocabularies.² Similarly, children's receptive and expressive vocabularies improve when directive teaching methods incorporate play. Symbolic play is related to language development, and activities like copying and mimicking during play are connected to later expressive vocabulary ability.³ While much of the research around learning through play comes from western cultures, the scoping review found that play-based curricula in high-quality early childhood education programs have improved language and literacy outcomes across high-, middle-, and low-income countries.⁴

Similar to literacy skills, mathematical skills are one of the cognitive sub-skills most strongly linked to learning through play⁵. Research indicates that structured, playful educational methods support early development in mathematics.⁶ In addition to structured play, symbolic play, peer play, and pretend play create avenues for children to interact with mathematical concepts.⁷ For instance, evidence supports that block play promotes early mathematical competencies in children, including numeracy, pattern recognition, spatial abilities, and understanding of mathematical language.⁸

Research indicates that in addition to literacy and mathematical skills, learning through play can support social-emotional skills. The scoping review identified 90 instances establishing a positive link between learning through play and social skills, including cooperation, social engagement, negotiation and perspective-taking among other skills.⁹ Similarly, the review documented 58 instances in which studies demonstrated a positive link between learning through play and children's emotional skills including resilience, self-efficacy, self-

¹ Zosh, J. M., Hassinger-Das, B., & Laurie, M. (2022). Learning Through Play and the Development of Holistic Skills Across Childhood. Lego Foundation. https://cms.learningthroughplay.com/media/kell5mft/hs_white_paper_008-digital-version.pdf

² Ibid.

³ Ibid.

⁴ Ibid.

⁵ Ibid.

⁶ Ibid.

⁷ Ibid.

⁸ Ibid.

⁹ Ibid.

regulation, and self-esteem among other skills.¹⁰ Play is linked to children's social competence and school-readiness in high-, middle- and low-income countries.¹¹

Evidence Supporting Learning through Play Approach

The Gender Responsive Education and Transformation - Early Childhood Education (GREAT-ECE) project used implementation research to gather robust evidence on the use of the Learning through Play approach in early childhood education settings in Mozambique and Rwanda, to assess its benefits, and potential as a contextually appropriate solution for scale up. The intervention was based on

the Gender Responsive Continuum of Teacher Training (GR-COTT) program, originally developed for primary education in Ghana, Rwanda, and Mozambique and adapted for the ECE sector. The adaptation process involved workshops led by local ECE experts to ensure the curriculum was contextually relevant, with a particular focus on play-based learning, child development, and creating a positive learning environment. The exercises emphasized participatory approaches, including input from teachers on locally relevant games and activities. In Rwanda, the training resources were further validated by the Rwanda Education Board.

The Gender Responsive Education and Transformation (GREAT) approach showed promising signs of effectiveness in the primary school setting. Developed as a primary school teacher development program, the GREAT project aimed to build teacher capacity in using play-based pedagogy to address the learning needs of girls and boys in the context of a positive learning environment, while advancing gender equality.

Hypothesis for expanding play-based learning to pre-primary

Given the substantial global evidence supporting the effectiveness of play-based learning in enhancing various developmental domains of children and the specific anecdotal evidence from lower primary settings, we hypothesized that implementing a pre-primary play-based learning intervention would significantly improve children's school readiness skills in Rwanda and Mozambique.

¹⁰ Ibid.

¹¹ Ibid.

Piloting GREAT-ECE in Rwanda

In Rwanda, the GREAT primary education project was implemented in Bugesera, Kayonza and Ruhango, three districts where higher gender inequalities in school attendance rates were found at the time of the project.¹² Since the pilot project was limited to a single district, Ruhango was chosen for the intervention due to its higher number of pre-primary levels within primary schools.

Findings in Rwanda Presented Mixed Outcomes

The analysis in Rwanda using mixed repeated measures ANOVA revealed no significant changes in the International Development and Early Learning Assessment (IDELA) scores between different groups over time, indicating that the intervention did not significantly affect children's overall development scores.

In addition to quantitative analysis, the pilot study also used qualitative analysis. Teachers and school leaders reported improvements across classroom environment, teaching practices, and parent interactions. Teachers in Rwanda reported a perception shift, viewing the gender-responsive play-based learning approaches as a core pedagogy instead of limiting play for only extra-curricular activities. Teachers also reported a greater appreciation for the diverse backgrounds of children including gender and disability. Teachers also reported several interlinked challenges in implementing GR-PBL including high student-teacher ratios, lack of materials, unsuitable physical spaces for play and young children, and insufficient time to fully integrate GR-PBL into daily routines. Additionally, teachers cited a lack of support from school leaders and limited parental engagement as challenges.

Scaling Primary Programs for Early Childhood Education

Scaling a primary education intervention to pre-primary levels presents distinct challenges and considerations, primarily due to developmental, contextual, and systemic differences between these educational stages. The findings from GR-PBL in Rwanda present a thought-provoking case for scaling educational initiatives across different educational levels. These insights prompt a deeper exploration of the critical factors and distinct challenges that could be considered when scaling educational programs from primary to pre-primary settings.

Children in pre-primary age groups encompass a wide range of developmental stages. Tailoring play-based learning to the wide range of developmental abilities in pre-primary children can require a more nuanced and flexible approach than in primary settings. Teaching methods and materials designed for older children

¹² MINEDUC. (2022). 2020/21 Education Statistical Yearbook Rwanda. MINEDUC. <https://www.mineduc.gov.rw/index.php>

cannot be directly applied to younger ones, who need activities that match their individual developmental stages. This necessity for developmentally appropriate practice adds complexity to scaling efforts.

The training, support, and experience of educators in pre-primary settings often vary significantly from those in primary education. Specifically in Rwanda, pre-service training for ECE teachers is overly general and lacks the specificity needed to address the distinct demands of early childhood education. Furthermore, school leadership training programs focus more on educators in primary and secondary schools rather than on those in early childhood settings. In addition, 82% of the ECE workforce is new to the teaching profession, meaning they possess less than three years of experience. These gaps in training, support, and experience have the potential to hinder the scaling from primary to pre-primary.

Pre-primary programs frequently face financial constraints, with public and donor funding usually skewed towards primary and secondary education. This disparity often results in inadequate resources and facilities, adversely affecting the quality of early childhood education. Scaling play-based learning to pre-primary settings requires significant investment in resources including sufficient workforce, materials, and facilities.

The role of parents and caregivers is even more critical in pre-primary education. However, effectively engaging them can be challenging due to various factors, including socioeconomic conditions, work commitments, and educational backgrounds. Parental engagement may be more difficult for ECE centers in particular than for community-based ECE. ECE centers often feature more formalized structures and protocols, which can create a perceived barrier between parents and staff. Additionally, their larger size and capacity to serve more children make it challenging to develop personalized relationships with each family. Moreover, ECE centers are not always situated within the immediate communities of the families they serve. This may pose barriers to parental involvement due to distance and transportation as well as cultural, linguistic, and social differences. Programs targeting pre-primary may require additional resources and strategies to engage families and communities.

Pre-primary programs tend to have less streamlined regulation and oversight compared to primary education, which can result in variability in program quality. The oversight and regulation of ECE can be more complex than those of primary education, largely due to the diverse array of service delivery models in ECE compared to the more standardized structure of primary education. ECE includes a variety of settings such as formal preschools, childcare centers, home-based care, and church-based programs, each with distinct operational, logistical, and educational characteristics. In contrast, the more uniform structures of primary education allow for more straightforward regulation and oversight. In Rwanda, the oversight and regulation of ECE involve multiple national bodies such as the Rwanda Basic Education Board, the National Child Development Agency, and the

National Examination and School Inspection Authority (NESA). Additionally, teachers are employees of the Ministry of Local Government (MINALOC), adding a layer of complexity to government oversight. While this multi-faceted approach is comprehensive, coordinating across various bodies can complicate the enforcement of regulations. Additionally, inspectors from NESA, who are expected to evaluate pre-primary education, often have a background in secondary education. This could potentially limit their ability to accurately assess the quality of ECE. It is important to note, however, that these complexities are not uncommon in structures that involve multiple agencies, and they present opportunities for ongoing improvement and internal government capacity building.

Recommendations for Future Scaling

The journey of scaling play-based learning from primary to pre-primary education in Rwanda has been insightful, revealing both the potential benefits and the unique challenges of applying this pedagogical approach to younger learners. While the hypothesis faced obstacles, the lessons learned provide valuable directions for future efforts.

Future approaches scaling primary interventions in pre-primary contexts can explore foundational analyses to design interventions that meet the distinct needs of younger learners, their educators, and communities.

A needs assessment can be useful to understand the specific requirements of pre-primary children, educators, and the broader community. This assessment can help identify the distinct needs of pre-primary children compared to their older counterparts. This step can help in ensuring that pedagogical approaches align with the developmental stages and learning styles of younger children. Furthermore, understanding the needs of educators and communities can help ensure that the program is feasible and addresses on-the-ground realities and expectations. This alignment may play a role in the successful adaptation and acceptance of play-based strategies in pre-primary settings.

A resource analysis can also serve as a critical step due to the different infrastructure, material, training, and financial needs of these distinct educational levels. Pre-primary settings often require more specialized resources tailored to young learners' needs, such as safe play areas, age-appropriate learning materials, and educator training in early childhood development. Identifying resource gaps and planning for their allocation may help ensure that the expansion of play-based learning into pre-primary education is not hindered by logistical and financial constraints.

Stakeholder analysis gains particular importance in the transition from primary to pre-primary education due to the varying degrees of involvement and expectations among parents, educators, policymakers, and the community. In pre-primary settings, parents and caregivers often play a more integral role in their children's

education. Understanding and engaging these stakeholders effectively can be crucial for creating a supportive educational ecosystem around young learners. Moreover, securing the buy-in and support from policymakers and community members could help to facilitate access to necessary resources.

Piloting GREAT-ECE in Mozambique

Early childhood education coverage in Mozambique is quite low. According to available estimates, preschool enrollment stands at 4%, largely limited to urban areas and more affluent populations. A majority of the enrolled children attend community-based ECE programs, which are predominantly owned by private individuals, businesses, and churches. The Government of Mozambique has shown a commitment to pre-primary education, recognizing its importance in the holistic development of children. This commitment is reflected in their strategic planning and policy implementation. In their new Education Sector Plan (ESP) for 2020-2029, developed with support from UNESCO and other partners, the government has outlined a long-term vision to ensure a transparent, participatory, and effective system that will improve equitable and quality education. This plan guides the country's education system for the next decade. Notably, the plan recognizes preschool as a sub-sector within education. Although preschool enrollment is not a requirement to enter primary school, this recognition signifies the government's acknowledgment of the importance of early childhood education. This change, along with increased investment and government commitment to maintain high education expenditure, has led to progress in the education sector. Moreover, the government has requested UNESCO's technical assistance to support the Plan's dissemination. This involves communicating the ESP's vision and priorities for the next ten years to all those involved in the education system – from central level staff down to teachers and parents. This dissemination strategy is a clear indication of the government's commitment to ensuring the successful implementation of the plan.

The project in Mozambique, as part of the broader Gender Responsive Education and Transformation (GREAT) initiative, aimed at improving early childhood education by integrating gender-responsive play-based learning pedagogies. This effort sought to enhance the quality of education and improve child development outcomes through specialized teacher training and curriculum adaptation to the ECE context. In Mozambique, the project targeted 5 centers in the Namaacha district. Unlike in Rwanda, where ECE centers are embedded within primary schools and regulated by the Ministry of Education, Mozambique's ECE landscape is characterized by a lack of formal recognition and regulation, resulting in teachers often being referred to as caregivers without access to professional development opportunities. This setup, while offering benefits like innovation and closer ties to community and parent needs, also posed challenges related to quality control and equity.

GREAT-ECE in Mozambique Improved Learning Outcomes

The project utilized a mixed-methods approach for evaluation, encompassing a pilot randomized controlled trial to assess changes in classroom environments and child development outcomes.

The mixed repeated measures ANOVA indicated significant interaction effects for the IDELA total score and classroom total score in Mozambique, suggesting positive changes due to the intervention. Significant effects were observed in emergent literacy, emergent numeracy, and socio-emotional development domains. Furthermore, teachers and school leaders reported a shift in their perceptions towards using play-based learning strategies. Teachers also recognized changes in their approach to respecting the unique backgrounds and needs of children. Furthermore, there was a notable shift in teachers' views on child agency. Post-training, teachers acknowledged the importance of considering children's opinions and personal needs.

Challenging State-Supported Scaling Context

While the project demonstrated positive outcomes, scaling early childhood education presents distinct challenges.

Mozambique's ECE sector often functions independently, managed by community or religious organizations. This fragmentation results in a lack of uniformity in terms of resources, curriculum, and teacher qualifications across ECE centers. Such decentralization complicates the task of scaling ECE through state systems, as it requires standardizing a highly varied landscape.

Effective scaling of ECE through state systems necessitates a well-trained workforce. However, there is a notable lack of access to professional development for ECE teachers in Mozambique. The informal nature of many ECE settings means that teachers do not receive the same training or support as their counterparts in primary education.

Cultural attitudes also play a crucial role in the scalability of ECE through state systems. In many parts of Mozambique, there is limited awareness about the benefits of early childhood education, and economic barriers further diminish its perceived necessity.

Competing priorities in government budgeting pose significant hurdles. Funding for education competes with other critical areas such as healthcare and infrastructure. Within the education sector itself, resources are often prioritized for primary and secondary education, leaving ECE underfunded and poorly positioned for scaling.

Scaling ECE through Non-State Pathways

Given the substantial challenges associated with scaling early childhood education through state-supported systems in Mozambique, it becomes increasingly important to consider non-state pathways as viable alternatives to expand and enhance ECE provision. Non-state ECE in Mozambique is primarily provided by

private organizations, NGOs, religious groups, and community-based programs. These entities form the backbone of ECE delivery, particularly where government provisions are limited.

Strong partnerships with NGOs, international aid organizations, private companies, and philanthropic entities are crucial in this context. These organizations can provide funding, resources, and expertise that are often beyond the reach of local communities. For example, NGOs might offer training and operational support, while private companies could contribute through corporate social responsibility initiatives. Additionally, international organizations could assist with larger grants or introduce global best practices in child education, significantly enhancing the local ECE landscape.

Given the country's economic constraints, private financing emerges as a potential catalyst to support the sustainability and scalability of these initiatives. For ECE providers, private financing can occur through debt and equity options, blended finance, and grants. This can enable ECE providers to improve the quality of education, expand their services, and invest in long-term development. It can also help them navigate economic fluctuations and adapt to changing market conditions. For families and caregivers, private financing can allow access to ECE services. Additionally, families can secure the necessary funds to ensure continuous and uninterrupted education for their children. This can involve the use of scholarships, sliding scale fees, education loans, and other affordable financing options for families.

Investing in the continuous professional development of ECE providers is critical for scaling these efforts. Training programs should encompass a broad range of skills, from developmentally appropriate practices to effective ECE center management practices. Local universities can offer courses tailored to the Mozambican context, while international partners can leverage evidence-based methodologies.

Finally, advocacy and awareness are key to changing cultural perceptions about the value of early education and securing broad-based support for non-state ECE. Efforts should be focused on educating parents, government stakeholders, and community leaders about the multifaceted benefits of early childhood education. This can be promoted through SBCC campaigns and collaboration with local media. By raising awareness, stakeholders may be more likely to invest in and support the expansion of ECE programs, recognizing them as foundational to the future success of their communities.

The Government's Role in Scaling Non-State ECE

In Mozambique, where state involvement in ECE is minimal, the government's role could initially focus on creating a flexible regulatory framework that acknowledges and accommodates the diversity of non-state ECE providers. This framework can

set baseline standards for health and safety, early learning outcomes, and teacher qualifications that are realistic given the current capabilities and resources of non-state providers. These standards would not be as prescriptive as those in countries with extensive state-run ECE systems but would help ensure a minimum quality that protects children and promotes their learning and development.

Additionally, the government can act as a facilitator rather than a direct provider. This would involve fostering partnerships between non-state ECE centers and other sectors such as private businesses, international NGOs, and local communities. The government could facilitate these collaborations by organizing forums, providing platforms for resource sharing, and coordinating efforts to avoid duplication and maximize impact. By acting as a mediator, the government can help pool resources—such as training materials, funding, and expertise—from various stakeholders to support and enhance non-state ECE services.

Recognition of non-state ECE programs could significantly support in elevating the status and reach of these initiatives. Government recognition could come in the form of certification programs that validate the quality of education provided. Additionally, supportive measures such as tax incentives for donations to non-state ECE centers, streamlined processes for establishing new centers, and subsidies or vouchers for families to access ECE can help stimulate the growth and accessibility of these programs. These measures would make ECE more affordable for families and more viable for providers.

Furthermore, even in the absence of extensive state-run ECE, the government has a crucial role in ensuring that children transitioning from non-state ECE centers to primary schools face no disadvantages. Implementing a system that recognizes the early education received at non-state centers and ensures it aligns with the entry requirements for primary education is essential. This can involve facilitating alignment between the curricula used in non-state ECE centers and the national curriculum for early primary grades.

Conclusion

The substantial body of evidence of play-based learning underscores its effectiveness in improving literacy, mathematical skills, and social-emotional skills in young children. Initiatives such as the Gender Responsive Education and Transformation ECE project in Rwanda and Mozambique highlight both the potential benefits and the distinct challenges of scaling such approaches in ECE. While play-based learning improved child development outcomes in Mozambique, the Rwanda pilot faced mixed results, pointing to the need for context-specific adaptations.

Effective scaling may require addressing developmental variability, ensuring appropriate teacher training, securing adequate funding, and fostering parental involvement. Additionally, regulation and oversight must be considered to promote program quality across diverse ECE settings. The experience in Mozambique suggests that non-state pathways for scaling may be necessary in contexts where state involvement is limited. Governments, however, can play a pivotal role by creating flexible regulatory frameworks, facilitating collaborations, and ensuring smooth transitions to primary education.

To scale quality ECE, future efforts should involve comprehensive needs assessments, resource analyses, and stakeholder engagement to tailor interventions to the specific requirements of younger learners and their communities. By leveraging these insights, it can be possible to support sustainable and impactful early childhood education programs.