



Bridging global gaps in early childhood education: A comparative study of Ethiopia and Singapore (2016–2025)

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ABSTRACT

This study compares the preprimary education systems of Singapore and Ethiopia, two nations with contrasting socioeconomic and legislative environments. Using a comparative analysis that integrates both quantitative and qualitative data, the research identifies discrepancies in accessibility, curriculum, teacher training, infrastructure, and policy efficacy. It fills a research gap by comparing ECE in a developed and developing nation, contextualizing global best practices for resource-limited settings. Ethiopia's gradual progress (20% to 60% coverage, 2016–2025) reflects external collaboration and bottom-up approaches, but it lacks structural changes. The findings reveal significant gaps in essential resources, particularly textbook shortages, which hinder learning outcomes, and concerns about teacher expertise, highlighting the need for improved professional development programs. In contrast, Singapore's coordinated curricula and nearly universal enrollment demonstrate astute investment and efficient regulation. Key findings reveal divergent long-term effects, values, and resource investments. While Singapore's model offers insights into standards and technology utilization, recommendations emphasize Ethiopia's need for additional funding and teacher professional development. The report underscores the importance of policy convergence with Sustainable Development Goal 4 to ensure inclusive early childhood care and education (ECCE) worldwide.

Keywords: early childhood education, comparative education, policy analysis, SDG 4, Ethiopia

INTRODUCTION

According to United Nations Educational, Scientific and Cultural Organization (UNESCO, 2021) early childhood education (ECE) is a crucial foundation for social development, economic progress, and lifelong learning. Research indicates that high-quality early childhood education enhances social skills, critical thinking, and later academic performance (Heckman, 2011; UNICEF, 2019). However, availability, quality, and policy

practices vary significantly around the world, influenced by government priorities, funding, and cultural perspectives on early learning (OECD, 2017). While some countries have established robust and well-resourced early childhood programs, others face substantial barriers such as insufficient resources, underqualified teachers, and gaps in policy implementation (World Bank, 2020).

Ethiopia and Singapore present a stark contrast in their early childhood education (ECE) environments: one characterized by rapid but uneven development within a developing framework, and the other by a methodically organized, highly effective system supported by strong government regulations and financial investment (Ministry of Education Ethiopia [MoE Ethiopia], 2022; Tan, 2017). To the best of our knowledge, no prior comparative study has systematically analyzed the early childhood education systems of Ethiopia and Singapore. Thus, the rationale for conducting this study is to address global disparities in early childhood education. This research fills this gap by examining policy frameworks, curriculum structures, and investment strategies in both contexts. Singapore's ECE sector has gained international recognition for its innovative curriculum design, active parental involvement, and high-quality teachers (Lim, 2016; Rao & Li, 2021). In contrast, Ethiopia, despite recent legislative changes to expand access to early childhood programs, continues to face challenges related to curriculum harmonization, the availability of qualified human resources, and limited infrastructure (MoE Ethiopia, 2019; Woldehanna, 2020).

By comparing Ethiopia's efforts to develop and improve its education system with Singapore's achievement of international standards in early childhood education (Rao & Li, 2021), this research aims to uncover lessons that can inform curriculum design, policy development, and investment strategies in emerging contexts. The comparative approach offers a unique framework for exploring how various socio-economic, cultural, and political determinants influence early childhood education (ECE) policy and practice, and in turn, affect children's preparation for subsequent learning opportunities (Alexander, 2018; Naudeau et al., 2011).

This study contributes to the growing discussion on contextual flexibility, international best practices, and policy transferability by addressing international variations in ECE. The findings have policy implications for researchers, practitioners, and policymakers working to create equitable and high-quality early childhood education systems worldwide (Britto et al., 2011; UNESCO, 2022).

Research Questions

1. How do the early childhood education (ECE) policies, curriculum frameworks, and teacher training programs in Ethiopia compare to those in Singapore?
2. What lessons can Ethiopia learn from Singapore's ECE model to improve access, quality, and equity in early childhood education?

Research Objectives

General objective

To analyze and compare the early childhood education systems of Ethiopia and Singapore, identifying key differences, challenges, and best practices that can inform policy improvements in Ethiopia.

Specific objectives

1. To examine the similarities and differences in early childhood education policies, curriculum frameworks, and teacher training programs between Ethiopia and Singapore.
2. To evaluate the accessibility, quality, and equity of early childhood education in both countries, considering factors such as government funding, public-private partnerships, and teacher qualifications.

3. To identify policy recommendations for improving Ethiopia's early childhood education system based on lessons learned from Singapore's successful model.

LITERATURE REVIEW

The Global Landscape of Early Childhood Education

Early childhood education (ECE) is widely recognized as a critical component in promoting cognitive, social, and emotional development, laying a foundation for lifelong learning and economic productivity (UNESCO, 2021). Research indicates that high-quality early childhood education programs offer enduring benefits, including improved social skills, higher academic achievement, and reduced inequality (Britto et al., 2011; Heckman, 2011). However, access to and the quality of ECE vary significantly between regions due to differences in economic resources, legislative frameworks, and cultural attitudes toward early learning (OECD, 2017; World Bank, 2020).

Comparative studies reveal that ECE systems in high-income countries are typically well-funded and structured, characterized by standardized curricula, trained teachers, and active parental involvement (Naudeau et al., 2011; Rao & Li, 2021). In contrast, many low- and middle-income countries struggle with challenges such as inadequate infrastructure, insufficient teacher training, and uneven policy implementation (UNICEF, 2019; Woldehanna, 2020). Ethiopia and Singapore serve as useful case studies for examining the diverse challenges and successes in ECE, illustrating the global disparities in early childhood education.

Early childhood education in Singapore

Singapore's ECE system stands out globally for its excellence. The government supports it through strong policies, rigorous teacher preparation, and research-based instruction (Lim, 2016; Tan, 2017). The Early Childhood Development Agency (ECDA) and the Ministry of Education (MoE) closely monitor the quality of ECE in every school (MoE Singapore, 2019).

Key components of Singapore's ECE system include:

- A well-planned curriculum that promotes holistic development, including cognitive, emotional, and physical skills (Rao & Li, 2021).
- A strong emphasis on teacher quality and ongoing professional development, ensuring that educators are well-equipped to deliver effective instruction (Tan, 2017; ECDA, 2020).
- Government subsidies and financial support for children from low-income families, ensuring broader access to education (MoE Singapore, 2021).
- The integration of technology and innovative teaching methods, creating an engaging and interactive classroom environment (Poon, 2018).

Singapore's approach to ECE aligns with best practices recommended by international organizations such as the OECD and UNESCO, making it a global model for early childhood education.

Early childhood education in Ethiopia: Progress and challenges

Over the past decade, Ethiopia has made significant strides in expanding ECE, by international assistance and regulatory changes (MoE Ethiopia, 2019; Woldehanna, 2020). The National Early Childhood Care and Education Policy Framework outlines the government's commitment to improving access and quality through multi-sectoral collaboration (MoE Ethiopia, 2022).

Despite these efforts, several challenges persist:

- **Limited access and equity:** Enrollment rates remain low, particularly in rural and low-income communities, where infrastructure and trained educators are scarce (UNESCO, 2022).
- **Insufficient teacher training:** Many ECE teachers lack formal qualifications, leading to inconsistent instructional quality (Tassew, 2019).
- **Inconsistent curriculum implementation:** The absence of standardized curricula across regions results in variations in teaching practices and learning outcomes (MoE Ethiopia, 2019).
- **Financial constraints:** Government spending on ECE remains low (below 2%) compared to other education sectors, limiting the expansion of high-quality programs (World Bank, 2020).

Despite these challenges, Ethiopia has adopted several initiatives, such as community-based preschools and parental education programs, to improve early learning opportunities (UNICEF, 2019). However, a sustainable model for scaling up quality ECE services remains a critical policy concern.

Comparative Insights: Lessons from Singapore for Ethiopia

A comparison between Singapore and Ethiopia offers important insights that can help improve Ethiopia's ECE system:

1. **Government Support and Funding:** Singapore's ECE success is rooted in strong policies and consistent government funding (Tan, 2017). Ethiopia is working to increase investment in early education for more effective policy implementation (World Bank, 2020).
2. **Teacher Education and Professional Development:** Singapore places a high priority on teacher quality to ensure effective teaching and learning (ECDA, 2020). Currently, only 35% of Ethiopian early childhood educators have formal training, leading to inconsistent instructional quality (International Labour Organization [ILO], 2020).
3. **Standardized Curriculum and Innovation:** Singapore has a unified curriculum that is consistent across all schools (Rao & Li, 2021). Ethiopia is striving to develop and implement a national curriculum that incorporates local culture while aligning with global best practices (Woldehanna, 2020).
4. **Public-Private Partnerships:** Singapore has leveraged private sector involvement to expand ECE services (Poon, 2018). Ethiopia needs to collaborate with NGOs and private schools to improve service delivery (UNESCO, 2022).

Bridging Global Gaps: Toward an Equitable Future in ECE

The disparities in ECE between Singapore and Ethiopia highlight the broader global inequalities in ECE. Singapore's approach exemplifies a well-organized, high-quality system, while Ethiopia's situation underscores the challenges faced by developing nations in expanding ECE services. Examining these contrasts provides valuable lessons for policymakers, educators, and researchers seeking to bridge the global ECE gap. This study contributes to the ongoing discourse on equitable and sustainable early childhood education reforms by analyzing the factors behind Singapore's success and exploring how these insights can be adapted to Ethiopia's socio-economic and cultural context. Investing in early learning is not only about improving education but also a key driver of national progress and social equity (Heckman, 2011; UNESCO, 2021).

METHODOLOGY

The study employed Bereday's Comparative Method to analyze secondary data from diverse sources (Adick, 2018), including reports from government, academic research, and international organizations such as United Nations Educational, Scientific and Cultural Organization, United Nations International Children's Emergency

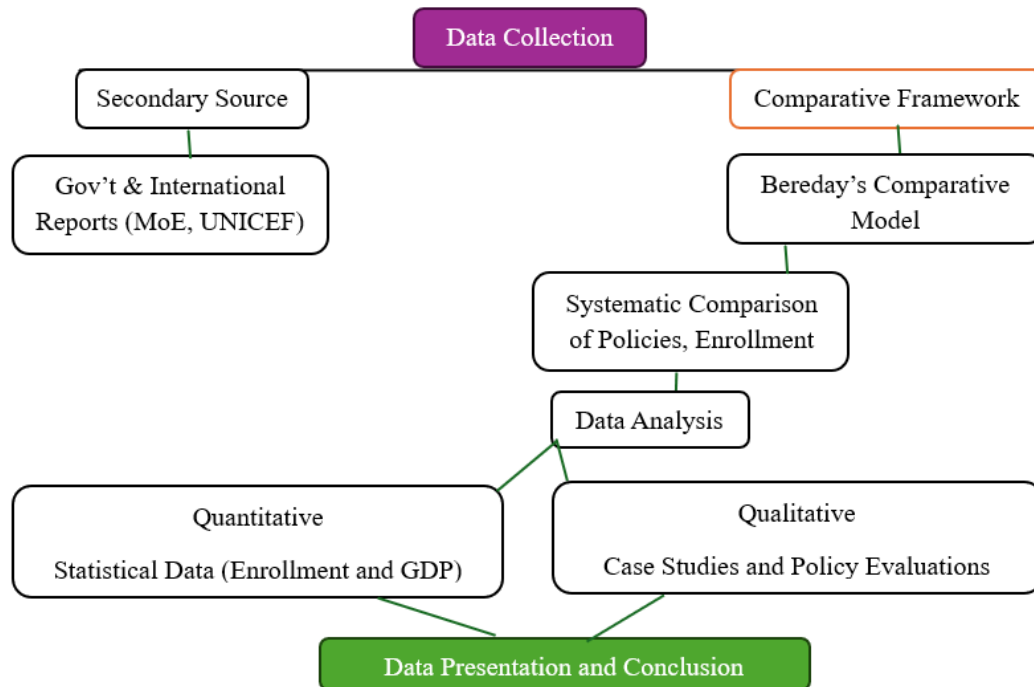


Figure 1. Data collection and analysis procedures

Fund, Organization for Early Childhood Development, and the World Bank. This method is particularly suited for comparative education research, as it allows for a systematic approach to examining educational systems through a structured lens of analysis, focusing on descriptive, interpretive, and evaluative stages (Adick, 2018). By utilizing this method, the study identifies key differences and similarities between Ethiopia and Singapore in their ECE systems. The metrics examined in this analysis include enrollment rates, teacher-pupil ratios, GDP allocations for education, and the structure of national curricula, all of which are critical indicators of educational equity and quality. These metrics provide a comprehensive view of how both countries prioritize early childhood education within their broader educational and economic contexts, highlighting areas of strength and concern.

To enhance the clarity and accessibility of the findings, the study employed data visualization techniques such as tables to present the disparities between the two countries. These visual tools make it easier to compare quantitative data across various categories, such as student enrollment figures, teacher-student ratios, and government spending on education. Additionally, the study incorporates case studies that offer deeper insights into the real-world implications of these metrics, focusing on issues such as the urban-rural divide in access to early childhood education and the impact of the COVID-19 pandemic on the education systems of both countries. The case studies help contextualize the data, providing a more nuanced understanding of the challenges and opportunities within each country's educational framework. These qualitative analyses allow for a deeper exploration of how both systemic and contextual factors shape ECE outcomes.

Both authors collected data through internet search (see [Figure 1](#)). Documents were selected based on their relevance to ECE policies, curriculum, teacher training, and accessibility, ensuring credibility and contemporary relevance (2016–2025). Reliability was maintained by cross-checking data across multiple sources and prioritizing primary documents. The analysis was conducted collaboratively, with two authors handling policy data coding, one focusing on statistical trends, and another ensuring consistency and validation. This structured approach ensures a rigorous and comparative evaluation of early childhood education in both countries.

Table 1. Comparative accessibility metrics

Indicator	Ethiopia	Singapore
Enrollment Rate (2025)	60%	100%
Teacher-Child Ratio	1:40	1:12
GDP Allocation to ECCE	1.2%	4.5%

FINDINGS AND DISCUSSION

Enrollment Trends and Disparities

Ethiopia

Ethiopia's preprimary enrollment rate increased from 20% in 2016 to 60% by 2025, reflecting incremental progress driven by targeted policy interventions such as the Education Sector Development Program (ESDP). The ESDP prioritized infrastructure expansion, including the construction of 12,000 preprimary classrooms between 2016 and 2020, and community sensitization campaigns to boost enrollment, particularly for girls (MoE Ethiopia, 2019; World Bank, 2021). However, rural-urban disparities persist only 12% of children in Oromia (a predominantly rural region) accessed preprimary education in 2025, compared to 65% in Addis Ababa (World Bank, 2021). These gaps stem from limited infrastructure, teacher shortages, and socio-economic barriers in rural areas, where households often prioritize informal childcare over formal schooling (UNICEF, 2020).

Singapore

Singapore achieved universal preprimary enrollment (100%) by 2025, a milestone supported by robust government subsidies and stringent quality standards enforced by the Early Childhood Development Agency (ECDA). The government allocates approximately 4.5% of its Gross Domestic Product (GDP) to education, with significant investments in fee subsidies for low-income families and standardized curricula under the Nurturing Early Learners (NEL) framework (MoE Singapore, 2021; OECD, 2020). These policies ensure equitable access across socio-economic groups, with no significant rural-urban divide due to Singapore's compact geography and centralized governance (ECDA, 2023).

Table 1 presents a comparative analysis of key ECE indicators in Ethiopia and Singapore for the year 2025. The comparison of early childhood education in Ethiopia and Singapore highlights significant differences in enrollment, teacher-child ratio, and financial investment. By 2025, Ethiopia's 60% enrollment rate shows progress but still leaves 40% of children without access, whereas Singapore has achieved 100% universal enrollment. Ethiopia's 1:40 teacher-child ratio results in overcrowded classrooms, while Singapore's 1:12 ratio allows for better student engagement. Additionally, Ethiopia allocates only 1.2% of GDP to ECE, reflecting insufficient investment, compared to Singapore's 4.5%, which demonstrates strong government commitment to early learning.

Curriculum Design and Implementation

Ethiopia: Focus on literacy, numeracy, and local languages

Ethiopia's preprimary curriculum prioritizes foundational literacy, numeracy, and socio-emotional skills, with an emphasis on instruction in local languages such as Amharic and Oromo to enhance cultural relevance (MoE Ethiopia, 2019). The policy framework aligns with the Early Childhood Care and Education Policy (2010), which advocates for contextually adaptive learning to bridge linguistic and cultural divides (World Bank, 2021). However, implementation falters due to systemic resource gaps:

Table 2. Teacher qualifications

Country	Percentage with Formal Training	Key Policy Drivers
Ethiopia	35%	NGO-led certificate programs (e.g., UNICEF, 2020)
Singapore	98%	Mandatory diploma/degree requirements (NIE, 2021)

Table 3. Policy comparison

Aspect	Ethiopia	Singapore
Regulatory Body	Ministry of Education + NGOs	Early Childhood Development Agency (ECDA)
Private Sector Role	Minimal (NGO-driven)	Dominant (PAP Community Foundation)

- **Textbook shortages:** Only 30% of preschools have sufficient learning materials (UNICEF, 2020).
- **Teacher capacity:** Just 35% of preprimary teachers possess formal training (**Table 2**), limiting effective pedagogy (ILO, 2020).
- **Infrastructure deficits:** Rural schools often lack electricity, sanitation, and safe play spaces, further undermining curriculum delivery (World Bank, 2021).

Singapore: Play-based, bilingual curricula with STEM integration

Singapore's Nurturing Early Learners (NEL) framework emphasizes play-based learning, bilingualism (English + Mother Tongue languages), and STEM integration to prepare children for a technology-driven economy (MoE Singapore, 2021). Key features include:

- **Inquiry-driven activities:** Children engage in problem-solving tasks, such as building simple machines, to foster critical thinking (OECD, 2020).
- **Bilingual proficiency:** By age 6, 85% of children achieve fluency in both English and their Mother Tongue (Mandarin, Malay, or Tamil) (ECDA, 2023).
- **Teacher expertise:** 98% of educators hold diplomas or degrees in early childhood education (**Table 2**), ensuring high-fidelity curriculum implementation (NIE, 2021).

Table 2 illustrates the percentage of preprimary teachers with formal training in Ethiopia (35%) and Singapore (98%). The stark contrast underscores systemic inequities in teacher preparation. Singapore's near-universal teacher certification reflects rigorous national standards, while Ethiopia's lower percentage highlights challenges in professional development and resource allocation.

Policy Frameworks

As indicated in **Table 3**, the MoE (Ethiopia) collaborates with NGOs to address systemic gaps in preprimary education, particularly in rural regions where government reach is limited. For example, UNICEF supports teacher training and infrastructure development in pastoralist communities (World Bank, 2021). However, fragmented governance and reliance on external actors lead to inconsistent quality and coverage.

In contrast, the Early Childhood Development Agency in Singapore operates as a specialized agency under the MoE, ensuring cohesive policy implementation. It mandates stringent licensing requirements, curriculum alignment, and teacher qualifications, creating a standardized system across public and private institutions (ECDA, 2023). This centralized model minimizes disparities and ensures accountability.

In Ethiopia, the private sector plays a limited but growing role in ECE, with private preschools accounting for approximately 30% of total institutions, primarily located in urban areas like Addis Ababa and regional capitals (MoE Ethiopia, 2022). These private preschools generally offer higher-quality education, characterized by better infrastructure, small class sizes, and qualified teachers compared to public institutions. However, their high fees make them inaccessible to lower-income families, exacerbating disparities in enrollment and educational opportunities.

In contrast, Singapore's private early childhood centers operate under strict government regulations, with preschool fees averaging SGD 720 per month about 12% of the country's national per capita income (MoE Singapore, 2023). Government subsidies significantly reduce this cost for low-income families, ensuring equitable access to high-quality preschool education.

In Ethiopia, preschool inequality remains a significant challenge, particularly along urban-rural and socioeconomic lines. By 2025, urban areas like Addis Ababa had an ECE enrollment rate of 65%, whereas rural regions such as Oromia reported only 12% enrollment (World Bank, 2021). Economic disparities further widen the gap, with 72% of children from the highest-income quintile enrolled in preschool, compared to just 32% from the lowest-income quintile (UNESCO, 2022). Limited infrastructure, teacher shortages, and financial constraints continue to hinder access, particularly in rural communities where families often prioritize informal childcare over formal preschool education. Addressing these disparities requires greater government investment, public-private partnerships, and targeted policies to improve accessibility and affordability for all children.

In Singapore, private operators, including the PAP Community Foundation (a government-linked entity), deliver 60% of preprimary services. These centers adhere to Early Childhood Development Agency standards while offering niche curricula (e.g., Montessori, STEM-focused programs). Public-private partnerships ensure affordability through subsidies, with fees capped at SGD 720/month for citizens (MoE Singapore, 2021).

COVID-19 Impact

The COVID-19 pandemic significantly affected education systems worldwide, with varying impacts depending on each country's preparedness and response strategies. In Ethiopia, prolonged school closures disrupted learning, and the reliance on radio-based lessons proved insufficient to bridge the gap for many students, particularly those in rural areas with limited access to technology (MoE Ethiopia, 2023.) As a result, enrollment rates declined by 8% post-pandemic, highlighting the long-term effects of the crisis on education accessibility and continuity (UNESCO, 2022; MoE Ethiopia, 2023).

In contrast, Singapore swiftly transitioned to online learning, leveraging its advanced digital infrastructure to ensure minimal disruption. The country's well-developed e-learning platforms and strong government support enabled a smooth shift, allowing most students to continue their education remotely. By 2023, Singapore had achieved a 97% rebound in school attendance, demonstrating the effectiveness of its adaptive strategies in maintaining educational stability during and after the pandemic (OECD, 2023; MoE Singapore, 2023).

Equity and Investment

Educational equity and investment vary significantly between countries, reflecting differences in economic capacity and policy priorities. In Ethiopia, there is a substantial enrollment gap of 40% between the richest and poorest quintiles, indicating deep-rooted disparities in access to education. Limited financial resources, inadequate infrastructure, and socio-economic barriers prevent many children from disadvantaged backgrounds from attending school, exacerbating existing inequalities (UNESCO, 2022).

In contrast, Singapore has significantly narrowed its educational equity gap through targeted subsidies and well-structured financial aid programs. The country's strategic investment in education ensures that students from lower-income families receive necessary support, resulting in only a 5% enrollment gap between the richest and poorest quintiles. This achievement reflects Singapore's strong commitment to inclusive education and equal opportunities for all students (MoE Singapore, 2023).

POLICY IMPLICATIONS

Addressing educational challenges requires tailored policy interventions that consider each country's unique context. For Ethiopia, prioritizing rural infrastructure development and enhancing teacher training programs are critical steps toward improving access and quality in education. Expanding and strengthening public-private partnerships, particularly with NGOs, can further support marginalized communities by providing additional resources and innovative learning solutions (UNESCO, 2022).

In Singapore, the focus should be on sharing its best practices globally, particularly in areas such as bilingual education frameworks and technology-driven learning strategies. Additionally, there is a growing need to mitigate academic pressure by incorporating more play-based and student-driven learning reforms, ensuring a balanced and holistic education system that supports students' well-being and long-term development (MoE Singapore, 2023).

CONCLUSION

This comparative study highlights the significant disparities between Ethiopia and Singapore in early childhood education, emphasizing the impact of governance, policy implementation, and financial investment on educational outcomes. Singapore's highly structured and well-funded ECE system provides a model of best practices in teacher training, curriculum standardization, and public-private partnerships, which have resulted in universal enrollment and high educational quality. Ethiopia, despite making commendable progress in expanding ECE access, continues to struggle with issues such as teacher shortages, inconsistent curriculum implementation, and funding constraints.

Key lessons from Singapore that could inform Ethiopia's ECE development include the importance of sustained government investment, the establishment of national curriculum standards, and the expansion of professional development opportunities for educators. Moreover, strengthening public-private partnerships can serve as a viable strategy for addressing gaps in service delivery, particularly in underserved regions.

This research underscores the broader global inequalities in early childhood education and the necessity for context-sensitive policy adaptations. While Singapore's model is not directly transferable to Ethiopia due to socio-economic and cultural differences, its strategic planning, regulatory oversight, and investment in quality education offer valuable insights. For Ethiopia, adopting a holistic approach that integrates international best practices with localized strategies can pave the way for a more inclusive and effective ECE system.

Ensuring equitable and high-quality early childhood education worldwide remains a crucial aspect of achieving Sustainable Development Goal 4 (SDG 4). Governments, policymakers, and educators must work collaboratively to develop sustainable frameworks that prioritize access, quality, and equity in ECE, ultimately fostering long-term national development and social transformation. Researchers can also go so far in the area specially on how to narrow the gap evident among the countries either through in-depth comparison or direct investigation.

Declaration

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Data Availability: Data from government policy documents and international reports is available.

REFERENCES

- Adick, C. (2018). Bereday and Hilker: Origins of the 'four steps of comparison' model. *Comparative Education*, 54(1), 35–48. <https://doi.org/10.1080/03050068.2017.1396088>
- Alexander, R. (2018). *Comparative education and global learning: Policy and practice*. Oxford University Press.
- Britto, P. R., Yoshikawa, H., & Boller, K. (2011). Quality of early childhood development programs and policies in global contexts: Rationale for investment, conceptual framework, and implications for equity. *Social Policy Report*, 25(2), 1–31. <https://doi.org/10.1002/j.2379-3988.2011.tb00067.x>
- Early Childhood Development Agency [ECDA]. (2020). *Early childhood education in Singapore: Policies and frameworks*. <https://www.ecda.gov.sg>
- Early Childhood Development Agency [ECDA]. (2023). *Early Childhood Development Agency*. <https://www.ecda.gov.sg>
- Heckman, J. J. (2011). The economics of inequality: The value of early childhood education. *American Educator*, 35(1), 31–47. <https://doi.org/10.1257/jel.50.3.689>
- International Labour Organization [ILO]. (2020). *Investing in early childhood education workforce: Global trends and policy recommendations*. https://www.ilo.org/global/publications/books/WCMS_750928/lang--en/index.htm
- Lim, S. (2016). *The role of early childhood education in Singapore's economic success*. National Institute of Education, Singapore. <https://www.nie.edu.sg>
- Ministry of Education Ethiopia [MoE Ethiopia] (2019). *National early childhood care and education policy framework*. Addis Ababa, Ethiopia.
- Ministry of Education Ethiopia [MoE Ethiopia] (2022). *Education sector development program (ESDP) VIII: 2021-2025*. Addis Ababa, Ethiopia.
- Ministry of Education Singapore [MoE Singapore]. (2019). *Pre-primary education report: Framework and policies for early learning*. <https://www.moe.gov.sg>
- Ministry of Education Singapore [MoE Singapore]. (2021). *Annual education statistics and trends in preschool education*. <https://www.moe.gov.sg>
- Ministry of Education Singapore [MoE Singapore]. (2023). *Post-pandemic educational recovery: Lessons from Singapore's digital learning strategies*. <https://www.moe.gov.sg>
- National Institute of Education [NIE] (2021). *National Institute of Education (NIE) | NTU Singapore*. <https://www.ntu.edu.sg/nie>
- Naudeau, S., Martinez, S., Premand, P., & Filmer, D. (2011). *Investing in young children: An early childhood development guide for policymakers in developing countries*. World Bank Publications. <https://doi.org/10.1596/978-0-8213-8526-4>
- Organisation for Economic Co-operation and Development [OECD]. (2017). *Starting strong 2017: Key indicators on early childhood education and care*. OECD Publishing. <https://doi.org/10.1787/9789264276116-en>
- Organisation for Economic Co-operation and Development [OECD]. (2020). *Strengthening early childhood education: International best practices*. OECD Publishing. <https://www.oecd.org>
- Organisation for Economic Co-operation and Development [OECD]. (2023). *Education at a glance: Trends in global education post-COVID-19*. OECD Publishing. <https://doi.org/10.1787/eag-2023-en>
- Poon, K. (2018). The impact of play-based learning in early childhood education: Evidence from Singapore. *Early Childhood Research Quarterly*, 45(3), 132–147. <https://doi.org/10.1016/j.ecresq.2018.05.004>
- Rao, N., & Li, H. (2021). Early childhood education in Asia: Lessons from high-performing education systems. *Educational Review*, 73(5), 623–640. <https://doi.org/10.1080/00131911.2020.1846134>
- Tan, C. (2017). Education policy borrowing in Singapore: Features, challenges, and implications. *Educational Policy*, 31(6), 747–768. <https://doi.org/10.1177/0895904817691843>
- Tassew, W. (2019). The role of teacher training in improving early childhood education in Ethiopia. *Journal of African Education*, 2(1), 67–82. <https://doi.org/10.1007/s40299-019-00438-w>
- UNESCO. (2021). *Global education monitoring report 2021: Early childhood care and education*. United Nations Educational, Scientific and Cultural Organization. <https://unesdoc.unesco.org>

- UNESCO. (2022). *Education sector analysis: Challenges and opportunities in early childhood education in low-income countries*. United Nations Educational, Scientific and Cultural Organization. <https://unesdoc.unesco.org>
- UNICEF. (2019). *Investing in early childhood development: The economic and social benefits of preschool education*. United Nations Children's Fund. <https://www.unicef.org/reports/early-childhood-development>
- UNICEF. (2020). *Bridging the early childhood education gap in low-income countries: A policy analysis*. United Nations Children's Fund. <https://www.unicef.org>
- Woldehanna, T. (2020). Early childhood education in Ethiopia: Progress and policy challenges. *International Journal of Early Childhood*, 52(2), 179–194. <https://doi.org/10.1007/s13158-020-00267-5>
- World Bank. (2020). *The state of early childhood education worldwide: Funding, quality, and accessibility trends*. <https://www.worldbank.org>
- World Bank. (2021). *Ethiopia's education sector progress report: Trends, policies, and challenges*. <https://www.worldbank.org>