



All Children Reading–Asia (ACR–Asia) Early Childhood Education: Considerations for Programming in Asia

Submission Date: November 15, 2018

AID-OAA-TO-16-00017 Number: REQ-ASIA-16-00017
TOCOR: Mitch Kirby

Prepared by: **RTI International**
3040 Cornwallis Road
Research Triangle Park, NC 27709-0155
Tel: (919) 541-6000

This document was produced for review by the United States Agency for International Development.
This report was prepared by Sitabkhan, Y., Spratt, J., Dombrowski, E., & Weatherholt, T., of RTI International.

Table of Contents

| | Page |
|---|------|
| List of Exhibits..... | iv |
| Abbreviations | v |
| Early Childhood Education: Considerations for Programming in Asia..... | 1 |
| 1 Introduction | 1 |
| 1.1 Emergence of ECE as a focus for educational development..... | 1 |
| 1.2 A note on trends in international support for ECE | 2 |
| 1.3 Purpose and structure of this report..... | 3 |
| 2 Methods | 3 |
| 2.1 Criteria for selection of relevant documents for review | 3 |
| 2.2 Analytic framework | 4 |
| 3 Access and Equity Considerations | 5 |
| 3.1 Policy relating to access to ECE | 6 |
| 3.2 Access and equity of access in practice..... | 7 |
| 3.3 Conclusion..... | 10 |
| 4 Quality of Early Childhood Education | 10 |
| 4.1 Policy on ECE content and quality: Objectives, standards, support, and accountability..... | 10 |
| 4.2 Early learning assessment..... | 12 |
| 4.2.1 Early childhood assessments in Asia | 14 |
| 4.2.2 Child-direct assessments of learning and development..... | 20 |
| 4.2.3 Caregiver/teacher report assessments of children..... | 22 |
| 4.2.4 Assessments of early learning environment | 23 |
| 4.3 Approaches to teaching and learning..... | 24 |
| 4.3.1 Role of guided play..... | 24 |
| 4.3.2 Emergent literacy and mathematics | 25 |
| 4.3.3 Language of instruction | 27 |
| 4.4 Early childhood educators quality management, training, and support..... | 29 |
| 4.4.1 Quality guidelines and management for ECE teachers..... | 29 |
| 4.4.2 In-service teacher training | 32 |
| 4.4.3 Evidence on teacher training | 32 |
| 4.4.4 Teacher coaching and support | 34 |
| 4.5 Conclusion..... | 34 |
| 5 Sustainability of ECE..... | 35 |
| 5.1 ECE financing..... | 35 |
| 5.2 Approaches and challenges in ECE governance | 38 |
| 5.2.1 Coordination across national government structures | 40 |

| | | |
|---------------|--|----|
| 5.2.2 | Coordination and collaboration with and between international agencies, NGOs, and the private sector | 41 |
| 5.2.3 | Subnational and particularly local engagement | 41 |
| 5.3 | Conclusion..... | 42 |
| 6 | Recommendations and Considerations for Future Programming..... | 43 |
| 6.1 | Recommendations on access to ECE..... | 43 |
| 6.2 | Recommendations relating to quality of ECE | 44 |
| 6.2.1 | Curriculum and standards | 44 |
| 6.2.2 | Early learning assessment | 44 |
| 6.2.3 | Approaches to teaching and learning | 45 |
| 6.2.4 | Early childhood educators training and support..... | 45 |
| 6.3 | Recommendations on sustainability of ECE..... | 46 |
| References | | 47 |
| Attachment 1. | Key early childhood education (ECE)-related policy documents for 11 Asian countries with US Agency for International Development (USAID) education programming | 54 |
| Attachment 2. | Links to Assessment Resources..... | 55 |
| Attachment 3. | Southeast Asian Guidelines for Early childhood Teacher Development and Management..... | 57 |

List of Exhibits

| | | |
|-------------|---|----|
| Exhibit 1. | Framework for analyzing the organizational/institutional dimensions underlying countries' pursuit of key ECE objectives | 5 |
| Exhibit 2. | Country policies relating to access to ECE | 6 |
| Exhibit 3. | Selected ECE enrolment statistics in Asian countries with USAID education programs | 7 |
| Exhibit 4. | Variations in equity of access: Percentage of children attending an ECE program, poorest and richest income quintiles..... | 9 |
| Exhibit 5. | Country policies relating to ECE curriculum and quality standards | 11 |
| Exhibit 6. | Early childhood assessments in Asia | 15 |
| Exhibit 7. | Emergent literacy knowledge..... | 25 |
| Exhibit 8. | Mother tongue instruction in selected Asian countries | 27 |
| Exhibit 9. | Country policies relating to ECE teacher quality | 29 |
| Exhibit 10. | Government expenditure on ECE and percent of enrollment in private institutions | 36 |
| Exhibit 11. | Governance structures "in charge" of ECE decisions and oversight..... | 39 |

Abbreviations

| | |
|----------|---|
| ARMM | Autonomous Region in Muslim Mindanao |
| ARNEC | Asia-Pacific Regional Network for Early Childhood |
| BOP | Balance of Payment |
| CBK | Community-based kindergarten |
| CCT | conditional cash transfer |
| CDAT | Cambodian Developmental Assessment Test |
| CECERS | Cambodian Early Childhood Environment Rating Scale |
| CPD | continuous professional development |
| DHS | Demographic and Health Survey |
| EAP-ECDS | East Asia-Pacific – Early Child Development Scales |
| ECCD | early child care and development |
| ECCE | early childhood care and education |
| ECD | early childhood development |
| ECDI | Early Child Development Index |
| ECE | early childhood education |
| ECED | early childhood education and development |
| ECEQAS | Early Childhood Education Quality Assessment Scale |
| ECERS | Early Childhood Environment Rating Scale |
| ECERS-E | Early Childhood Environment Rating Scale–Extension |
| ECERS-R | Early Childhood Environment Rating Scale–Revised |
| EDI | Early Development Instrument |
| EFA | Education for All |
| EFA-FTI | Education for All–Fast-Track Initiative |
| ELDS | Early Learning Development Standards |
| GDP | gross domestic product |
| GPE | Global Partnership for Education |
| IDELA | International Development Early Learning Assessment |
| ILO | International Labour Organization |
| Lao PDR | Lao People’s Democratic Republic |
| LMIC | low- and middle-income country |
| LSMS | Living Standards Measurement Instrument |
| MELQO | Measuring Early Learning Quality and Outcomes |
| MICS | Multiple Indicator Cluster Survey |
| MODEL | Measure of Development of Early Learning |

| | |
|--------|--|
| MOE | Ministry of Education |
| MoES | Ministry of Education and Sports (Lao PDR) |
| MoEST | Ministry of Education, Science and Technology (Nepal) |
| MoEYS | Ministry of Education, Youth and Sport (Cambodia) |
| MOH | Ministry of Health |
| MoPME | Ministry of Primary and Mass Education (Bangladesh) |
| MSCA | McCarthy Scales of Children's Abilities |
| MWCD | Ministry of Women and Children Development |
| N/A | not applicable |
| NGO | nongovernmental organization |
| SABER | Systems Approach for Better Education Results |
| SDG | Sustainable Development Goal |
| SEAMEO | Southeast Asian Ministers of Education Organization |
| SEL | socio-emotional learning |
| SRI | School Readiness Index |
| STC | Save the Children |
| TECERS | Tamil Nadu Early Childhood Environmental Rating Scale |
| UIS | UNESCO Institute for Statistics |
| UNESCO | United Nations Educational, Scientific and Cultural Organization |
| UNICEF | United Nations Children's Fund |
| USAID | US Agency for International Development |
| WPPSI | Wechsler Preschool and Primary Scale of Intelligence |

Early Childhood Education: Considerations for Programming in Asia

1 Introduction

Across various global sectors, there has been an increase in development programming that focuses on the early years of a child's life to provide a solid foundation for young children and their families and to help children achieve their full potential. Although support to early childhood interventions can come through multiple services and sector entry points, including health, nutrition, child protection, and education, the purpose of this report is to delve deeper into early childhood education (ECE), in particular the one to two years before entry into formal primary school.¹

Although there is ample research and evidence from around the world on the importance of ECE, we also know that education is highly contextual, especially at a young age. Children come to school with various backgrounds, experiences, and knowledge, and teachers come to the classroom with various levels of skills and training. The capacity of education systems to support universal access to high-quality ECE varies from country to country. There can be multiple challenges to building and maintaining country commitment to ECE, from sustaining political will² to addressing more urgent priorities and devastating setbacks. Nepal's socioeconomic progress, political stability, and impressive ECE gains have all been greatly tested since the April 2015 earthquake, underlining how fragile progress can be, particularly in low-income countries (Loizillon & Leclercq, 2016).

This report examines available evidence from the Asia region on the current state of ECE interventions, focusing on the 10 countries in the region³ that currently benefit from US Agency for International Development (USAID) education programming. In Asia, many national governments have prioritized the expansion of access and quality improvements of pre-primary education (Sun, Rao, & Pearson, 2015). USAID will support those efforts as part of a coherent approach to improved learning outcomes in primary school. This activity is funded by the USAID Asia Bureau's All Children Reading Task Order and USAID/Washington. It falls under Result 1.1: Capacity of USAID Mission staff and partners in education sector increased.

1.1 Emergence of ECE as a focus for educational development

There is consensus among education experts about the importance of providing quality education to children prior to entering primary school. Longitudinal studies point to numerous benefits of ECE, such as higher secondary graduation rates, lower grade retention, later academic achievement, and a high return on investment (Duncan et al., 2007; Elango, Garcia, Heckman, & Hojman, 2015; McCoy et al., 2017; Yoshikawa et al., 2013). The United Nation's Sustainable Development Goals (SDGs), for the first time, have an explicit focus on ECE in Goal 4.2 with a call for "all girls and boys to have access to quality early childhood

¹ The field of early childhood development and education is broad and can be confusing to those who are unfamiliar. Several terms are used in the sector and this report that sometimes have overlapping meanings. The terms "early childhood care and education (ECCE)" and "early childhood development (ECD)" identify programs that typically aim to address the health, education, and nutrition needs of children ages ~0 to 6. The terms "pre-primary" and "early childhood education (ECE)" focus on 4-6 age range and on educational and school readiness aspects. In this report, our focus is ECE, although we used sources that apply the broader definition when clear disaggregation (e.g., of statistics) was not provided. In these cases we have retained the broader terminology.

² As an example, Kyrgyzstan abandoned plans for an ambitious, multisectoral ECD strategy "owing to political change and a lack of motivation among relevant ministries" (Loizillon & Leclercq, 2016, p. xvi).

³ Bangladesh, Cambodia, India, Indonesia, Kyrgyz Republic, Lao PDR, Nepal, Philippines, Tajikistan, Vietnam

development, care, and pre-primary education so that they are ready for primary education” by 2030 (United Nations General Assembly, 2015). USAID’s current education strategy (2011) includes mention of investment toward ECE, and indicators point to the elevation of the role of ECE funding in the next education policy to be released in late 2018.

Despite this growing consensus, access to quality pre-primary education remains a challenge for governments globally.

... [A]ddressing the inequitable access to preschool, scaling-up innovative approaches to quality, and strengthening the early childhood workforce will take time, as well as political and financial commitment. It also requires thinking creatively about staffing, delivery mode, partnerships between the public and private sectors, promoting promising innovations, and new ideas to spark collaboration and cross-country learning. (Neuman et al., 2015, p. 49)

A particular challenge is how to define high quality pre-primary education and what it entails. Several syntheses of the research from around the world have sought to define quality programming in early learning environments. A recent report focused on the role of emergent literacy in ECE and reviewed the evidence base on best practices in this domain (Manji, 2018). Manji’s report provided a high-level overview of the global evidence for why early education is important as it related to the development of reading skills. Manji noted that high-quality books and parental involvement are key factors in promoting early reading skills (2018). In addition, Manji emphasized that ECE programming must be aligned with high-quality primary schools that can build from and extend the gains from pre-primary (2018). Other resources include ECE toolkits that describe best practices globally,⁴ and meta-analyses from Western contexts that describe components of an effective ECE intervention, such as supportive interactions between teachers and children (Yoshikawa et al., 2013). Other research points to the importance of quality ECE in closing the gap for marginalized populations (Lee, Brooks-Gunn, Schnur, & Liaw, 1990; Ready, 2010).

1.2 A note on trends in international support for ECE

Since the early 2000s, international organizations have played an important role in encouraging and supporting countries in Asia to include ECE as a priority for the formulation of policy and developing systems. While "... the 1990 Education For All (EFA) world conference in Jomtien, Thailand would mark the first commitment made by the international community toward [early childhood care and education] ECCE" (Tan 2016, p. 9), the real impetus for concrete support began with the 2000 establishment of EFA Goal 1. The Incheon Declaration of May 2015 further helped specify aspirational concrete objectives for ECE: at least one year of free and compulsory quality pre-primary education, minimum thresholds for government investment in education, and engagement of civil society to support government policy (Loizillon & Leclercq, 2016). SDG 4.2 is the latest expression of this international commitment.

International bodies, such as the United Nations Educational, Scientific and Cultural Organization (UNESCO), United Nations Children’s Fund (UNICEF), and Global Partnership for Education (GPE), have been particularly active in supporting countries’ development of ECE policy and standards, plans, and systems. The focus on plans and policy is not misplaced; as noted by Loizillon & Leclercq, “Having a national ECCE policy document is a first step toward coherent and effective planning and implementation of ECE provision, but it requires a well-developed strategic plan to follow up on the policy expectations” (Loizillon & Leclercq, 2016, p. 27).

UNESCO, in collaboration with the Southeast Asian Ministers of Education Organization (SEAMEO) has engaged countries in development of guidelines and framework for building

⁴ See <https://www.r4d.org/education/early-childhood-development/>

a qualified, motivated, and well-deployed ECE teaching force (SEAMEO & UNESCO, 2016; UNESCO & SEAMEO, 2018). UNICEF has also supported a large number of countries in constructing early learning development standards.

GPE 2020 support to countries has tended to focus on policy- and system-supporting grants, designed to assist countries in sector planning and plan implementation processes. As of 2018, GPE's Financing and Funding Framework was revised to increase and improve funding where it is most needed—not only to countries but also to particular regions and groups within countries and to particular themes and subsectors (such as ECE). (GPE 2018). "In 2017, 22 of 41 GPE ('co-financed' and 'stand-alone') implementation grants actively supported ECE" (GPE, 2018, p. 9). GPE also supports the improvement of data availability on ECE and on public expenditure on education (GPE 2018).

1.3 Purpose and structure of this report

This report summarizes evidence from low- and aspiring middle-income countries in the Asia region to offer some answers to the question: **What are key considerations for effective ECE programming in the Asia region?**

The remainder of this report addresses this question through a review of evidence across three objectives—access, quality, and sustainability—and three dimensions—policy, systems and practice, and governance. Following a brief discussion of methods, we turn to access, looking at policy and actual progress in ECE access across the 10 Asian countries that are the focus of this report. Next, we examine the quality objective, with emphasis on four indispensable ingredients of quality: (1) curriculum and standards, (2) practices relating to the administration of early learning assessments and the utilization of their results, (3) approaches to teaching and learning, and (4) teacher workforce development and management. Finally, we look at sustainability, including governance and financing of ECE. Each section discusses the available evidence and identifies gaps in the evidence base. We end with concrete considerations for future programming in ECE.

2 Methods

We used an iterative approach to gather and analyze information and resources for this report. As a first step, we interviewed two USAID Mission staff to learn what types of resources would be deemed useful in the field. The informants shared key priorities, including the use of mother tongue instruction in ECE, how ECE programming can be designed to be scalable and sustainable, effective methods to train an early childhood workforce, and what the elements of programming are that provide high-quality instruction to young children. These priorities formed the foundation for the structure of the report.

2.1 Criteria for selection of relevant documents for review

Literature searches were conducted utilizing Google Scholar, Research Gate, and other online resources, including Asia-Pacific Regional Network for Early Childhood (ARNEC), Asia Pacific Education Review Journal, USAID's Development Experience Clearinghouse, and the Asian Development Bank. Although we did not conduct a systematic literature review, we were as thorough as possible. We limited our search to include countries that currently have USAID Missions implementing education programming, or that will be implementing education programming in the near future, which includes the following countries: Bangladesh, Cambodia, India, Indonesia, Kyrgyz Republic, Lao PDR, Nepal, Philippines, Tajikistan, and Vietnam.

Our inclusion criteria were articles that focused on the two years before primary school. We focused our search on the priority areas of access, quality, and sustainability, each of which

corresponds to the subsequent sections of this report. Finally, we limited our search to articles from the years 2000 to 2018 to provide relevant and up-to-date information.⁵

Our final steps included a review of the citations listed in relevant resources and contacting others in the field to find additional relevant articles, reports, and tools, including websites, publications, and gray literature available from known implementers in the field, such as Save the Children and Pratham. In particular, we utilized the many comprehensive worldwide reviews of ECE to find particular instances of programming in Asia and subsequently conducted further searches based on these reviews.

We were unable to review all relevant country policy documents in the scope of our review; however **Attachment 1** offers a listing of such documents (not all of which are readily available in English) for the 10 Asian countries with USAID education programming. Our review of policy, therefore, was based, for the most part, on secondary sources available in the international literature, which offered content adequate to address the guiding question and make initial recommendations for further work.

2.2 Analytic framework

As noted above, in undertaking this review, we focus on three broad objectives for ECE—increasing access, ensuring quality, and achieving sustainability of ECE programs—and three dimensions, whereby countries and communities organize themselves to pursue these objectives through policy, systems and practice, and governance. We adapted a number of analytic lenses for this task. These include the 3A2S framework for ECE policy analysis (i.e., access, affordability, accountability, sustainability, and social justice) described by Li, Park, and Chen (2016). We also drew on RTI International’s framework for education systems analysis that focuses on three key responsibilities at the system level: (1) setting and communicating expectations; (2) monitoring service delivery against expectations; and (3) providing support to service providers in terms of inputs, guidance, and other critical resources to shore up flagging services (Crouch & DeStefano, 2017). With elements of these first two approaches, the ARNEC examines countries’ enabling environment for ECE in terms of their mechanisms for governance, standards, and support (ARNEC website, 2018). Loizillon & Leclercq’s (2016) analysis of ECE provision across several countries in Asia and the Pacific addresses five areas: equitable access, quality, governance, financing, and monitoring. It also cites multiple important issues, including birth registration; language of instruction, political commitment and funding, ensuring involvement of communities as a key factor in program viability, preparation of competent practitioners, and effective and appropriate curricula.

Our analytic framework, presented in **Exhibit 1**, organizes features of each approach according to the broad objectives of ECE and the institutional and organizational dimensions of countries’ pursuit of these objectives.

⁵ Search terms used in the location and retrieval of relevant studies and documents included the following: Asia & “teaching strategies”; [country] & “teaching strategies” & “pre-primary”; Asia & “teaching strategies” & “pre-primary”; [country] & “teacher training” & “pre-primary”; “classroom environment” & “pre-primary” & [country]; “Oral language” & pre-primary & [country]; Instruction & “early childhood” & [country]; “teacher training” & “early childhood” & [country]; “early childhood” & “mother tongue” & [country]; “early childhood” & policy & Asia; “early childhood” & policy & [country].

Exhibit 1. Framework for analyzing the organizational/institutional dimensions underlying countries’ pursuit of key ECE objectives

| Objective | Organizational/Institutional Dimensions to Realize Objectives | | |
|------------------------------|---|---|--|
| | Policy | Systems and Practice | Governance |
| Access to ECE | <ul style="list-style-type: none"> ▪ Clear statement of goals and objectives for ECE access, equity, and social justice ▪ Policy that supports affordable, equitable access ▪ Budget allocation and financing regulations that reflect policy | <ul style="list-style-type: none"> ▪ Educators and facilities are available and adequate to meet demand and goals ▪ Systems supporting affordable, equitable access are functional | <ul style="list-style-type: none"> ▪ Local to national levels ▪ Stakeholders engaged in decisions ▪ Uphold accountability to goals, standards, allocations, and regulations ▪ Use data in accountability and decision processes ▪ Coordination of diverse providers ▪ Existence of inter-ministry committee, working group, or other coordinating body, to plan, manage, and/or provide oversight of holistic ECD programming |
| Quality of ECE | <ul style="list-style-type: none"> ▪ Existence of early learning and development standards ▪ Existence of national early learning curriculum ▪ Certification and entry requirements for early childhood educators ▪ Quality regulations governing providers ▪ Budget allocation and financing regulations that reflect policy | <ul style="list-style-type: none"> ▪ Quality and curriculum standards ▪ Monitoring of providers’ adherence to standards ▪ ECE assessment, including direct child and learning environments ▪ Approaches to teaching and learning in the classroom ▪ Early childhood educators’ preparation, development, and credentials | |
| Sustainability of ECE | <ul style="list-style-type: none"> ▪ Long-term financing plans and regulatory frameworks ▪ Policies that promote multiple actors in the ECE space (e.g., public, nongovernment, and private sector actors) ▪ Existence of multi- or intersectoral national ECD policy | <ul style="list-style-type: none"> ▪ Data systems that enable evidence-based financial projection ▪ ECE knowledge management and research systems, as well as networks to foster continued positive development of sector | |

We apply this framework to our examination of ECE programming in Asia, with special emphasis on countries with active USAID education programming.

3 Access and Equity Considerations

Strategic Goal 2 from the GPE’s 2020 five-year plan maps, roughly, to this report’s access objective. However, GPE’s overall 2020 target for the pre-primary gross enrollment ratio (GPE 2020 Indicator 6) is an underwhelming 32.2%. As GPE’s 2018 report indicates, the 2017 milestone status on this indicator globally has already been “met” (averaging 36.1% in participating countries), suggesting that the goal for 2020 could be substantially more ambitious. In fact, SDG 4.2 has increased the target to 100% by 2030: “By 2030 ensure that all girls and boys have access to quality early childhood development, care, and pre-primary education so that they are ready for primary education” (Loizillon & Leclercq, 2016).

3.1 Policy relating to access to ECE

We examined what country policies say about access and equitable service delivery. All countries reporting information in the SDG database⁶ have a formal definition of ECE, with formal entry and exit ages and a recognized duration of at least one year, although there is considerable variation (from 0 to 5 years) in the minimum formal age of entry and in the overall length of ECE. Vietnam is noteworthy in having increased the formal length of ECE (by lowering the age of entry) since 2011. **Exhibit 2** presents access-related policies for each of the 10 countries with USAID education programs.

Exhibit 2. Country policies relating to access to ECE

| Country | Policy Relating to ECE Access |
|-------------|---|
| Bangladesh | National Education Policy (2010) established principle of universal age five pre-primary. |
| Cambodia | Preschool education (prior to age six) non-compulsory under the national Education Law of 2002. It is organized as a three-step system (L1 for 3-year-olds, L2 for 4-year-olds, and L3 for 5-year-olds) (UNESCO Institute for Basic Education, 2006). |
| India | India's Right of Children to Free and Compulsory Education Act of 2009 directs all Indian states to prepare children starting at age four for entry into primary school and provide ECCE through age six. States are also encouraged to consider free pre-school education (Chandra, 2017, citing Ministry of Law and Justice 2009) and in its 12th 5-Year Plan, India presents the objective of at least one year of pre-primary education for children aged 4–6 and assistance to primary schools to include a pre-primary section (Chandra, 2017). |
| Indonesia | ECE is currently non-compulsory. It may last up to six years, with entry from age zero and completion at age six (UIS, 2018). |
| Kyrgyzstan | Law on Preschool Education states a goal of universal access to pre-school opportunities that prepare children for school entry at age seven (World Bank, 2013a). Measures of “100-hour” and “240-hour” and, eventually, “480-hour” programs are made admissible in the law (World Bank, 2013a; Lord, 2016). |
| Lao PDR | The Ministry of Education (MOE), with support from the World Bank, launched the ECE Program in 2014 to improve access and quality in disadvantaged Lao PDR districts given the low overall access and participation rates, as well as great disparities across the country and by ethnic group (Neuman et al., 2015). |
| Nepal | Pre-primary education is non-compulsory according to national education policy. Nonetheless, the Department of Education's SSRP posed a goal of 87% of 4-year-olds enrolled in Early Childhood Education and Development (ECED) by 2015, with the government covering the cost of one year. Communities can mobilize resources to cover children younger than age four (World Bank, 2013c). |
| Philippines | The policy mandates one year of free, compulsory ECE education (UIS, 2018). |
| Tajikistan | ECE is a stated priority in government policy documents (World Bank 2013d), with two years of compulsory pre-primary education mandated from age five since 2004 (UIS 2018). In 2013, the National Strategy for Education established a 2020 aim of reaching 50% of children aged 5–6 (and 30% of ages 3-4), in part through expanding community-supported learning centers (World Bank 2013d). |
| Vietnam | ECE entry at age zero and completion at age five (up to six-years long) (UIS, 2018). The 2005 Education Law " ... for the first time in history, included ECCE as part of the national education system; a subsequent 2009 Revision Act mandated compulsory, although not free, kindergarten attendance for all children 5 years old" (Tan 2016). |

As can be seen in Exhibit 2, several countries already have, or are moving toward, at least one year of compulsory ECE prior to primary school entrance (Neuman et al. 2015). The importance of ECE in preparing children for entering and completing primary school has also been captured by a number of countries (e.g., Bangladesh, India, and Lao PDR) in the

⁶ <http://uis.unesco.org/>

concept of “school readiness,” a rough measure of which is the proportion of children who arrive to Grade 1 with ECE experience.

3.2 Access and equity of access in practice

As we demonstrate throughout this report, policies of compulsory ECE and goals of universal participation remain only aspirational for many countries, although substantial progress has been made. Using UIS statistics from 2015, Loizillon & Leclercq (2016) note that, overall, the East Asia and Pacific region has shown growth in access to ECE, from 38% gross enrollment in 1999 to more than 70% by 2013, surpassing the world average of 54%, while South and West Asia have also seen growth, increasing from 23% in 1999 to 55% by 2012, reaching the world average. Gender parity has also been essentially achieved in the region by 2013. For overall enrollments in ECE, the Philippines, Indonesia, Nepal, and Lao PDR each registered more than 20-point gains in the five years prior to 2013 (Loizillon & Leclercq, 2016). Recent statistics indicate that the Philippines has surpassed 100% gross enrollment, Vietnam and Nepal have reached over 80%, and Indonesia 60% (**Exhibit 3**). **Exhibit 3** also shows that all other Asian countries with USAID education programs were still below 50% gross enrollment as of 2013.

The degree of engagement of the private sector (also shown in **Exhibit 3**) shows considerable variation, from just over 3% in Kyrgyzstan to 75% or more in the two largest countries, India (at 75%) and Indonesia (nearly 95%).

Exhibit 3. Selected ECE enrolment statistics in Asian countries with USAID education programs

| Country | Enrollment in ECE, both sexes (number) | Enrollment in pre-primary education, both sexes (number) | Gross enrollment ratio, pre-primary, both sexes (%) | Percentage of students in pre-primary education who are female (%) | Percentage of enrollment in pre-primary education in private institutions (%) |
|-------------|--|--|---|--|---|
| Bangladesh | 3,129,535 | 3,129,535 | 34.3 | 49.8 | 41.8 |
| Cambodia | 195,041 | 203,783 | 19.4 | 50.0 | 14.7 |
| India | 9,663,211 | 9,663,211 | 12.9 | 45.8 | 75.4 |
| Indonesia | 13,391,870 | 5,707,624 | 60.3 | 46.2 | 94.6 |
| Kyrgyzstan | 183,818 | 166,108 | 30.6 | 49.3 | 3.2 |
| Lao PDR | 199,087 | 186,621 | 40.1 | 49.8 | 18.0 |
| Nepal | 977,365 | 977,365 | 84.1 | 48.1 | 36.1 |
| Philippines | 2,211,846 | 2,211,846 | 100.4 | 48.8 | 18.0 |
| Tajikistan | 92,024 | 92,024 | 10.6 | 44.5 | No data |
| Vietnam | 4,627,316 | 3,978,521 | 86.8 | 46.4 | 12.8 |

Sources: World Bank Education Statistics compilation from various sources showing the most recent data available (i.e., 2016) for all countries with the exception of Philippines, for which data shown are from 2015.

There is also a wide variation in how countries approach provision of ECE, as detailed below.

Bangladesh’s ECD Network supports coordination across government and nongovernmental organization (NGO) providers in efforts to reach universal coverage. More than 60% of ECE classrooms are situated in primary schools. Since 2012, enrollments have

tripled; however, since birth registration is still not universal, age is not easily controlled and many children younger and older than five participate (Loizillon & Leclercq, 2016).

In **Cambodia**, despite an official 3-level system on paper covering ages 3–5, in practice, most pupils receive only one or two years of provision. Cambodia offers three modalities of provision: (1) state pre-schools (funded by the state and usually attached to urban primary schools; educators receive two years of training); (2) community-based pre-schools (teachers selected by the Commune Council and supported technically by province-level emanations of the Ministry of Education, Youth and Sport (MoEYS), Ministry of Women's Affairs (MOWA), and UNICEF; educators receive eight days of training); and (3) a home-based program (supported by Save the Children (STC)-Norway, with UNICEF and World Bank Education for All–Fast-Track Initiative (EFA-FTI), and STC-Norway funding); “core mothers” receive just two days of training) (Britto et al., 2013).

In **India**, as in Bangladesh, kindergarten admission by age is not adhered to—children aged 4-years-old are enrolled in kindergarten and children aged five years are in Grade 1 (Jung & Hasan, 2014). As of the 2015–2016 school year, only 24% of primary schools had attached pre-primary sections, according to a 2016 National University of Education Planning and Administration survey report. The large majority of children still arrive at Grade 1 with no pre-primary education experience (Chandra, 2017).

Kyrgyzstan has two basic approaches to ECE: community-based kindergartens (CBKs) and the 480-hour National Preschool Education Preparation Program (Lord, 2016).

Through efforts related to the EFA National Plan of Action and the Catalytic Fund, **Lao PDR** more than doubled the number of pre-primary classrooms between 2007 and 2014 through public centers (some integrated into existing primary schools) and community centers (where primary schools are themselves incomplete; Loizillon & Leclercq, 2016). “Playgroups” were instituted in primary schools with EFA-FTI block grant funding, for which Village Education Development Committees manage the funds received. Committees (and playgroups) are wholly dependent on the availability of grants (Britto et al., 2013). Private provision also increased over the period, but its share of children ages 3–5 enrolled actually decreased from 28% to 21% given the more rapid expansion of other options (Loizillon & Leclercq, 2016).

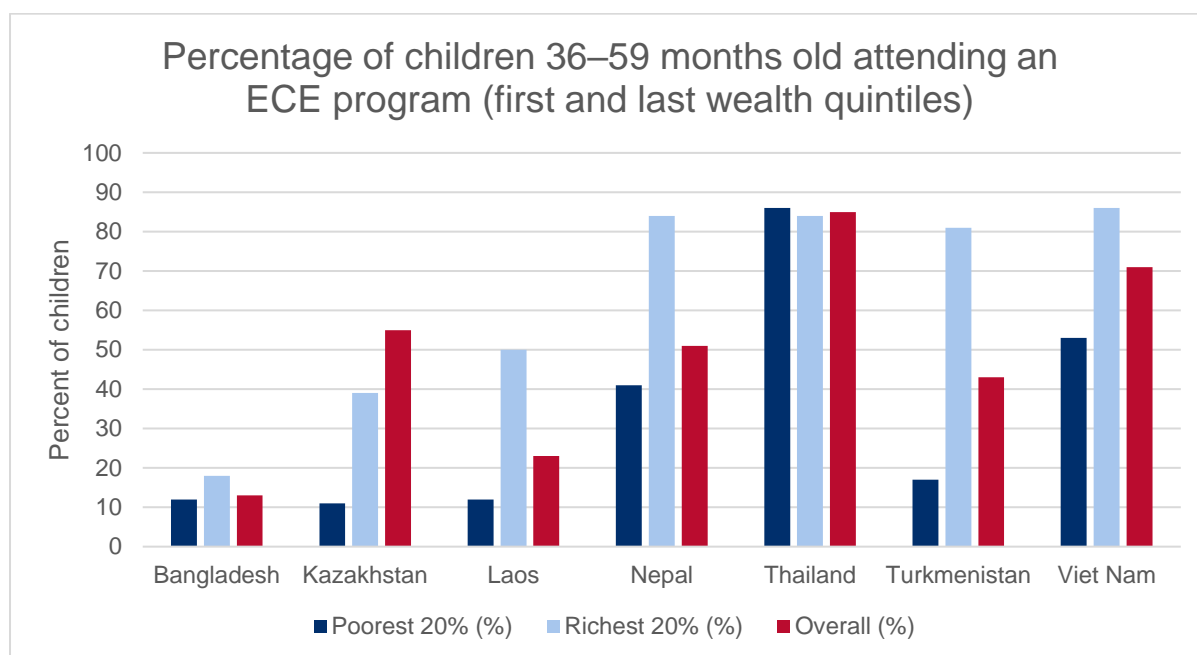
Nepal achieved impressive gains in ECE participation largely through government supported community programs to create centers in primary schools across the country post 2000 (World Bank, 2013c). The devastating earthquake in 2015 represents a monumental setback for the sector as for all other sectors; reconstruction has been slow.

Despite its “compulsory” ECE policy and near-100% primary enrollment, **Tajikistan**’s pre-primary gross enrollment ratio as of 2016, at just over 10%, was the lowest for the entire group of countries we reviewed. Availability and cost to families are issues, as well as parental knowledge and valuing of ECD. In addition, strict regulations have discouraged the non-state sector from growing (World Bank, 2013d).

Regional (as well as national) averages can mask important disparities in these figures for specific countries and groups at subnational levels (Loizillon & Leclercq, 2016). Many authors we reviewed noted that while expansion of ECE in many countries was significant in the past decade, it is still largely concentrated in more urban and affluent areas (Sun, Rao, & Pearson, 2015).

Exhibit 4, created from sample-based Multiple Indicator Cluster Surveys (MICS) and Demographic and Health Surveys (DHS) carried out between 2012 and 2016, shed some light on children’s participation in ECE by family income levels, contrasting families in the poorest and richest quintiles.

Exhibit 4. Variations in equity of access: Percentage of children attending an ECE program, poorest and richest income quintiles



Sources: Bangladesh, MICS 2012–2013; Kazakhstan, DHS 2012; Lao PDR, MICS 2014; Nepal, MICS 2014; Thailand MICS 2015–2016; Turkmenistan 2015–2016; and Vietnam, MICS 2014.

Thailand, while not a country with a USAID education portfolio, stands out as a country that has achieved both high levels of overall ECE participation and has succeeded in doing so in a way that children in poor families are able to participate at the same rate as children from rich families. Other countries, however, display either a very low level of participation for all groups (Bangladesh),⁷ or a gap in participation between poorest and richest groups ranging from about 30 percentage points (Vietnam and Kazakhstan) to 40 points (Lao PDR and Nepal) and more than 60 percentage points (Turkmenistan).⁸

Lao PDR also presents striking disparities not only by wealth quintile, as seen in **Exhibit 4**, but also by setting (6% attendance in remote rural areas, versus nearly 55% in urban areas in 2012), across provinces (ranging from just 4.3% in the province with the lowest attendance rate, to 70% in the province with the highest attendance rate), and between marginalized ethnic groups versus the Lao-Tai group. Similar disparities are also present in Nepal and other countries with high internal disparities by income (Loizillon & Leclercq, 2016).

Some progressive efforts to mitigate equity disparities are occurring. An ECE program started by the Government of **India** in 2008 piloted provision in 50 particularly underserved districts (out of then 422 districts total), with World Bank and Dutch Government support. Districts were required to establish district childhood services office and community facilitators assisted villages to prepare proposals for block grants to establish early childhood centers. Participating villages could develop their own programs; many set up playgroups for children aged 4–6 for two hours a day, three days per week. Two teachers per center were

⁷ It should be noted that with recent rapid expansions, survey statistics that are several years old may not reflect the current situation. Official 2016 statistics for Bangladesh, for example, place overall gross ECE enrollment at just over 34% (World Bank Education Statistics database).

⁸ Although some families may also keep their children home from pre-primary experiences by choice, this review did not specifically examine the extent, contributing factors, or implications of the phenomenon. Some countries have or promote parent education programs; however, these programs tend to be focused on earlier age groups and on health and nutrition.

provided with 200 hours of training. Jung and Hasan (2014) conducted a pre- and post-evaluation using the phased roll out of the program to more than 200 villages.

Family-directed conditional cash transfers (CCTs) have been used to help marginalized and vulnerable families send their children to ECE programs (**Philippines**) or to incentivize beneficial ECD practices (although not specifically ECE; **Bangladesh, India, and Nepal**; Loizillon & Leclercq, 2016).

In a pilot effort, the Aga Khan Foundation and UNICEF have supported Tajikistan to introduce an intersectoral community-based ECD model that includes an early learning component for children ages 3–7 and uses underutilized school classrooms after hours. This promising program was operating on a small scale (under 4,000 children) as of 2012 (World Bank, 2013d).

3.3 Conclusion

Gains have undoubtedly been made across Asia in the acknowledgement of ECE as an important part of children’s education, as expressed through a policy trend toward identifying ECE as compulsory. Philippines, Vietnam, and Nepal are at or near achieving full enrollment levels, while Indonesia and Lao PDR have also made impressive gains over the last decade. Nonetheless, many countries in the region, including some with a compulsory ECE policy, remain far from achieving that promise in practice; the average levels of access even in some high-performing countries, such as Vietnam, mask important internal disparities.

Government, NGO, community, and private sector provision of ECE exists in a variety of forms and combinations, influenced in many cases by the particular international partners operating there. A number of approaches to improve ECE provision, particularly for poor and other underserved populations, have been tried and show promise.

4 Quality of Early Childhood Education

In addition to expanding ECE access to all children, the quality of the ECE experience is an essential goal for the sector, mapping to GPE’s 2020 Strategic Goal 1 focus on quality of education and its equitable provision (GPE, 2018). Although “... no single recipe for delivering quality pre-primary education exists, it can be compulsory or voluntary; public or private; or based in schools, centers, or homes” (Neuman et al., 2015, p. 46), most would agree that the most important levers for ECE quality are curriculum and standards, including integrated and developmentally appropriate content, early learning assessment, and teaching and learning approaches in classrooms that address not only cognitive, but also physical and socioemotional development and well-being, and the educators who work with children in ECE classrooms. These levers of quality are discussed and examined closely below.

4.1 Policy on ECE content and quality: Objectives, standards, support, and accountability

With UNICEF support, early learning and development standards (ELDS) have been developed through a consensus-building process engaging a broad range of stakeholders in Bangladesh, Cambodia, Lao PDR, Nepal, Philippines, Vietnam, and other Asian countries (Loizillon & Leclercq, 2016). The sets of standards, developed individually for each country by teams of developers and practitioners from the country with international assistance, bring together sound current research on the importance of integrated approaches that support the child’s physical/motor, cognitive, linguistic, and socioemotional development in an engaging and child-centered manner and with consideration of local and national context and objectives. The ELDSs promote school readiness through a focus on the child, school,

and the family, trying to ensure that families and primary schools play a role in supporting all children to be prepared for school entry.

Countries have also independently developed curriculum and other policy on ECE content and materials that focus on quality; details for each country are provided in **Exhibit 5**.

Exhibit 5. Country policies relating to ECE curriculum and quality standards

| Country | Policy |
|----------------|---|
| Bangladesh | Pre-primary Education policy created national curriculum (Graham, 2017; UNESCO, 2015). Bangladesh established ELDS with UNICEF support. |
| Cambodia | Has established ELDS with UNICEF support. |
| India | Ministry of Women and Children Development (MWCD) developed a National ECCE Curriculum Framework (2013), which stresses the importance of school readiness (Chandra, 2017). MWCD developed quality standards for ECCE, published in 2013 (Chandra, 2017). |
| Indonesia | The National Education Standards Board created national ECE standards for the first time in 2009 (Tan, 2016). |
| Kyrgyzstan | Law on pre-school education incorporates development and learning objectives (physical, mental, and spiritual; civic consciousness; native language; and intellectual and physical creativity [World Bank, 2013b]). Learning standards were established in the State Standards of Preschool Education and Child Care in 2005. With UNICEF support, these standards were revised and were awaiting Ministry approval as of 2013 (World Bank, 2013b). |
| Lao PDR | The 2007 Education Law incorporates specific provisions for early learning standards (Britto et al., 2013). Lao PDR established ELDS with UNICEF support. |
| Nepal | Nepal established ELDS with UNICEF support. Education Regulation 2059 indicates that ECE service delivery is to be evaluated monthly. State and non-state establishments are required to comply with the same standards (World Bank, 2013c). |
| Philippines | The Philippines established ELDS with UNICEF support. |
| Tajikistan | Children have the right to be taught in their mother tongue, e.g., Tajik, Russian, Uzbek, or other (World Bank, 2013d). Tajikistan established strict service delivery and infrastructural standards. Its “Preschool Education Guidelines” for ECE establishments include a “minimum 8 hours per day,” and maximum 20-to-1 child-teacher ratio for children aged 4-7 years (World Bank, 2013d). |
| Vietnam | Vietnam established ELDS with UNICEF support. |

However, more important is how, and whether, sound standards and policies are enacted in practice. That is, after a government establishes a policy that focuses on delivery of quality care, in what ways is this policy carried through?

An evaluation of the ELDS process found that UNICEF was successful at working with multiple countries to develop ELDS and highlight the importance of strong standards for early learning and development that were based on sound research, as well as emphasizing the important role of parents in ensuring school readiness (UNICEF, 2016). However, the evaluation also pointed to several lessons learned. In particular, there was little application or use of the ELDS in practice, particularly as there was no follow-up support to implement the standards into existing government systems, school management, and classroom practices. Another limitation of the ELDS process was that there was littler adaptation of the standards to meet diverse populations within countries. Future recommendations point to the need to provide follow on technical support at all levels to help turn ELDS into practice.

Vietnam’s new pedagogy requires teachers to change the way they plan and organize their work with children in the classroom. In Vietnam, a new ECE program was introduced in 2005 and refined in 2009. This program was designed to introduce more play-oriented and child-centered practices into the provision of ECCE. “The new program marked an even higher

degree of autonomy and flexibility in teaching and learning, giving teachers autonomy in choosing the content and length of topics, and inviting children's direct involvement in the curriculum planning process" (Tan 2016, p. 27; Thao & Boyd, 2014).

However, similar to the process with the development ELDS, this policy faced challenges in implementation. The new policy requires teachers to change the way that they teach, which can be a difficult process without sustained support to teachers. Rural teachers, especially, initially felt under-equipped, inadequately trained, and overwhelmed by the new requirements to change their style of teaching, leading to implementation of the new curriculum not being practiced throughout the country (Thao & Boyd, 2014).

Other countries had similar experiences, where new policies mandated changes in curriculum and standards were challenging without adequate translation into practice.

In **Bangladesh**, weak government regulation of standards for class size, age of enrollees, and materials provision diluted their potential quality benefits, both in state- and NGO-run schools. Reports have found that less than half of schools have ECE-appropriate teaching and learning materials, although NGO sector schools are somewhat better resourced than government schools (Graham, 2017; UNESCO, 2015).

In **Nepal**, in addition to the development of the ELDS, Education Regulation 2059 indicates that ECE service delivery is to be evaluated monthly. State and non-state establishments are required to comply with the same standards (World Bank, 2013c). However, the quality of services provided in Nepal's government-supported community ECE programs in primary schools has been described as low, with low qualifications and inadequate training, feedback and support to facilitators, inadequate quality monitoring, and high pupil-facilitator ratios. (Loizillon & Leclercq, 2016).

In **Kyrgyzstan**, the new 480-hour National Preschool Preparation Program, funded by a GPE grant, offers promise that modern ECE curriculum can be implemented. The program began in 2015 and follows two prior efforts, a 100-hour summer program and a 240-hour spring semester program. With the objective of preparing children ages six and seven just before they enter primary school, children attend the program for half-days during an entire school year. The standard curriculum, presented through interactive games, addresses physical development, understanding one's world context, speech development, reading, writing, introduction to mathematics, creativity development, and the Russian language (Lord, 2016).

Standards and policy around curriculum are one piece of the puzzle to the provision of high-quality ECE. Below, we discuss early learning assessments, classroom pedagogy, and preparation of teachers—all of these areas are key to ensuring quality learning.

4.2 Early learning assessment

An important component of ECE is assessment of learning and of the quality of the environments in which a child learns. Assessments of young children can provide stakeholders with data on the effectiveness of an educational intervention, governments with a representative measurement of children's achievement levels in a geographic location, and the child development community with data for better understanding of early learning. The purpose of this section is to describe the existing instruments that have been developed and used and to highlight needs and gaps that exist, all within the Asia region. Additionally, due to the broad nature of this topic, the parameters of this section are described below.

This section will include review measures of child learning, including child-direct and caregiver and teacher reports and assessments of early learning environments within the field of ECE. Excluded from review in this section are diagnostic or screening assessments of disabilities and instruments seeking to gather health or medical information.

Fernald, Prado, Kariger, and Raikes (2017) provided a robust toolkit of resources for the selection, development, or adaptation of child development measures for use in low- and middle-income countries (LMICs). The toolkit present guidelines choosing an assessment based on key characteristics: purpose, psychometric properties, cultural relevance, and ease of administration. The appropriate assessment for the purpose must be carefully identified. Assessments may be used for population monitoring, program evaluation, or research. Population-level measures can be used to draw conclusions about the overall state of children's well-being or learning or to compare one group of children to another. Population-based measures are designed for use at scale, and the results can be used to inform system-level decision-making and needs assessment for programmatic planning (Fernald et al., 2017).

Assessments designed for program evaluation typically measure the skills that are intended to be affected by the intervention (Snow & Van Hemel, 2008). Assessments designed for research support the development of new theories and models in child development and education.

Psychometric properties, including validity and reliability, are important to consider when choosing an assessment (Fraenkel, Wallen, & Hyun, 1993). An assessment with high construct validity means that it measures what it intended to measure. Reliability means that an assessment will produce consistent results when re-testing the same sample or same type of subjects. Ensuring that an assessment reflects the cultural context, including language, of the child and the educational environment of the area, is a significant consideration so that the outcomes are relevant and valid. Assessment items and procedures that meet the above criteria in one context may not meet another (Fernald et al., 2007).

Finally, an assessment should be brief and relatively easy to administer to reflect the child's developmental capabilities. Data collectors must be trained effectively in administering the assessment to ensure the collection of valid and reliable data. An assessment that is complex would require more resources and a lengthy assessor training to ensure high performance on the part of the assessors. Additionally, young children have short attention capacities, and a lengthy assessment may not measure children's development and learning appropriately if the child is tired or inattentive. A developmentally appropriate assessment should be short to meet the capabilities of the child and collect sound data (Guddemi, 2003).

It is common practice in the education field to select assessments that have not been adapted and tested for use in the county where it will be implemented. Fernald et al. (2017) outline a framework for adapting assessment tools in their toolkit and devote a chapter to adaptation and standardization of existing tools. Although there are no universally recognized minimum standards for adaptation, the authors review the aspects of the adaptation process that have been repeatedly cited in the literature, including translation and review of culturally relevant content.

In the sections below, we review assessments of early childhood learning and development and early learning environments that have been designed or adapted specifically for use in Asia. First, we begin with a table containing a summary of the assessments that have been used in the Asia region, including the country(ies) in which the assessment has been administered and tested, domains measured, purpose, the year in which it was developed, the targeted age range, and whether reliability and validity were established in LMICs. We

Valid adaptation of assessments includes the following aspects (Fernald et al., 2017):

Translation

Selection of culturally sensitive content

Identification of presentation, administration, and scoring procedures that reduce culturally based differences

Pilot testing

Tracking revisions

then delve deeper into each type of assessment, beginning with child-direct assessments, then caregiver and teacher ratings and reports of child development, and finally assessments of early learning environments, including pre-primary classroom quality instruments.

4.2.1 Early childhood assessments in Asia

Exhibit 6 displays the full list of assessments and respective information that have been found in the literature search. Attachment 2 contains links to available assessments.

Exhibit 6. Early childhood assessments in Asia

| Title | Country | Domains Measured | Purpose | Year Developed | Age | Have Reliability and Validity Been established in LMICs? |
|--|--|--|-----------------------|----------------|-----------|--|
| Child-Direct Assessments | | | | | | |
| East Asia-Pacific – Early Child Development Scales (EAP-ECDS) | <ul style="list-style-type: none"> ▪ Cambodia ▪ China ▪ Fiji ▪ Mongolia ▪ Myanmar ▪ Papua New Guinea ▪ Timor-Leste ▪ Vanuatu | <ul style="list-style-type: none"> ▪ Approaches to learning ▪ Cognitive development ▪ Cultural knowledge & participation ▪ Health, hygiene, & safety ▪ Language & emergent literacy ▪ Motor development ▪ Socio-emotional Development | Population monitoring | 2010–present | 3–5 years | Yes |
| Save the Children International’s Development Early Learning Assessment (IDELA) | <ul style="list-style-type: none"> ▪ Bangladesh ▪ Bhutan ▪ Cambodia ▪ Indonesia ▪ Philippines | <ul style="list-style-type: none"> ▪ Emergent language and literacy ▪ Emergent numeracy and problem solving ▪ Motor development ▪ Social-emotional skills ▪ Inhibitory control (add-on) ▪ Memory (add-on) ▪ Learning approaches (add-on) | Impact evaluation | 2011 | 3–6 years | Yes |
| Cambodian Developmental Assessment Test (CDAT) | <ul style="list-style-type: none"> ▪ Cambodia | <ul style="list-style-type: none"> ▪ Fine motor skills ▪ General knowledge ▪ Gross motor skills ▪ Language ▪ Life skills ▪ Memory ▪ Pre-academic concepts ▪ Reasoning | Population monitoring | 2007 | 3–5 years | Yes |

| Title | Country | Domains Measured | Purpose | Year Developed | Age | Have Reliability and Validity Been established in LMICs? |
|---|---|---|---|--|--------------------------------------|--|
| Measuring Early Learning Quality and Outcomes Measure of Development of Early Learning (MELQO MODEL) | <ul style="list-style-type: none"> ▪ Bangladesh ▪ Lao PDR ▪ Mongolia ▪ Cambodia | <ul style="list-style-type: none"> ▪ Pre-literacy ▪ Pre-numeracy ▪ Fine motor skills ▪ Executive function ▪ Socio-emotional skills | Population monitoring | 2015 | 4–6 years | Yes |
| Learn Autonomous Region in Muslim Mindanao (Learn ARMM) | <ul style="list-style-type: none"> ▪ Philippines | <ul style="list-style-type: none"> ▪ Literacy ▪ Numeracy | Impact evaluation | 2015–2016 | Kindergarten through Grade 3 | No |
| Wechsler Preschool and Primary Scale of Intelligence (WPPSI-IV) | <ul style="list-style-type: none"> ▪ Philippines ▪ Bangladesh | <ul style="list-style-type: none"> ▪ Verbal intelligence ▪ Non-verbal intelligence | Identification and evaluation of children with and for delays; Determine intelligence quotient of a child | Developed in 1967 and undergone revisions through present day; 3 rd edition used in Philippines in 2007 | 2 years 6 months to 7 years 7 months | No |
| McCarthy Scales of Children's Abilities (MSCA) | <ul style="list-style-type: none"> ▪ India | <ul style="list-style-type: none"> ▪ Memory ▪ Motor skills ▪ Perception ▪ Speech ▪ Numeracy | Identification and evaluation of children with and for delays; Determine cognitive ability of a child | 1972 but has undergone revision through present day | 2.5–8.5 years | No |
| School Readiness Index (SRI) | <ul style="list-style-type: none"> ▪ India | <ul style="list-style-type: none"> ▪ Pre-numeracy ▪ Cognition and concepts ▪ Pre-literacy and language concepts | Impact evaluation | 2008 | N/A | N/A |

| Title | Country | Domains Measured | Purpose | Year Developed | Age | Have Reliability and Validity Been established in LMICs? |
|--|--|--|---|----------------|---------------|--|
| Caregiver and Teacher Ratings and Reports | | | | | | |
| Early Development Instrument (EDI) | <ul style="list-style-type: none"> ▪ Indonesia ▪ India ▪ Philippines ▪ Vietnam | <ul style="list-style-type: none"> ▪ Communication and general knowledge ▪ Emotional maturity ▪ Language and cognitive development ▪ Physical health and well-being ▪ Social competence | Population monitoring | 1998 in Canada | 3.5–6.5 years | Yes |
| UNICEF Multiple Indicator Cluster Surveys Early Child Development Index (MICS ECDI) | <ul style="list-style-type: none"> ▪ Bhutan ▪ Bangladesh ▪ Kazakhstan ▪ Kyrgyzstan ▪ Lao PDR ▪ Nepal ▪ Philippines ▪ Mongolia ▪ Vietnam | <ul style="list-style-type: none"> ▪ Learning ▪ Literacy and numeracy ▪ Physical development ▪ Socio-emotional development | Population monitoring | 2006–2009 | 3-5 years | Yes |
| World Bank Living Standards Measurement Study (LSMS) | <ul style="list-style-type: none"> ▪ Burkina Faso ▪ Nepal ▪ Tajikistan ▪ Timor-Leste ▪ Vietnam | <ul style="list-style-type: none"> ▪ Literacy (in some countries also numeracy) | Population monitoring | 1985 | Any | N/A |
| Measures of the Early Learning Environment | | | | | | |
| Cambodian Early Childhood Environment Rating Scale (CECERS) | <ul style="list-style-type: none"> ▪ Cambodia | <ul style="list-style-type: none"> ▪ Creative activities ▪ Fine and gross motor activity ▪ Infrastructure ▪ Language and reasoning experiences ▪ Personal care and routines ▪ Physical learning aids ▪ Social development | Guide country/regional progress and needs; Has been used in connection with child outcome | 2007 | Preschool | No |

| Title | Country | Domains Measured | Purpose | Year Developed | Age | Have Reliability and Validity Been established in LMICs? |
|---|---|---|--|----------------|-----------|--|
| Tamil Nadu Early Childhood Environmental Rating Scale (TECERS) | <ul style="list-style-type: none"> ▪ India | <ul style="list-style-type: none"> ▪ Creative activities ▪ Fine and gross motor activity ▪ Infrastructure ▪ Language and reasoning experiences ▪ Personal care and routine ▪ Physical learning aids ▪ Social development | Guide country/regional progress and needs; Has been used in connection with child outcomes | 2000 | Preschool | No |
| Early Childhood Environment Rating Scale, Activities and Program Subscales – Revised (ECERS-R) and ECERS–Extension Literacy and Math Subscales (ECERS-E) | <ul style="list-style-type: none"> ▪ Indonesia | <ul style="list-style-type: none"> ▪ Creative activities ▪ Fine and gross motor activity ▪ Infrastructure ▪ Language and reasoning experiences ▪ Personal care and routine ▪ Physical learning aids ▪ Social development ▪ Literacy activities ▪ Numeracy activities | Guide country/regional progress and needs; Has been used in connection with child outcomes | 1998 | Preschool | No |
| World Bank Systems Approach for Better Education Results - Early Childhood Development (SABER-ECD) | <ul style="list-style-type: none"> ▪ Bangladesh ▪ Kyrgyzstan ▪ Nepal ▪ Solomon Islands ▪ Samoa ▪ Tajikistan ▪ Tonga ▪ Uzbekistan ▪ Vanuatu | <ul style="list-style-type: none"> ▪ National-level information on policy | Systems-level monitoring | 2013 | N/A | N/A |

| Title | Country | Domains Measured | Purpose | Year Developed | Age | Have Reliability and Validity Been established in LMICs? |
|---|--|--|---|----------------|-----|--|
| Early Childhood Education Quality Assessment Scale (ECEQAS) - Plus | <ul style="list-style-type: none"> ▪ India ▪ Sri Lanka | <ul style="list-style-type: none"> ▪ Physical setting of the school ▪ Physical infrastructure of the school ▪ Outdoor play ▪ Learning and play material ▪ Classroom arrangement ▪ Classroom planning ▪ Personal hygiene ▪ Teaching process ▪ Activity for language development ▪ Environmental understanding ▪ Activity for math ▪ Creativity development ▪ Assessment and monitoring ▪ Activity for social development ▪ Teacher's personality ▪ Teacher approach learning process ▪ Teacher sensitivity | Guide country/regional progress and needs; Has been used in connection with child outcomes | N/A | N/A | N/A |

4.2.2 Child-direct assessments of learning and development

Research has shown that assessments that measure child learning and development directly through interaction with the child are the least biased and reveal the highest quality of data when gathered from a highly trained enumerator (Snow & Van Hemel, 2008). However, this method of assessment typically requires more resources. Training enumerators to become consistent and standardized data collectors takes time and financial commitment. Although child-direct assessments should be brief to align with the child's attentional capabilities, measures, including the assessment of all domains of learning, may take more than 30 minutes. If the sampling design requires a large number of students to be assessed, a longer assessment will take more resources (i.e., enumerators) during field data collection.

Several population-based child-direct assessments have been studied and implemented in Asian contexts. One notable example is EAP-ECDS (Rao et al., 2018), which represents the first effort to create a developmental assessment tool based on the diverse cultures and values from various countries within a region. The EAP-ECDS is a child-direct assessment of early learning and development, which developed from the ELDS of seven countries in the East Asia-Pacific region (Cambodia, Lao PDR, Mongolia, Philippines, Thailand, Vanuatu, and Vietnam). The EAP-ECD's iterative process of testing began with 99 items covering 7 domains: cognitive development; cultural knowledge and participation; language and emergent literacy; motor development; health, hygiene, and safety; socio-emotional development; and approaches to learning (Rao et al., 2018). The next phase included pilot testing the 99 items in China, Fiji, and Mongolia with children aged 3-5 years, resulting in a selection of 85 items. The final round of testing occurred in 2017 with a representative sample of 7,757 children from six countries: Cambodia, China, Mongolia, Timor-Leste, Papua New Guinea, and Vanuatu, establishing strong indicators of reliability and validity.

Another measurement instrument, the MELQO initiative's MODEL, led by the World Bank, UNICEF, UNESCO, and the Center for Universal Education at the Brookings Institution, included experts and partners from around the world (UNESCO, UNICEF, Brookings Institution & World Bank, 2017). The primary purpose of the MELQO MODEL is to measure groups of children; it can be used as a population-based measure. It includes items that measure emergent literacy and numeracy, socio-emotional development, executive function, and fine motor development, with content drawn from existing valid and reliable assessments used in Western contexts. The MODEL includes two associated questionnaires designed for the child's caregiver and the teacher.⁹ Two Asian countries participated in the first round of MELQO pilots: Lao PDR (Laotian language) and Mongolia (Mongolian and Kazakh languages; Platas, 2017). In Lao PDR, the MELQO MODEL and related caregiver report were used to evaluate the impact of an education intervention with a sample of 200 children between the ages of two and seven years using the Laotian language¹⁰. The assessments were adapted by government officials from the early childhood unit, training and curriculum unit, and the monitoring and evaluation unit, as well as a local pediatrician and representatives from the department of health and early childhood teachers (Platas, 2017). In Mongolia, the MODEL and related caregiver report were piloted by the government to determine how child outcomes may vary by socioeconomic status. After undergoing adaptation by representatives from the Ministry of Education, local language experts, and local early childhood development experts, the MODEL was piloted with 533 children between the ages of 4 years and 6 years old in pre-schools. The government used

⁹ The caregiver and teacher reports related to MODEL are not designed to be given separately; rather, they are designed to complement the findings from MODEL.

¹⁰ Although the MELQO MODEL is targeted to children between 4-6 years of age, in Lao PDR it was administered to a wider age range (2-7-year-olds) as part of a pilot to test the instrument.

the findings to guide policy decisions on the quality of their pre-primary classrooms and equitable provision of pre-primary education (Platas, 2017).

One widely used assessment for the purpose of impact evaluations is the IDELA by Save the Children, which is a child-direct measure of children's learning, including core items on motor development; emergent language and literacy; emergent numeracy/problem solving; social-emotional skills; and add-on items measuring inhibitory control, memory, and children's learning approaches (Pisani, Borisova, & Dowd, 2015). IDELA has been used across Asia, including in Bangladesh, Bhutan, Indonesia, Nepal, Philippines, Tajikistan, Thailand, Vietnam, and Cambodia, to measure the impact of programs, such as the Emergent Literacy and Math Toolkit and First Read (Save the Children, 2017b). The first phase of IDELA began with testing 60 items to narrow down the instrument to the most reliable and feasible items that could be used across contexts with 3- to 6-year-old children. IDELA underwent iterative testing and revision over three years in 12 countries, which ultimately resulted in 24 items (Pisani, Borisova, & Dowd, 2015). In Cambodia, Save the Children used IDELA to evaluate how child development outcomes were impacted from the First Read project, which supported access to comprehensive home-based early childhood care and development services for children under six years (Pisani et al., 2015). Although results showed that children's attending an early childhood care and development center was correlated with stronger scores on IDELA, the study found no significant relationship between participating in First Read and child development outcomes. IDELA was also used to evaluate the effectiveness of the Philippines First Read program on child development scores, which found that child participants in the program scored significantly higher on emergent literacy skills than children not receiving the program.

Few instruments have been developed at the country level. Although one notable example is Cambodia's CDAT (Rao & Pearson, 2007), which is based on the Cambodian ELDS developed by the Ministry of Education, Youth and Sport with support from UNICEF (UNICEF, 2016). The CDAT is a child-direct assessment for children aged 3–5 years that was developed to measure impact on school readiness of various early childhood care and education programs in the country. It contains 30 items that measure general knowledge, gross motor skills, fine motor skills, pre-academic concepts, memory, reasoning, life skills, and language. Results show that children who participated in early childhood programs, including state pre-school, community pre-school, and home-based programs in Cambodia, had higher scores at post-test on measures of gross motor skills, language skills, and pre-academic skills than children with no experience in early learning programs (Rao & Pearson, 2007). In addition, the CDAT allowed researchers to show that children who attended the state pre-school had scored significantly higher on measures of language, general knowledge, and fine motor skills than children participating in community- or home-based programs. Finally, the assessment allowed for the comparison of children's school readiness by regions in Cambodia, showing that there were significant differences across provinces.

Other child-direct instruments demonstrating strong validity and reliability indicators have been translated and, sometimes, adapted for use in another country. For example, the WPPSI-IV is a child-direct learning assessment for 2-7-year-olds that was developed and standardized in the United States (Wechsler Psychological Corporation, 2012). The WPPSI-IV includes 14 subtests that together measure a child's intelligence, including verbal, performance (non-verbal) and full-scale intelligence quotient. Solon and colleagues (2008) translated and used the measure in the Philippines to determine the effects of lead blood levels on child functioning, finding a significant association between lower verbal IQ scores and higher blood lead levels. In Bangladesh, Moore, Akhter, and Aboud (2008) used the WPPSI Third Edition's vocabulary, matrix reasoning, and block design subtests to measure cognitive development in relation to the quality of a pre-primary intervention pilot. Moore and colleagues found that children participating in the pilot program made greater gains on the non-verbal tasks compared to children not attending the program. Another study used the MSCA, developed and normed in samples of children in the United States, to measure child

development in a sample of children from South India (Rao, 2010). In this study, the MSCA was translated into the local language, some subtests of the MSCA were omitted, and some items were deleted or modified to make them more culturally relevant. The final version of the adapted MSCA combined raw scores for perception, motor skills, memory, speech, and numeracy to obtain a developmental index. The study's findings showed that children attending a higher quality pre-primary center had better perceptual, memory, verbal, and numerical skills than those attending lower quality centers.

4.2.3 Caregiver/teacher report assessments of children

Child development and learning may be measured through a caregiver and/or teacher report. These assessments rely on caregiver and/or teacher reports about behaviors that are easy for caregivers and teachers to understand, observe, and describe. This method is beneficial because it is low cost and easy to implement (Fernald et al., 2017). Generally, reports and ratings require less enumerator training and, typically, are quick to complete. However, caregiver and teacher ratings and reports offer other challenges. Information collected from caregivers may be less accurate due to biases about their child's abilities. Teachers may inflate their ratings of children if they are worried that the results will be connected to accountability. Additionally, teachers may experience fatigue when filling out reports or ratings for a large number of children at one time.

The most common instrument used in the Asia region is a population-based measure, MICS ECDI, developed by UNICEF for children aged 3–5 years. ECDI was added to MICS in 2009 during the development of the MICS fourth version (Loizillon, Petrowski, Britto, & Cappa, 2017). The ECDI has undergone several phases of development leading to the current brief 10-item measure and has been tested in representative samples in countries in East Asia, South Asia, and Central Asia, including the Philippines, Bangladesh, Bhutan, Lao PDR, Nepal, and Vietnam. The ECDI is a household-based caregiver report, which includes 10 items that measure learning, literacy and numeracy, physical development, and socio-emotional development. The scores reflect whether children are developmentally on track in each of these domains and overall. From 2009–2016, the ECDI was incorporated into existing household surveys, including the DHS and approximately 80 MICS, leading to existing data on development outcomes in a variety of countries. The design and testing phase allowed for the ECDI to be used as a way for countries to collect internationally comparable and nationally representative data. Given this, the ECDI has been used in a variety of ways. For example, McCoy and colleagues (2016) used the ECDI to estimate the number of pre-school-age children with low cognitive and/or socio-emotional scores in 35 LMICs, including Bangladesh, Bhutan, Lao PDR, Nepal, and Vietnam. The researchers were also able to show the association between the prevalence of low ECDI scores on the cognition and socio-emotional domains and stunting. Additionally, Phongsopha and Pholpirul (2018) used ECDI data from Lao PDR to explore the relationship between access to ECE programs and child learning.

The EDI was developed in Canada in 1998 as a population-based measure of school readiness (Janus & Offord, 2007). Modeled as a teacher report, the EDI is designed to rate children ages 3.5 years to 6.5 years in five developmental areas, including physical health and well-being, social competence, emotional maturity, language and cognitive development, and communication and general knowledge. These five domains are broken down into 16 subdomains that represent specific skills and behaviors. The EDI has been adapted for use in Vietnam, Indonesia, and the Philippines. Duku, Janus, and Brinkman (2015) implemented the EDI with samples of 3–5-year-old children in the Philippines and with 4-year-olds in Indonesia to examine the reliability and validity of the EDI for use in these populations. They found that all domains, except for physical health and well-being, showed acceptable reliability and that concurrent validity was also acceptable in all domains. Additionally, statistical modeling was used to show that the domains of social competence and emotional maturity was appropriate for boys and girls and across both countries.

4.2.4 Assessments of early learning environment

A young child's early learning environment plays a key role in determining their learning and development (Lamb, 1998). Attending a pre-primary education program is not enough; research supports that the quality of the environment is also a crucial factor (Engle et al., 2007). Assessments of the early learning environments typically include the measurement of the "structural" and "process" indicators (Fernald et al., 2017). Assessment of structural indicators include ratings of the physical aspects of the environment, such as presence of teaching and learning materials, safety of the physical environment (e.g., broken glass), and class size. Assessments of process indicators include ratings of interactions with children, such as instructional styles, emotional tone of the teacher, and communication between teacher and child. However, there is a dearth of research on the quality of children's learning environments in LMICs, including in Asian contexts.

Two classroom observation measures of the early learning environment in Asia stem from the ECERS-R (Harms, Clifford, & Cryer, 1998), a Western-developed observation measure that was vigorously tested in higher-income contexts. In impact evaluations, it was adapted and implemented in countries, such as Indonesia (Brinkman et al., 2016), India (TECERS; Chopra, 2012; Isley, 2001), and Cambodia (CECERS; Rao & Pearson, 2007). TECERS was developed for use in Tamil Nadu, India and consists of 56 items measuring seven subscales, including infrastructure, personal care and routine, physical learning aids, language and reasoning experiences, fine and gross motor activities, creative activities, and social development. Rao (2010) used TECERS to examine the influence of pre-school quality on child development in South India in a small sample. Children attending the higher quality center had better perceptual, memory, verbal, and numerical skills than children in the lower quality center—31% of the variance in developmental functioning was explained by pre-school quality. The study showed that programs that may be rated as low quality using Western standards still have benefits for children from disadvantaged families in India, and consistent with other studies, the higher the quality of the early learning environment, the better outcomes measured in children. This highlights the need to better understand the relationship between quality and child outcomes in LMICs. These results should be interpreted with caution, however. Aboud (2004) used the TECERS alongside the ECERS-R to examine the quality of pre-schools in Bangladesh, finding that although the ECERS-R was a valid measure of the qualities in a pre-school that are related to school readiness, the TECERS produced high quality scores across all pre-schools, lending to the view that TECERS was an unnecessary modification of the ECERS-R.

CECERS was adapted by Rao and Pearson (2007) for use in a study that examined the effectiveness of various types of early childhood programs on child school readiness in Cambodia. It is a 58-item scale that was adapted from the TECERS, described above. Items were added, modified, and omitted from TECERS based on results from a pilot study (Rao & Pearson, 2007). Regional government staff trained in ECE used CECERS to assess Cambodian community pre-school programs over two-day long observations in each classroom. Use of the CECERS allowed researchers to make recommendations to Cambodia's Ministry of Education, Youth and Sport to increase the quality of the community pre-school programs, including advocating for teachers to be more involved in an extensive free-play period with the children and to use more conversation extending and critical thinking methods of communication and instruction with children.

The World Bank developed the SABER-ECD tool to analyze existing ECD policies and programs to identify areas of policy needing improvement (World Bank, 2013a). Although the SABER-ECD was not designed as a specific assessment of quality at the classroom level, one goal of the tool was to provide support for governments to progress the monitoring and quality assurance of their ECD system. Specifically, the SABER-ECD tool collects data that allow governments to monitor ECD outcomes, develop quality standards for service delivery, and establish monitoring systems for these standards. The tool includes a questionnaire that gathers data on indicators of quality at the systems level, including 26 questions pertaining

to general ECD policy information (e.g., policies and finance, policy implementation, and quality standards) and 101 questions related specifically to ECD sectoral policy (e.g., monitoring of the education, health, nutrition, child protection, and social protection sectors).

4.3 Approaches to teaching and learning

The quality of instruction in the classroom is key to children's learning and development. In this section, we focus on the evidence on what instruction looks like in pre-primary classrooms. We begin with pedagogical approaches, focusing on the role of guided play. We then review the evidence in subject-specific domains, focusing on emergent literacy and early mathematics. Finally, we conclude with a review of the language of instruction in ECE environments.

4.3.1 Role of guided play

There are several different pedagogical approaches used within ECE classrooms in Asia, with the majority of the evidence base describing a balance of guided play and teacher-directed instruction. Although it is commonly assumed that early childhood approaches should contain open-ended play experiences where children take the lead in their own learning, this approach is not commonly implemented in most regions of the world, except through Montessori-type approaches in select countries (UNESCO, 2016b). As a UNESCO program in Nepal noted:

[ECE and development] teaching and learning in low-resourced environments is supported by facilitators who are likely to have limited formal training in pedagogy and/or early childhood. While this in itself should not be seen necessarily as a disadvantage, implementing very open-ended (play-based) approaches in ways that also promote and support the development of formal learning skills needed for transitioning into formal learning requires a level of training and experience, as well as clear guidance and support in the form of curriculum documents/learning materials (2016b).

That is, open-ended play should also include the teaching of formal skills that are needed for primary school; however, this is both difficult to implement and has a high resource need. Instead, a balance of teacher-directed instruction, where teachers directly introduce new skills and concepts, and guided play, where children can explore these new skills through a play-based activity, is increasingly common globally (Sheridan, 2011). The evidence from the Asia region that is reviewed below reinforces this balance.

A study from Bangladesh looked at the idea of play and studied four pre-primary classrooms in semi-rural Bangladesh (Chowdhury & Rivalland, 2016), looking at teacher perspectives on the role of play within the classroom. Much of what the study described was guided play, where experiences were introduced and set up by the teacher to teach a particular skill/concept. Some teachers used materials (e.g., bamboo sticks, beads, or stones) to teach concepts like shapes, while other teachers used games to enhance learning. This gave children room to explore materials and concepts, while still having teachers guiding the instruction.

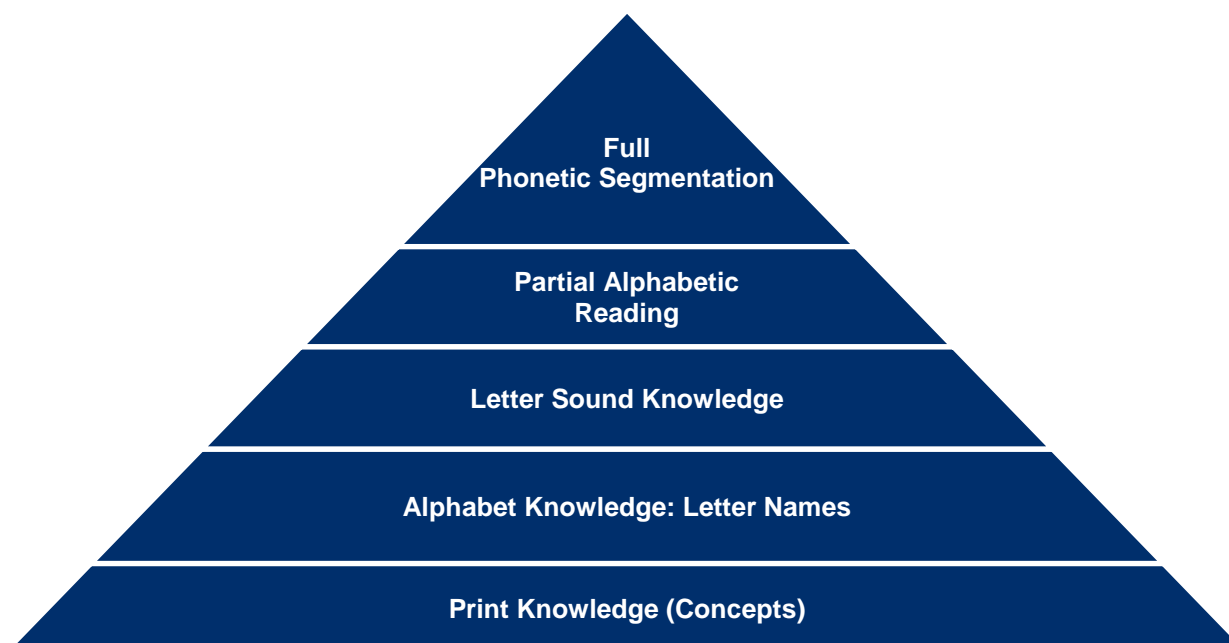
A program in Bangalore, India focused on Education for Children of Migrant Labour centers for children aged 6 months to 14 years also focused on guided play. Within this program, learners were encouraged to play and experiment, while the teacher was a facilitator creating an informal atmosphere that promotes learning, instead of just providing knowledge to passive children (UNESCO, 2016).

4.3.2 Emergent literacy and mathematics

There is ample research on the importance of early literacy and early numeracy in pre-primary classrooms globally (Manji, 2018; Sitabkhan & Platas, 2018). In the sections below, we first review the available research from the Asia region on emergent literacy. We then review the evidence on early mathematics and conclude with considerations for programming in these areas with regard to the language of instruction.

Emergent literacy

Exhibit 7. Emergent literacy knowledge



Adapted from Morris, 1993; Flanigan, 2007

Emergent literacy is the first stage of reading development and is made up of several aspects, as seen in **Exhibit 7**. These include beginning concepts around print knowledge, alphabet knowledge (i.e., children recognize letter names), letter sound knowledge (i.e., children identify isolated sounds), phonological awareness (i.e., children identify and manipulate sounds within words and begin partial alphabetic reading), and full phonetic segmentation (Morris, 1993; Flanigan, 2007). Many different programs in Asia focused on emergent literacy within their early childhood programs, with most of the evidence focused around dialogic reading, engaging children through books, and oral language development.

Dialogic reading is a form of shared storybook reading, wherein the teacher engages children in a verbal conversation about what happened in the story. In Bangladesh, early childhood teachers conducted dialogic reading daily within the 60-minute language period, with the remainder of the period devoted to other emergent literacy skills, such as rhymes and letter recognition. (Opel, Ameer, & Aboud, 2006).

Dialogic reading followed the same intervention model in two interventions in Bangladesh, the first of which was a pilot (Opel, Ameer, & Aboud, 2006) followed by a larger study (Opel, Ameer, & Aboud, 2009). In both studies, teachers were given five to eight sample *wh*-questions (i.e., who, when, why, where, how) for each book to help guide their conversation with children following a story reading. This was developed in reaction to the lack of experience on the part of teachers and, thus, their limited ability to formulate thought-provoking questions. The questions were a combination of vocabulary-related questions (i.e., “What is a boat? Have you ever ridden in a boat?”) and event-related questions (i.e. “What happened at the end of the story?”). In addition to sample questions, teachers were

given eight age-appropriate books published by BRAC, each of which contained vocabulary appropriate for the age group but new to the children, as well as interesting plot and illustrations. Each book was read to a class of 20–25 children and was read in thirds so that each book was finished in three days. Results found that the expressive language of children in the intervention group rose from 26% to 54%, with the expressive language of the control group staying the same (Opel et al., 2009).

A qualitative study looking at pre-school education in two schools in rural India found that much of the literacy instruction focused on oral language, while print did not play a large role in classroom instruction (Gokhale, 2009). Teachers focused on rhymes, songs, oral stories, and conversation, as well as encouraging children to retell stories using puppets. Additionally, the teacher of one class focused on dialogic interactions, which used open-ended questions to scaffold children’s language. One class also visited the school library as part of their regular routine, where the librarian read to them and allowed them to look at books (Gokhale, 2009).

Save the Children, through its Emergent Literacy and Mathematics Toolkit, focuses on early literacy skills, such as phonological awareness, in interventions throughout the Asia region. The literacy portion of the toolkit builds on Save the Children’s “Literacy Boost” work and is a training guide for pre-school teachers to help them support literacy development in the classroom. It focuses on using books to engage children, as well as on parent engagement to promote literacy at home (Poehlman & O’Grady, 2016). This program was implemented in Bangladesh through the USAID project, Promoting Talent Through Early Education (PROTEEVA) in 21 districts in 6 regions of the country. The intervention involved a balance of structured and guided play focused on early literacy and mathematics using program-provided materials (Poehlman & O’Grady, 2016). An endline evaluation revealed that children who participated in the program outperformed the control group with very large effect sizes (1.61 to 1.97). PROTEEVA-supported sites were also administered the ECERS-R and ECERS-E, which is used to assess the quality of ECE programs, by looking at safety, adult-child interactions, and opportunities for learning. They found that quality of intervention classes increased from 3.4 to 3.9, on a scale of 1 to 5 (Borisova & Pearce, 2011).

Emergent mathematics

In addition to literacy, projects in the Asia region focused on early mathematics. In the early years, children learn foundational mathematics concepts through everyday experiences, such as counting objects in the home and solving simple problems that arise as they go about their daily lives (Baroody & Ginsburg, 1990). In a study of math instruction in India, parents prioritized math skills from an early age because children often accompany their parents to the market to sell goods or are involved in family record keeping (Guha, 2006). When children first enter the pre-primary classroom, they continue building their understanding of foundational concepts (i.e., number sense, basic operations, spatial awareness, measurement, and geometry) through activities and games with concrete objects. In addition, with guidance from the teacher, children begin learning symbolic mathematics and are able connect the counting and other experiences from outside school to the formal symbols of mathematics (Sitabkhan & Platas, 2018). Much of the evidence from the Asia region focused on using materials and hands-on activities to teach math, with an emphasis on counting, addition, and shapes.

As part of a math intervention in schools in rural Bangladesh run by BRAC, Save the Children, and Plan Bangladesh, a math curriculum made up of six units was developed with specific objectives, such as counting up to 30, identifying shapes, and adding numbers up to 10 (Opel et al., 2012). Teacher were given a daily 20- to 40-minute period for teaching math. The curriculum also contained activities developed from a guide created by Plan International, which was organized to ensure all math skills were addressed. A math bag, which contained items, such as number cards, buttons, cubes, pattern cards, and an exercise book, was provided to each student. At the end of the six-week intervention,

researchers found that children who experienced the math activities made significantly greater gains in math skills than those in the regular program (Opel et. al, 2012). This was assessed using a 52-item pre- and post- assessment addressing the concepts of all six units of the intervention.

Save the Children focused on emergent math through its Emergent Literacy and Mathematics Toolkit, mentioned above. For mathematics, the toolkit focuses on numbers and counting, patterns, sorting and classification, comparison and measurement, and geometry. This toolkit was implemented in Nepal through the pilot, “Testing Innovation and Generating Evidence on Emergent Literacy and Math,” which took place in 20 ECD centers in Nepal’s Kavrepalanchok district (Save the Children, 2017A). The pilot involved supporting teachers to create their own resource materials, such as activity cards for emergent literacy and math and learning corners, including a math corner, as well as provide continuous capacity development of both teachers and teacher training facilitators.

A study in India focused on the perspectives of 10 teachers of early mathematics instruction at four schools in two Indian cities: New Delhi and Kolkata (Guha, 2006). Teachers reported teaching math three to four times a week for 30–40 minutes per day. Most teachers reported teaching children to count by primarily using their fingers, as well as using familiar objects, such as beads, math sticks, and pictures (Guha, 2006). Teachers reported that they felt finger counting was sufficient but used the objects because it engaged the children in instruction.

In another study, a group of researchers piloted an early math game-based curriculum within pre-schools in a high-poverty area of Delhi (Dillon, Kannan, Dean, Spelke, & Duflo, 2017). The games were designed to give children, who had no access to books or literate adults, exposure to activities to practice their informal spatial and numerical skills. To create something that could be easily scalable in India, the study used inexpensive materials and hired and trained local adults to administer games adapted to the context. Children played five games that focused on numeric and geometric skills for four months. After the four months, researchers found a marked improvement in the children’s symbolic math skills, compared to the control group. However, by the middle of the first year of primary school, these gains had disappeared. Unfortunately, the fade-out effect, wherein the impact of ECE fades during primary school, is reflected in other studies performed both in the United States and internationally (Bailey, Duncan, Odgers, & Yu, 2017; Gove, Dombrowski, King, Pressley, & Weatherholt, 2018).

4.3.3 Language of instruction

Studies show that the best time to use a child’s mother tongue for instruction is when they first enter school since they are thinking and processing in their native language (Espada, 2012). However, many children in Asian countries are studying pre-primary literacy and math in a language they do not yet understand. For example, in the Philippines, the native language of most children is neither Filipino nor English, the two languages taught in school (Espada, 2012). As seen in **Exhibit 8**, many countries in the Asia region do not teach in the child’s native language, although many countries are working to expand the number of languages of instruction. Although many of these policies are focused on the primary grades, policies often group ECE with early primary.

Exhibit 8. Mother tongue instruction in selected Asian countries

| Country | Language of Instruction |
|------------|--|
| Bangladesh | National language of instruction and literacy is Bangla. No additional mother tongue instruction for ethnolinguistic minorities. |
| Cambodia | National language is Khmer. Bilingual literacy programs use both Khmer and local language as language of instruction and literacy. In nonformal education (education |

| | |
|-------------|--|
| | targeting out-of-school children), instruction is allocated as follows within primary education: 1 st year: 90% in L1 (MT) and 10% in L2 (Khmer); 2 nd year: 50% in L1 and 50% in L2; 3 rd year: 10% in L1 and 90% in L2. After the third year, learners use Khmer materials. |
| India | India has 33 languages of instruction. In Assam in Northeast India, there are nine languages of instruction at the primary level and seven at the secondary level. State Resource Centers are working with other multiethnic regions to expand the number of languages of instruction in classrooms. |
| Indonesia | The Act on the National Educational System allows the use of mother tongue instruction in early grades, but, currently, Bahasa Indonesia is the primary language of instruction. Several pilots have worked to expand the use of mother tongue. |
| Nepal | The Government of Nepal has policies that support mother tongue instruction but no mechanism in place or funding to implement this in early grades. World Education Nepal has been piloting a Tharu mother tongue literacy project with support from UNESCO Kathmandu. RTI International has been piloting a Tharu mother tongue project through the USAID-funded Nepal Early Grade Reading Project. |
| Philippines | The language-in-education policy has goals for competencies in both Filipino and English, so both languages are used in all grades. Regional and local language use is allowed in the first two primary grades. |

Taken from Kosonen, Young, & Malone, 2006

Teaching L2 learners

Although many countries have not yet developed mother tongue programs in pre-primary and primary schools, some smaller programs and initiatives are beginning to take place in several Asian countries. In Bangladesh, BRAC developed an education for indigenous children program, comprised only of ethnic minority children (Jacob, 2016). Teachers are recruited from the community and undergo a 15-day training on teaching methods, classroom management, and evaluation practices. Teachers explain lessons in local language alongside Bangla and use instructional materials that are locally relevant. However, the program continues to struggle with the lack of qualified teachers who speak the various local languages, as well as the lack of printed materials in local languages. (Jacob, 2016). Noteworthy is that an evaluation of the pre-primary programs operated by BRAC in Bangladesh reported that the program's most important book was the collection of letters (*Borner mela*), because it presented letters in the student's mother tongue (Shahjamal & Nath, 2008).

In Cambodia, a study looked at community mother tongue schools, which are often locally developed and led (Benson, 2011). These schools often teach in both Khmer and mother tongue and have a print-rich environment that includes bilingual labels around the classroom identifying objects or furniture in both languages. Teachers are locally recruited and trained, receiving six months of in-service training. When the researchers observed classrooms, they found that many children were able to read with fluency and understanding. Further, when children had difficulties, they were comfortable asking peers or their teacher for assistance (Benson, 2011).

Finally, in the Philippines, the USAID-funded Basa Pilipinas project provided schools with 1.4 million books in the two assigned mother tongues: Ilokano and Sinugbuanong Binisaya, including big books for kindergarten (USAID, 2018). The project also assisted the Philippines Department of Education with creating a default learner's material document for kindergarten, which can be adapted to mother tongues used across the country. It also developed kindergarten learner's materials for the two assigned mother tongues (USAID, 2018).

Although there is evidence that teaching pre-primary in mother tongue is best, there are very real challenges and obstacles to its implementation (Piper, Zuilkowski, Kwaymba, & Oyanga, 2018). Therefore, using second-language strategies instead of mother tongue is one approach. These strategies can include code switching, where the teacher alternates between two or more languages (Office of Head Start, 2018) and explicit and systematic

instruction on vocabulary (Espinosa & Magruder, 2015). Children also benefit from written text paired with visuals (e.g., pictures and drawings), which can promote understanding, as well as pre-reading skills (Espinosa & Magruder, 2015). Additionally, teachers should provide children with a language-rich environment, including opportunities for second-language learners to converse with adults and peers, as well as exposure to rich language through teacher talk or book reading (Ford, 2010).

4.4 Early childhood educators quality management, training, and support

4.4.1 Quality guidelines and management for ECE teachers

The availability of educators with adequate training and motivation constitutes an important challenge for expansion and quality of ECE. Sun, Rao, & Pearson (2015) point out that the number of trained ECE educators is, in many countries, very inadequate, especially in rural areas, and these educators have lower qualifications, status, and wages than primary teachers. Training opportunities and appropriate teacher curriculum are often insufficient, and effective regulatory frameworks for preparing, staffing, and monitoring ECE teachers are often lacking. In many countries, the curriculum of ECE teacher preparation (both pre- and in-service) demands attention, as well as availability of programs to prepare ECE teachers (Sun, Rao, & Pearson, 2015; see also Neuman et al., 2015).

In response, the technical support of international agencies in the form of flexible guidelines and frameworks can be vital in assisting countries in Asia and around the world to develop their own sound standards and guidelines for building the ECE teacher corps. The International Labour Organization's (ILO) Policy Guidelines on the Promotion of Decent Work for Early Childhood Education Personnel, adopted in March 2014, provide practical guidelines for professional, motivating treatment of ECE educators (SEAMEO & UNESCO, 2016).

Exhibit 9 presents country-by-country findings on policy relating to ECE teacher quality.

Exhibit 9. Country policies relating to ECE teacher quality

| Country | Policies on ECE teacher quality |
|------------|---|
| Bangladesh | The Pre-Primary Education Policy created national curriculum, teacher training materials, and additional assistant teacher positions. Aspiring ECE teachers are formally required to have upper secondary education to be eligible to enter ECE teacher training, while the required qualification is higher for primary-level teachers (Sun, Rao, & Pearson 2015). |
| Cambodia | Aspiring ECE teachers are formally required to have an upper secondary degree to be eligible to train for service in state pre-schools. The same qualification is required for primary-level teachers (Sun, Rao, & Pearson 2015). |
| Kyrgyzstan | State pre-school teachers are required to have four-year post-secondary education, including pedagogical practice, and in-service training at least once every five years. Other types of programs have shorter requirements (World Bank 2013b). |
| Lao PDR | Aspiring ECE teachers are formally required to have some secondary or technical education to be eligible to enter ECE teacher training. The same qualification is required for primary-level teachers (Sun, Rao, & Pearson 2015). |
| Nepal | Policy lays out standards for ECE teachers: Grade 9 or higher, as well as in-service training. (World Bank 2013c) |

| Country | Policies on ECE teacher quality |
|-------------|--|
| Philippines | ECE teachers are licensed only upon passing a licensure examination administered by the national-level Professional Regulation Commission (SEAMEO & UNESCO, 2016). |

The *Southeast Asia Guidelines for Early Childhood Teacher Development and Management* (SEAMEO & UNESCO, 2016) offers 22 core recommendations with explanation and examples to address issues of teachers' qualifications and standards, recruitment, education and continuous professional development, fair employment terms, and governance and funding. These guidelines, adopted in 2016 by Ministers of Education from all SEAMEO countries, were developed on the basis of a survey of 11 SEAMEO members and a series of facilitated workshops carried out in 2014 and 2015, in which members and facilitators shared and discussed experiences, achievements, and challenges, along with the survey results.

The guidelines lay out principles for strategies and incentives to encourage qualified ECE teachers to take up postings in remote and disadvantaged areas, and policies that support longer-term retention of teachers, continuous professional development, and support provisions. The guidelines also offer recommendations, to be adapted to each country's objectives and circumstances, on qualification, certification, licensing and/or accreditation; recruitment; pre-service teacher education; teacher deployment and retention; continuous professional development; competencies; professional ethics; monitoring and quality assurance; employment terms; working environments; and ECE governance. The recommendations are, for the most part, broad and non-prescriptive but provide, at a minimum, a useful checklist of the types of policies, practices, and systems that can support ECE objectives by supporting their most critical resource. The list of guidelines is provided in **Attachment 3**.

Development of an ECCE teacher competency framework for Southeast Asia was supported by UNESCO as part of its work in pursuing SDG 4.2. "The framework was developed in a consultative and participatory manner, taking into consideration views and insights from ECCE teachers, researchers, and practitioners from across Southeast Asia" (UNESCO & SEAMEO, 2018, p. 1). The framework offers content, quality, methodological and organizational guidelines for providing teacher professional development and delivering ECE services to children 3 to 5 years of age. It is intended to supplement and catalyze, but not replace, countries' existing curricula and frameworks, and to promote collaboration around ECCE locally, nationally, and in the Southeast Asia region. The competency domains addressed in the framework include content knowledge, pedagogic practice, and assessment; learning environment; engagement and collaboration; and professional development. Each domain covers one or more core general competencies and several more specific "enabling / supporting competencies." At the time of publication, the framework was not yet formally endorsed by SEAMEO member countries (UNESCO & SEAMEO, 2018).

Domains and Core Competencies of the ECCE Teacher Competency Framework for Southeast Asia

Content knowledge, pedagogic practice, and assessment domain

Core competency 1. Understands the child's holistic development and learning. These are competencies related to ECCE teachers' theoretical and practice-based knowledge and understanding of child development and learning.

Core competency 2. Facilitates child development and learning. These are competencies related to ECCE teachers' strategies to facilitate child development and learning, including the use of assessment tools, techniques, and results to support child development and learning

Learning environment domain

Core competency 3. Establishes a nurturing, inclusive, and safe environment. Includes competencies related to how teachers create environments conducive for children.

Core competency 4. Promotes health, nutrition, safety, and protection. Competencies related to strategies and practices to ensure that the child's health, nutrition, safety, and protection needs are addressed.

Engagement and collaboration domain

Core competency 5. Engages parents and families as partners in ECCE. Competencies related to working with children's families and caregivers as partners in ECCE.

Core competency 6: Networks and collaborates with relevant stakeholders to promote ECCE. Competencies related to working with a range of stakeholders concerned with the general well-being of children.

Professional development domain

Core competency 7. Ensures continuous personal growth and professional development. Competencies that demonstrate ECCE teachers' commitment to improve themselves and the practice of their profession as ECCE practitioners.

Source: UNESCO & SEAMEO, 2018

Regarding the transformation of teacher policy into actual systems and practice, Neuman et al., (2015) note that information is spotty regarding the quality and amount of training provided to pre-primary teachers, despite statements of standards, and that it likely varies widely between and within countries. Below we provide a review of the available literature with regard to in-service training.

In Bangladesh, despite training materials being created and standards set for minimum requirements, there is weak government regulation of teacher preparation, both in state and NGO-run schools. In fact, only 56% of teachers are trained and only 35% of those are trained specifically in ECE. To respond to demand in ECE, primary-level teachers receive a short (6-day) training in ECE so that they can "also serve" as ECE educators (Loizillon & Leclercq, 2016).

Similarly, in other countries, ECE teacher training is not reaching all educators. In Lao PDR, facilitators in community centers receive very limited training (Loizillon & Leclercq, 2016). In 2011, the Nepali Department of Education reported 100% compliance with a requirement that all ECE educators have in-service training and infrastructural compliance. However, the report also questioned the accuracy of these statements, as mechanisms for monitoring compliance were not robust and monitoring development or learning outcomes was not in place (World Bank, 2013c).

In Vietnam, high rates of ECE teacher attrition in Lam Dong Province were traced to low professional status and wages—even of trained and qualified personnel. Further, the departure of qualified personnel often led to replacement by less-qualified and less well-trained individuals. These persons were also not as well-equipped to be reflective and proactive in implementing the new pedagogy and its basis in constructivist theories of learning, compared to those with knowledge of the theoretical basis (Thao & Boyd, 2014).

As seen above, there are difficulties in enacting policies around teacher qualifications. In particular, the range and variety of ECE programs makes regulatory monitoring of teachers difficult, as regulations may be different for the different types of programs (e.g., home-based, community-based, separate kindergartens, and kindergartens in primary schools) and providers (e.g., government, private, NGO, and community). In Cambodia, educators in state pre-schools receive two years of training, those in community-based pre-schools receive eight days of training, and “core mothers” in home-based programs receive just two days of training (Britto et al., 2013).

“... [D]eveloping an appropriate country-level regulatory structure to monitor staffing issues in different types of ECCE programs should be a priority,” (Sun, Rao, & Pearson 2015, p. 17). However, countries suffer from shortcomings in monitoring capacity and coverage, with rural and remote areas being the least-served.

The fact that ECE takes many forms can be a management challenge, but it can also be an opportunity. “The diversity of delivery models makes ensuring quality and equity difficult but also presents an opportunity for creative responses,” (Neuman et al., 2015, p. 46). In the same vein, Sun, Rao, & Pearson (2015) presented China as a compelling example of multiple national and regional approaches to improving remuneration of ECE teachers and their professional preparation and development provision in different formats that are best suited to different contexts (urban and rural). Their work illustrated the importance of flexible, contextualized approaches to resolve teacher shortage and training issues, while retaining basic quality standards (Sun, Rao, & Pearson, 2015).

4.4.2 In-service teacher training

ECE teachers are often inexperienced and come to the teaching profession without any formal training in teaching and how best to support students (Bold et al., 2017; Abuel-Ealer, 2012). As a result, in-service training and support is extremely important, as it may be the only training teachers will receive on how to teach learners. As more pre-primary programs are developed and implemented in Asian countries, teachers are beginning to receive more in-depth and extensive training and support.

Training pre-primary teachers often follows a very similar structure to training early primary school teachers, although the content might be slightly different. Therefore, we reviewed studies that looked at primary teacher training. The section below is divided into two sections: a review of the evidence from the Asia region on teacher training and teacher coaching and support.

4.4.3 Evidence on teacher training

In Bangladesh, BRAC offered thorough training to teachers as part of its pre-school program (Shahjamal & Nath, 2008). Teachers received training when they first joined the program, a two-day training at the beginning of each school year, and a refresher training each month. The refresher training reviewed best practices, as well as the lessons for the next month. The training also included reviewing the story teachers should tell students that month and supported teachers with pronunciation, expression, and dramatic storytelling skills. Unfortunately, many times the teacher would copy the trainer’s way of storytelling exactly, rather than learn how to continue to tell stories in a similar, but original way (Shahjamal & Nath, 2008). This, potentially, shows a lack of generalizability on the part of the teacher,

which may mean they will be unable to tell new stories using the same model. Additionally, this might lead to a lack of flexibility, which would make the teacher unable to respond to children's reactions in the moment.

Another program in Bangladesh, an intervention focusing on math, provided a similar training style for teachers. Teachers received a five-day training at the beginning of the year, a four-day refresher training mid-year, and a monthly one-day training on how to implement that month's lessons. The beginning of the year training focused on pre-mathematics, pre-literacy, and classroom management, while the mid-year training focused on curriculum, syllabus, and teaching techniques. In addition, intervention school teachers (i.e., those who received the math intervention) received three half-day trainings immediately before the intervention and three half-days at the mid-year training. These trainings focused on the delivery of early math instruction through demonstration and role playing (Opel, Camellia, & Aboud, 2007).

In Nepal, pre-primary teachers received a 12-day training provided by the government (UNESCO, 2016b) through a Save the Children program. The training was residential, so the teachers lived at the training center during the training, which gave them time to share and exchange ideas over the course of the training period. The training focused on three areas: principles and theory, teaching practices, and materials development. Training occurred in conjunction with additional training provided by Save the Children on emergent literacy and math (UNESCO, 2016b).

Cambodia has many community pre-school programs, which mainly rely on volunteers who are paid a small stipend, often made up of fees parents pay for their children to attend the program (Rao & Pearson, 2009). An evaluation in Cambodia that looked at the effectiveness of different ECE programming strategies described a similar government-provided training for these pre-schools. Teachers received an initial 10-day training, which was supplemented by a refresher training that lasted 3–6 days per year (Rao & Pearson, 2007).

Two programs incorporated videos into training to help trainees understand the content, as well as how to train teachers in rural settings. In a reading intervention in Bangladesh, teachers were shown videos of teachers reading storybooks to children using both a dialogic and traditional approach (Opel, Ameer, & Aboud, 2009). This helped teachers identify differences in both the way the story was read and the children's responses. This was followed by a live demonstration, as well as role playing (Opel, Ameer, & Aboud, 2009). Video was also used as part of training of primary school teachers in Nepal to address the need to quickly increase the number of qualified teachers. The government-provided training consisted of a combination of distance-learning and face-to-face training, but it was difficult for teachers from remote areas to reach a government center for the training. To combat this, trainers traveled out to rural areas with pre-taped training materials recorded on video. In addition to being more convenient for rural teachers, researchers found that this method also helped visual learners, aided with memory because videos could be watched more than once, and helped trainers become more confident as a result of filming and reviewing their training (Pouezevara & Parajuli, 2007). Although this video training was for primary school teachers, it could be easily used for pre-primary teachers.

A qualitative study looked at two schools in rural India and reported on more informal, locally based training. At one school, the principal oversaw training and mentoring of new teachers. After two weeks of training, the principal continued to work with the new teacher on a daily basis for six months and created a support network with all teachers. At another school, teachers were given in-house training and opportunities to attend workshops and lectures. However, due to the rural nature of the school, these opportunities were rare (Gokhale, 2009).

As evidenced in the study above, rural areas often manage their own training protocols, as they are sometimes outside the range of oversight of national professional development. This is the case in Vietnam, where a study looking at early education pedagogy reported that

teachers in rural areas did not receive adequate professional development on new initiatives that were rolled out at the national level, nor were they evaluated as frequently as more urban teachers (Thao & Boyd, 2014). The researchers recommended more infrastructure at the local level to ensure that teachers were trained and supported, regardless of where they taught (Thao & Boyd, 2014).

4.4.4 Teacher coaching and support

As part of a program in Nepal, teachers received ongoing support in the form of continuing professional development sessions to discuss their teaching (UNESCO, 2016b). This included thematic meetings where they could share best practices and challenges they were encountering in the classroom. These meetings rotated schools so that attendees could see best practices at different pre-primary centers (UNESCO, 2016b).

For several of the interventions in Bangladesh mentioned in Section 5.2, teachers were often given intensive support during the short intervention period (Opel, Camellia, & Aboud, 2007; Opel et al., 2012; Opel, Ameer, & Aboud, 2009). For the math intervention, each school was visited by members of the project every day during the six-week intervention to ensure that instructions were followed, and teachers were not struggling. Most teachers had issues with child participation and materials use, but with help from coaches, all teachers overcame these issues within days (Opel, Camellia, & Aboud, 2007). A similar method was taken for a four-week reading intervention in Bangladesh. Schools were visited every day to deal with initial problems with student engagement, which was pertinent because the material was new to the students. However, after a few days, the problems dissipated (Opel, Ameer, & Aboud, 2009). These studies point to the important role of ongoing classroom-level support for teachers after initial trainings. They also raise questions about the scalability of intense coaching, such as the daily visits and what amount of coaching is feasible and effective.

4.5 Conclusion

There is little doubt that policies that set curriculum and standards for the ECE sector are crucial. In particular, policies that focus on quality elements, such as multi-domain standards for learning in classrooms, assessment, pedagogy, teacher training, parental involvement, and coherence between pre-primary and primary, are needed to set the course for improvement in quality ECE provision. However, as the above cases show, enacting these policies and standards in practice is challenging for governments. Inadequate resources and regulatory governance, as well as technical capacity and follow-through are obstacles to upholding standards and implementing curriculum as designed.

Early childhood assessments can support governments in enacting and monitoring policies. Important characteristics of assessments must be considered prior to selecting an appropriate assessment, including purpose, psychometric properties, cultural relevance, and ease of administration. Our review of the existing literature from the past two decades revealed a number of child-direct assessments adapted and developed for a specific country. Additionally, child-direct assessments were found for the purposes of population-level statistics, impact evaluations, and exploratory research. The review of existing caregiver and teacher ratings and reports showed three population-based assessments (EDI, MICS ECDI, and LSMS), which are appropriate for population-level statistics. Instruments to measure the quality of early learning environments revealed three adapted measures from the same tool developed for Western contexts, neither of which have not undergone sufficient testing to deem them useful for LMICs.

In addition to assessment, many policies mandate a specific approach to teaching in the ECE classroom. Orr review found that there are several different pedagogical approaches used within ECE classrooms in Asia, with the majority of the evidence base describing a balance of guided play and teacher-directed instruction. This balanced approach occurs

when teachers both directly introduce new skills and concepts and guide children's exploration of these new skills through a play-based activity. Within subject-specific domains, emergent literacy was commonly implemented using two instructional methods: (1) dialogic reading and (2) oral language development. For emergent math, much of the evidence from the Asia region focused on using materials and hands-on activities to teach the subject with an emphasis on counting, addition, and shapes. Finally, although many countries have not yet developed mother tongue programs in pre-primary and primary schools, some smaller initiatives are beginning to take place in several Asian countries.

A crucial component of ensuring quality is the teacher. Often, ECE teachers are not provided with adequate training or professional guidance about their job, especially in rural areas. There have been efforts at country and regional levels to develop professional standards for ECE teachers, including The Southeast Asia Guidelines for Early Childhood Teacher Development and Management (SEAMEO & UNESCO, 2016). These Guidelines provide instruction about ECE teacher qualification, recruitment, and training. However, there is little available evidence specifically about how policies around professional guidance of ECE teachers is enacted.

Our review did reveal, however, existing practices for in-service training of ECE teachers. Many programs we reviewed offered teachers both an initial training and refresher trainings to review content and best practices with teachers. This approach allowed new teachers to quickly become familiar with the content, as well as receive continual reminders of both the overall approach and how to approach individual lessons in a given time period. Many programs also offered monthly meetings to go over the month's lessons with teachers in-depth, as well as allow an opportunity for teachers to regularly discuss any issues they have in the classroom. This helped teachers build a community of practice with fellow teachers and be prepared for their lessons for that month.

However, in many countries this systematic training was limited to more urban areas, with more rural teachers often receiving more informal training, often from their head teacher or a more experienced teacher. More infrastructure on the local level for training and support would help teachers feel more connected to the education system, as well as be more prepared teachers.

5 Sustainability of ECE

The objective of ECE sustainability, mapping on to GPE 2020's Strategic Goal 3, "Effective and efficient education systems" (GPE, 2018), requires "all of the above" discussed under access and quality objectives and strategies to ensure sound governance and adequate and reliable financing of ECE over the medium- to long-term. These ingredients, having fundamental importance for achieving all three objectives of access, quality, and sustainability, are explored in this section.

5.1 ECE financing

Useful metrics for ECE financing have been proposed and applied to assess the relative financial effort being made by country governments to fund the sector. These include UNICEF's proposed guideline of **1.0%** of gross domestic product (GDP) and the ILO (2014) standard of **10%** of total government expenditures on education (UNESCO, 2016a). **Exhibit 10** presents available recent data on countries' government expenditure on ECE relative to GDP and to total government expenditure on education.

Exhibit 10. Government expenditure on ECE and percent of enrollment in private institutions

| Country | Government Expenditure on Pre-Primary Education as % of GDP | Government Expenditure on pre-Primary Education as % of Total Government Education Expenditure * | Percentage of pre-Primary Enrollment in Non-Government Institutions (%) |
|-----------------|---|--|---|
| Bangladesh | No data | No data | 41.8% |
| Cambodia | 0.05% | 2.6% | 14.7% |
| India | 0.06% | 1.5% | 75.4% |
| Indonesia | 0.06% | 1.7% | 94.6% |
| Kyrgyz Republic | 0.59% | 10.5% | 3.2% |
| Lao PDR | 0.19% | 6.5% | 18.0% |
| Nepal | 0.08% | 2.1% | 36.1% |
| Philippines | No data | No data | 18.0% |
| Tajikistan | 0.28% | 5.3% | No data |
| Vietnam | 0.89% | 15.3% | 12.8% |

Sources: Data were downloaded from The World Bank Education Statistics database on November 8, 2018. Expenditure data, provided by UIS, dates from 2015 for Nepal and Tajikistan; 2014 for Cambodia, Indonesia, Kyrgyzstan, and Lao PDR; and 2013 for India and Vietnam. Data on percentage of pre-primary enrollment in private institutions dates from 2016, with the exception of the Philippines, for which data shown are from 2015.

* Calculated from constant public-private partnership values.

On the basis of available data through 2015, Kyrgyzstan and Vietnam have allocated substantially greater percentages of GDP to ECE than other countries. Tajikistan and Lao PDR are approaching the UNICEF standard for percent of total government expenditure on education, but other countries fall far below UNICEF and ILO guidelines.

Exhibit 10 also shows that countries vary considerably in the proportion of enrollments that attend non-government pre-primary schools. This indicator offers a rough, although imperfect, proxy for private, NGO, and household contributions to ECE provision, which, if high, might be expected to justify or balance relatively low government expenditure. Indeed, the juxtaposition of the last two columns reveals a striking inverse relationship: Indonesia and India offer the lowest levels of government expenditure on ECE and have the highest proportion of ECE participation in non-government schools, while Kyrgyzstan and Vietnam, the highest government providers, have the lowest proportions of ECE participation in non-government schools. In other words, government provision is not the only important source of financing that needs to be considered. These relatively more available proxy indicators can mask potentially high household contributions even for children attending public ECE services and the possibility that government systems may also be funding private, NGO, and community schools.

Furthermore, the degree of government spending on ECE does not always translate into progressive provision or sound stewardship. SABER's study of Tajikistan (World Bank, 2013d), which falls in the mid-range of relative government spending, found that the country displayed a lack of consistency and transparency in forecasting ECE costs. Weak sector coordination resulted in missed opportunities for cost synergies and economies. The degree of engagement of national, oblast, and community contributions was inadequate to ensure financial viability of ECE programs, and resources were not targeted to the most needy and remote areas (World Bank, 2013d).

Kyrgyzstan's relatively robust government financing and innovative programming are at odds with its pre-primary gross enrollment ratio of just over 30%. In fact, pre-primary cost per child is estimated to be up to three times higher than for primary or secondary education (World Bank, 2013b). Program quality of the new state-run system may be high and levels of government expenditure ostensibly healthy by international standards; however, these investments are reaching only 3 in 10 children.

At the same time, Kyrgyzstan does have social transfer provisions to support vulnerable families and pre-school, as well as other educational costs, are tax-deductible expenses for families (World Bank, 2013b). Its CBK, which began to appear in the mid-2000s, are established in existing buildings in rural areas, with advocacy and support from UNICEF and other funders, and active participation from the local community. Although monitoring of quality and consistency is called for, CBKs may offer a more sustainable, scalable model for Kyrgyzstan than the state system (Lord 2016)

Countries with more modest levels of government spending on ECE may still practice progressive programming. The Government of India has offered grants to aid voluntary agencies and NGOs to support their work in providing ECE programming to underserved groups, while some private entities have supported similar programs, although a lack of regulation and oversight have resulted in uneven quality (Loizillon & Leclercq, 2016). In Indonesia, another country with low overall government spending on ECE, the extension of the Balance of Payment (BOP) grant program to ECE represents a promising effort toward progressive distribution of resources (see text box below). Lao PDR's Education Sector Development Framework (which was in the planning stage during the study team's 2010 visit) seeks to address financing disparities, with progressive mechanisms to distribute more resources to poorer districts that receive less qualified teachers and other resources (Britto et al., 2013)

UNESCO (2016a) further reminds us that many countries' ECD programming relies heavily on external funding from international agencies and NGOs. Although such funding has been sustained over decades in many cases, considering external funding to be part of the sustainable solution (as the UNESCO report does) is curious but perhaps reflects current realities. In this respect, of the relatively high-funding countries, Kyrgyzstan and Vietnam, through 2016, have received a healthy stream of external donor financing for ECD. Bangladesh, which by its own reports significantly underfunds ECD relative to benchmarks, nonetheless receives nearly 50% of funding from external donors. The overall analysis may be clouded by differences in the ways countries treat external loan financing, whether as part of or separate from "government" spending, in addition to the possibility of rather large differences between budget allocations and actual expenditures (UNESCO, 2016a).

Innovative Approaches for Social Service Delivery and ECE Funding in Indonesia

Tan (2016) cites four key sources of financing of ECE in Indonesia: Ministry of Education and Culture, local- and district-level governments, end users, and international organizations through grants and loans (Tan 2016). Although the national government budget allocations to ECE are extremely low (as of 2014, just 1.8%), parents are identified as important contributors in the Indonesian context, in part due to a highly decentralized community approach to ECE service provision. Specific figures for family contributions are not reported, however, and may be “precarious” in terms of their reliability, particularly for lower income communities (UNESCO, 2016a).

Indonesia’s poverty reduction program of conditional cash transfers includes conditions to encourage families to send children to primary school and attend to children’s basic early health needs; the program could be extended to include CCTs, specifically encouraging ECE attendance for families with young children. Indonesia’s community driven development program also provides incentives to communities meeting primary and secondary enrollment thresholds that could be extended to pre-primary (Jung & Hasan, 2014).

Jung and Hasan (2014) also note that as of 2013, the BOP program (i.e., cash transfers to schools based on enrollment) began to apply enrollment thresholds that disfavor larger schools, which are mainly in rural areas where children are most likely to benefit; the authors recommend a reconsideration of this decision to ensure that the policy remains progressive.

The country’s ECED program, with World Bank funding, has sought to bring ECED services to 3,000 poor communities using a combination of block grants, teacher training, and community facilitation. Block grants have also been distributed to private sector and NGO entities to provide ECED services in underserved areas (Loizillon & Leclercq, 2016).

5.2 Approaches and challenges in ECE governance

As noted by Brinkerhoff and Wetterberg (2018), understandings of “governance” are multiple, and can be elusive. For our purposes here, governance may be said to be the “glue” that determines how well policy, systems, actors and resources combine to produce the actions intended. We find the following definition from Britto et al. (2013) to be useful:

Governance, simply stated, lays out the roles and responsibilities for the key stakeholders and partners who are involved in the design, coordination, finance, implementation, support, and monitoring of services being implemented at scale. If well designed and supported by a culture of consultation and coordination, governance has the potential to create nationally sustainable policies and systems to guide national programming and services. In the field of early childhood, the issue of governance of policies is relatively new but vitally important. (p. 10)

As such, governance relies on both policies and systems that exist and, at the same time are indispensable to the construction, effective implementation, and revision/evolution of those same policies and systems over time. Governance orients the interplay across policies, systems, their implementation and everyday practice, and across the actors and stakeholders involved. More than policies or systems alone, the quality and nature of governance is directly linked to a program’s chances for sustainability.

Effective governance is key in ECE work, particularly since multiple actors are often involved, including multiple ministries (e.g., education, health, family, women and children, and social services), and a wide range of providers, from home-based and community

operations to NGOs, public and private sector establishments, and places of work (UNESCO, 2016a). Furthermore, delivering quality ECE to more and more children, furthermore, demands (a) sound decisions relating to standards, objectives, and programs that are both technically and contextually appropriate; (b) effective oversight of the observance of standards, with appropriate follow-through; and (c) planful coordination of the resources and actions of the range of actors and stakeholders. All of which require a measure of recognized authority. At the highest level, this authority is found in national government structures (see **Exhibit 11**).

Exhibit 11. Governance structures “in charge” of ECE decisions and oversight

| COUNTRY | Governance structures for ECE |
|----------------|---|
| Bangladesh | Ministry of Primary and Mass Education (MoPME) Ministry of Women and Children Affairs (MoWCA) Other key ministries involved include the Ministry of Health and Family Welfare and Ministry of Social Welfare |
| Cambodia | The MoEYS oversees the National Committee for Early Childhood Care and Development which consists of 14 cross-cutting ministries. |
| India | Ministry of Women and Child Development in collaboration with Ministry of Health and Family Welfare, Ministry of Human Resource Development, and Ministry of Social Justice and Empowerment. |
| Indonesia | The National Development Planning Agency coordinates planning across all Ministries on ECD, developing national strategies and a national development plan. The Coordinating Ministry for Human Development and Cultural Affairs coordinates ECD programs across sectoral ministries The Ministry of Education and Culture and Ministry of Religious Affairs govern operation of ECE establishments |
| Kyrgyzstan | Ministry of Education and Science (MoES) Department of School, Preschool and Extracurricular Education Department of Maternity and Childhood within the Ministry of Health Department of Child Protection within the Ministry of Social Development |
| Lao PDR | Ministry of Education with Ministry of Health |
| Nepal | Ministry of Education, Science and Technology (MoEST) (Department of Education) in collaboration with Ministry of Health and Population; Ministry of Women, Children, and Social Welfare; and Ministry of Federal Affairs and General Administration |
| Philippines | The Early Childhood Care and Development (ECCD) Council for the Welfare of Children under Office of the President oversees implementation of national ECD system The Department of Education specifically governs ECE. The Department of Social Welfare and Development governs protection of citizens’ social welfare and rights and promotion of social development. The Department of Health and the Union of Local Authorities of Philippine National Nutrition Council are also involved. |
| Tajikistan | Ministry of Education, with additional ECD services provided through Ministry of Health and Social Protection and Ministry of Labor, Migration and Employment of Population Ministry of Finance |
| Vietnam | Ministry of Labour—Invalids and Social Affairs (MOLISA) oversees the coordination of ECD programs across ministries. Other ministries implementing ECD include the Ministry of Education and Training (MOET), and the Ministry of Health, along with the Committee for Population, Family and Children. They are responsible for overall child-focused policy, and the Vietnam Women’s Union which is responsible for parent education. |

Sources: ARNEC, 2018a-h; country profiles for Bangladesh, Cambodia, India, Indonesia, Nepal, Philippines, and Vietnam; for Indonesia: Jung & Hasan, 2016; for Tajikistan: SABER, 2013c.

The multiplicity of actors even at the national government level is in part due to the complex, multidimensional nature of early childhood development, as well as to somewhat distinct and

still-evolving definitions and perspectives of the sector across countries. While the ministry of education or the equivalent is most often the “lead” coordinating entity for programs covering ECE for the older age range (4–6 years), policy objectives of holistic, integrated, and/or comprehensive programming adopted in a number of countries call for some degree of continued involvement of health, child protection, social and family welfare, and other sectors, at least on paper. The policies themselves have often been developed through collaborative efforts on the part of multiple ministries. Examples include Cambodia’s ECCD National Policy and Plan of Action; India’s 2013 ECE policy, with its stated aim to ensure a comprehensive approach to promoting children’s healthy development and learning; Indonesia’s Presidential Declaration on Holistic and Integrated ECD, and Lao PDR’s 2010 draft National Policy on Holistic Early Child Development (Loizillon & Leclercq 2016; ARNEC, 2018a–h).

Beyond national government structures, as we have noted, other active providers and stakeholders include NGOs, private foundations and faith-based institutions, international agencies, local government, and communities. We examine below how and how well countries are coordinating these actors and producing concerted action from the national to the local level.

5.2.1 Coordination across national government structures

Implementing multisectoral policy and managing a plurality of both government and nongovernment actors call for effective mechanisms of coordination. Within government, countries may opt to identify a specific ministry to take on coordination of actions for a given age group and may establish cross-ministerial coordinating committees or task forces. In Bangladesh, the Ministry of Women and Children Affairs coordinates with ministries of education and health (Loizillon & Leclercq, 2016). In Indonesia, the Ministry of Education and Culture and the Ministry of Religious Affairs oversee different streams of kindergartens (Tan, 2016). Vietnam’s Ministry of Education and Training plays a coordinating role for early childhood services, working with health, nutrition, and social protection sectors (ARNEC web-based country profile). Countries that have set up interministerial committees, councils, or task forces on ECD include Cambodia, Nepal, and the Philippines, with the education line ministry (Cambodia, Nepal) or department (Philippines) serving as chair (Loizillon & Leclercq, 2016; ARNEC, 2018a–h).

Effective coordination across ministries can be difficult, however. Despite supportive law (2009 law on pre-school education), Kyrgyzstan abandoned its strategy for multisectoral coordination of ECE efforts in the face of political change and insufficient support from line ministries (World Bank, 2013b). In Lao PDR, coordination across ministries is hampered by differing hierarchical structures: those responsible for ECE in the MOE are at a much higher level in their ministry’s hierarchy than are their MOH technical counterparts, making coordination awkward (Britto et al. 2013). In Tajikistan, despite efforts by UNICEF and others to support intersectoral engagement and planning of ECD, effective coordination across multiple ministries has also proved elusive (World Bank, 2013d).

The degree to which a country invests in data systems to understand and manage the ECE sector can be indicative of government commitment to the sector and of its capacity to manage and coordinate services, as well as of the sheer complexity of doing so, given the plurality of sectors and actors. Internationally supported surveys such as MICS and DHS have been carried out in most of the focal countries for this report and offer invaluable if not always current information. On the other hand, systematic administrative data collection on ECE is not universal. As of 2013, the full range of ECE programs operating in Tajikistan was not known, as the country carries out no systematic administrative data collection on the ECE sector (World Bank, 2013d). Indonesia initiated its first-ever census of ECE service providers in 2011 (Tan, 2016, citing Jung & Hasan, 2014). Nepal, in contrast, has maintained a relatively strong information base, with local and national administrative data collection on an annual basis (World Bank, 2013c).

5.2.2 Coordination and collaboration with and between international agencies, NGOs, and the private sector

ECE in many countries is substantially and, in some cases, predominantly funded and supported by nongovernment actors. India and Indonesia have very high proportions of nongovernment sector participation in the provision of ECE programming, followed by Bangladesh and Nepal. As of 2013, over 90% of Indonesia's kindergarten services were delivered through private sector actors (Tan, 2016), and the majority of ECD centers across the country belonged to private foundations (ARNEC, 2018d).

With such a range of actors, opportunities for innovation as well as exploitation call for effective governance, oversight, and coordination. The Bangladesh ECD Network brought together government and NGO actors (including BRAC, Save the Children, Plan) to help develop and push for ECE policies; other key players include USAID, Bernard Van Leer Foundation, UNICEF, UNESCO, and The World Bank (Graham, 2016). The Dhaka Ahsania Mission and the Early Childhood Development Support Program–Bangladesh have brought integrated ECD programming to children and families in impoverished and hard-to-reach communities of Bangladesh, through partnerships with multiple organizations and collaborative networks of local NGOs (ARNEC, 2018a).

Nepal's Early Childhood Development Council, chaired by the MOE, has promoted coordination across NGOs and development partners as well as across ministries. The country has seen government efforts to expand ECD matched with strong support from local communities, including NGOs, community-based organizations, and the private sector. During the 10 years between 2004 and 2014, the number of ECD centers in the country increased seven-fold (from 5000 to 35,000 centers), in large part due to broad mobilization of nongovernment actors (ARNEC, 2018f).

The Development Partner Cooperation Council Education Group constitutes Kyrgyzstan's national mechanism to support collaboration between government and non-state stakeholders, with a pre-school education subgroup put in place as of 2013. However, actual coordination of approaches across actors and sectors has not been effective (World Bank, 2013b).

As of 2013, Tajikistan lacked a clear mechanism for collaboration between state and non-state actors. It is also noteworthy that Tajikistan's strict regulations for the operation of ECE establishments (in terms of hours of operation, child-teacher ratios, staffing, infrastructure, and more) have tended to discourage potential nongovernment actors, therefore limiting rather than promoting expansion of the sector through diversification of provision (World Bank, 2013d)

5.2.3 Subnational and particularly local engagement

The relationship of ECE to its surrounding community is ideally a close one, as such programs strive to help children and families negotiate the social and cultural shift from the home to the school setting. In terms of governance, a strong local role in selecting and implementing approaches, and local accountability, can help ensure that a program will be responsive to the local context and increase its chances for sustainability over the longer term. Several of the focus countries for this report offer promising cases of local governance of ECE. In Bangladesh, the School Learning Improvement Plan supports devolution of decision-making and planning of ECE to local-level community stakeholders, through their management of grants to schools (Graham, 2016). The country's Early Childhood Development Support Program–Bangladesh program of networked organizations specifically promotes the replication of locally developed models for delivery of early childhood programs—and participatory learning across the organizations involved (ARNEC, 2018a). Cambodia's national task force for early childhood has its partners at province, district, and commune levels, with commune councils responsible for determination of specific plans for local delivery of ECE and other early childhood services (Britto et al., 2013).

In Lao PDR, village councils and multisectoral village education development committees are generally effective in coordinating activities locally (Britto et al., 2013). A community-based school readiness program with a distinct curriculum is one of three types of ministry-recognized ECE programs in the country (ARNEC, 2018e). The program is designed specifically for remote villages, enhancing children's social and emotional development in preparation for primary school, and village teachers' instructional and management skills with curriculum, guidebooks, training, and oversight (ARNEC, 2018e). With support from UNICEF, Lao PDR's My Village TV series for children aged 3–6 years focused on school readiness and life skills in a developmentally appropriate, culturally sensitive, and inclusive manner. Produced with various TV channels and the Ministry of Information, Culture, and Tourism, the program included locally produced seasons backed by government commitment and involving local talent (ARNEC, 2018e).

In Nepal, the Local Self-Governance Act (1999) authorizes local bodies' jurisdiction over pre-primary education, with village development committees and municipalities charged with funding and establishing pre-schools.

Depending on the country, subnational states, provinces, and districts may have more or less mandated authority over ECE programming, oversight, and financing. Compared to national and community levels, analysts often point out the relative weakness of intermediate levels to exercise much authority or to effectively support implementation or coordination (Britto et al., 2013; Loizillon & Leclercq, 2016; World Bank, 2013a, 2013b, 2013c), although there are exceptions. In Nepal, many though not all districts have district child development boards that bring together education, local planning, public health, child welfare, and water and sanitation sectors, as well as schools and NGOs active in the district. About a third of these have a district-integrated ECD plan (ARNEC, 2018f). SABER analysts have noted however, that while the principle and structures of coordination exist, their effectiveness in practice is limited (World Bank, 2013c). Cross-sectoral coordination on ECE is also noted to be weak at the province level in Lao PDR (Britto et al., 2013).

India's nationally sponsored Integrated Child Development Services program encourages states to enhance children's school readiness and holistic development. However, Indian states have weak regulatory authority over the wide range of public, private, and NGO service providers, and many children still lack access to ECE services (ARNEC, 2018c).

Lam Dong Province's effort to renovate the ECE curriculum illustrates the decentralized nature of governance in Vietnam, with provinces responsible for drafting their plans for educational development and adapting national guidelines to meet local needs in terms of organization and approach to delivery of services, as well as content of those services (Thao & Boyd, 2014).

5.3 Conclusion

Governance and financing of ECE are complex matters, involving multiple actors, levels, objectives, and approaches, from general expansion to targeted coverage of the most underserved, and across the range of ECD concerns that include school readiness and cognitive development as well as health and wellness, child protection and welfare, and socioemotional growth. Countries vary broadly in their degree of government versus nongovernment financing and provision. The utility of international (UNICEF and ILO) benchmarks to assess the adequacy of government financing will continue to be limited if availability of comparable data, including clearly disaggregated data on all sources of funding, across countries, is not improved, and unless other factors such as cost-efficiency (a concern for Kyrgyzstan) are also considered. A high proportion of government financing for ECE can support high coverage rates (as in Vietnam), but Kyrgyzstan demonstrates that this association is not always the case. Conversely, relatively low government financing does not always result in low coverage rates or poor quality, if other sources are effectively mobilized (Nepal, Indonesia). Both government and nongovernment financing through block

grants, conditional cash transfers, and community-based approaches have been applied in limited but promising efforts to orient resources in a progressive manner.

Coordination of actors and local community engagement in ECE are important dimensions in the governance and sustainability of ECE, above and beyond specific financing sources and arrangements. For the most part, the countries under review in this paper have acknowledged the need for coordination, both through joint development of policy frameworks for ECE and in the establishment of committees or task forces, generally led by the ministry of education or its equivalent, to enable inter-ministerial and government–nongovernment coordination of ECE programming. The functionality and effectiveness of such mechanisms varies, however. Provincial and district levels of coordination appear to be the most difficult to maintain, although Vietnam may constitute an exception, displaying active provincial authority and leadership. National-level networks that bring together government and nongovernment actors with international agencies and NGOs (Bangladesh), and village- or commune-level efforts (Bangladesh, Cambodia, Lao PDR, Nepal) that promote and support the development and spread of local ECE solutions may be more readily adaptable to a broader range of settings, as they depend less on well-established governmental hierarchical relationships to be introduced and maintained.

The availability of comparable data not only on financing sources and arrangements but also on the range, coverage, and quality of ECE providers remains a challenge, both for effective governance and accountability of this diverse sector and for efforts to analyze it. Among its recommendations, the UNESCO (2016a) study rightly calls for the promotion of “enabling governance and capacity development,” both to strengthen overall coordination and collaboration across multiple government and nongovernment actors through clear and consistent policy and mechanisms, and to strengthen resource management and accountability capacities at all levels—and particularly at the local level (UNESCO, 2016a).

6 Recommendations and Considerations for Future Programming

The sections above provided a synthesis of the available evidence across focal ECE areas in the Asia region: access, quality, and sustainability. With a focus on 10 countries that have USAID education programming, we reviewed policies, syntheses of research, intervention studies, and assessments to better understand the state of the field in early education in these 10 countries and provide analysis of best practices and gaps in the evidence. Below, we summarize the best practices and gaps across the three areas and provide considerations for future ECE programming.

6.1 Recommendations on access to ECE

1. Although stated commitment in policy documents and strategic education plans to universal pre-primary access is generally achieved, policies in some settings need to be more progressive to direct distribution of services more equitably to underserved areas.
2. Operational standards and regulations, while important to uphold and safeguard service quality and child protection, may need to be more flexible to encourage, rather than discourage, diversification of ECE service providers and innovative and cost-effective financing approaches, such as CCTs and community-based solutions.

6.2 Recommendations relating to quality of ECE

6.2.1 Curriculum and standards

1. Many, although not all, countries in Asia with USAID education programs have developed Early Learning Development Standards. These standards can serve as an important foundation for sound ECE curriculum and materials development and teacher preparation in the countries where they exist. Similar processes to develop or adapt the standards, or review and refresh existing curricula, materials, and teacher preparation with reference to the standards, can be initiated in countries seeking to modernize their approach.

6.2.2 Early learning assessment

1. Assessments of child development and early learning are important for understanding child outcomes in LMICs, evaluating the effectiveness of programming, and adding to our general understanding of how children learn across various contexts. More resources should be devoted to the development of contextually appropriate and psychometrically sound measures, including child-direct assessments and caregiver/teacher reports. It is important to also note that any child-direct assessment or teacher/caregiver report should be translated into the appropriate language for the context. As many countries in Asia are multilingual, this is a challenging issue. Resources should be made available for the appropriate translation so that results are valid, reliable, and useful.
2. There is a need for assessments of quality learning environments that are appropriate for use in the Asia region. Only three were found, the TECERS, CECERS, and ECEQAS, that had been developed for use specifically in Asian contexts—all of these were adapted from an existing measure of quality in Western contexts. Because there is a dearth of studies on the relationship between pre-school quality and child development in LMICs, this is an area of needed attention. As global indicators move from access to the quality of education provided, it will be important to increase our understanding of early learning settings.
3. There is a lack of measures utilizing caregiver and teacher ratings and reports of child development. As this type of measure tends to be more cost-conscious, more studies should focus on the development of valid and reliable caregiver and teacher reports of child learning.
4. Although there has been significant development and rigorous research of assessments in Asia, some regions require further attention. For example, there were few resources found for use in Central Asia.
5. Although Western measures have been used in research on LMICs, more research is needed to understand whether adapted measures are appropriate for use in other contexts. Child development and learning assessments should be contextualized to the country or region so that the results are valid, reliable, and useful. In this practice, a rigorous process of adaptation and testing should take place. This extends to assessments of early learning environments. There is no firm agreement on the components that make a *quality* early learning environment across countries. More research is needed to appropriately test adapted measures and to develop new instruments.
6. Although it is likely that assessments used to evaluate programs are designed to be tailored to the specific program, more researchers need to describe the tasks and/or assessments used in their evaluations of studies and programs. As ECE programming leans toward considering the child in a holistic manner, evaluation

measures should also angle toward assessing the whole child, not just specific learning domains. In addition, more studies are needed to understand the relationship among program inputs and their effect on the whole child, not just pre-literacy or pre-numeracy.

6.2.3 Approaches to teaching and learning

1. The evidence for instructional approaches in ECE programs in the Asia region points to a balance of teacher-directed instruction for the introduction of new skills/concepts and guided play for exploration of these skills and concepts. Future programming should consider ways to encourage this balanced approach in classrooms, as well as ensure that teachers are trained to effectively deliver this approach.
2. Interventions should include a focus on emergent literacy, emphasizing oral language learning and dialogic reading strategies in addition to phonics instruction. In particular, interventions that incorporated support for teachers to engage in higher-order questions and conversation around stories were effective, as were methodologies that focused on engaging students in activities around books.
3. Interventions should include a focus on emergent mathematics. Many studies found success with providing materials to students to create guided play opportunities in areas, such as counting and spatial awareness.
4. There was a lack of evidence on the role of socioemotional learning (SEL) in early childhood classrooms from the Asia region, despite evidence globally of the importance of SEL. Given that SEL is highly contextual, more studies should investigate best practices in SEL teaching and learning.
5. Although there is ample evidence that young children should be taught in their mother tongue, there is not much research from the Asia region specifically in ECE. Teaching in the mother tongue is often not possible due to constraints on teacher knowledge and lack of materials; in these cases, second-language learning strategies, such as vocabulary development, visual learning, pre-teaching, and code switching, should be emphasized.
6. Much of the evidence on teaching and learning approaches come from Bangladesh, India, and Nepal. More publicly available evidence is needed from other contexts to better understand best practices in early childhood classrooms across the Asia region.

6.2.4 Early childhood educators training and support

1. Regional guidelines and frameworks, such as the ILO (2014), SEAMEO and UNESCO (2016), and UNESCO and SEAMEO (2018), relating to ECE teacher development, management, skills, and competencies, offer a basis on which to review and revise country-specific ECE teacher policies. Distance education and strengthened partnerships between government and non-state actors are promising avenues to improve the situation of the ECE workforce in terms of both quantity and quality (Sun, Rao, & Pearson, 2015).
2. In terms of training, many programs found success offering both an initial training and refresher trainings to review content with teachers. This approach allowed new teachers to quickly become familiar with the content, as well as receive continual reminders of both the overall approach and how to approach individual lessons in a given time period.
3. Many programs offered monthly meetings to go over the month's lessons with teachers in-depth, as well as allow teachers the opportunity to regularly discuss any

issues they were having in the classroom. This helped teachers build a community of practice with fellow teachers, as well as feel prepared for their lessons that month.

4. Two programs found that video helped supplement training. This was both helpful as a way to illustrate certain approaches, such as dialogic reading and to provide rural teachers a way to receive regular training.

6.3 Recommendations on sustainability of ECE

1. Whether government-financed or other-financed, the viability of ECE programs requires sound planning and consistency and predictability of revenue streams. Stakeholders in the sector, whether government actors, communities, or private providers, would benefit from strengthened practices of fiscal planning for ECE. Further, national coordination with and support to local government bodies to implement ECE strategy could be improved.
2. Sustaining ECE will require effective and efficient marshalling of state and non-state actors and resources from the national to local levels. In other words, countries must pay attention to governance: multisectoral and multi-actor coordination must have a shared purpose.
3. Sound policy, systems, and governance rely, in part, on the availability of information on context, demand, supply, and quality of services. ECE sector actors need to have the capacity to regularly gather, analyze, and use this information to support decisions, plans, and the determination of priorities and resource needs, as well as monitor service delivery.
4. Building strong local-level organizations, closest to service delivery, and their capacity to manage funds is key (note cases in Cambodia and Lao PDR, studied and described in Britto et al., 2013). So too is building organizations' understanding of the role and importance of ECE, as not all local authorities who have discretion in where to focus funding may recognize ECE as an urgent priority.

References

- Abuel-Ealer, S. (2012). *Closing the trained teacher gap*. Global Campaigns for Education South Africa. Retrieved from http://www.campaignforeducation.org/docs/reports/ECNAT%20Report_RGB.pdf
- Asia Pacific Regional Network for Early Childhood (ARNEC). (2018a). *Bangladesh country profile*. Retrieved from <http://arnec.net/country/bangladesh->
- ARNEC. (2018b). *Cambodia country profile*. Retrieved from <http://www.arnec.net/country/cambodia>
- ARNEC. (2018c). *India country profile*. Retrieved from <http://arnec.net/country/india->
- ARNEC. (2018d). *Indonesia country profile*. Retrieved from <http://arnec.net/country/indonesia->
- ARNEC. (2018e). *Lao PDR country profile*. Retrieved from <http://arnec.net/country/lao-pdr>
- ARNEC (2018f). *Nepal country profile*. Retrieved from <http://arnec.net/country/nepal->
- ARNEC. (2018g). *Philippines country profile*. Retrieved from <http://www.arnec.net/country/philippines->
- ARNEC. (2018h). *Vietnam country profile*. Retrieved from <http://arnec.net/country/vietnam->
- Bailey, D., Duncan, G. J., Odgers, C. L., & Yu, W. (2017). Persistence and fadeout in the impacts of child and adolescent interventions. *Journal of Research on Educational Effectiveness*, 10(1), 7–39. <https://doi.org/10.1080/19345747.2016.1232459>
- Baroody, A. J., & Ginsburg, H. P. (1990). Chapter 4: Children's mathematical learning: a cognitive view. *Journal for Research in Mathematics Education. Monograph*, 4, 51–210. <https://doi.org/10.2307/749912>
- Benson, C. (2011). *Evaluation of the state of bilingual education in Cambodia*. Retrieved from <http://www.asiapacificmle.net/wp-content/uploads/2013/03/Carol-Benson-Evaluation-of-the-state-of-bilingual-education-in-Cambodia.pdf>
- Bold, T., Filmer, D., Martin, G., Molina, E., Rockmore, C., Stacy, B.,...Wane, W. (2017). *What do teachers know and do? Does it matter?* Retrieved from <https://elibrary.worldbank.org/doi/abs/10.1596/1813-9450-7956>
- Borisova, I., & Pearce, E. (2011). Save the Children. *Emergent literacy and math (ELM) results: Bangladesh*. Retrieved from https://resourcecentre.savethechildren.net/node/8296/pdf/emergent_literacy_and_math_in_bangladesh_year_1_proteeva_final.pdf
- Brinkerhoff, D., & Wetterberg, A. (2018). *Governance and sector outcomes: Making the connections*. Policy Brief. Retrieved from <https://www.rti.org/sites/default/files/resources/rti-publication-file-7d2195df-04fb-459a-979a-e839d42419a0.pdf>
- Brinkman, S. A., Hasan, A., Jung, H., Kinnell, A., Nakajima, N., & Pradhan, M. P. (2016). The role of preschool quality in promoting child development. Evidence from rural Indonesia. Policy Research Working Paper WPS7529. Retrieved from <http://documents.worldbank.org/curated/en/145041468195591700/The-role-of-preschool-quality-in-promoting-child-development-evidence-from-rural-Indonesia>
- Britto, R.P., Yoshikawa, H., Van Ravens, J., Ponguta, L. A., Oh, S.S., Dimaya, R., & Seder, R.C. (2013). Understanding governance of early childhood development and education systems and services in low-income countries. Innocenti Working Paper No.2013-07. Retrieved from <https://www.unicef-irc.org/publications/699-understanding-governance-of-early-childhood-development-and-education-systems-and.html>

- Chandra, R. (2017). School Readiness in India: Perspectives, initiatives, practice and approaches. *Journal of Indian Education*, XL.II(4), 23–37.
- Chopra, N. (2012). A study of early childhood education programs in Delhi, India. *International Journal of Early Years Education*, 2(1), 159–174. <https://doi.org/10.1080/09669760.2012.715398>.
- Chowdhury, N. N., & Rivalland, C. (2016). Conceptualising play as pedagogy in the ECE context of a developing country: The case study of Bangladesh. *MIER Journal of Educational Studies, Trends and Practices*, 1(2).
- Crouch, L. & DeStefano, J. (2017). Doing reform differently: combining rigor and practicality in implementation and evaluation of system reforms. Retrieved from <https://www.rti.org/sites/default/files/resources/rti-publication-file-d63038a1-a11e-4672-ad81-fe57c3f631c7.pdf>
- Dillon, M. R., Kannan, H., Dean, J. T., Spelke, E. S., & Duflo, E. (2017). Cognitive science in the field: A preschool intervention durably enhances intuitive but not formal mathematics. *Science*, 357(6346), 47–55. <https://doi.org/10.1126/science.aal4724>
- Duku, E., Janus, M., & Brinkman, S. (2015). Investigation of the cross-national equivalence of a measurement of early childhood development. *Child Indicators Research*, 8(2), 471–489. <https://doi.org/10.1007/s12187-014-9249-3>
- Duncan, G. J., Dowsett, C. J., Claessens, A., Magnuson, K., Huston, A. C., Klebanov, P.,... & Sexton, H. (2007). School readiness and later achievement. *Developmental psychology*, 43(6), 1428. <https://doi.org/10.1037/0012-1649.43.6.1428>
- Elango, S., García, J. L., Heckman, J. J., & Hojman, A. (2015). Early childhood education (Working Paper 21766). Retrieved from <https://www.nber.org/papers/w21766>
- Engle, P. L., Black, M. M., Berhman, J. R., de Mello, M. C., Gertler, P. J., Kapiriri, L., & International Child Development Steering Group. (2007). Strategies to avoid the loss of developmental potential in more than 200 million children in the developing world. *The Lancet*, 369(9557), 229–242. [https://doi.org/10.1016/S0140-6736\(07\)60112-3](https://doi.org/10.1016/S0140-6736(07)60112-3)
- Espada, J. P. (2012). The native language in teaching kindergarten mathematics. *Journal of International Education Research*, 8(4), 359–366. <https://doi.org/10.19030/jier.v8i4.7282>
- Espinosa, L.M., & Magruder, E.S. (2015). Practical and proven strategies for teaching young dual language learners. In L.M. Espinosa (Ed.), *Getting it right for young children from diverse backgrounds: applying research to improve practice with a focus on dual language learners*, 2nd ed. (76–113). Upper Saddle River, NJ: Pearson.
- Fernald, L. C. H., Prado, E., Kariger, P., & Raikes, A. (2017). *A toolkit for measuring early childhood development in low- and middle-income countries*. Washington, DC: World Bank.
- Flanigan, K. (2007). A concept of word in text: A pivotal event in early reading acquisition. *Journal of Literacy Research*, 39(1), 37–70. <https://doi.org/10.1080/10862960709336757>
- Ford, K. (2010). *8 Strategies for preschool ELLs' language and literacy development*. Retrieved from <http://www.colorincolorado.org/article/8-strategies-preschool-ells-language-and-literacy-development?theme=print>
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (1993). *How to design and evaluate research in education* (Vol. 7). New York: McGraw-Hill.
- Global Partnership for Education (2018). *Global Partnership for Education results report 2018*. Washington, DC: Global Partnership for Education.

- Gokhale, N. (2009). *Children's literacy development in the context of their preschool pedagogies in selected communities in India: A case study*. (Doctoral dissertation). Retrieved from <http://search.ror.unisa.edu.au/media/researcharchive/open/9915955763001831/53111969360001831>
- Gove, A., Dombrowski, E., King, S. J., Pressley, J., & Weatherholt, T. (2018). Persistence and fadeout of preschool participation effects on early reading skills in low-and middle-income countries. *Global Education Review*, 5(2), 85–109.
- Graham, J. (2017). *Pre-Primary education in Bangladesh: Participation has tripled but there's a lot more work to do*. Retrieved from https://apolitical.co/solution_article/unprecedented-rise-pre-primary-education-bangladesh/
- Guddemi, M. P. (2003). The important role of quality assessment in young children ages 3–8. In J. Wall & G. Walz(Eds.) *Measuring up: Assessment issues for teachers, counselors, and administrators*. Greensboro, NC: ERIC Counseling and Student Services Clearinghouse.
- Guha, S. (2006). Using mathematics strategies in early childhood education as a basis for culturally responsive teaching in India. *International Journal of Early Years Education*, 14(1), 15–34. <https://doi.org/10.1080/09669760500446374>
- Harms, T., Clifford, R. M., & Cryer, D. (1998). *Early childhood environment rating scale* (Revised ed.). New York: Teachers College Press.
- International Labor Organization (2014). *ILO policy guidelines on the promotion of decent work for early childhood education personnel*. Geneva: International Labor Organization.
- Isley, B.J. (2001). *Tamil Nadu Early Childhood Environment Rating Scale (TECERS)*. Chennai, India: M.S. Swaminathan Research Foundation.
- Jacob, W. J. (2016). Mother tongue-based multilingual education in Bangladesh: Lessons Learned in SHARE Education Program. Retrieved from http://d-scholarship.pitt.edu/30596/1/2016-12-17_Jacob%20Monograph%20-%20MTB-MLE.pdf
- Janus, M. & Offord, D. R. (2007). Development and psychometric properties of the Early Development Instrument (EDI): A measure of children's school readiness. *Canadian Journal of Behavioral Science*, 39(1), 1–22. <https://doi.org/10.1037/cjbs2007001>
- Jung, H. & Hasan, A. (2014). *The impact of early childhood education on early achievement gaps: Evidence from the Indonesia Early Childhood Education and Development (ECED) Project*. Washington, DC: The World Bank Policy Working Paper.
- Kosonen, K., Young, C., & Malone, S. (2006). *Promoting literacy in multilingual settings*. Bangkok, Thailand: UNESCO Asia and Pacific Regional Bureau for Education.
- Lamb, M. E., (1998). Nonparental child care: Context, quality, correlates, and consequences. In I. E. Sigel & A. Renninger (Eds.), *Handbook of child psychology* (Vol. 4, pp.73–133). New York: Wiley.
- Lee, V. E., Brooks-Gunn, J., Schnur, E., & Liaw, F. R. (1990). Are Head Start effects sustained? A longitudinal follow-up comparison of disadvantaged children attending Head Start, no preschool, and other preschool programs. *Child development*, 61(2), 495–507.
- Li, H., Park, E. & Chen, J.J. (2016). Introduction: from 'sound bites' to sound solutions: advancing the policies for better early childhood education in Asia Pacific. Retrieved from <https://www.researchgate.net/publication/308972397>.

- Loizillon, A. & Leclercq, F. (2016). *New Horizons: A review of early childhood care and education in Asia and the Pacific*. Paris, France: UNESCO.
- Loizillon, A., Petrowski, N., Britto, P., & Cappa, C. (2017). *Development of the Early Childhood Development Index in MICS surveys*. MICS Methodological Papers, No. 6, New York: UNICEF
- Manji, S. (2018). *Getting early grade reading right: A case for investing in quality early childhood education programs*. Retrieved from <https://www.globalreadingnetwork.net/publications-and-research/getting-early-grade-reading-right-case-investing-quality-early-childhood>
- McCoy, D. C., Peet, E. D., Ezzati, M., Danaei, G., Black, M. M., Sudfeld, C. R.,...Fink, G. (2016). Early childhood developmental status in low- and middle-income countries: National, regional, and global prevalence estimates using predictive modeling. *PLOS Medicine*, 13(6), 1–18. <https://doi.org/10.1371/journal.pmed.1002034>
- McCoy, D. C., Yoshikawa, H., Ziol-Guest, K. M., Duncan, G. J., Schindler, H. S., Magnuson, K.,...Shonkoff, J. P. (2017). Impacts of early childhood education on medium-and long-term educational outcomes. *Educational Researcher*, 46(8), 474–487. <https://doi.org/10.3102/0013189X17737739>
- Moore, A.C., Akhter, S., & Aboud, F. E. (2008). Evaluating an improved quality preschool program in rural Bangladesh. *International Journal of Educational Development*, 28(2), 118–131. <https://doi.org/10.1016/j.ijedudev.2007.05.003>
- Morris, D. (1993). The relationship between children's concept of word in text and phoneme awareness in learning to read: A longitudinal study. *Research in the Teaching of English*, 27(2), 133–154.
- Neuman, M. & Hatipoglu, H. (2015). *Global gains and growing pains: pre-primary education around the world*. Retrieved from <https://www.r4d.org/resources/global-gains-growing-pains-pre-primary-education-around-world/>
- Office of Head Start. (2018). *Code switching: Why it matters and how to respond*. Retrieved from <https://eclkc.ohs.acf.hhs.gov/culture-language/article/code-switching-why-it-matters-how-respond>
- Opel, A., Ameer, S. S., & Aboud, F. (2006). *A literacy intervention for preschool children in Bangladesh: The benefits of dialogic reading*. Retrieved from http://ecd-bangladesh.net/document/research/ECDRC_Research_Report1.pdf
- Opel, A., Ameer, S. S., & Aboud, F. E. (2009). The effect of preschool dialogic reading on vocabulary among rural Bangladeshi children. *International Journal of Educational Research*, 48(1), 12–20. <https://doi.org/10.1016/j.ijer.2009.02.008>
- Opel, A., Camellia, S., & Aboud, F. E. (2007). Playing with mathematics: a pilot intervention to develop basic mathematical skills among preschoolers in Bangladesh. Retrieved from https://www.researchgate.net/publication/228713399_Playing_with_mathematics_a_pilot_intervention_to_develop_basic_mathematical_skills_among_preschoolers_in_Bangladesh
- Opel, A., Zaman, S. S., Khanom, F., & Aboud, F. E. (2012). Evaluation of a mathematics program for preprimary children in rural Bangladesh. *International Journal of Educational Development*, 32(1), 104–110. <https://doi.org/10.1016/j.ijedudev.2011.01.013>
- Phongsopha, M., & Pholphirul, P. (2018). Early childhood education and child development outcomes in least developed countries: empirical evidence from Lao PDR. *Asian Social Science*, 14(6), 131.

- Piper, B., Zuilkowski, S. S., Kwayumba, D., & Oyanga, A. (2018). Examining the secondary effects of mother-tongue literacy instruction in Kenya: Impacts on student learning in English, Kiswahili, and mathematics. *International Journal of Educational Development*, 59, 110–127. <https://doi.org/10.1016/j.ijedudev.2017.10.002>
- Pisani, L., Borisova, I., & Dowd, A. J. (2015). *International development and early learning assessment technical working paper*. Retrieved from <https://idela-network.org/resource/international-development-and-early-learning-assessment-technical-working-paper/>
- Platas, L. M. (2017). *Measuring early learning quality and outcomes (MELQO) project*. Presentation at Conference of the International Society for Child Indicators. Montreal, Quebec.
- Poehlman, S., & O'Grady, M. (2016). Save the Children. *ELM–Emergent Literacy and Math Toolkit*. Retrieved from https://resourcecentre.savethechildren.net/sites/default/files/documents/elm_brief_final.pdf
- Pouzevara, S. L., & Parajuli, B. (2007). *Old technology or new? A study of video recording as an innovative method for primary school teacher training in rural Nepal*. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.546.7733&rep=rep1&type=pdf>
- Rao, N. (2010). Preschool quality and the development of children from economically disadvantaged families in India. *Early Education And Development*, 21(2), 167–185. <https://doi.org/10.1080/10409281003635770>
- Rao, N., & Pearson, E. (2007). *An evaluation of early childhood care and education programs in Cambodia*. Retrieved from https://www.unicef.org/evaldatabase/index_45249.html
- Rao, N., & Pearson, V. (2009). Early childhood care and education in Cambodia. *International Journal of Child Care and Education Policy*, 3(1), 13–26. <https://doi.org/10.1007/2288-6729-3-1-13>
- Rao, N., Sun, J., Richards, B., Weber, A.M., Sincovich, A., Darmstad, G.L., & Ip, P. (2018). Assessing diversity in early childhood development in the East Asia-Pacific. *Child Indicators Research*. <https://doi.org/10.1007/s12187-018-9528-5>
- Ready, D. D. (2010). Socioeconomic disadvantage, school attendance, and early cognitive development: The differential effects of school exposure. *Sociology of Education*, 83(4), 271–286. <https://doi.org/10.1177/0038040710383520>
- Save the Children. (2017a). *Key features and good practices of Early Literacy and Math (ELM) Project in Nepal*. Retrieved from https://nepal.savethechildren.net/sites/nepal.savethechildren.net/files/library/ELM_Report_Final.pdf
- Save the Children. (2017b). *Countries where the IDELA is in use*. Retrieved from <https://idela-network.org/about/countries-where-idela-is-in-use>
- Southeast Asian Ministers of Education Organization (SEAMEO) & United Nations Educational, Scientific and Cultural Organization (UNESCO). (2016). *Southeast Asian Guidelines for Early Childhood Teacher Development and Management*. Retrieved from <http://unesdoc.unesco.org/images/0024/002443/244370E.pdf>
- Shahjama, M. M., & Nath, S. R. (2008). *An evaluation of BRAC pre-primary education program*. Bangladesh: BRAC Centre.

- Sheridan, S. (2011). Pedagogical quality in preschool: A commentary. In N. Pramling & I. Pramling Samuelsson (Eds.), *Educational encounters: Nordic studies in early childhood didactics* (pp.223–242). Dordrecht: Springer (PDF) Systematic Quality Work in Preschool.
- Sitabkhan, Y. A., & Platas, L. (2018). *Early mathematics counts: Promising instructional strategies from low- and middle-income countries*. RTI Press Publication No. OP-0055-1807. Research Triangle Park, NC: RTI Press.
<https://doi.org/10.3768/rtipress.2018.op.0055.1807>
- Snow, C. E., & Van Hemel, S. B. (2008). *Early childhood assessment: why, what, and how*. Washington, DC: National Academies Press.
- Solon, O., Riddell, T. J., Quimbo, S. A., Butyrick, E., Aylward, G. P., Bacate, M. L., & Peabody, J. W. (2008). Associations between cognitive function, blood lead concentration, and nutrition among children in the Central Philippines. *The Journal of Pediatrics*, 152(2), 237–243. <https://doi.org/10.1016/j.jpeds.2007.09.008>
- Sun, J., Rao, N., & Pearson, E. (2015). *Policies and strategies to enhance the quality of early childhood educators*. Retrieved from <http://unesdoc.unesco.org/images/0023/002324/232453e.pdf>
- Tan, R.G.H. (2016). *Early Childhood care and education in five Asian countries*. Retrieved from [http://www.headfoundation.org/papers/2016_-_6\) Early Childhood Care and Education in Five Asian Countries A Literature Review 20160719.pdf](http://www.headfoundation.org/papers/2016_-_6) Early Childhood Care and Education in Five Asian Countries A Literature Review 20160719.pdf)
- Thao, D.P & Boyd, W.A. (2014). Renovating early childhood education pedagogy: a case study in Vietnam. *International Journal of Early Years Education*,22(2), 184–196.
<http://doi.org/10.1080/09669760.2014.909306>.
- UNESCO. (2015). *Bangladesh: pre-primary education and the school learning improvement plan*. Paris and Bangkok: UNESCO & Japan Funds-in-Trust.
- UNESCO. (2016a). *Financing for early childhood care and education (ECCE): Investing in the foundation for lifelong learning and sustainable development*. Bangkok: UNESCO Bangkok.
- UNESCO. (2016b). *Innovative pedagogical approaches in early childhood care and education (ECCE) in the Asia-Pacific region*. Retrieved from <http://unesdoc.unesco.org/images/0024/002460/246050e.pdf>
- UNESCO Institute for Statistics (UIS). (2018). *UIS Education Statistics Database*. Retrieved from <data.uis.unesco.org>
- UNESCO International Bureau of Education (IBE). (2006). *Cambodia early childhood care and education (ECCE) programmes*. Geneva: UNESCO IBE.
- UNESCO & SEAMEO. (2018). *Pursuing quality in early learning Vol. 1 /early childhood care and education (ECCE) Teacher Competency Framework for Southeast Asia (SEA)*. Paris & Bangkok: UNESCO & SEAMEO.
- United Nations Children’s Fund (UNICEF). (2016). *Early learning and development standards (ELDS) and school readiness*. New York: UNICEF.
- UNESCO, UNICEF, The Brookings Institution, & the World Bank. (2017). *Overview: MELQO measuring early learning quality and outcomes*. Retrieved from <https://www.brookings.edu/research/overview-measuring-early-learning-quality-and-outcomes/>
- United Nations General Assembly. (2015). *Transforming our world: The 2030 Agenda for Sustainable Development*. Retrieved from <http://www.refworld.org/docid/57b6e3e44.html>

- US Agency for International Development (USAID). (2011). USAID Education Strategy 2011-2015. Retrieved from https://www.usaid.gov/sites/default/files/documents/1865/USAID_Education_Strategy.pdf on 5 Oct 2018.
- US Agency for International Development (USAID) (2018). *Basa Pilipinas support to DepEd MTB -MLE policy reform*. March 7, 2018. Basa Pilipinas. USAID. https://globalreadingnetwork.net/sites/default/files/resource_files/FINAL%20Basa%20Support%20for%20MTBMLE%20Presentation%20FINAL%20030718.pdf
- Wechsler, D., & Psychological Corporation. (2012). *WPPSI-IV: Wechsler preschool and primary scale of intelligence—fourth edition*. Bloomington, MN: Pearson, Psychological Corporation.
- World Bank. (2013a). *SABER: Early Childhood Development Data Collection Instrument*. Washington, DC: The World Bank
- World Bank. (2013b). Systems Approach for Better Education Results (SABER). *Kyrgyz Republic Early Childhood Development (SABER Country Report)*. Washington, DC: The World Bank.
- World Bank. (2013c). Systems Approach for Better Education Results (SABER). *Nepal early childhood development (SABER Country Report)*. Washington, DC: The World Bank.
- World Bank. (2013d). Systems Approach for Better Education Results (SABER). *Tajikistan early childhood development (SABER Country Report)*. Washington, DC: The World Bank.
- World Bank. (2016). Systems Approach for Better Education Results (SABER). *Early childhood development*. Washington, DC: The World Bank.
- World Bank. (2018). *World Bank Education Statistics database*. Retrieved from <http://databank.worldbank.org/data/source/education-statistics-%5E-all-indicators/Type/TABLE/preview/on#>.
- Yoshikawa, H., Weiland, C., Brooks-Gunn, J., Burchinal, M., Espinosa, L. M., Gormley, W. T.,...Zaslow, M. J. (2013). *Investing in our future: The evidence base on preschool education*. New York, NY: Foundation for Child Development.

Attachment 1. Key early childhood education (ECE)-related policy documents for 11 Asian countries with US Agency for International Development (USAID) education programming

| Country | Key Country Policy Documents |
|-------------|--|
| Bangladesh | <ul style="list-style-type: none"> ▪ Early Child Care and Development (ECCD) National Policy, approved in 2013 ▪ Comprehensive Policy on ECCD (in Bangla) ▪ ECCD Policy Operation and Implementation Plan 2016 (draft) ▪ National Children Policy 2011 ▪ National Plan of Action Education for All 2003–2015 ▪ National Education Policy 2010 ▪ Operational Framework for Pre-Primary Education ▪ Early Learning Development Standards (validation in process) |
| Cambodia | <ul style="list-style-type: none"> ▪ National Policy on Early Childhood Care and Development 2010 ▪ Subdecree on management of community preschool, 2017 |
| India | <ul style="list-style-type: none"> ▪ National Early Childhood Care and Education (ECCE) Policy, approved in 2013. Policy includes National Curriculum. ▪ Framework and Quality Standards for ECCE ▪ National Early Childhood Care and Education Policy 2013 ▪ National Policy on Education 1986 ▪ State Plan of Action for Children (2014–2018): Parts I and II ▪ National Policy for Children 2013 |
| Indonesia | <ul style="list-style-type: none"> ▪ Child Protection Law Number 23 2002 ▪ National Education System Law Number 20/2003 ▪ National Strategy on Holistic Integrative Early Childhood Development (PAUD HI) 2006 ▪ Education Ministry Regulation Number 58, 2009 on PAUD HI standards ▪ Presidential Regulation Number 60, 2013 on Holistic Integrative ECD |
| Kyrgyzstan | <ul style="list-style-type: none"> ▪ Education Development Strategy 2012–2020 ▪ National Sustainable Development Strategy 2013–2017 |
| Lao PDR | <ul style="list-style-type: none"> ▪ EFA National Plan of Action 2003–2015 ▪ Education Law 2007 ▪ Education Sector Development Framework 2008 ▪ Education Sector Development Plan 2011–2015 ▪ Revised National Education Law 2014, Articles 13–15 ▪ Law on the Protection of the Rights and Interests of Children |
| Nepal | <ul style="list-style-type: none"> ▪ Children Act 1992 ▪ National Strategy Paper for ECD ▪ National Minimum Standards for ECD Centers and Children ▪ ECED in School Sector Reform Plan, 2009–2015 ▪ Draft amendment of the Education Act ▪ School Sector Reform Plan 2009–2015 ▪ School Sector Development Plan 2016–2023 |
| Philippines | <ul style="list-style-type: none"> ▪ Kindergarten Education Law Act Number 10157 ▪ Early Years Act of 2013 Number 10410 ▪ ECCD Act (Republic Act 8980), 2002 |
| Tajikistan | <ul style="list-style-type: none"> ▪ Law on Education of the Republic of Tajikistan ▪ National Strategy for Educational Development (to 2020) ▪ National Program for Early Childhood Learning and Development 2012–2016 |
| Vietnam | <ul style="list-style-type: none"> ▪ Education Law 2005 ▪ Law on Protection, Care and Education for Children 2004, Article 5 ▪ Education Law Revision Act 2009 |

Sources: ARNEC (2018) country profiles for Bangladesh, Cambodia, India, Indonesia, Lao PDR, Nepal, Philippines, and Vietnam. Other sources include, for Kyrgyzstan: UNESCO, 2014; for Lao PDR: Britto et al., 2013; for Tajikistan: SABER, 2013c.

Attachment 2. Links to Assessment Resources

| Assessment | Link to Resource |
|--|---|
| East Asia- Pacific – Early Child Development Scales (EAP-ECDS) | https://au.eventscloud.com/file_uploads/e56b29ce70ea9e932721ffe301d06ef4_FinalARNECConferenceBecherandLee_OrientationontheEAP-ECDS.pdf |
| Save the Children International’s Development Early Learning Assessment (IDELA) | https://idela-network.org/ |
| Cambodian Developmental Assessment Test (CDAT) | https://www.unicef.org/evaldatabase/files/CBD_early_childhoodcare_evaluation.pdf |
| Measuring Early Learning Quality and Outcomes Measure of Development of Early Learning (MELQO MODEL) | http://ecdmeasure.org/melqo-portal/ |
| Learn Autonomous Region in Muslim Mindanao (Learn ARMM) | https://actrc.org/projects/current-projects/longitudinal-study-of-learning-achievement-of-students-in-the-autonomous-region-in-muslim-mindanao-learnarmm/ |
| Wechsler Preschool-school and Primary Scale of Intelligence (WPPSI-IV) | https://www.pearsonclinical.com/psychology/products/100000102/wechsler-preschool-and-primary-scale-of-intelligence--fourth-edition-wppsi-iv.html#tab-details |
| McCarthy Scales of Children’s Abilities (MSCA) | https://www.pearsonclinical.co.uk/Psychology/ChildCognitionNeuropsychologyandLanguage/ChildGeneralAbilities/McCarthyScalesofChildrensAbilities/McCarthyScalesofChildrensAbilities.aspx |
| School Readiness Index (SRI) | http://siteresources.worldbank.org/INTSOUTHASIA/Resources/ECE_Toolkit.pdf |
| Early Development Instrument (EDI) | https://edi.offordcentre.com/ |

| Assessment | Link to Resource |
|--|---|
| UNICEF Multiple Indicator Cluster Surveys Early Child Development Index (MICS ECDI) | http://mics.unicef.org/ |
| World Bank Living Standards Measurement Study (LSMS) | http://surveys.worldbank.org/lsm |
| Cambodian Early Childhood Environment Rating Scale (CECERS) | https://www.researchgate.net/publication/228879393_An_Evaluation_of_Early_Childhood_Care_and_Education_Programmes_in_Cambodia |
| Tamil Nadu Early Childhood Environmental Rating Scale (TECERS) | https://www.researchgate.net/publication/254286579_A_study_of_early_childhood_education_programmes_in_Delhi_India |
| Early Childhood Environment Rating Scale, Activities and Program Subscales – Revised (ECERS-R) and ECERS–Extension Literacy and Math Subscales (ECERS-E) | https://ers.fpg.unc.edu/ |
| World Bank Systems Approach for Better Education Results - Early Childhood Development (SABER-ECD) | http://saber.worldbank.org/index.cfm?indx=8&pd=6&sub=0 |

Attachment 3. Southeast Asian Guidelines for Early childhood Teacher Development and Management¹¹

Qualification, certification, and licensing or accreditation

1. Southeast Asian countries need to ensure that there is a clear understanding among all relevant stakeholders, including the general public, as to the definition of the terms and steps in the process of officially recognizing early childhood teachers.
2. Southeast Asian countries are encouraged to establish a dedicated early childhood accreditation and licensing body/authority based on a recognized qualifications framework to improve education and training standards, and accredit or license early childhood personnel.

Recruitment to the profession

3. Southeast Asian countries need to consider a range of strategies to promote early childhood teaching as a profession and attract competent and motivated candidates to early childhood teacher education programs.
4. Southeast Asian countries are encouraged to have an inclusive policy towards recruitment to diversify the composition of the early childhood teaching force in terms of sex, ethnicity/language, socioeconomic-economic status, and (dis)abilities.
5. Southeast Asian countries can also support recruitment into the early childhood profession by developing programs to upgrade teacher qualification.

Pre-service teacher education

6. Southeast Asian countries are encouraged to develop quality standards for pre-service and in-service early childhood teachers.
7. Countries are encouraged to ensure that the above requirements for accreditation as pre-service providers are met — and continue to be met — by establishing monitoring and evaluation institutions and mechanisms.

Deployment and retention

8. Countries need to develop systematic deployment strategies to ensure a balanced and equitable distribution of the early childhood care and education (ECCE) workforce.
9. Where applicable, Southeast Asian countries may need to develop incentives to encourage teachers to move to difficult postings.
10. Southeast Asian countries could develop policies to ensure the longer-term retention of teachers in the early childhood profession.

Continuous professional development

11. Southeast Asian countries may need to develop systematic induction, mentoring, and probationary processes.
12. Southeast Asian countries need to design and implement a wide range of continuous professional development (CPD) programs to meet the needs of diverse ECCE contexts and programs.
13. Southeast Asian countries are encouraged to ensure that CPD opportunities are systematically and equitably provided.

¹¹ Source: Southeast Asian Ministries of Education Organization & United Nations Education, Scientific and Cultural Organization. (2016). *Southeast Asian Guidelines for Early Childhood Teacher Development and Management*. Bangkok: SEAMEO Secretariat and UNESCO

Competencies and professional ethics

14. Southeast Asian countries need to ensure that the early childhood education curricula and pedagogical approaches that form the basis for the professional development of all ECCE practitioners are grounded in a holistic, child-centered, and developmentally appropriate framework.

15. Southeast Asian countries are encouraged to ensure that the efforts to improve the quality of pre-school teachers, from initial recruitment through pre-service training, induction, and CPD, are based on a clear set of professional standards or minimum qualification competencies.

16. Southeast Asian countries also need to pay attention to the enhancement of their teachers' professional ethics, including criminal background checks.

Monitoring and quality assurance for performance appraisal

17. Southeast Asian countries are encouraged to put in place ongoing monitoring and evaluation standards and mechanisms of in-service early childhood teacher performance in order to detect, reward, and support satisfactory teachers, as well as to support or sanction underperforming teachers.

Employment terms and working environments

18. Where applicable, Southeast Asian countries may need to make efforts to ensure that status, employment benefits, and working conditions of early childhood teachers are equivalent to those of primary school teachers with the same qualifications and experience. They are also encouraged, where applicable, to ensure that early childhood teachers have the same civil service and contractual status, as well as salaries that are commensurate with their primary education counterparts.

19. Southeast Asian countries are encouraged to further enhance the attractiveness of early childhood teachers as a career by facilitating a supportive and comfortable working environment.

Governance

20. Governments must ensure that their early childhood education (ECE) system, including ECE programs and pre-primary education, is governed effectively, transparently, and efficiently, and supported with adequate resources, both public and private.

21. Governments could consider establishing a target for public ECE investment, implicating all relevant government sectors and agencies, as well as levels of authority— national, regional, and local — and catalyze private investment in order to support holistic ECE and learning of all children, particularly the most disadvantaged, marginalized, and vulnerable populations.

22. Southeast Asian countries may need to encourage regular mechanisms for dialogue among education authorities, legislators, public and private employees and trade unions or other organizations representing early childhood personnel.