CRS
CATHOLIC RELIEF SERVICES

PART 4:

Annex: Background Literature Review on Early Childhood Education (ECE)

Author: Tadesse, S. (2021). *Catholic Relief Services framework for quality early childhood education intervention*. Education, Program Impact and Quality Assurance (PIQA), Catholic Relief Services.

Cover photo: Children play outdoor in an Early Childhood Development (ECD) center, CRS THRIVE II Project in Katoma, Tanzania, 2017.

Catholic Relief Services
228 West Lexington Street
Baltimore, MD 21201-3443 USA

Table of Contents

CRS-USDA supported program to improve the quality of education for children through play and learning materials -wooden cubes, mobile labels, sets of illustrations, blackboards, visual dictionaries, phonetic tables, story collections and educational books for teachers in schools and to supply libraries. Burkina Faso, 2017. Photo by: Phelps, Sam

PART 4:

ANNEX: Background Literature Review On Early Childhood Education (ECE)

PURPOSE

This literature review informed the development of the Catholic Relief Services (CRS) Quality Early Childhood Education Intervention Conceptual Framework (CRS ECE intervention framework). While the literature review is not exhaustive, it provides essential evidence-based information on what has already been done, what is known and what needs to be explored in the field of ECE. Therefore, the hope is that the information will be of great use in supplementing CRS' work with evidence-based context when preparing project proposals and/or planning, implementing and evaluating ECE interventions. As child development theories and practices evolve, the user is encouraged to also explore emerging and new research and practices in ECE.

The literature review has six chapters and a bibliography at the end. Chapter 1 provides an overview of what ECE means, its importance and benefits to children, and why it is essential to invest in ECE, including effective intervention approaches in ECE. Chapter 2 describes domains of child development and early learning standards and their benefits in ECE, including the classification and types of ECE. This chapter also presents information about school readiness and the importance of smooth transition and continuity of learning across the development continuum. Chapter 3 highlights the importance of inclusion in ECE and describes the barriers to inclusive ECE and key factors that can enhance inclusion. Chapter 4 provides information on approaches to ECE, including examples of critical developmental periods for learning and pedagogical approaches that most commonly are practiced in ECE such as the learner-centered versus teacher-centered (traditional) approaches. This chapter also describes the importance of information technology in ECE with examples of technology tools and interactive media that can facilitate learning for young children. Chapter 5 describes features of quality ECE programming highlighting the two main dimensions of quality—structural and process quality and minimum evidence-based standards for quality ECE—with examples of monitoring quality in the standards and basic criteria for designing an ECE program. Chapter 6 is about measurement in ECE and describes key features of assessment in ECE with some examples of key measurement tools that can be adapted for ECE interventions, including examples of indicators for school readiness. Boxes, figures and tables are provided within the body of the main text to draw attention to specific texts or illustrate key ideas or approaches in ECE. At the end of this document, a list of References with web links of associated ECE resources (articles, training and measurement tools, manuals) is provided for each chapter.

Emérita Domínguez, 35, with her son Minor Domínguez González, 2, at a Special Mother's Day Event in Luis Bográn Public School, in Intibucá, CRS-USDA FFE Program, Honduras. Photo: Leiva/Silverlight, Oscar

CHAPTER 1:

Early Childhood Development and Education Overview

EARLY CHILDHOOD DEVELOPMENT

Early childhood is the time of a child's life occurring from conception to birth through age 8. It is conventionally subdivided into six categories: prenatal development (during pregnancy), infancy (birth to age 1), toddlerhood (age 1 to age 3), preschool years (age 3 to age 5), kindergarten years (age 5 to age 6), and early elementary/primary school years (age 6 to age 8) (The Consultative Group (CGECCD), 2016; Charlesworth, 2012)[1]. The most rapid phase of growth and development of a child happens during this time, laying the foundations for children's social skills, self-esteem, perception of the world and moral outlook, including the development of cognitive and linguistic skills. Adults who support and work with young children from infancy through the early elementary years are critical for nurturing children's health, development and learning.

The meaning of early childhood development (ECD) and early childhood education (ECE) overlaps. Refer to Box 1. Early childhood development (ECD) vs. Early childhood education (ECE) as well as Chapter 2 of this document for more information on ECE.

Human development starts at conception, and learning occurs from birth and beyond. Children develop and learn as they begin and continue to interact with the environment and people that surround them. This interaction, especially during the first five years of life, influences the early development of the brain with a rapid rate of more than 1 million new neural connections being formed per second (Center on the Developing Child, 2009). Critical to optimal brain development and well-being of children are nutrition and good health care. But so too are appropriate sensory input (e.g., through tactile, visual, hearing, olfactory experiences) and attachment with a

[1] It is important to note that different countries or programs classify the early childhood period according to their own context. For example, some government/non-government programs consider the prenatal stage as part of early childhood. Therefore, it is recommended that users of this framework refer to their own programmatic or national policy guidelines when planning and implementing early childhood education programs. The Consultative Group on Early Childhood Care and Development (CGECCD, 2016) also has similar definitions of early childhood, which is subdivided into ages 0–3 (infants and toddlers), ages 4–5 (preschoolers), and ages 6–8 (early elementary or primary students).

BOX 1

EARLY CHILDHOOD DEVELOPMENT (ECD) VS. EARLY CHILDHOOD EDUCATION (ECE)

"Child development tracks children's physical, emotional, psychological, and cognitive growth. Professionals in this field can work in research, education, social work, or psychology. They study how families and communities can aid in the positive development of children and help create awareness through educational programs.

Moreover, child development professionals implement prevention and intervention programs for childhood disabilities, birth defects, and blood disorders.

Early childhood education also refers to the learning experiences a young child goes through as they develop. Any activities that help a child gain social, physical, behavioral, or cognitive understanding are part of their education. This is where the overlap occurs in early childhood education vs. child development. Early childhood education is the learning activity of children before elementary school. It includes any educational institutions children attend prior to kindergarten. Early childhood education professionals can work as preschool teachers or childcare center directors, among other occupations. Another common location is a child's home, with a nanny or babysitter."

For further information on ECD, also refer to Center on the Developing Child Early childhood development (ECD) vs. Early childhood education (ECE)

stable, loving and responsive parents/caregiver. The early experiences are significant, especially for children who are facing multiple adversities of violence, disaster and poverty. Adverse experiences such as poor health and nutrition, physical and psychological abuse and neglect result in poorly formed neural connections. This, in turn, affects various parts of the brain, potentially leading to one or more delays in cognitive-language, social-emotional or physical-motor development. But with quality, appropriate and timely interventions, children can work on their inner strength or resilience and bounce back to normal growth and development.

WHY INVEST IN EARLY CHILDHOOD

Due to poverty and its associated risk factors (e.g., exposure to toxic stress, inadequate nutrition, inaccessible health care, lack of nurturing care and limited early learning opportunities) worldwide, 250 million children (43%) younger than age 5 in low- and middle-income countries (LMIC) are at risk of not thriving in their social-emotional and intellectual development (CGECCD, 2016). All is not lost for these children, however, because advances in neuroscience and evidence-based longitudinal research in LMIC show that holistic investments across the early childhood education continuum (from birth to age 8) can put children on the path to both academic and lifelong successes, break the intergenerational cycle of poverty and lift human capital (World Bank, UNICEF, and Inter-American Development Bank, 2018; thelancet.com, 2016; Tang, 2015).

The benefits of preprimary education are many. Quality preprimary education is directly linked to the effectiveness of basic education. Children who attend a quality early childhood education are more likely to enter primary grades with a strong foundation for learning—stronger social skills, larger vocabularies, better number sense and curiosity to learn more (UNICEF, 2019; Gaag & Tan, n.d.). In addition, children from both low- and high-income countries who receive quality early childhood education services gain benefits such as: "*higher intelligence scores, higher and timelier school enrollment, less grade repetition and lower dropout rates, higher school completion rates, improved nutrition and health status, improved social and emotional behavior, improved parent-child relationships, and increased earning potential and economic self-sufficiency as an adult*" (OVCSUPPORT.ORG), including reduced delinquency and crime in childhood and adulthood (Barnet, 2008).

With knowledge on child development, Losan plays with his daughter Ruth outside their home in Koloko Village Malawi, on Thursday, . September 21, 2017. CRS THRIVE II Project. Photo by: Fajardo, Sara A.

A meta-analysis of 56 countries (Engle, Fernald, Alderman, *et.al*. 2011) worldwide on LMIC showed parenting support and preschool enrollment are the most effective interventions in early childhood development, especially for disadvantaged children. The meta-analysis examined the effects of preschool on the learning outcomes of children by factors such as *attendance, duration, quality and type* of preschools. Comparisons were made on attendance versus non-attendance, longer versus shorter period of attendance, attendance at improved or formal preschools versus attendance at non-improved or non-formal preschools. Children who attended preschool programs scored higher in literacy, vocabulary, mathematics, reasoning and social and behavioral skills. The duration of attendance also affected learning outcomes; children who attended preschool programs for a longer period (i.e., 16 months compared to those who attended for two months) gained higher scores on cognitive tests.

Evidence from other studies also showed that attending preprimary (preschool) programs improves student's attention, effort, class participation, discipline (Ghosal, 2012), verbal and nonverbal reasoning, and "readiness" skills (Aboud, 2006; UNICEF, 2019). Attendance also predicts primary grade enrollment at the proper age, including less chance of repetition at Grade 1 level. For example, enrollment in a community-based program in Mozambique predicted that enrollees had a 24% higher chance to enter primary school at the proper age (Martinez, Naudeau, & Pereira, 2012) and with the necessary "readiness" skills regardless of household or national income level (UNICEF, 2019). A study in Uganda also found that children who didn't attend preprimary education were more than twice as

likely to repeat grade one at the primary grade level (UNICEF, 2019). This study also found that the protective effect of preprimary attendance on repetition was the same for boys and girls.

Not only attendance and duration, but the quality and types of preschool program also matter. The comparative analysis (Engle, Fernald, Alderman, *et. al*., 2011) on two types of preschool models—formal or improved and non-formal or non-improved—found that learning outcomes are higher for children who attended improved or formal preschool programs than peers who attended non-improved or non-formal programs. Children in non-formal programs exhibited less learning outcomes. But compared to children who never attended any type of preschool program, children who participated in non-formal preschool programs showed better learning results.

Preschool education also predicts long-term economic benefits. For example, increased preschool enrollment to 25% or 50% in LMIC predicts a benefit-cost ratio ranging from 6·4 to 17·6. (Engle, Fernald, Alderman, *et. al*., 2011; The World Bank, n.d.). Mothers whose children are enrolled in preschool have the opportunity to participate in the workforce and increase their earnings (Evans, Jakiela, & Heather, Knauer, 2021).

The "Fade Out" effect: Even though preprimary interventions yield positive cognitive and non-cognitive outcomes for children, some studies (Bailey, Duncan, Odgers, & Yu, 2017) found that cognitive and socioemotional skills gained from preschool programs "fade out" through primary grades. Some of the reasons for fadeout include low quality of primary school, programs' high focus on child's academic skills alone without regard to whole child development and lack of sustaining quality environments after the completion of an intervention (to sustain early skills gained, it is critical to maintain the alignment between the preprimary and primary environments with materials, instructions, classroom management, etc.). Others attribute the waning effect to flawed intervention design and assessment (Bailey *et. al*., 2017; Engle, Fernald, Alderman, *et. al.,* 2011). Contradictory to the fadeout view, a groundbreaking finding from the Heckman-Perry preschool longitudinal study (Heckman, 2021) states that the idea of "fade out" is a myth, arguing that studies with fadeout results did not use a holistic approach to child development when measuring impact. Rather the fadeout results have focused mostly on IQ or cognitive achievements in elementary grades, overlooking long-term beneficial life outcomes such as prosocial behavior, stable marriage, schooling, employment and upward mobility.

APPROACH TO INVESTING IN EARLY CHILDHOOD

Child development and learning occur in and are influenced by multiple social and cultural contexts (Bronfenbrenner & Ceci, 1994). Therefore, **the most effective early childhood interventions or programs are those that are holistic and contextually delivered. Interventions that prioritize children in disadvantaged communities can provide huge returns on investment:**

> "*... to make safe and supportive early childhood development a reality for the world's poorest and most vulnerable children, increased investment is needed in quality parenting programs and organized early learning centers for the most disadvantaged children ... These services should also be better integrated into existing community-based programs across a broad range of sectors, including health, nutrition, education, water and sanitation, and protection. And we need to mobilize the political support of all stakeholders, including governments, UN agencies, and civil society groups*" (The Lancet, September 23, 2011).

The urgent need to promote early development and learning for young children has gained global and national recognition with an increased global commitment to ratifying the Sustainable Development Goal 4.2. that stipulates, "*by 2030, all girls and boys to have access to quality early childhood development, care and preprimary education so that they are ready for primary education*" (UNESCO, n.d.). In addition, the Education 2030 Framework for Action recommends inclusive and equitable quality education and lifelong learning for all and encourages the provision of *at least one year of free and compulsory quality preprimary education* and that all children have access to quality early childhood development, care and education (UNESCO, 2021). The Global Child Thrive Act 2020 (GCTA) (2020) bill which has been passed by the U.S 116 Congress (2019-2020) has also required the U.S. Agency for International Development (USAID) to direct relevant executive branch agencies to incorporate early childhood development into current programs and promote inclusive early childhood development in partner countries to improve the life of orphans and vulnerable children in (1) early childhood development; (2) maternal, newborn, and child health and nutrition care; (3) basic education; (4) water, sanitation, and hygiene; and (5) child protection plans.

Gesler Saúl Rodríguez and his peers at Luis Bográn public school, in Togolapa, Intibucá, supported by CRS Food For Education program, 2019. Photo by: Leiva/Silverlight, Oscar

CHAPTER 2:

Early Childhood Education (ECE)

DOMAINS OF DEVELOPMENT AND EARLY LEARNING STANDARDS

ECE is more than preparation for primary school. Its goal is to ensure that children realize their full potential by setting a strong foundation for learning, based on **Early Learning and Development Standards (ELDS)** (See Box 2. ELDS) that are described as expectations for the learning and development of young children. The ELDS for ECE embrace all the domains of children's development and learning—physical well-being and motor development; social, emotional, cognitive, language development (including literacy and numeracy); motivation and approaches to learning; and discipline-specific domains including the arts, literacy, mathematics, science and social studies. As significant as other domains of development are the spiritual and moral development of children, which can help build young children's resilience, confidence and empathy (Nye, 2006). As such, while most western-developed frameworks of child development focus on the domains of language, cognitive, physical and socio-emotional development, early models of integration of values, spirituality and morals into contemporary early childhood care and education programming does exist. For example, nations like Bhutan, Ethiopia (Anis, Dibaba, Jira, Hussein, Ahmed, & Telila, 2008; Anis, 2018), Malawi, Zambia, Kenya (Tadesse, 2016; Mwaura & Mohamed, 2008), New Zealand (New Zealand Ministry of Education, 2016; Lin, 2016) and Saudi Arabia (NAEYC, 2015) incorporate the spiritual/moral development as a core developmental domain of their ECE programming. Studies (Allana, Tennant & Petrucka, 2017) also show that parents/families often have more favorable attitudes towards faith-based institutions for moral and religious early education options for their preprimary age children. The CRS ECD Curriculum-Module 2 Resource Guide (Tadesse, 2016), the National Education Goals Panel (Kagan, Moore, & Bredekeamp, 1995) and

BOX 2

EARLY LEARNING AND DEVELOPMENT STANDARDS (ELDS)

The ELDS are guidelines for early learning, stating expectations of what children can do and learn at a certain age and stage of their development. By using ELDS as a guide, early childhood practitioners can design developmentally appropriate activities and lessons that support these expectations. The use of ELDS would be effective if practitioners use instructional strategies with specific learning goals and activities for each age, connected along the developmental progression. Several countries include ELDS in their national ECE framework to support quality and promote continuity of learning across the development and learning continuum. Early year interventions also use the ELDS as a tool to measure development and learning outcomes and to educate caregivers and community members about child development and how to best support children. The content or actual ELDS must be developed and validated in context due to cultural variations in the experiences and developmental pathways taken by children. ELDS should also be flexible enough for teachers and other caregivers to adapt and embed culturally and individually relevant experiences in the ECE curriculum. By doing this, teachers can promote success for all children.

Sources: The World Bank Group; NAEYC

the World Bank Group (Fernald, Prado, Kariger, & Raikes, 2017) provide descriptions on each domain of development, i.e., physical-motor; cognitive-language; social-emotional; spiritual-moral; and approaches to learning. A definition of spirituality and religion is provided in Box 3. Spirituality vs. Religion

BOX 3

SPIRITUALITY VS. RELIGION

Spirituality: "... is the process of growing the intrinsic human capacity for self-transcendence, in which the self is embedded in something greater than the self, including the sacred. It is the developmental "engine" that propels the search for connectedness, meaning, purpose and contribution. It is shaped both within and outside of religious traditions, beliefs and practices." (p.205)

Source: (Benson, Roehlkepartain, & Rude, 2003)

Religion is: " ... an organized system of beliefs, practices, rituals, and symbols that serve (a) to facilitate individuals' closeness to the sacred or transcendent other (i.e., God, higher power, ultimate truth) and (b) to bring about an understanding of an individual's relationship and responsibility to others living together in community."

Source: Roehlkepartain, Benson, King, & Wegner (2006)

CLASSIFICATION OF EARLY CHILDHOOD EDUCATION (ECE)

Early childhood education is classified as a) early childhood educational development and b) preprimary education (UNESCO Institute for Statistics/UIS, 2011; International Bureau of Education). This framework focuses on category b. A successful ECE program promotes and maintains a smooth transition for children as they move through these **three levels**, from ***a*** to ***b*** and into the ***early primary*** grades (grades 1 and 2). (See section: School Readiness, Transition and Continuity in ECE)

a) **early childhood educational development** – program with learning content designed for infants and toddlers ages 0–2 (Note: Depending on the context of a program, 3-year-old children can be part of this learning program). It is characterized by a learning environment that is visually stimulating and language-rich. This type of program emphasizes fostering caregiver-child relationships, building prosocial behavior, self-expression through verbal/nonverbal communication and the use of language for meaningful communication—all helpful for social-emotional and cognitive (e.g., emergent literacy) skills. Infants and toddlers should receive ample opportunities for active play, so that they can exercise their coordination and motor skills under supervision and through interaction with adults (trained caregiver/teacher).

b) **preprimary education** – is an integral component of early childhood development. It is an organized program with learning content designed for preschoolers ranging from 3 years old to the start of primary education. Different countries may have different age limits for eligibility to enter primary school. The program focuses on the enrichment and support of learning and development, from which children become ready to learn and succeed in school and beyond.

Because the child finds the world expanding beyond home and family life and starts meeting more people, the program applies organized instructions and provides opportunities for interaction with peers and educators (caregivers). This interaction allows children to increasingly build and improve their use of language

Refugee children playing, acting, and learning in a Child Friendly Space Pantaon Shelter Site during the siege in Marawi, Philippines. CRS and USAID OFDA Program, 2019. Photo by: Tsang, Tiffany

and social skills (e.g., prosocial behavior) and start to develop logical and reasoning skills. Children are also introduced to alphabetical and mathematical concepts (early literacy and numeracy) and are encouraged to explore their surrounding world and environment. Supervised gross motor activities (i.e., physical exercise through games and other activities) and structured group and individual play-based activities are used as learning opportunities to promote social interactions with peers and to develop skills, autonomy and school readiness.

BOX 4

DEVELOPMENTAL DOMAINS (USAID)

Refers to the different areas of child development including, among others, physical development (i.e., learning how to use the big and small muscles in the body), social development (i.e., learning how to relate to, play with and talk to others), emotional development (i.e., how the child feels about him/herself and expresses feelings) and cognitive development (i.e., learning how to process and use information and being able to perceive, understand and use language).

Getting Early Grade Reading Right (USAID, 2018)

Note: Early Primary Grades 1–2. The international standards classify ECE programs as services for children of the age group before primary. But children enrolled in first to second grade belong to the early childhood spectrum and are still within the concrete operational stage of thinking, generally within the ages of 6 to 8. Therefore, as they are inducted into formal primary-level schooling, it is critical to meet the learning needs of this age group with developmentally appropriate learning instructions, materials and environments.

TYPES OF EARLY CHILDHOOD EDUCATION PROGRAMS: HOME-BASED, CENTER-BASED, COMMUNITY-BASED AND CHILD-FRIENDLY SPACE

Home-based Intervention: This approach, unlike the center-based program, gives learners the opportunity of having a home-like setting and provides children a structure that is convenient and comfortable for interaction and learning (SafeWise, 2021). Home-based programs often serve mixed-age groups (e.g., infants, toddlers and preschoolers) and, therefore, the program can offer **activities related to levels a and b** described above. The program is run at the provider's own home or in a licensed family child care home managed and supervised by an informal caregiver. For example, in Lesotho, Catholic Relief Services' (CRS) *Whose Child Is This?* early childhood program implemented the home-based program as a complementary approach to center-based early childhood programs. The home-based program in Lesotho emanated from the many informal ways that parents develop to provide care for their small children. This program provides opportunities for overall child development in a setting that resembles the home of the child. Usually, a mother receives a small number of children, ages 2-5, in her home—depending on the availability of space—and provides for their care and development (iACT, 2021; Sebatane, Mahamo, & Ntsonyane, 2020; Llanos, 1999). In Rwanda, the home-based preprimary program is an informal arrangement where a group of neighboring households designate one home to host children between the ages of 0 and 6 years, to benefit from ECD services. Parents take turns caring for the children, which allows them to do their daily work (Republic of Rwanda, 2016). It is important to set up and manage such programs based on standards for quality of safety, health, nutrition and learning environment (Al-Alosi, n.d.). Studies in LMIC assessing the effect of full daycare for infants and young children of working caregivers are very limited (Engle, Fernald, Alderman, *et. al*. 2011).

Center-Based Program (CBP): The program has a defined curriculum whereby children are sent to receive sensory-motor, social-emotional and cognitive-language development support as well as training on school readiness by experienced caregivers (Republic of Rwanda, 2016; SafeWise, 2021). Center-based programs provide **level b** types of early learning support to children and have different names depending on the context and age groups—example: nursery school, daycare, preschool, children's center or kindergarten. The services exist in classrooms, centers and religious establishments (Sunday school, madrasa), where children learn under a shade tree in some weather-conducive environment. Often the CBP/centers are privately owned. Depending on the quality of the program, this type of service benefits children from disadvantaged communities, especially if they enter the program at ages 2 and 3 years. Most CBP programs start at age 4 and age 5—one or two years before they start primary school. International indicators for preprimary (school readiness) programs is at least one-year enrollment before entering primary grade. Like home-based programs, the center-based services should also have systems and procedures in place to ensure quality of learning and safety for children (Naudeau, Kataoka, Valerio, Neuman, & Elder, n.d.)

Another place where **level b** type of early learning services is provided are in centers attached to primary or elementary schools. There is an increased interest and practice among governments in LMIC to open one- or at most two-year preschool centers or kindergartens attached to public primary schools. These types of preschools/kindergartens are intended to prepare children for entry to primary grades, functioning within policies, procedures and supervisions of the sector. Attached preschool programs have their own curriculums and instructions and tend to have less free play and more whole group instruction, which contravenes the basic principle of young children's learning (Slot, 2018). In Ethiopia, for example, there is a one-year preprimary program known as O Class annexed to primary schools where children enter the program at age 6 and stay for a year until they join grade one (Admas, 2016).

Community-Based Centre (CBC): An improvised center with a non-formal program normally arranged by members of the community. The Community Based Centers (CBC) serve children ages 3 to 5 years old, and community members—parents, guardians and caregivers—manage their day-to-day functions (Messner & Levy, 2012). The CBC also serves as a focal point for providing other health and nutrition services to young children, including building the capacity of parents and communities to support young children's development. Depending on the quality, the CBC can provide sustainable services because of its emphasis on promoting community ownership (Munthali, Mvula, & Silo, 2014). These types of centers serve children with **level b** support. They tend not to have professionally trained teachers and might have locally adapted sites, where structures are turned into learning areas for young children. These types of settings are often used to reach children in rural and pastoral communities, including orphans and vulnerable children (OVC). For example, a **community-based ECD center** for OVC serves young children and their families or caregivers with comprehensive, child-friendly services (education, nutrition, health, HIV care and treatment, and water and sanitation) through a central location. Some examples of community-based early childhood programs include the Bisongo program in Burkina Faso (Mauduit, 2012), the community-based early childhood development centers for orphans and vulnerable children (OVC) (Messner & Levy, 2012) and Community-Based Early Childhood Development Centers in Malawi (Shallwani, Abubakar, & Nyongesa, 2018). The Malawi Community-Based Child Care (CBCC) program:

> *"... promotes the holistic development of children through the provision of services such as essential health care, community integrated management of childhood illnesses, psychosocial care and support, water and sanitation, nutrition and stimulation and play. The promotion of holistic childhood development is also done through the building of capacity of the parents and caregivers in areas such as provision of psycho-social support, ECD, agri-business and business management. At CBCCs, children gather to access ECD services and are assured of at least one meal a day to support their nutritional needs.*" (Munthali, Mvula, & Silo, 2014).

BOX 5

THE ACCELERATED SCHOOL READINESS (ASR)-ETHIOPIA

The ASR is a low-cost school readiness program provided to children entering primary grade in the following academic year. The program is offered in communities where formal preprimary education is unavailable to most families.

The ASC preliteracy and prenumeracy program are integrated in the national education system and offered in a two-month summer program by teachers supported with an honorarium, or during the first two months of grade 1, taught by the school's grade 1 teachers.

The ASR program is supported with low-cost learning materials including early childhood education kits, teacher resource books, student activity sheets/ workbooks and teacher trainings. The accelerated education approach is highly popular among donors (USAID) and governments around the world, especially applied to help out-of-school children join formal schooling.

The ASR has been adapted and is being implemented in Ethiopia with full government support. The CRS Laos LEAPS II School Readiness Camp program also adapted this model and has shown successful results for minority-language children--refer to CRS Spotlight Early Childhood Education). To be successful, ASR should be embraced by key stakeholders such as government sectors, local NGOs and community based organizations, teacher training institutions, universities, families and communities.

Source: Accelerated School Readiness Program UNICEF

The UNICEF-designed **Getting Ready for School** (American Institute for Research (AIR), 2013) also known as the **Community Based School Readiness** program (Soukhaseum, 2021) is another example of the non-formal community-based preliteracy and pre-numeracy and social-emotional support programs with **level b** educational activities for children who never attended preschool or kindergarten and are entering primary grade 1. Getting Ready for School is intended to facilitate school readiness programs for local governments with limited resources and infrastructures. It is based on a **Child-to-Child model** originally developed for supporting children in health. Using the child-to-child approach (Vygotsky's "peer education" model), for school readiness program older children or a younger facilitator—students in grades 5 or 6—receive training to facilitate learning for younger children in their neighborhoods while simultaneously enhancing their own cognitive and affective development. The child-to-child program can be integrated in child community-based friendly spaces, ECD centers and faith-based centers to support preschool-age children's entry to primary school. Trained teachers train and guide young facilitators in basic play-based learning activities. Through this program, teachers have the opportunity to design activity-based approaches that enhance children's efforts to construct their own knowledge. Parents observe and provide feedback, and support the child at home. The program positively affects parents' knowledge, attitudes and beliefs about the importance of educating the preschool-age child. The UNICEF school readiness program was piloted in 2008–2009 in Bangladesh, China, the Democratic Republic of Congo (DRC), Ethiopia, Tajikistan and Yemen, and showed impacts for children especially in countries where they received extra home- or community-based sessions. Significant program impact in multiple areas of children's school readiness were observed especially in Bangladesh and Yemen—in Yemen, these positive program impacts were sustained through first grade. Young facilitators also benefited from their participation in the program, including recognition of their efforts by the community and improvement in school attendance and academic performance in some countries (American Institute for Research (AIR), 2013).

Another model to prepare children, especially those who do not have access to preschool or kindergarten education

is the **Accelerated School Readiness (ASR) model.** An example of this model is provided in Box 4. The Accelerated School Readiness (ASR)-Ethiopia.

Child Friendly Spaces (CFS): These programs can serve children with **level a or level b educational activities** depending on the goal and age group of the program. The program is often designed to provide a safe space with supervised learning activities for all children affected by natural disasters or armed conflict. The focus is to protect and ensure children's rights to education, health, nutrition, safety and security. Often organized and operated by NGOs or governments with the full participation of families and communities, the CFS provides children with integrated services—play, recreation, education, health and psychosocial support. The CFS are transitional supports contributing to short- to medium-term relief programs for children and their families. For example, CRS and our partners implement CFS and provide meaningful education and care for refugee and internally displaced children in countries such as Jordan, Turkey and Egypt (Catholic Relief Services (CRS), n.d.) The CFS can be set up and managed from tents and or temporary structures such as schools, under a tree or in a vacant building. The program enhances play-based and child-centered early learning activities for young children, where children are given ample opportunities for social interactions and explorations using various play and learning materials. The CFS program also helps young children transition smoothly into the formal schooling system (UNICEF, n.d.; UNICEF, 2006). For accelerated learning following periods of interrupted instruction due to a pandemic or crisis and conflict, some key evidence-based strategies include the adaptation of the curriculum (e.g., maintain current grade level) and instructional time (e.g., extending hours), and applying effective pedagogical strategies such as opportunities for learners to connect to prior knowledge and offer relevant materials and real-world content (USAID, 2020).

SCHOOL READINESS AND CONTINUITY AND TRANSITION IN ECE

READINESS

Young children need the opportunity to attain a state of readiness in learning, prior to entering primary grade school. School readiness means each child enters primary grades with good health and the socioemotional and cognitive and linguistic skills necessary for attaining success in school and beyond (Kagan, Moore, & Bredekeamp, 1995). The essential domains or **dimensions of school readiness** include physical well-being and motor development, social and emotional development, language and literacy development, cognition and general knowledge (including early mathematics and early scientific development) and approaches toward learning (Kagan, Moore, & Bredekeamp, 1995; UNESCO Learning Portal). Table 1. Dimensions of school readiness provides some examples on the elements of each domain.

TABLE 1. DIMENSIONS OF SCHOOL READINESS

PHYSICAL HEALTH AND MOTOR DEVELOPMENT	SOCIAL AND EMOTIONAL DEVELOPMENT	LANGUAGE AND LITERACY DEVELOPMENT	COGNITIVE DEVELOPMENT AND GENERAL KNOWLEDGE	APPROACHES TO LEARNING
Rate of growth; physical fitness; chronic conditions such as diabetes, disability, malnutrition; fine motor skills; gross motor skills; and self-care abilities.	Ability to form positive relationships with teachers and peers; aspects of self-concept and self-efficacy; ability to express feelings appropriately; and sensitivity to others' feelings.	**Verbal language:** Listening, speaking, social uses of language (e.g., using social conventions and manners) and spoken vocabulary. **Emergent literacy:** Interest in books and stories; emergent writing (scribbling to imitate writing); print awareness (understanding that text represents spoken words); and sequencing (stories follow a standard sequence).	Knowledge of the properties of objects (e.g., color, weight and movement); understanding the relationships between objects, events or people (e.g., determining how two objects are different); learning social conventions or school-learned knowledge (e.g., knowing one's name and address or being able to count).	Openness and curiosity to tasks and challenges; task persistence; imagination; attentiveness; and cognitive learning style (e.g., better at processing information by listening than by observing/ reading).

Adapted from: National Education Goal Panel: https://www.bu.edu/wheelock/files/2018/05/5-dimensions-doc.pdf; https://www.bu.edu/wheelock/files/2018/05/National-Education-Goals-Panel.pdf

Investing in Young Children. https://documents1.worldbank.org/curated/en/691411468153855017/pdf/578760REPLACEM053783B09780821385265.pdf (p.36)

The benefits of children's readiness for school are many: Children who transition into primary grade school with social-emotional and cognitive skills are more prepared to learn, more likely to enroll in school on time, have a greater chance to successfully transition and adjust to formal school and are more likely to remain until they complete primary school (UNICEF, 2012; Britto, n.d.). Other advantages of a school readiness program include increased student's attention, effort, class participation and discipline, including improved academic outcomes and social and behavioral competencies in adulthood. School readiness can also enhance equity in a meaningful way by providing programs and services to vulnerable and disadvantaged children, such as girls, children with disabilities, ethnic minorities and children living in rural areas.

The tenets of school readiness include, but are not limited to, the following (Britto, n.d.; ReadySetGO; Nadou, *et.al*., 2011; U.S. Early Childhood Collaboration Network, 1995; ERIC, 2000) descriptions. School readiness is a function of the interaction between the child and his or her environment, mainly the family and school. In school readiness programs, schools and families must be prepared to serve all children at all levels of their education, including ensuring their smooth transition from the preprimary to the primary environment. To make school readiness successful, approaches should be **three-pronged: *ready child, ready family and ready school.*** This means the child should receive coordinated support from the family and school environments.

Ready children exhibit characteristics such as abilities and behaviors in working well with other children; following directions; regulating behaviors and feelings; skills in early literacy and numeracy; and motor coordination. Essential components for child readiness to learn include their physical health, mental alertness, emotional security and social competence.

Ready families are those with positive attitudes towards children's learning. They enroll their children on time and provide opportunities for safe and stimulating home environments, responsive to special needs children. Children's learning is promoted by a home environment enriched with play and learning materials, and interactions between adults and children over activities such as reading books, storytelling and opportunities for peer or individual play. Ready families engage children in early learning activities to help them make a smooth transition into school (Engle, Fernald, Alderman, *et al*., 2011). Some examples of transition activities include support for early learning at home by increasing parents' and children's access to home-based ECE materials, matching the materials with what children would use in learning at quality ECE programs; teacher outreach to parents to conduct initial formative assessment of the child and familiarize parents and the child with what to expect in the new program, especially families that might need extra support (such as families with children with disabilities); and teacher-parent meetings so parents can express and share what matters to them (cultural values, skills their child (ren) have, special needs). To be supportive of children's well-being and learning, families must be stable, safe and economically strong. Communities also play a critical role in providing social support for parents, learning opportunities for children and services for families in need.

Ready preprimary schools support the learning of children by providing opportunities and making the learning environment conducive for **all** children. In a ready school, the buildings, classrooms, play areas, transport and toilets, curriculum and pedagogy are all responsive to the development and learning needs of all children. Education activities are designed to accommodate the linguistic and cultural background of children, including disabilities. High attention is given to staff training and adequate supply of learning resources. Ready preprimary school programs also facilitate smooth transitions for all children entering primary grade classrooms. Some examples to foster smooth transitions are training preprimary and early grade teachers together, and using integrated curricula that bridge early learning programs with primary, including school-family communication through regular parent-teacher meetings, parents' night and community school events.

A successful transition to primary school depends not only on the child's school readiness, but also on the *readiness of primary schools* to adapt to the specific needs of young learners in the early grades. Primary schools can improve the readiness of young children by making connections with local preprimary service providers and planning smooth transitions to kindergarten. For example, the teaching mode in primary schools (even for the early childhood classroom) are often lecture-type and rote-memorization/copying. To make learning appropriate for early primary grade children, teachers need to implement elements of instruction applied at the preprimary level such as game- and play-oriented learning, use of songs and activities to develop motor skills. School readiness can be measured by various indicators. For example, USAID's Performance Indicator Reference Sheets (PIRS) (2020) for preprimary education programming is "***ES.1-53: Number of learners in preprimary schools or equivalent non-school*** *based settings reached with USG education assistance*" (USAID Education Link, 2020; USAID 2020). More examples on indicators are provided in Chapter 6/Table 6 of this document.

Continuity and Transition. There are different types of transitions for children as they move from home to a new school environment. Figure 1. Types of transition across the early childhood continuum of learning — ages 0–8 provides an example on types of transitions.

Figure 1. Types of transition across the early childhood continuum of learning — ages 0–8

The above example may be different from country to country and program to program. However, it presents a successful transition practice. Some children, for various reasons, may enter primary school directly from home without any transitions and readiness opportunities. Such children are often from disadvantaged families and must be sought out and provided with special attention and support.

Development is progressive, and children's growth across all the domains of development is cumulative. Children construct later learning using their cumulated prior knowledge and experiences. This means through a lifecycle approach, gains made during infancy and toddlerhood need to be built upon in preschool programs, and cumulated gains from preprimary experiences need to be built upon during children's education in kindergarten and early primary grades. It also means that to be successful in their education, children need consistent support throughout the ECE continuum. To ensure quality learning, therefore, children must have uninterrupted, high-quality learning experiences starting from birth through age 8. This includes smooth transitions from home to preschool, through kindergarten and primary (ACEI, n.d.).

Continuity and smooth transitions across the development continuum help children make positive progress in learning and be ready for the challenges of formal schooling. It helps them adjust to new learning experiences where the rules, routines, environment or teaching styles may differ dramatically from one environment to another. Continuity not only enhances developmental and learning achievements for children, but also allows for early problems to be identified and addressed. Therefore, it is important for programs to put in place a system that ensures transitions for children as they advance through early childhood education. When successful, continuity and smooth transitions enable caregivers and teachers to become aware of the learning experiences that have preceded and those that follow, and to set the right expectations for children. This is important because if teachers and caregivers are NOT aware of the continuum of learning, they may try to impose primary-level content on preschool learners, which is not developmentally appropriate.

An effective transition requires shared knowledge and complementary practices and collaboration between child care service providers and families. By communicating with each other, service providers in different settings (e.g., family, preschool, primary school) can align their understanding about the needs of the child and provide the appropriate support. Some areas for alignment include learning expectations, curricula (e.g., matching materials of different settings/home and preschool), instructional strategies, assessments and learning environments. Alignment also includes supporting the adaptation of service for children with different backgrounds such as disability (e.g., shared individualized plan and support to meet the learning needs and abilities of a child), language and culture (e.g., respecting families' values and schedules); relating to parents as equals; communicating in the family's home language; and referrals and counter referrals between care and education and other sectors that include health care, mental health and social services (Mangione & Speth, 1998). Some examples include: "... *information about many community resources and service options is available and readily shared with families; care and education; health, and social service agency providers work with families to identify and plan services to meet individual child and family needs; together, providers and each family develop a family service plan to address the family's needs and priorities; and service plans are updated as children grow and family needs and priorities change.*" (U.S. Early Childhood Collaboration Network, 1995, p. 22).

Syrian children make puppets and proudly display their hard work at the Shepard Sisters' community center during their ongoing summer camp for Syrian refugees. Good Shepard Sisters' (GSS) Program inspired and aided by No Strings International, Lebanon, 2014. Photo by: Sisemore, Rashad

CHAPTER 3:

Inclusion in Early Childhood Education

FACTORS FOR EXCLUSION FROM ECE

Inclusive education means that all children deserve and have the right to access, participation and support in quality early childhood education (NAEYC, 2009; World Bank, 2019), without being discriminated against due to age, gender, socioeconomic status, religion, race, ethnicity, HIV and AIDS status or disability. See also USAID's definition of inclusive education in Box 6 **What Constitutes Inclusive Education?** The U.N. Convention on the Rights of the Child/Article 28 obliges actors to be equitable in their approach and reach all children and provide them with quality learning. Quality preprimary education narrows early achievement gaps for disadvantaged children and provides them equal footing with their more-advantaged peers. Unfortunately, too many children are out of school due to multiple barriers. Poverty and its associated risk factors (e.g., lack of health care, nutrition and access to education), and marginalization due to gender, geographical location, ethnicity, health status, conflict and natural disasters account for the inequity in and exclusion from enrollment.

BOX 6

WHAT CONSTITUTES INCLUSIVE EDUCATION? (USAID, 2018)

Inclusive education means having one inclusive system of education for all students, at all levels (early childhood, primary, secondary and post-secondary) with the provision of supports to meet the needs of students with disabilities.

Inclusion involves a profound cultural shift to ensure that all children, staff, parents and other members of the school community feel valued, welcomed and respected. It requires a process of systemic reform with changes and modifications in content and materials, teaching methods, approaches, structures and strategies. Placing students with disabilities within mainstream classes without accompanying structural changes to teaching and learning strategies does not constitute inclusion.

Successful inclusion means that schools are:

1. Accessible, including sign language environments with signing peers, materials and methods, in particular through national sign language(s), Braille, augmentative and alternative modes of communication, easy-to-read materials and access to information and communication technologies, etc.
2. Based on the principles of universal design so that all children have access to the school building itself, including toilets, spaces for sports, recreation and leisure.
3. Equipped with teachers trained in Universal Design for Learning who are prepared to teach children with diverse learning styles, including those with intellectual disabilities, and where supports and resources are available to the teachers and students for specific needs such as differentiated instruction, orientation skills, Braille, sign language training, hearing loops, speech-to-text, etc.

Excerpt from: USAID How To Note: Disability Inclusive Education (2018).

Examples of populations of children marginalized due to such barriers are those living in low- and middle-income countries. This include children with disabilities (CWD) (e.g., physical, developmental delays); HIV/AIDS; girls; children who belong to minority religious or ethnic groups; and children who live in poverty and remote and/or conflict-affected areas. Some studies (UNICEF, 2019; Engle & Black, 2008) have documented exclusion factors and their impact on children's early learning:

Quality and Supply: This refers to limited opportunities for quality learning (e.g., lack of learning materials, play-based learning) and low qualification and training of early childhood caregivers/teachers. Related to the challenge of overcrowded classrooms for example, studies on 2017 data show that if all children in developing countries were to enroll in preprimary education with preprimary teachers currently in the system, the predicted average ratio of preprimary-age children to teachers in 2017 will increase from 34 to 1 to 216 to 1 (UNICEF, 2019).

Regarding supply, provision of early learning opportunities is also limited. Even though interest in preprimary education is growing among governments of LMIC, public policies and programs are slow to prioritize preprimary education for all children. For example, UNICEF (2019) reported that compared to **UNICEF's recommendation of 10% investment in preprimary**, in 2017 low-income countries invested very little in preprimary education (See Table 2: Percentage of Expenditure of Low-Income Countries on Education). In addition, most preschool programs are private and exist in urban areas; this means children from poor and rural families are less likely to access existing services (UNICEF, 2019).

TABLE 2: PERCENTAGE OF EXPENDITURE OF LOW-INCOME COUNTRIES ON EDUCATION

PREPRIMARY EDUCATION	PRIMARY EDUCATION	SECONDARY EDUCATION	POST-SECONDARY EDUCATION
Only 1.95% was spent on preprimary education	46.9% (half of the education budget)	25.7%	21.7%

Poverty: Due to poverty and its associated risk factors (e.g., lack of health care, education, nutrition and protection), in 2017 approximately 175 million children in LMIC are not accessing early childhood education. This means these children are not building the foundational skills they need to become successful learners in primary schools (UNICEF, 2019; Engle & Black, 2008). In Sub-Saharan Africa alone, 80% of children under age 5 are not enrolled in preprimary programs (The World Bank Group, 2016). While household income, maternal education and geographical location predict the likelihood of a child's participation in preschool, economic disadvantage is a universal barrier to children's education. This means that whether a child is from a poor or rich family is a key determinant factor for preschool enrollment—this is because most early childhood education is fee-based and public

Children attending "El Amor de Dios" (God's love) daycare at Regla municipality supported by CRS and Caritas in Havana, Cuba. 2015. Photo by: Leiva/Silverlight, Oscar

preprimary programs are very limited or nonexistent in LMIC. For example, in LMIC, children from poor families are eight times less likely than their rich peers to attend preprimary programs (XinhuanNet, 2019). Nearly one-third of all children in LMIC enter primary school without the cognitive, social-emotional and language skills needed to fulfill their potential. Most early dropouts and repeaters are children from poor families and communities. Quality preprimary education for all children can close the equity gap and increases the demand for early learning services, which in turn increases the likelihood of children enrolling in primary school, while also preparing them to learn (UNICEF, 2019).

Ethnicity and language: Most families of minority ethnic groups are reluctant to send their children to early childhood programs, if the program's curriculum and instructions do not accommodate their children's home language. Since schools are scarce in remote areas, children from such communities are highly unlikely to enroll in school. Children come to school as skillful users of language. When a young child's everyday home/community experiences are consistent with those of the school, then children's prior knowledge and experiences facilitate success in learning. But when children are required to interact and learn in a language they have not yet learned, a smooth transition is disrupted and children struggle to apply previously gained abilities in school and to learn new ones. Thus, it is important for preprimary teachers to be aware of the cultural and linguistic needs of children and to support these needs accordingly in their daily schedules, lesson plans and instructional materials (e.g., greeting children in language spoken at home; including pictures representing child's home values, culture; story books and/or songs representing child's traditions, language) (Eisenchlas, Schalley, & Guillemin, 2013; Sayed, 2009; Turner & Morgan, n.d.).

Disability: The United Nations Convention on the Rights of Persons with Disabilities (CRPD) defines persons with disabilities as people "*who have long-term physical, mental, intellectual, or sensory impairments, which, in interaction with various barriers, may hinder their full and effective participation in society on an equal basis with others*" (USAID, 2018; UN Convention on the Rights of the Child). Poverty, combined with attitudes and beliefs about children with disabilities (CWD), puts these groups of children at a more disadvantaged situation. Most CWD experience stigma and are at risk of being hidden or excluded from participation in society, including abandonment, institutionalization and abuse. Although global attention is increasing towards inclusive education in countries like Togo, Vietnam and Lesotho, CWD are still left behind (Neltoft, 2021). For example, out of 100 million children under age 5 with disabilities worldwide, 80% live in developing countries where basic preprimary services are inadequate (Betts & Lata, n.d.)—and their chances of enrolling in such services is limited. A 2017 study in 19 developing countries by the World Bank Education and Global Partnership for Education (GPE) indicated that 30% of CWD have never been to school (Neltoft, 2021). A 2004 study in Malawi indicated that a child with a disability was twice as likely to have never attended school as a child without a disability (UNICEF, 2013). A lack of accommodations (e.g., skilled teachers, adaptive indoor/outdoor learning environment/facilities and resources), including a lack of understanding of their needs, prevents CWD from attending education programs (Neltoft, 2021). Most parents are also reluctant to send their CWD to preschools due to unfavorable mindsets towards CWD and/or fear of social stigmatization. The lack of early identification and intervention also prevents the likelihood of overcoming developmental delays and improving the status of children with disabilities in a timely fashion. Vulnerability to violence is worsened for CWD, particularly among girls because they are often less likely to seek advice and appropriate support.

If systems are in place, inclusive preprimary programs could offer CWD equal footing in learning with their peers without disabilities. It also provides support for reducing stigma, as children without disabilities learn to interact, support and respect their peers with disabilities from a young age. Key supportive factors for inclusion of CWD include, but are not limited to, early identification; early assessment and stimulation of children with special needs; family-centered services (e.g. raising awareness; provision of resources, training); pre-service and in-service teacher training on inclusive education; and inclusive learning environments and curriculum such as the **Universal Design for Learning** (UDL) (Center for Applied Special Technology (CAST), 2018; USAID, n.d.; USAID, 2018). Using a variety of approaches and activities for learning, the UDL allows all children, including CWD, to learn according to their leaning needs and styles (e.g., tactile, visual); abilities; and interests (Vargas-Baron, Small, Wertlieb *et.al.*, 2019). UDL guidelines focus on three core elements: multiple means of engagement (students' interest and motivation for learning); multiple means of representation (presenting information in different ways to best respond to students' varying learning styles and needs); and multiple means of expression (differentiating the ways that students can demonstrate what they know).

To thrive, CWD and their families need to be sought out and supported with opportunities and resources. It is very important that they are cared for and educated at the same location as their peers. This provides social integration among children during play time, dining, role play time, etc. This has multiple benefits: children without disabilities get the chance to understand and accept differences in people, and CWDs develop friendships and grow up feeling accepted by other children, families and the community. One method that promotes such benefits is **Circle of Friends** (Catholic Relief Services-Vietnam, 2007), which CRS implemented in Vietnam at a primary grade level and can be adapted for preprimary programs as well. The *Circle of Friends* program is "*a peer group that is formed of students who study well and live close to the disabled child. They volunteer to help with assignments inside as well as outside of the classroom. By working together, the Circle of Friends helps a child with disabilities succeed in school and breaks down psychological barriers to their full participation in the community.*" (p.19). For a sustainable change and to narrow the gaps of inequalities in education, the **Twin Track** approach—in addition to promoting the removal of attitudinal, environmental and institutional barriers—focuses on committing fully to mainstreaming inclusive education (e.g., persons with disabilities are participants in the education system), while at the same time providing disability-specific programming to individual children who require immediate and specific supports (USAID, 2018). In addition, all key stakeholders—community leaders, religious authorities, educators, social and health workers, voluntary groups, nongovernmental organizations and local government authorities—need to understand the rights and individual needs of CWD and act together to alleviate all the challenges faced by CWD (Vargas-Baron, Small, Wertlieb *et.al*., 2019; Howgego, Miles & Myers, 2014).

Gender: Gender equality is integral to achieving the right to education for all. However, factors associated with poverty and beliefs about the value of girls' education, along with a lack of favorable policies, prevent girls from fully participating in education. For example, a meta-analytic study (Gordon, *et al*., 2019) in commonwealth countries shows that in Andhra Pradesh, India, girls are more likely to be enrolled in government preschools and boys are more likely to be enrolled in private preschools, which are generally of better quality. The study also shows the probability of girls accessing preprimary education is dependent on household wealth and location. For example, less than 50% of poor rural girls join preprimary education in countries such as Bangladesh, Cameroon, Gambia, Guyana, Malawi, Nigeria, Sierra Leone and Eswatini, with less than 10% enrolled in Cameroon, Gambia and Sierra Leone. In rural Pakistan, one in four girls and one in five boys with disabilities are more likely to be out of school (Malik, Kamran, Rose, Singal, & Bari, 2018). Gender equality presupposes both girls and boys being valued and respected equally and receiving the same chances to go to school and enjoy gender-bias free learning.

Early childhood education can influence girls' retention and learning in the long term, yet gender disparity starts in the early years. Stereotypical beliefs among families and communities, including biases and discrimination by teachers, and curricula and materials that support gender bias hinder girl's participation and learning. In Peru, distance to preschool, combined with school expenses and boy-

A single mother and volunteer trainer at the Integral Development Field School (ECADI), Norma Candelaria Pu Perpuac, 23, with her son Victor Adelson, 5, in their house in Chuizacasiguan village in Santa Lucía La Reforma, CRS Food Security Program, 2018. Photo by: Leiva/Silverlight, Oscar

preference for preschooling, led to girls being less likely to attend preschool. Gender-sensitive early year learning environments, along with family and community awareness, encourage girls' retention and progress in schooling. For example, in Rwanda a pedagogical early childhood intervention benefited both girls and boys in their learning, while a parent outreach program showed better literacy outcomes for girls (Gordon, *et al.*, 2019). Girls' participation in learning can be achieved when teacher-child interactions, and curriculum and learning materials, reflect bias-free actions and contents. This type of attention promotes girl's self-esteem, sense of belonging and participation. Programs should also provide boys with the appropriate attention they deserve. Gender mainstreaming policies are key to achieving equality in education.

Children in Emergency: Children living in conflict-affected settings (such as refugees) are also marginalized due to displacement from their homes caused by conflict, war or natural disasters. As they are exposed to multiple risk factors, these groups of children are the most vulnerable. Children in emergency are twice as likely to die before they reach their fifth birthday. More than two-thirds of preprimary-age children living in 33 countries affected by conflict or disaster are not enrolled in early childhood education programs (XinhuaNet, 2019). Yet, these are the children

who would gain the greatest benefit from preprimary education. For children in emergencies, preprimary education provides a safe space to interact and play with peers and adults, as well as be emotionally ready to learn. For example, CRS' emergency programs provide children with a safe learning environment with psychosocial support for emotional healing and recovery (Catholic Relief Services, n.d.). Enrolling in preprimary programs also provides conflict-affected children with structure and a sense of normalcy to express their feelings and overcome their trauma. It is important to integrate the early years learning programs into the existing education system so that uprooted children receive sustained schooling.

FACTORS FOR ALLEVIATION OF BARRIERS TO ECE

Evidence (Engle, Fernald, Alderman, *et al.*, 2011) shows that parenting education support (e.g., promotion of early childhood development combined with cash transfer programs) and increased preschool enrollment with higher quality, inclusive programs for learning can improve children's learning and development. Trained care workers/preschool teachers, developmentally appropriate inclusive curricula, pedagogy, learning environment, low pupil-teacher child ratio, children's educational media, assessment, and supervisions and governance are crucial to alleviating barriers to ECE.

Parental education is also strongly associated with positive development and learning outcomes for children. Children, especially those whose mothers are educated (formal schooling) are highly likely to have better school readiness, better health throughout childhood and adolescence, and an increased likelihood of finishing high school and going to college. Parental education is also associated with more supportive home learning environments and more involvement in the child's schooling. Increased investment in quality early childhood education at all levels also narrows the education gap for children, especially children who are at high risk and/or from poor families.

Joseph Bistoni takes care of his daughter Desire at their home while her mother looks after her morning chores, in Mbirimtengerenji Village, Malawi. CRS THRIVE II Early Childhood Program, 2017. Photo by: Fajardo, Sara A.

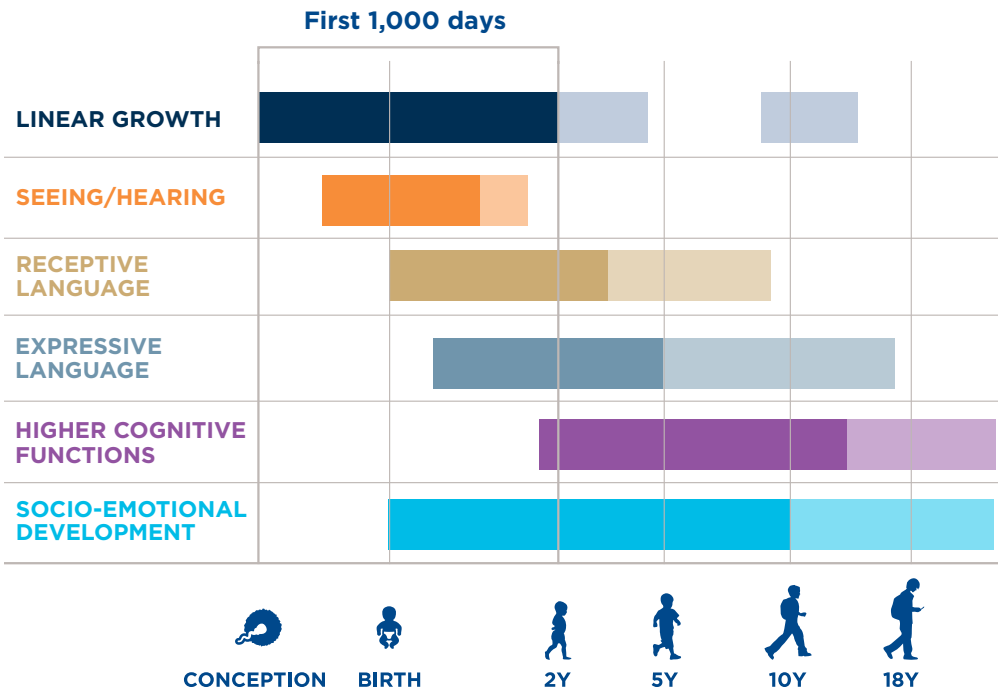
CHAPTER 4:

Approaches in ECE Programs

WINDOWS OF OPPORTUNITY FOR CHILDREN'S BRAIN DEVELOPMENT

There are critical times in the brain development when children are most capable of receiving new information very quickly with little effort. These critical times are called windows of opportunity. Knowledge about these critical times in development guides early childhood caregivers and educators to plan and provide timely and appropriate support to young children. Development is continuous; however, there are unique periods within the child development continuum where interventions have a significant impact on children's lifelong well-being. Adapted from the World Bank Group (Fernald, Prado, Kariger, & Raikes, 2017), Figure 2: A Timeline for Human Brain Development shows some examples of these windows of opportunity for children's brain development.

Figure 2: A Timeline for Human Brain Development



APPROACHES TO CENTER-BASED EARLY CHILDHOOD LEARNING PROGRAMS: LEARNER- CENTERED VS TEACHER-CENTERED

Since children learn in multiple ways, it is important to be mindful that a single-curricula approach is not sufficient for teaching young children. Therefore, preprimary education policies and programs are informed by several resources and knowledge about child development, experiences with children in different contexts, and from multiple early childhood theories such as transactional, sociocultural, maturational, psychosocial, social cognitive, humanist, multiple intelligence, behaviorism and learning (Wittmer, Petersen, & Puckett, 2013). Different curricular models such as Montessori, High Scope and Regio Emilia (OURKIDS, n.d.) influenced mostly by learning theories such as the constructivist (McLeod, 2019), social-cultural approach (Pappas, 2014) and experiential learning approach (CENTER FOR TEACHING AND LEARNING, n.d.) also inform many preprimary programs in the world (Wittmer, Petersen, & Puckett, 2013).

Central to early childhood models is the **play-based learning** (Wonderschool, 2017; LEGO Foundation, 2018) and **child-centered approach** (Lawless, 2019; Janis, 2018) to learning. Although the child-centered approach has been developed within the western context, the model has been adapted in the preprimary policies and programs of most LMIC such as Kenya, Zambia, Malawi, Rwanda and Ethiopia (Republic of Government of Kenya, 2006; PMRC, Zambia, 2017; Government of Malawi and UNICEF, 2009–2014; Ministry of Education-Ethiopia, 2010; Republic of Rwanda Ministry of Education, 2011), either as an alternative or complementary to the traditional ways of teaching young children. The national programs of these countries, for example, commonly state that early childhood programs must be child-centered and promote the child's holistic development, with a culturally relevant, developmentally appropriate and play-based inclusive indoor and outdoor materials and activities for learning.

Early childhood programs with a play-based and child-centered curriculum and learning environment will allow children to learn by actively engaging, exploring and interacting with peers and adults in a safe space, and manipulating various objects and toys through play and hands-on activities. **Play is a powerful method for early childhood learning and development. Play advances children's knowledge and skills in social-emotional, cognitive-language and physical-motor aspects of their development. Children learn through play, and an important aspect of play is children's agency, which includes their initiative, decision-making, self-choice and control over the task at hand** (LEGO Foundation, 2018). Some examples of tools for advancing learning through play, which early childhood programs can make use of, include (but are not limited to) **Learning Through Play** (LEGO Foundation, 2018). Learning Through Play provides information on play as an essential strategy to educating young children and provides tips for designing play-based programs. The **PlayMatters-At-Home** handbook and audio package (International Rescue Committee (IRC), 2021), which was developed during the pandemic (COVID-19), guides early childhood and primary education practitioners to support family-friendly home learning programs that help caregivers engage their children in educational play.

On the other hand, in a **Traditional** early childhood program (Janis, 2018), learning is often adult-directed and children learn by rote, dictation and/or copying from a blackboard; children also learn by sitting at a desk and listening to the teacher for a long period of time. For children below age 3, who are largely in home-based settings, the focus may be primarily on care and safety with limited intentional early stimulation activities. The science of child development and learning shows that young children are active learners and learn best through play, modeling and interaction with people and objects in their surrounding environments.

While there are supporters of the learner-centered approach, there are critics who, while acknowledging the benefits of the learner-centered approach, also support the teacher-directed/centered approach. Proponents of teacher-centered pedagogy hold the view that explicit teacher-led instruction may be beneficial in some context. They argue that the teacher-directed lesson is also as important and can especially improve literacy and math achievements, particularly in a classroom practice where the teacher administers explicit instructions and students complete the assigned task accordingly. In addition, proponents of the teacher-centered approach point out that the implementation of the learner-centered approach is challenged in low-resource environments/developing context due to the limitation of resources as well as cultural norms and perceptions on positionality of students and teachers. As part of resolving the tension between arguments for and against learner-centered approaches, an expert panel sponsored by USAID (2020) recommended the importance of exploring the spectrum of teaching approaches as well as deciding the type of content that could be best learned through direct instructions versus child-centered instructions. Other factors to consider include the age of the learner and the level of the skill to be mastered, including emphasizing some aspects of the instructional practice more strongly than others based on the cultural context of a given learning program (Schweisfurth, 2013). Few but key examples of learner-centered and teacher-centered (traditional) approaches to teaching young children is provided in Table 3. Learner-centered vs. teacher-centered approaches to teaching young children.

INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN ECE

The preprimary years are the time young children show increased curiosity and creativity in learning. Just as they use a variety of materials and ways for learning (blocks, counters, dramatic play materials, play, movement, songs, dances), young children can also use information and communication technology (ICT) as one more outlet to demonstrate their curiosity, exploration, creativity, sharing and problem-solving. In today's world, young children live in a multimodal world. They interact with various digital models and devices such as interactive toys, video games, the internet and screen media such as computer, TV and mobile or cell phone. A study conducted in Greece (Nikolopoulou, 2014), for example, showed that preschool teachers used computers to enhance children's development of language skills, such as reading and writing through various activities such as writing a newspaper, keeping a diary, writing their names or doing math activities. In pairs, children used the computers two to three times a week for an hour per day after lunch or during free time. Such engagement in ICT can help children develop important skill sets such as collaboration and cooperation. ICT use can also enhance positive learning

experiences between children, or between children and adults (Bolstad, 2004). Computer use for example, can eliminate boundaries between oral and written language and allow the visualization of mathematical concepts and relationships. But more frequent use of computers among low-achieving readers can affect literacy development because computers do not encourage face-to-face instruction, which is critical in literacy development (OECD, 2012).

ICT is also useful in emergency school lockdowns where teachers can maintain continuity of learning for young children through remote or distance learning using various technology devices such as video, mobile phone, radio and TV. *The Distance Learning: How to Engage Preschoolers by Vanessa Levin* (Levin, n.d.) provides some ideas on how preschool teachers and parents can provide educative activities remotely to meet the learning needs of young children. UNESCO (2020) provides key distance learning strategies for continuity of learning during COVID-19 school closures, of which some strategies could also be adapted for preprimary level learners.

TABLE 3 LEARNER-CENTERED VS. TEACHER-CENTERED APPROACHES TO TEACHING YOUNG CHILDREN

LEARNER-CENTERED	TEACHER-CENTERED (TEACHER-DIRECTED)
Caregiver-child interaction focuses on early brain stimulation and learning through play, communication, and positive behavior guidance (positive parenting).	Adult-directed interactions focuses primarily on care such as feeding, bathing, changing diaper/ nappies without necessarily intentional reciprocal communication to support early brain stimulation and learning.
Lessons are prepared in advance based on curriculum, including observations and prior knowledge of the learners.	Lessons are prepared in advance based on curriculum.
Lessons are provided through purposeful-play* and hands-on activities. Children get the chance to do activities individually or in groups. The teacher uses movement, games, songs, rhymes, manipulation of objects and shared reading as methods of teaching. *Purposeful-play is not something where children jump from one play activity to another and where a teacher is disengaged and spends his/her day managing behaviors. In purposeful-play, the teacher uses active pedagogy and intentionally plans play activities and places objects/toys in designated spaces within the classroom with a goal of enhancing learning for children across the learning domains. For example, when children play games with colored alphabet puzzles, they learn colors, shapes, alphabets and develop problem-solving and fine motors skills.	Lesson activities involve memorization, repetition and copying from the blackboard. Children learn as they face the teacher and the blackboard, and listen quietly to the teacher. The teacher uses worksheets, blackboard, dictation, paper and pencil as methods of teaching. The teacher provides explicit instructions to a task to be completed by the student as assigned. Children discover information from exercise books and worksheets, and the teacher herself.
The teachers differentiate instructions by developmental level, ability and interest.	The teacher delivers the same lesson, expects children to work at the same pace, in the same order, for all the children.
Various materials are used to enhance lesson activities (exercise books, papers, crayons, toys and objects such as board games, pebbles, puzzles, counting, drawing items).	Exercise books, worksheets, papers, pencils, slates, chalk, blackboard are used for lesson activities.
Lesson materials are kept or hung on the wall at children's level, including on chairs and tables.	

Source: Adapted from (Janis, 2018). Traditional Vs. Child-Centered Preschools

However, not all children have access to ICT. The quantity and quality of ICT integration into education activities is much higher in high-income countries than that in limited-resource countries. For example, key barriers of ICT faced by early childhood education teachers in high poverty and limited resource communities include lack of facilities and resources such as internet and computers, and lack of support, training and time. Teachers' negative beliefs and attitudes, insufficient knowledge and skills, and lack of confidence are also barriers to application of ICT in early learning programs (Bingimlas, 2009).

Technology tools and interactive media can facilitate learning for young children, but educative activities must be intentionally designed and developmentally appropriate. ICT that is developmentally appropriate uses different technologies that pay attention to:

content - how does the ICT task help children learn, engage, express, imagine or explore?

context - what kinds of social interactions (such as conversations with parents or peers) are happening before, during and after the use of the technology? Does it complement, and not interrupt, children's learning experiences and natural play patterns?

needs of the individual child - what does this child need right now to enhance his or her growth and development? Is this technology an appropriate match with this child's needs, abilities, interests and development stage? (Office of Education Technology, n.d.)

Some examples are recording children's stories about their drawings or their play; making digital audio, take-home 'do-together' craft activity package; or video files to document their progress for improved instructional planning and student learning (Levin, n.d.). There are few ICT models adapted for enhancing the development and learning of young children living in limited resource or emergency environments:

Sesame Workshop – (video or theater-based early learning program): This model adapted the international child-friendly Sesame Street TV program to enhance teaching and learning experiences of children. Sesame Workshop links its beloved characters with books, computer software, toys, play dolls and Muppets to create opportunities for early childhood teachers and caregivers to scaffold learning for young children, and help them reflect, act, create their own meanings and learn. Successful Muppet programs include the South African Kami, the 5-year old Muppet with HIV contracted from birth; Zari, the first original Muppet and role model for girls' empowerment and education; and a Sesame Workshop to create early childhood education programming in literacy, numeracy and social emotional skills (empathy, kindness, resilience) for displaced refugee children around the world (Pittman, 2019). To learn more about this Sesame workshop, see **Box 7.** Impact of adapted Sesame Street program on young children's learning.

BOX 7

IMPACT OF ADAPTED SESAME STREET PROGRAM ON YOUNG CHILDREN'S LEARNING IN:

1. literacy and numeracy
2. social and emotional development
3. health knowledge and practices
4. respect and understanding

Children who watched Sesame Street gained, on average, 12 percentile points in learning outcomes (including literacy, numeracy, health and safety knowledge, and social reasoning and attitudes), compared with those who did not watch. This impact is comparable to that of other early childhood interventions, with scale being its key distinguishing factor …

1. In Bangladesh and Egypt, 4-year-olds who frequently watched Sesame Street gained nearly one year of learning, performing near or at the same level in literacy and mathematics tests as 5-year-olds who did not watch the show or watched the show infrequently.
2. In Indonesia, children with high exposure to local Sesame Street programs performed better on assessments of health knowledge (i.e., identifying body parts or healthy and unhealthy foods) than children with low or no exposure.
3. In South Africa and Tanzania, children showed greater gains in HIV/AIDS knowledge and attitudes after watching Sesame Street than their nonviewing peers.
4. In Kosovo, children who watched one of the local versions of Sesame Street were 74% more likely to demonstrate positive attitudes toward children from different ethnic backgrounds than those who did not watch.
5. In Egypt, 4- to 6-year-olds who watched frequently scored higher on measures of gender equity attitudes than those who watched less. Parents' and caregivers' reading habits changed after receiving access to a free mobile library of children's books.

Excerpt from: Sesame Street: Combining Education and Entertainment to Bring Early Childhood Education to Children Around the World https://www.brookings.edu/wp-content/uploads/2016/07/FINAL-Sesame-Street-Case-Study.pdf

Mobile-based literacy program also shows promising outcomes for young children and families living in resource-limited communities. A pilot study by Worldreader and partners on mobile phone-based bilingual literacy program in India, alongside community-based awareness on the importance of reading to children from birth, inspired parents to read to their children at home at least four times a month. Most participants (parents/caregivers) preferred story books in the local language (Hindi) while also reading in English. The availability of mobile phones in India enhances scalability making the downloading of the Worldreader's digital books affordable for low-income parents—if a parent reads one book a day, his/her cost would be about 16 cents per month. Participation of women in the digital-literacy program increased their access to storybooks and the family mobile phone, which contributed to their interest in using cellular data and improved digital literacy (WorldReader, 2017; Pearson, 2018).

UNESCO's study (West & Chew, 2014) on the effects of mobile-based literacy programs in Ethiopia, Ghana, India, Kenya, Nigeria, Pakistan and Zimbabwe also found significant results: parents and caregivers commonly read aloud to their children using a small screen device (mobile phones); people are more motivated to read, and enjoy reading more, when they read on mobile devices; and text in local languages, level-appropriate text and text written by local authors were preferred by the mobile-device readers. The MobiLiteracy Uganda (MLit-U) program also showed similar results. Using an audio short message service (SMS) in their mobile phone, caregivers and parents (including illiterate caregivers) helped their child to read daily at home. While reading, parents were also exposed to some literacy skills. The limitation of the MLit-U mobile application is that it works with caregivers and children with immediate or individual access to mobile phones.

Interactive Audio Instruction (IAI). This model uses *radio and* CD-ROMs to promote high-quality ECD and early learning opportunities, especially for the most underserved children. IAI are prepared for facilitating teaching techniques and learning, as well. When adapted nationally, interactive audio instructions enhance access and quality to early childhood education. Studies (World Bank & Education Development Center (EDC), 2015) in Honduras, Paraguay, Zanzibar, Nepal and Malawi showed successful IAI programs affecting the behaviors and learning of young children; for example, the Honduras IAI-Based Alternative Preschool program implemented by trained volunteers who used interactive radio instruction (IRI) for a one-year school readiness program. The program helped underserved (hardest-to-reach) preschoolers (intervention group) achieve literacy and cognitive and social emotional skills at the levels attained by their peers (control group) in formal preschools. Paraguay adapted a hybrid model that combined the Honduras IRI and the Big Math for Little Kids (BMLK) model developed by the Education Development Center. It also piloted the hybrid "*Tikichuela*- Mathematics in My School" curricula to build a positive attitude towards mathematics among 4- to 6-year-old children. Children who participated in the audio-based new curriculum increased their math scores (World Bank & Education Development Center (EDC), 2015).

Student Khom SuoyTri during a hearing test screening in Botroka Primary School, Samraong District, Takeo Province, 2021. Cambodia.
Photo: Cree, Pip

CHAPTER 5:

Features of Quality ECE Programming

QUALITY DIMENSIONS - STRUCTURAL AND PROCESS

The effect of early childhood education on children's development and learning is determined by the quality of the program. Quality has two dimensions—the **structural** dimension and the **process** dimension. Some examples of **structural** quality characteristics include infrastructure; caregiver-to-child ratios; small class size; and teachers' level of education and experience. Additional structural dimensions include ECD-trained teachers; partnerships with families; appropriate learning tools; well-developed refresher training for teachers; and tailored program content/curriculum. **Process** quality characteristics include quality caregiver-child and peer interactions; opportunities for play and exploration in a safe, stimulating environment with a variety of activities for fun and learning; regular monitoring and planning; outreach to caregivers; a safe environment for children that is gender equitable and free of stigma and discrimination; and support for the multiple needs of young children, including immediate medical care and nutritional support (Early Learning Partnership (ELP), 2016; Naudeau, Kataoka, Valerio, *et.al*., 2011).

While process (e.g., quality interactions and materials) is more critical in ensuring advances in learning (The Lancet, 2017), it is influenced by the complex interplay of different structural features, which vary from one country to another. Highly effective early childhood education programs also use learning and instructional materials that respond to the diverse backgrounds of children in the classroom (e.g., language, abilities, level of support at home).

A variety of indicators can measure quality preprimary programs by evaluating whether improvements (children's outcomes) were made among children in social and emotional skills, including skills in preliteracy and math. Whereas structural quality characteristics can be easily regulated and measured, process quality characteristics are more difficult to measure and regulate. Process quality refers to the quality of the day-to-day happenings, activities and relationships that occur in the early childhood education center or program and is measured by observations of children's interactions with caregivers and other children, and engagement with the activities and materials provided (Early Learning Partnership (ELP), 2016).

EVIDENCE-BASED STANDARDS FOR QUALITY ECE

High-quality early learning can be delivered in a range of settings. Therefore, it is important to understand that there is no single template for achieving quality under the different preprimary settings/models. Quality is defined by how well an ECE program enables young children to develop and learn. However, the criteria for

quality should integrate locally relevant expectations supported by evidence-based expectations across children's language, social, emotional, cognitive and physical development. There are common elements of quality to be considered across ECE settings. Studies and practices (ACEI; NAEYC; UNESCO, UNICEF, The World Bank, & Center for Universal Education at Brookings Institution, 2017; Fernald, Prado, Kariger, & Raikes, 2017; Center for America Progress, 2017; SABER, 2013; Naudeau, Kataoka, Valerio, *et.al.*, 2011) describe these common elements through internationally validated evidence-based standards for quality ECE services. **A description of the most common elements of standards for quality ECE programs are provided in Part 1: CRS' Framework for Quality ECE Intervention, section Building Blocks (BBs). The categories of these BBs are provided in Box 8**, **Categories of Building Blocks for quality ECE Intervention**. Evidence-based standards for quality ECE programs help us plan and measure the quality of our service to young children. They also enable us to prepare and maintain competent early childhood practitioners. Although standards are described by segments, they are interrelated and influence each other, and thus should be delivered holistically. This means **young children will have better development and learning outcomes when supports and services to young children are systems-based and include all standards (e.g., responsive care, health and nutrition, stimulating early learning intervention, family and community support, child protection).** Informed by the whole-systems approach, the CRS Global Education Conceptual Framework also aligns with these standards describing that ***"For children--irrespective of their age or environment--to learn, they must be Healthy, Safe, Engaged, Supported, and Resilient. In recognition of this, CRS' education programs work closely with schools, families, and communities to address these 5 core components and to influence and strengthen the education system's capacity to provide high quality learning opportunities to all children and youth.*** While many programs focus on specific interventions or sectoral areas, noting the interlinkages within and across sectors is critical to holistic development and learning of children.

BOX 8

Building blocks for quality early childhood education intervention

BUILDING BLOCKS I	BUILDING BLOCKS II
1.1. Nurturing and responsive relationships	2.1 Inclusion and protection
1.2. Health, nutrition, safety	2.2. Leadership, finance and workforce
1.3. ECE curriculum	2.3. Monitoring and quality assurance
1.4. Instruction/pedagogy	2.4. Partnership and collaboration
1.5. Physical environment for learning	
1.6. Assessment of learning	
1.7. Transition and continuity	
1.8. Family and community engagement	

Source: Adapted from ACEI; UNICEF; NAEYC; WB; UNESCO, UNICEF, & Brookings Institution and the World Bank, 2017; Anderson, Kosaraju, Raikes, & Solana, 2017.

CRS supports Caritas Cuba who supports this initiative as part of its program "Human Development groups" which attends child development in needed communities. Photo by Oscar Leiva/Silverlight for CRS.

MONITORING QUALITY IN STANDARDS FOR QUALITY ECE PROGRAMS

To monitor quality in standards (e.g., Building Blocks in this ECE Framework), an ECE program needs to adapt existing evidence based and/or nationally approved quality monitoring tools and criteria with questions relating to quality standards such as the Building Blocks. Which elements of quality an ECE program monitors, however, depends on the priorities and context of that specific program.

Table 4 provides example questions for quality-monitoring with related assessment methods for addressing the quality monitoring questions. How these example questions are related to the BBs and the five components of CRS' Global Education Conceptual Framework, is also shown in Table 4.

TABLE 4. EXAMPLE QUESTIONS FOR QUALITY MONITORING AND ASSESSMENT METHODS FOR ADDRESSING QUALITY MONITORING QUESTIONS, RELATED TO BBS AND THE FIVE COMPONENTS OF CRS GLOBAL EDUCATION CONCEPTUAL FRAMEWORK--HEALTHY, SAFE, ENGAGED, SUPPORTED AND RESILIENT

EXAMPLE QUESTIONS FOR QUALITY MONITORING	EXAMPLE METHODS FOR ASSESSING QUALITY (THE CONTENT OF ASSESSMENT IS CONTEXT-SPECIFIC)	BUILDING BLOCKS (BB) AND COMPONENTS	FIVE COMPONENTS OF THE CRS GLOBAL EDUCATION CONCEPTUAL FRAMEWORK RELATED TO THE BB
Are ECE teachers providing a socially and emotionally supportive environment for all children to play, make friends, and express their feelings freely without fear?	Observation Interview (KII & FGD) Checklists	BB 1.1. Relationships	Engaged Supported Resilient
Do children have healthy weight (obesity and malnutrition) per national standards? Does the ECE program meet health needs of young children (health records maintained, immunizations up to date, sickness addressed)? Does the program plan and practice emergency and safety procedures for emergencies such as fire, natural or man-made disasters per national standards?	Observation Child portfolio Health record Checklists	BB 1.2. Health, nutrition and safety	Healthy Safe Resilient
Are these based on child rights principles and the science of how children develop and learn? Are learning resources inclusive and developmentally appropriate?	Document review Interview (KII & FGD) Observation	BB 1.3. ECE Curriculum 1.4. instruction/ pedagogy	Engaged
Do children experience cognitively stimulating, emotionally supportive learning environments with adequate play-based indoor/outdoor materials and equipment that are safe, stimulating, nurturing?	Observation Checklist	BB.1.5. Physical environment for learning	Supported Engaged
Are data on children's learning and development collected routinely, using valid methods?? Is data analysis used for planning developmentally appropriate instructions and decision-making for improvement?	Document review Observation Child portfolio	BB 1.6. Assessment of learning	Supported

EXAMPLE QUESTIONS FOR QUALITY MONITORING	EXAMPLE METHODS FOR ASSESSING QUALITY (THE CONTENT OF ASSESSMENT IS CONTEXT-SPECIFIC)	BUILDING BLOCKS (BB) AND COMPONENTS	FIVE COMPONENTS OF THE CRS GLOBAL EDUCATION CONCEPTUAL FRAMEWORK RELATED TO THE BB
Do parents have access to children's learning resources? Does the ECE program have an open-door policy for parents' support?	Interview (KII & FGD) Document review Observation	BB 1.7. Families	Supported
Are services equitable and inclusive? Are ECE services responsive to and respectful of the rights, needs, and security and safety of young children and their families?	Interview Checklist Observation	BB 2.1. Inclusion and protection	Engaged Supported Resilient
Are early educators adequately trained and skilled? Do they receive adequate mentoring and remuneration? Are available funds adequate to implement program commitments? Are funds used efficiently and effectively? Is the ECE program in line with national policy frameworks? Are regulations enforced? Is the ECE administration and infrastructure adequate and effective? Does the ECE program have system and tools in place for regular monitoring of quality of services?	Interview (KII & FGD) Document review Observation	BB 2.2. Leadership, finance and workforce ECE Workforce, Financing, Policy, Legislation, Regulations, Governance	Supported

Source: Adapted from A Framework and Tool Box for Monitoring and Improving Quality (UNICEF, 2012); CRS ECD Curriculum (Tadesse, 2016); Competencies for Early Childhood Professionals (Office of ECD Virginia Department of Social Services2008); and Holistic Early Childhood Development Index (HECDI) Framework: A technical guide (UNESCO, 2014)

CRITERIA FOR DESIGNING ECE PROGRAM

There are some basic criteria that can be used as a reference for making informed decisions when designing ECE interventions. Based on various resources (Balladares, & Kankaras, 2020; UNESCO Institute for Statistics/UIS, 2011; The LEGO Foundation, 2018; UNICEF, 2019; SRI International, 2016; RI Department of Education, 2013), programs that can be classified or recognized as ECE services are those that at least (but are not limited to):

- have services for the typical age groups: 1) early childhood educational development service for infants and toddlers (ages 0–2), and 2) preprimary education service for preschoolers (ages 3 to entry into primary)
- provide children with learning and educational activities equivalent to two hours per day and 100 days a year (at least 15 hours of weekly activities in order to yield significant effects), and with maximum 1:20 teacher-child ratio a minimum of one-year enrollment before entering primary.
- provide learning opportunities for all children (including children with disabilities) in formal or organized settings and programs (e.g., center-based, community-based, home-based, child friendly space)1
- are not necessarily highly structured but have an intentional education component, designed to provide an organized and purposeful set of learning activities in a safe and healthy physical environment.
- have a reference or regulatory framework (e.g., guidelines, standards or instructions that describe the learning opportunities provided to young children, including supervision/oversight to ensure adherence to those standards) issued or recognized by relevant national authorities (e.g., a ministry of education, other relevant ministry or affiliated institution)
- aim to support children in developing their skills in all aspects of their early development and learning needs: cognitive-language, social-emotional, physical-motor development; allowing children to learn through individual/group play-based activities; and using guided and developmentally and culturally appropriate instructions promoting creativity, motivation, and prosocial behavior.
- have pedagogically-trained caregivers/teachers, who involve families.
- fulfill the criteria above whether providing compulsory or non-compulsory ECE services for children entering grade [2].
- provides some basic criteria for putting children on the trajectory for reading success in the early grades. (See Box 9 Early Grade Reading Readiness)

[2] ISCED level 0 excludes purely family-based arrangements that may be purposeful but are not organized in a program (e.g., informal learning by children from their parents, other relatives or friends is not included under ISCED level 0).

BOX 9

EARLY GRADE READING READINESS USAID (2018)

- High-quality ECE programs prioritize vulnerable and disadvantaged children. Universal access reduces the need for grade one teachers to help children who did not attend ECE programs catch up, thereby holding back children who did attend an ECE program from making additional progress. However, vulnerable and disadvantaged children lag the furthest behind in development and gain the most from ECE programs. Access to ECE should be prioritized for this group.
- ECE programs are of low intensity (three to five hours/day), longer duration (two to three years) and of high quality. The higher the quality, the greater children's outcomes during the ECE program—in the early grades and beyond.
- Schools are ready to receive children. Schools need to build on children's prior knowledge, skills and attitudes in a manner that is developmentally appropriate. This means adopting the same learning environments and instructional strategies employed in high-quality ECE programs. A continuum of environments and learning experiences from ECE through the early grades will yield the greatest outcomes for long-term success.
- Parents are supported to engage in early learning activities at home with their children. The more parents understand how children develop and learn, and the more engaged they are in their own child's learning and development, the more likely they are to send their children to an ECE program, demand quality in the ECE program and the school, and be involved in their children's learning throughout their schooling.
- Children receive support at the ECE program and at home. The combination of supports in the ECE program and at home yields the greatest possible outcomes for children.

Excerpt from: USAID (2018) Getting Early Grade Reading Right: A case for investing in quality early childhood education.

Ruth Linyama plays with toys handmade by her parents at their home in Koloko Village Malawi, on Thursday, September 21, 2017. Her parents Jennifer Simbwani and Losan Linyama learned to make the toys through CRS' THRIVE II Project. Photo by: Fajardo, Sara A.

CHAPTER 6:

Measurements in ECE

KEY FEATURES OF ASSESSMENT IN ECE

Some of the key characteristics of assessment in early childhood education include, but are not limited to, the following (Fernald, Prado, Kariger, & Raikes, 2017; & UNESCO, UNICEF, World Bank & Center for Universal Education at Brookings Institution, 2017)

Purpose: The purpose of early childhood assessment is to benefit the child directly and indirectly with improved quality of development and education programs. For example, by doing early screening, teachers and caregivers can identify children with disabilities and ensure that they receive timely appropriate services. Assessment is also instrumental to predicting future educational achievement and productivity. Since direct measures of young children (e.g., interviewing children) has its shortcomings, assessing young children's development should include multiple sources of evidence, including reports from parents and teachers. The CRS ECD Curriculum Module 3 Resource Guide (Tadesse, 2016) provides examples on how to assess young children.

Context: Assessment should be *contextualized* to children's background (e.g., age, linguistic, culture, ability/disability). This is so because while the overall development process is universal across cultures, children develop at a different pace, with some children reaching developmental milestones at different times within the different domains. Therefore, assessment of any single domain cannot fully describe a child. In addition, what is regarded as "normal" child development is different from one culture to another. This is because parenting expectations and strategies tend to vary between countries as well as among groups from different backgrounds (e.g., culture, ethnicity, religion) within the same country. In addition, young children exhibit differences in the emergence of their abilities. A child is considered "delayed" when the emergence of a child's ability is slower than average for age. "Delay" is determined relative to normative development within a given population; therefore, cutoff scores that define delay in one population cannot be assumed to define delay in another.

Whole-Child Development: Children develop holistically. Therefore, it is important that assessments should encompass all the domains of early learning and development—*physical well-being and motor development; social and emotional development; approaches toward learning; language development; and cognition and general knowledge*. The scope and complexity of assessing children's abilities and behaviors increase as children move through the ages. For example, due to advancements in communication and other skills, preliteracy skills, attention and focus, memory and the ability to get along with other children can be measured at the levels of preschool and the early primary years.

Application: For a wider and effective application, it is important to select the most appropriate child development measures, which is often challenging due to the various features of measures themselves. To help select the desirable measures, some important criteria to consider or questions to ask for selection include: Is the measure valid? Is it adaptable to local context? Is it user-friendly, with less intense and less technical tests, and not time consuming? Is it inexpensive? Measures that are applicable on a large scale are always desirable. It is important to collect data with a standardized instrument to ensure comparability of results.

Instruments: Deciding which instruments to use and how to use them needs a careful review by the assessment team. Child development and learning assessments should not be used to track children as high and low ability groups, mislabeling or keeping children out of preprimary or primary school. In addition, instruments developed for one purpose or one age group of children should not be applied to other groups. Such types of assessment lead to erroneous decisions such as categorizing children as "not ready" or "too immature" for joining a given educational setting. This kind of inadequate or misapplication of assessment affects children (e.g., children from minority backgrounds or children with disabilities), who would benefit significantly from the learning opportunities provided in those settings.

Ethics: Ethical protocol should be in place in any assessment plan and procedure. Children are the most vulnerable group in society. Therefore, all kinds of assessments with young children should include ethical conduct related to child protection. Key primary steps include obtaining parental or family consent and preserving the confidentiality of children, families and others involved in the assessment. Referral on cases such as health issues, severe malnutrition, family violence and child abuse is important. Many ethical boards require that children considered as "risk for developmental delay" must be referred to a clinician for further evaluation, diagnosis and treatment, if needed. For studies that involve young children, it is very important to obtain the approval of Institutional Review Boards (IRBs) in-country or elsewhere, as appropriate (Also refer to Building Block 2.1. and Intervention VI. Cross-cutting Elements of ECE in Part 1 and 2 of the ECE Framework, respectively).

KEY MEASUREMENT TOOLS FOR PREPRIMARY AGE GROUP

There are two types of instruments/tools that can support programs to measure early childhood development and learning. They are **Individual (child) level** instruments and **population level** instruments (UNESCO, UNICEF, Brookings Institution & World Bank, 2017).

Individual (child) level instruments: The purpose of these types of instruments are often to assess how individual children progress after a health, nutrition, caregiving or educational intervention, or to relate performance on one test with another. They are also used to screen children with developmental delays or disabilities across the multiple developmental domains: cognitive, language, motor, social and emotional. Because most of these instruments have been developed within a Western-country context, their application in non-Western settings, especially in LMICs, could be a challenge. Some reasons are individual-level assessments require a great deal

of training and time to administer, are restrictive in copyrights and cannot be generalized outside of the cultural settings in which they were originally developed without careful adaptation (McCoy, Black, Daelmans, & Dua, 2016). These child-level instruments can be observation-based (direct observation of child) or parent/caregiver-response with questions about the child's abilities/development answered by the child's parents or caregivers. One example of a child-level instrument is the ASQ-3, which is recommended as a useful tool for low-income countries to conduct development milestone screening for children under age 5. CRS Lesotho Whose Child Is This? project adapted this tool to track developmental progress of children under age 5. (For more details on this project, refer to Chapter 3 of the framework, section: CRS Spotlight-Early Childhood Education, CRS Lesotho).

The population level instruments. Unlike individual level instruments, population-based measures capture early childhood development at scale across cultural contexts and can be used to inform system-level decision-making about how best to support young children's development and learning. These measures also inform appropriate planning of interventions at different levels such as child care, preschool or health care. These instruments allow users to draw conclusions about the overall state of children's well-being or to compare a group of children (such as within a classroom, a school, a region or country) to other groups of children, within and across countries. Population-based instruments are designed to be simple and inexpensive to implement; they are also meant to be cross culturally comparable and aligned with content of national standards for preprimary and/or primary education. Adaptation may involve translation, modification of content or adaptations to the process of administration, including proper training of enumerators. These types of measures are also free for use.

Some examples of existing instruments for assessing the development and learning of children ages 0–6[3], including the quality of learning environment, are provided in Table 5. Example ECE instrument and their features. These instruments are validated and applied in LMIC with different levels of adaptability to scale, and they are also useful for evaluation of programs and research studies (Fernald, Prado, Kariger, & Raikes, 2017).

TABLE 5. EXAMPLE ECE INSTRUMENT AND THEIR FEATURES

TYPE	EXAMPLE INSTRUMENT	GENERAL FEATURE OF INSTRUMENT
Population-level instruments	Ages 0–3 Caregiver Reported Early Development Index (CREDI) WHO's 0–3 Indicators Creation of the WHO Indicators of Infant and Young Child Development (IYCD): metadata synthesis across 10 countries	Measures all development milestones; applied widely globally and found to be easy to adapt and administer. No cost.
	Ages 3–5/6 Measuring Early Learning Quality and Outcomes (MELQO) Quick guide for using MELQO	Measures all domains of development skills and competencies; applied internationally; easy to adapt with training. No cost.
	Save the Children's International Development and Early Learning Assessment (IDELA)	Measures all domains of development; applied widely globally; easy to adapt and administer with training. No cost.
	UNICEF's Early Childhood Development Index (ECDI)/Multiple Indicator Cluster Survey (MICS). Early Childhood Development Index 2030: A tool to measure SDG Indicator 4.2.1.	Assesses all domains; allows for disaggregated data by gender, area of residence, ethnicity and household poverty; global sources and useful for influencing policy. No cost.
	Multiple Indicator Cluster Surveys (MICS) with the Early Childhood Development Index (ECDI). Indicators and a Monitoring Framework Launching a data revolution for the Sustainable Development Goals	Assess children aged 36–59 months who are developmentally on track in at least three of the following areas: Literacy-numeracy – they can identify at least 10 letters of the alphabet, read 4 simple words, and recognize and name all numbers from 1 to 10. Physical – they can pick up small objects easily and are generally well enough to play. Socio-emotional – they can undertake simple activities independently, get along with other children, and do not usually kick, bite or hit other children or adults. Learning – they participate in any type of organized learning, including early childhood education, kindergarten or community care. The MICS ECDI awards national values. In terms of interpretation, a high value indicates that a large number of young children are well prepared to start primary school in terms of their capacity to learn, their physical health and their psychosocial well-being.

TYPE	EXAMPLE INSTRUMENT	GENERAL FEATURE OF INSTRUMENT
Individual level instrument (Development screening tools)	Ages 0–2 Bayley Scales of Infant Development, Third Edition (BSID-III) as the gold standard measure	Assesses all domains; popular and useful in screening developmental delays and early intervention; adaptable with training; fees apply.
	Ages 5–38 months Kilifi Developmental Inventory (KDI)	Assesses psychomotor development; applied in a resource-limited setting (e.g., Kenya); easy to administer. No cost.
	Ages 0–5 Ages & Stages Questionnaires [ASQ-3]	Screens all domains of development, also used for tracking milestones; popular, in use by several countries (e.g., CRS Lesotho used it); easy to adapt with training; inexpensive.
	Ages 0–5 Mullen Scales of Early Learning	Measures only cognitive and motor development (social-emotional not included); applied internationally (e.g., CRS THRIVE I project); intensive application (fees apply). It also applies to population- level measurement.
	Ages 0–5 Denver Developmental Screening Test [Denver-II]	Assess/screens all domains; easy to adapt and used globally; cheaper than Bayley.
	Ages 0–6 Malawi Developmental Assessment Tool (MDAT)	Assesses fine and gross motor, language, and personal-social development; combines items from the Denver Developmental Screening Test; global resource; easy to adapt for different cultures (e.g., rural Malawi).
Learning Environment (instrument for assessing the quality of preprimary settings)	Measure of Early Learning Environments (MELE) -measures quality of learning environment (Age 4–6) (Population level instrument) Measuring Early Learning Quality and Outcomes (MELQO)	Assesses quality of learning environment; cross-culturally relevant; can be adapted with training; local and global experts required for adaptation; global resource. No cost.
	Early Childhood Environment Rating Scale-Revised (ECERS-R) OR https://www.ersi.info/ecers_overview.html https://ceed.umn.edu/ers/ https://eric.ed.gov/?id=ED511422	Assesses quality learning environment in areas: Space and furnishing, personal care routines; language-reasoning; activities; interaction; program structure; parents and staff; widely applied in USA and Europe/adaptable to other cultures; training required; inexpensive.
	Classroom Assessment Scoring System (CLASS) Overview Classroom Assessment Scoring System	Assesses quality of teacher-student interactions in the classroom ratings of teacher performance on a scale from 1–7 across three broad domains: emotional support, classroom organization and instructional support. Applied in Chile and Ecuador. Cost.
	ACEI Global Guidelines Assessment (GGA) (Ages 3–5) Global Guidelines for the Education and Care of Young Children	Assesses quality of ECE program (to design new early childhood programs or to improve existing programs); areas include: Environment and physical space; curriculum content and pedagogy; early childhood educators and caregivers; partnerships with families and communities; and young children with special needs; global resource, easy to adapt with training (e.g., in low- and middle-income countries); No cost.

TYPE	EXAMPLE INSTRUMENT	GENERAL FEATURE OF INSTRUMENT
	The HOME (Home Observation Measurement of the Environment) (Age, 0-14) Measuring home environments across cultures: Invariance of the HOME scale across eight international sites from the MAL-ED study	Assesses quality of a child's home environment by age group and measures the quality of the cognitive stimulation and emotional support provided by a child's family. Areas include HOME Discipline Items; cognitive stimulation and emotional support; adaptable in cross-cultural groups in low-and middle-income nations. Cost.
	TEACH ECE – Classroom Observation Tool (World Bank Group)	Teach ECE is a free classroom observation tool that provides a window into one of the less explored and more important aspects of a child's education: what goes on in the classroom. The tool is intended to be used in early childhood education (ECE) for children ages 3–6 and was designed to help low- and middle-income countries (LMICs), monitor and improve teaching quality following the Teach Primary framework. The cost to implement Teach ECE varies by context; however, the cost of Teach ECE training, including cost for video editing, master coding, travel, and accommodation of trainer are estimated at ≈$8,000 USD.

For more information see also:

World Bank. https://documents1.worldbank.org/curated/en/384681513101293811/pdf/WB-SIEF-ECD-MEASUREMENT-TOOLKIT.pdf

USAID-Asia Early Childhood Education-Learning Assessments. https://ierc-publicfiles.s3.amazonaws.com/public/resources/02_ACR_Asia_ECE_EarlyLearningAssessment_15Nov.pdf

Dan Cloney, Jen Jackson and Pru Mitchell (2019). Assessment of Children as Confident and Involved Learners in Early Childhood Education and Care: Literature Review http://ecdmeasure.org/wp-content/uploads/2019/06/EYLitReviewLearning.pdf

MEASURING "LEARNING" AND THE "LEARNING ENVIRONMENT"

The UNESCO, UNICEF, Brookings Institution and World Bank (2017) study provides key information on how to measure learning and the learning environment in early childhood education programs using the MELQO and MELE instruments. Below are some key ideas:

Measuring Early Learning: What should be measured in "child's learning" depends on the goal of the intervention. For example, different programs may aim to measure different competencies of children in one or all domains of children's development, i.e., a program may focus on measuring only the reading abilities (cognitive-language) of children. However, because children develop and learn holistically, their success in learning could be best predicted if a program measures children's competency in all areas of their developmental domains: *motor, social and emotional and academic skills and, depending on context, spiritual-moral development as well*. Based on an analysis of 65 existing early learning assessment tools and child development and learning practices, UNESCO, UNICEF, Brookings Institution and the World Bank (2017) identified **three domains as important to measure "child's learning" in preprimary programs:** 1) **executive function** (related to cognitive development, regulation, approaches to learning and fine motor skills, with indicators such as working memory), 2) **social-emotional** (related to skills on interactions with others—peers, teachers and family members, with indicators such as "peer-to-peer interaction" and 3) **pre-academic skills** (related subsectors of **early literacy and early mathematics** skills with indicators such as letter/sound identification, counting and fine motor skills related to drawing a person. Abilities in all these three domains are strong drivers for learning and strongly predict children's later performance in school and life. Such abilities include attention, memory (e.g., recognition, recall), impulse control, positive relationships and reading, writing, speaking and listening.

MELQO module/tool covers four areas for assessment: 1) **executive function** (measured by constructs working memory; inhibitory control), 2) **social-emotional development** (measured by constructs self-regulation; self-cognition; social competence; emotional well-being), 3) **early mathematics skills** (measured by constructs verbal counting; set production/counting sequence; mental addition; numeral identification; spatial sense; measurement vocabulary) and 4) **early literacy skills** (measured by constructs alphabet knowledge; phonological awareness; expressive vocabulary; listening comprehension). **Health and family background** (measured by health status; family and home environments) is also added to the above four assessment areas.

Measuring Early Learning Environments: Measuring the quality of the learning environment is also important because learning is highly influenced by it. How the quality of a learning environment is demonstrated differs from one country to another and within countries as well. Therefore, it is very important for a preprimary program to ensure that standard measurement frameworks reflect local values and priorities. Measurement of quality early learning environments should encompass all essential components that impact children's success. Based on analysis of existing evidence-based frameworks and practices, including views of experts

and practitioners around the world, UNESCO, UNICEF, Brookings Institution and the World Bank (2017) developed the MELQO Measure of Early Learning Environments (MELE) module, which identified seven domains to measure the quality of early learning environments. The seven areas are: 1) **environment and physical setting**, 2) **family and community engagement**, 3) **personnel** 4) **interactions**, 5) **inclusiveness**, 6) **pedagogy** and 7) **play**. These domains are evidence-based predictors of children's learning across settings, including their rights and well-being in health, nutrition, and safety and security (See also Building Blocks of this framework).

FEATURES OF INDICATORS FOR SCHOOL READINESS

Below are some highlights of the characteristics of indicators (Open Society Foundation, 2015; KIDS COUNT, 2005). In addition, Box 10. Catholic Relief Services (CRS) Global Child Learning Metric for Measuring Learning and Learning Environments provides information on how CRS measures preprimary interventions in a relatively user-friendly (less complex) manner.

Purpose of indicators: The success of preprimary (ECE) programs to enhance child's readiness are measured by improved children's development of skills and behaviors, and the environments in which they learn. This means programs that provide school readiness services need measurable indicators to a) track the progress of children's development and learning outcomes over time, b) ensure quality of the learning environment and c) analyze or interpret impact evaluations aiming to assess whether a ECE intervention results in better health and nutrition status or improved levels of school readiness, or both, among participant children. By using indicators, programs can also establish baseline measures for key areas of learning that influence a child's readiness for school.

Type of indicator: When setting indicators, ECE programs need to be mindful that measuring only the quality or the quantity aspect of a given ECE intervention might not be adequate to gauge the success/failure of a given intervention. For example, **to evaluate children's success in learning, it is preferable to set indicators pointing at factors such as the number of children reached and the number of teachers trained (among other factors), and the number of children with improved learning skills and behaviors, including the quality of learning settings, as appropriate to context**.

Identifying indicator: ECE providers or programs can use evidence-based core sets of indicators by defining and applying them as appropriate to their own national policy framework. Programs can also apply other indicators that emerge from their own experiences and programs. The decision to define indicators depends on the goal of a certain intervention. As targets and results are specific to individual projects and programs, their associated indicators also vary. Establishing a small number of standard indicators could enable ECE practitioners to systematically aggregate results data across programs and projects at the country, regional and global levels. For example, international and bilateral donors (USAID 2020), governments and agencies increasingly put in place core standard indicators that can help them follow up and measure expected changes that will result from their programs.

Examples of evidence-based indicators for school readiness: Drawn from child development research and practice (KIDS COUNT, 2005; Kagan, Moore, & Bredekeamp,1995; UNESCO 2014; USAID 2020; UNESCO, 2018; UNICEF & UNESCO, n.d.), Table 6 provides some examples of an evidence-based core set of common "school readiness" indicators for children's development of skills and behaviors by domains and quality of the learning environment. There are several assessment instruments (see measurement instruments) that can help measure this set of indicators. An instrument that allow for multiple ways of assessment (e.g., direct and indirect survey questionnaires for caregivers/teachers, observation and document review) is highly likely to produce robust results.

BOX 10.

CRS GLOBAL CHILD LEARNING METRIC FOR MEASURING LEARNING AND LEARNING ENVIRONMENTS

CRS has a global metric in education that measures the agency's Goal Area 4. All Children Reach Their Full Health and Development Potential in Safe and Nurturing Families, and Outcome: All children and adolescents have improved opportunities to learn. CRS measures this Outcome using one key global Indicator: Number of children/ adolescents in improved learning environments among students from preprimary to secondary, and for students in nontraditional settings.

CRS developed the Performance Indicator Reference Sheet (PIRS) for Agency Strategy Metric for Percent of children/adolescents in improved learning environments, which measures the indicator "improved learning environment" against seven metric categories using two tools: 1) Student Questionnaire and 2) Classroom Observation tool adapted from the MELQO Measure of Early Learning Environments (MELE) Classroom Observation Tool. The two tools have accompanying instruction manuals that guide project teams on how to implement the tools when assessing the project intervention activities. The 7 metric categories are measured using a total of 43 questions (for Students Questionnaire 21 questions; for Classroom Observation 22 questions) and these categories are: 1) Safe learning Environment, 2) Educational Content and Teaching Methodology, 3) Child-Centered Processes, 4) Supportive Caregivers, 5) Supportive Teachers, 6) Teaching & Learning Materials, and 7) Water, Sanitation and Hygiene (WASH).

PIRS for CRS Global Result (Note: Use Firefox to access link)

Performance Indicator Reference Sheet (PIRS) for CRS Global Result

4.6 Number of learners in preprimary, primary, and secondary schools reached by CRS

Number and percent of children/ adolescents in improved learning environments

Number of children accessing safe and supportive environments.

CRS Global Results User Portal: https://crsorg.sharepoint.com/sites/CRS-Results

Global Ed Result_Child Learning

TABLE 6: EXAMPLES OF POTENTIAL INDICATORS BY DOMAINS OF SCHOOL READINESS

EXAMPLE OF CORE INDICATOR FOR YOUNG CHILD'S DEVELOPMENT AND LEARNING	DOMAINS OF SCHOOL READINESS	RELEVANCE OF DOMAIN	EXAMPLES OF MEASUREMENT TOOL TO BE ADAPTED TO CONTEXT (NATIONAL STANDARDS)
% of children with age-appropriate fine motor skills % of children ages 0–5 who receive regular developmental screenings	Ready child: Physical well-being and motor development	Healthy children are highly likely to be actively engaged in learning. Fine and large motor skills and coordination influence cognitive, social emotional and academic achievements	Instrument for Individual child level • ASQ3 Population level instruments • MELQO • IDELA
% of children who often or very often exhibit positive social behaviors when interacting with their peers	Ready child: Social -emotional development	Emotional health and social competence enable children to be active and agreeable participants in learning as they form positive interactions and relationships with peers and teachers.	
% of children with moderate to serious difficulty following directions % of children able to concentrate and persist on a task until completed % of children who demonstrate curiosity and eagerness to learn	Ready child: Approaches to learning	Children's school success depends not only on academic skills, but also on the learning styles, habits and attitudes with which they approach learning. Curiosity, creativity, independence, cooperativeness and persistence enhance early learning and development	
% of children almost always recognizing the relationships between letters and sounds at kindergarten entry % of children who enter kindergarten with age-appropriate literacy skills	Ready child: Language development and literacy	Language proficiency enables children to develop cognitive skills and interact well with adults and peers. It also predicts school success. Early literacy skills (size of vocabulary, recognizing letters, understanding letter and sound relationships) at kindergarten entry are good predictors of children's reading abilities throughout their educational experiences.	

EXAMPLE OF CORE INDICATOR FOR YOUNG CHILD'S DEVELOPMENT AND LEARNING	DOMAINS OF SCHOOL READINESS	RELEVANCE OF DOMAIN	EXAMPLES OF MEASUREMENT TOOL TO BE ADAPTED TO CONTEXT (NATIONAL STANDARDS)
% of children recognizing basic shapes at kindergarten entry % of children at KG entry who can count beyond 10, sequence patterns and use nonstandard units of length to compare numbers. % of children who enter kindergarten with age-appropriate emerging math skills; % of kindergarten students retained % of first grade students retained	Cognition and General Knowledge	Cognitive skills, reflecting an array of experiences in the early years, help children learn to observe, note similarities and differences, solve problems and ask questions	
Indicators SDG 4 Target 4.2. 1. The proportion of children under 5 years of age who are developmentally on track in health, learning and psychosocial well-being, by sex. 4.2.2: the participation rate in organized learning (one year before the official primary age), by sex.	SDG 4 Target 4.2: Quality early childhood development, care	Includes domains of development: Literacy-numeracy – they can identify at least 10 letters of the alphabet, read 4 simple words, and recognize and name all numbers from 1 to 10. Physical – they can pick up small objects easily and are generally well enough to play. Socio-emotional – they can undertake simple activities independently, get along with other children and do not usually kick, bite or hit other children or adults. Learning – they participate in any type of organized learning, including early childhood education, kindergarten or community care. The indicator is calculated as the percentage of children ages 36 to 59 months demonstrating age-appropriate levels of development in these areas.	Multiple Indicator Cluster Surveys (MICS), with the Early Childhood Development Index (ECDI).
ES.1-53: Number of learners in preprimary schools or equivalent non-school-based settings reached with USG education assistance	USAID indicator Preprimary	Measures the rate of enrollment of children in ECE programs	

EXAMPLE OF CORE INDICATOR FOR YOUNG CHILD'S DEVELOPMENT AND LEARNING	DOMAINS OF SCHOOL READINESS	RELEVANCE OF DOMAIN	EXAMPLES OF MEASUREMENT TOOL TO BE ADAPTED TO CONTEXT (NATIONAL STANDARDS)
Family Environment: % Maternal educational level **Community Conditions:** % of children living in poverty **Ready Schools:** % of children scoring at or above basic level on first grade assessment % of teachers K-3 certified/degreed in early childhood education **Ready Services:** % of child care centers with an identifiable educational curriculum linked to state early learning standards % of children receiving early intervention services			
Source: Readiness indicators are adapted from http://www.aecf.org/m//resourcedoc/RIKC-GettingReady-2005.pdf			
Learning Environment	Quality indicators for indoor/outdoor environment in areas of health, nutrition, safety and learning, per national standard.	Children become successful learners when they learn in an environment that is inclusive, healthy, stimulating, and safe and secure.	ACEI Global Guidelines Assessment (GGA), Early Childhood Environment Rating Scale-Revised (ECERS-R), MELE, per national framework for assessing quality ECE.

Additional reference for School Readiness Indicators: http://www.azftf.gov/documents/School_Readiness_Indicators.pdf; and indicators for tracking interventions on disability: https://www.unicef.org/eca/media/13396/file

School Readiness Indicators Initiative: Indicator Selection by State. https://www.rikidscount.org/Portals/0/Uploads/Documents/Early%20Learning/Getting%20Ready/SCHOOL%20READINESS%20INDICATORS%20INITIATIVE%20-%20INDICATOR%20SELECTION%20BY%20STATE.pdf

UNESCO Institute for Statistics (UIS) http://uis.unesco.org/en/blog/meet-sdg-4-data-preparing-children-education

Monitoring and evaluating distance learning. Distance learning is part of educational strategies used to reach children excluded from education and learning opportunities and/or who discontinued their learning due to displacement caused by a conflict or pandemic such as COVID-19 (UNESCO, 2020). Different ICT models and devices such as radio/audio, television/video, mobile phone and online learning are key tools for supporting distance learning (USAID, 2021). Printed texts are also considered useful where technology is unavailable. To measure the effectiveness of distance learning on children's learning outcomes, USAID (2021) provides a **Road Map for Measuring Distance Learning** tool to assist education practitioners, program implementers, and government/non-government bodies in planning, designing and implementing monitoring and evaluation (M&E) of distance learning activities for diverse learners within and outside of learning institutions. USAID recommends distance learning measures to be in three main domains: **reach** (access), **engagement** (content relevance for learner) and **outcomes** (change in knowledge, skills and attitudes**)** to be measured with qualitative and quantitative metrics and advises that "*monitoring, evaluation, and learning designs must include measures from all three domains and be sequenced logically because outcome measures cannot be determined without clear reach and engagement data*, (p.6)."

Brighton, 4-years-old, is playing with a car (he loves all types of motor-vehicles) that his father bought for him. Tanzania, 2021. Photo: Lodhia, Roshni. UNICEF supported Accelerating Stunting Reduction Program implemented by CRS and the Center for Counseling, Nutrition and Health Care Consortium.

References

Note: all weblinks work best with Firefox and/or Chrome browsers.

CHAPTER 1. EARLY CHILDHOOD DEVELOPMENT AND EDUCATION OVERVIEW

EARLY CHILDHOOD DEVELOPMENT

Center on the Developing Child (2009). Five Numbers to Remember About Early Childhood Development (Brief). Retrieved from www.developingchild.harvard.edu https://developingchild.harvard.edu/science/key-concepts/brain-architecture/

Charlesworth, R. (2012). *Understanding child development* (7th ed.). United States, USA: Delmar Learning

The Consultative Group on Early Childhood Care and Development (CGECCD) (2016). Global report on equity and early childhood. https://anecd.mawared.org/en/article/global-report-equity-and-early-childhood

WHY INVEST IN EARLY CHILDHOOD

Aboud F. E. (March 2006). Evaluation of an early childhood preschool program in rural Bangladesh. Early Childhood Research Quarterly 21(1):46-60. DOI: 10.1016/j.ecresq.2006.01.008. https://www.researchgate.net/publication/222617465_Evaluation_of_an_early_childhood_preschool_program_in_rural_Bangladesh

Bailey, D., Duncana, G.J., Odgersb, C.L., and Yuca, W. (2017). Persistence and fadeout in the impacts of child and adolescent interventions. J. Res Educ Eff.; 10(1): 7–39. doi:10.1080/19345747.2016.1232459

Barnett, W. S. (2008). Preschool education and its lasting effects: Research and policy implications. Boulder and Tempe: Education and the Public Interest Center & Education Policy Research Unit. https://nepc.colorado.edu/sites/default/files/PB-Barnett-EARLY-ED_FINAL.pdf

Consultative Group on Early Childhood Care and Development (CGECCD) (2016). Global report on equity and early childhood. https://anecd.mawared.org/en/article/global-report-equity-and-early-childhood

Engle, P.L., Fernald, L.C.H., Alderman, H., Behrman, J., O'Gara, C., Yousafzai, A., Cabral de Mello, M., Hidrobo, M., Ulkuer, N., Ertem, I., Selim Iltus, and the Global Child Development Steering Group (2011.). Strategies for reducing inequalities and improving developmental outcomes for young children in low-income and middle-income countries https://digitalcommons.calpoly.edu/cgi/viewcontent.cgi?article=1049&context=psycd_fac

Evans, D., Jakiela, P., and Knauer, H. (2021). The impact of early childhood interventions on mothers. Science, 372 (6544): pp. 794-796, doi: 10.1126/science.abg0132. https://www.cgdev.org/sites/default/files/evans-et-al-impact-early-childhood-interventions-mothers.pdf

Gaag, J.V.D. and Tan, J. (n.d.). The Benefits of Early Child Development Program: An Economic Analysis. http://www.oas.org/udse/dit2/costos/vandergaag-total.htm#a1

Ghosal, D. (2012.). Early childhood care and education: Setting the stage for lifelong development. The World Bank. https://www.worldbank.org/en/news/feature/2012/09/19/early-childhood-care-education-setting-stage-lifelong-development

Heckman (2021). The economics of Human Potential: *Statement on Duncan, et al paper* https://heckmanequation.org/resource/statement-duncan-et-al-paper/;

Heckman (2021). The rate of return to the HighScope Perry preschool program. https://heckmanequation.org/resource/the-rate-of-return-to-the-highscope-perry-preschool-program/

Martinez, S., Naudeau, S., & Vitor P. V. (2012). The promise of preschool in Africa: A randomized impact evaluation of early childhood development in rural Mozambique. Save The Children and World Bank. https://www.researchgate.net/publication/264934414_

OVCSUPPORT.ORG (2016). Early childhood development. https://ovcsupport.org/resource/early-childhood-development/

Tang, Q. (2015). Investing against evidence: The global state of early childhood care and education-Education on the move. P. T. M. Marope and Y. Kaga (eds). Paris, France: United Nations Educational, Scientific and Cultural Organization/UNESCO https://unesdoc.unesco.org/ark:/48223/pf0000233558

TheLancet.com (2016). https://www.thelancet.com/series/ECD2016

UNICEF (2019). A world ready to learn: Prioritizing early childhood education. https://www.unicef.org/reports/a-world-ready-to-learn-2019

World Bank Group (n.d.) Understanding poverty: Early childhood development. https://www.worldbank.org/en/topic/earlychildhooddevelopment

World Bank, UNICEF, and Inter-American Development Bank (2018). G20 Development Working Group: Investing in early childhood development. Argentine. https://www.ecdan.org/assets/background-study---early-childhood-development.pdf

APPROACH TO INVESTING IN EARLY CHILDHOOD

Bronfenbrenner U. and Ceci, SJ (October 1994). Nature-nurture re-conceptualized in developmental perspective: A bioecological model. *Psychological Review, 101* (4): 568–586. doi:10.1037/0033-295X.101.4.568. PMID 7984707

The Global Child Thrive Act 2020 (GCTA) (2020). https://www.congress.gov/bill/116th-congress/house-bill/4864

The Lancet.com (September 23, 2011). Early childhood development—global action is overdue. The Lancet, (378), p. 1276. DOI:10.1016/S0140-6736(11)61450- https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(11)61450-5/fulltext

UNESCO (2021). Right to pre-primary education: A global study. Education 2030. https://unesdoc.unesco.org/ark:/48223/pf0000375332 (https://www.right-to-education.org/sites/right-to-education.org/files/resource-attachments/UNESCO_right%20to%20pre-primary%20education_Global%20study_2021_en.pdf)

UNESCO. (n.d.). Sustainable Development Goal 4 and its targets. https://en.unesco.org/education2030-sdg4/targets

CHAPTER 2. EARLY CHILDHOOD EDUCATION (ECE)

DOMAIN OF CHILD DEVELOPMENT AND EARLY LEARNING STANDARDS

Allana, A.R., G., Tennant & P. Petrucka (2017). Embedding spirituality in young children: An inter-generational challenge, International Journal of Children's Spirituality, 22:3-4, 239-259. https://www.tandfonline.com/doi/abs/10.1080/1364436X.2017.1357537

Anis, K. (2018). Measurement of early learning in young children: Options for measures of early learning for incorporation into household surveys. Paper Submitted to UNICEF Data and Analytics Section. U.S.A.

Anis, K. Berhanu Dibaba, B., Abeba Jira, A., Awol Nur, Hussein, A.N., Anwar Ahmed, A., and Telila, D. (2008). Education for Pastoralists: Flexible Approaches, Workable Models. USAID and Pact Ethiopia, Africa. https://www.dlci-hoa.org/assets/upload/education-documents/20200804021843179.pdf

Benson, P.L., Roehlkepartain, E.C., & Rude, S.P. (2003). Spiritual development in childhood and adolescence: Toward a field of inquiry. Applied Developmental Science, 7(3), 205-213. https://www.researchgate.net/publication/248940260_Spiritual_Development_in_Childhood_and_Adolescence_Toward_a_Field_of_Inquiry

Fernald, L.C. H., Prado, E., Patricia Kariger, P. & Raikes, A. (2017). A Toolkit for Measuring Early Childhood Development in Low- and Middle-Income Countries. World Bank. http://documents1.worldbank.org/curated/en/384681513101293811/pdf/WB-SIEF-ECD-MEASUREMENT-TOOLKIT.pdf

Kagan, S.L, Moore, E., & Bredekeamp, S. (1995). Reconsidering early childhood development: Toward common views and vocabulary. National education goals panel. Hathitrust. https://www.bu.edu/wheelock/files/2018/05/National-Education-Goals-Panel.pdf

Lin, Y. (2014) Spirituality in early childhood education. Practitioner Researcher: Vol 3 (5). https://www.hekupu.ac.nz/article/spirituality-early-childhood-education.

Mwaura, P and Mohamed, B. (2008) Madrasa Early Childhood Development Program: Making a Difference, p389-405, In Garcia, M, Pence, A and Evans, J (eds) (2008). Africa's Future Africa's Challenge, Early Childhood care and Development in Sub Saharan Africa. The World Bank. https://openknowledge.worldbank.org/bitstream/handle/10986/6365/427000PUB0Afri1sclosed0Feb025020081.pdf?sequence=1&isAllowed=y

NAEYC (2015). Early Learning Development Standards (ELDS) Saudi Early Learning Standards-Children 3 to 6 Years Old. https://drive.google.com/file/d/0B8Q1ZvWRdYxAMnNaQW05MGxaeEU/view?form=MY01SV&OCID=MY01SV&resourcekey=0-Oji3sTe2p0fbztjkZ2E5lA

New Zealand Ministry of Education (2016). TE WHĀRIKI He whāriki mātauranga mō ngā mokopuna o Aotearoa - Early childhood curriculum. https://www.education.govt.nz/assets/Uploads/Te-Whariki-Early-Childhood-Curriculum-04-11-low-res.pdf

Nye, R. (2006) Identifying the Core of Children's Spirituality in Hay, D. & Nye, R. The Spirit of the Child, rev edn, Jessica Kingsley Publishers, London, pp108-128.

Roehlkepartain, E.C., Benson, P.L., King, P.E., Wegner, L. (2006). Spiritual development in childhood and adolescence: Moving to the scientific mainstream. https://www.researchgate.net/publication/288273034_Spiritual_development_in_childhood_and_adolescence_Moving_to_the_scientific_mainstreambols that serve (a) to facilitate individuals' closeness to thesacred or transcendent other (i.e., God, higher power, ultimate

Tadesse, S. (2016). Approaches to Early Childhood Programs: Training for early childhood caregivers and teachers. CRS ECD Curriculum Module 2 Resource Guide. https://www.crs.org/sites/default/files/crs-files/module-one-resource-guide.pdf

CLASSIFICATION OF EARLY CHILDHOOD EDUCATION

International Bureau of Education. http://www.ibe.unesco.org/en/glossary-curriculum-terminology/p/

Tadesse, S. (2016). CRS ECD Curriculum: Module 2 Resource Guide—Early Childhood Development Basic Concept. Catholic Relief Services. https://www.crs.org/sites/default/files/crs-files/module-two-resource-guide.pdf

UNESCO Institute for Statistics/UIS (2011). International standard classification of education (ISCED). UNESCO. http://uis.unesco.org/sites/default/files/documents/international-standard-classification-of-education-isced-2011-en.pdf

TYPES OF EARLY CHILDHOOD EDUCATION PROGRAMS: HOME-BASED, CENTER-BASED, COMMUNITY-BASED, AND CHILD-FRIENDLY SPACE

Admas, F. (2016). Early childhood education in Ethiopia: Present practices and future directions. The Ethiopian Journal of Education Vol. XXXVI (2). https://www.researchgate.net/publication/338478340_Early_Childhood_Education_in_Ethiopia_Present_Practices_and_Future_Directions

Al-Alosi, A. (n.d.). Home-based early childhood education program (HECE). The University of Sydney · The Centre of Disability Studies https://www.researchgate.net/publication/255719613_Home-Based_Early_Childhood_Education_program_HECE_8-11-13_full

American Institute for Research (AIR) (2013). Getting ready for school: A Child-to-Child approach program. Evaluation Report. AIR. http://www.childtochild.org.uk/wp-content/uploads/2014/07/AIR-Report-of-Child-to-Child-Pilot-Findings_June_-2013_A4.pdf

Catholic Relief Services (CRS) (n.d.) Emergency support for children: education and care for refugee and internally displaced children in the middle east. https://www.crs.org/sites/default/files/usops-resources/crs_middle_east_education_fact_sheet_july_2016.pdf

Engle, P.L. Fernald, L.C.H., Alderman, H., Behrman, J., O'Gara, C., Yousafzai, A., Cabral de Mello, M., Hidrobo, M., Ulkuer, N., Ertem, I., Iltus, S., and the Global Child Development Steering Group (2011). Strategies for reducing inequalities and improving developmental outcomes for young children in low-income and middle-income countries. https://digitalcommons.calpoly.edu/cgi/viewcontent.cgi?article=1049&context=psycd_fac

iACT (2021). Lesotho's National Early Childhood Care and Development Curriculum Guide (2021). Kingdom of Lesotho. https://www.iact.ngo/resource/lesothos-early-childhood-care-and-development-curriculum-guide/ and https://www.google.com/search?client=firefox-b-1-e&q=LESOTHO+EARLY+CHILDHOOD+CARE+AND+DEVELOPMENT+...

Llanos, M. (1999). Early childhood care and development in Lesotho. Final draft of the national policy document prepared for Ministry of Education Maseru, Lesotho.

Mauduit, C. (2012). Bisongo: 'the wellbeing of the child https://ikeafoundation.org/blog/bisongo-the-wellbeing-of-the-child/

Messner, L. & Levy, M. (2012). Community based early childhood centers for reaching orphan and vulnerable children: Considerations and challenges. AIDSTAR-One. http://ovcsupport.org/wp-content/uploads/Documents/Communitybased_early_childhood_development_centers_for_reaching_orphans_and_vulnerable_children_considerations_and_challenges_1.pdf

Munthali, A.C., Mvula, P.M., and Silo, L. (2014). Early childhood development: the role of community based childcare centers in Malawi. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4078044/ https://springerplus.springeropen.com/articles/10.1186/2193-1801-3-305

Naudeau, S., Kataoka, N., Valerio, A., Neuman, M.J., and Elder, L. K. (n.d.). Investing in young children: An Early Childhood Development Guide for Policy Dialogue and Project Preparation. The World Bank Group. http://documents1.worldbank.org/curated/en/691411468153855017/pdf/578760REPLACEM053783B09780821385265.pdf

Republic of Rwanda (2016). Minimum Standards and norms for early childhood development services in Rwanda. Republic of Rwanda. http://www.ecd.gov.rw/fileadmin/user_upload/Policies/ECD_MINIMUM_STANDARDS.pdf

SafeWise (2021). What is the Difference Between Center-Based Daycare and Home-Based Daycare? ECD program. https://www.safewise.com/faq/child-baby-safety/types-of-daycare/

Sebatane, E.M., Mahamo, M., and Ntšonyane, P. (2020). Child Care for the Under 3-Year-Old Children: Experiences from Lesotho. https://www.researchgate.net/publication/347248193_Child_Care_for_the_Under_3_Year_Old_Children_Experiences_from_Lesotho

Shallwani, S., Abubakar, A., & Nyongesa, M. K. (2018). The quality of learning and care at community-based early childhood development centers in Malawi. Global Education Review,5(2), 28-46. https://files.eric.ed.gov/fulltext/EJ1183936.pdf

Slot, P. (2018). Structural characteristics and process quality in early childhood education and care: A literature review. Organization for Economic Cooperation and Development (OECD). Education Working Paper No. 176, Utrecht University. http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=EDU/WKP(2018)12&docLanguage=En

Soukhaseum, M. (2021). The community based school readiness programme: A challenging but rewarding approach to help children develop holistically. https://www.unicef.org/laos/stories/community-based-school-readiness-programme

UNICEF (2006). MANUAL: Child Friendly Schools. http://67.199.83.28/doc/Child%20Friendly%20Schols%20-%20Manual.pdf

UNICEF (n.d.). Child friendly space: A practical guide for developing child friendly space. https://www.humanitarianlibrary.org/sites/default/files/2019/02/A_Practical_Guide_to_Developing_Child_Friendly_Spaces_-_UNICEF_%282%29.pdf

USAID (2020). Reigniting learning: Strategies for accelerating learning post-crisis-A review of evidence https://www.eccnetwork.net/sites/default/files/media/file/Technical_Report_Accelerating_Learning_Post-Crisis_Full_Report.pdf

SCHOOL READINESS AND CONTINUITY AND TRANSITION IN ECE

ACEI (n.d.) Educating young children: A basic guide for training teachers and caregivers for preschool through early primary school grades. https://static1.squarespace.com/static/572284eec2ea513dc4d683df/t/586e5af659cc688e1a880bf5/1483627260739/manual.pdf

Britto. P. (n.d.). School readiness and transition: A companion to the Child Friendly Schools manual. UNICEF. https://www.oxfordshire.gov.uk/sites/default/files/file/schoolreadinessandtransitionsunicef.pdf

Engle, P.L., Fernald, L.C.H., Alderman, H., Behrman, J., O'Gara, C., Yousafzai, A., Cabral de Mello, M., Hidrobo, M., Ulkuer, N., Ertem, I., Selim Iltus, and the Global Child Development Steering Group (2011.). Strategies for reducing inequalities and improving developmental outcomes for young children in low-income and middle-income countries. https://digitalcommons.calpoly.edu/cgi/viewcontent.cgi?article=1049&context=psycd_fac

ERIC (2000). School readiness: Helping communities get children ready for school and schools ready for children. Child Trends Research Brief. https://files.eric.ed.gov/fulltext/ED444712.pdf

Kagan, S.L, Moore, E., & Bredekeamp, S. (1995). Reconsidering early childhood development: Toward common views and vocabulary. National Education Goals Panel. Hathitrust. https://www.bu.edu/wheelock/files/2018/05/National-Education-Goals-Panel.pdf

Mangione, P.L. and Speth, T. (March, 1998). The Transition to Elementary School: A Framework for Creating Early Childhood Continuity Through Home, School, and Community

Partnerships. The Elementary School Journal, 4, 381-397. https://www.journals.uchicago.edu/doi/abs/10.1086/461903

Nadou et. al. (2011). Dimensions of Children's School Readiness: Why Invest in ECD? The School Readiness and School Achievement Arguments In Investing in Young Children: An Early Childhood Development Guide for Policy Dialogue and Project Preparation (p.36-41). http://documents1.worldbank.org/curated/en/691411468153855017/pdf/578760REPLACEM053783B09780821385265.pdf

National Education Goals Panel. The Five Dimensions of Readiness. Wheelock College. https://www.bu.edu/wheelock/files/2018/05/5-dimensions-doc.pdf

ReadySetGO. Supporting school readiness in West Virginia. http://wvde.state.wv.us/ready-set-go/doc/school-readiness-transition-toolkit.pdf

U.S. Early Childhood Collaboration Network (1995). Continuity in early childhood: A framework for home, school, and community linkages. https://sedl.org/prep/hsclinkages.pdf). https://sedl.org/prep/hsclinkages.pdf

UNESCO Learning Poratl.https://learningportal.iiep.unesco.org/en/glossary/school-readiness).

UNICEF (2012). School readiness: A conceptual framework. https://www.unicef.org/earlychildhood/files/Child2Child_ConceptualFramework_FINAL(1).pdf

USAID Education Link (2020). Education reporting toolkit: Standard indicators. https://www.edu-links.org/indicators

https://www.edu-links.org/indicators. (https://www.edu-links.org/sites/default/files/media/file/PIRS%20ES.1-53%20Pre-Primary%20Learners%20Reached.pdf)

USAID's Performance Indicator Reference Sheets (PIRS) (2020). 2020 compendium of standard PIRS for education programming. https://www.edu-links.org/sites/default/files/media/file/2020%20Compendium%20of%20Standard%20PIRS%20for%20Education%20Programming_0.pdf

CHAPTER 3. INCLUSION IN EARLY CHILDHOOD EDUCATION

Betts, J. and Divya, L. (n.d.). Inclusion of children with disabilities: the early childhood imperative-UNESCO policy brief on early childhood. https://unesdoc.unesco.org/ark:/48223/pf0000183156

Catholic Relief Services (n.d.) Emergency support for children: Education and care for refugee and internally displaced children in the middle east. https://www.crs.org/sites/default/files/usops-resources/crs_middle_east_education_fact_sheet_july_2016.pdf

Catholic Relief Services-Vietnam (2007). How-to guide series: Inclusive education for children with disabilities. https://www.crs.org/sites/default/files/tools-research/how-to-guide-inclusive-education-children-disabilities.pdf

Center for Applied Special Technology (CAST) (2018). Universal Design for Learning Guidelines version 2.2. Retrieved from http://udlguidelines.cast.org https://udlguidelines.cast.org/

Centre, University of Cambridge. https://doi.org/ 10.5281/zenodo.1247087 https://www.educ.cam.ac.uk/centres/real/downloads/REAL%20Policy%20Doc%20Disability%20Pakistan%20A4%2013pp_FINAL.pdf

Eisenchlas, S.A., Schalley, A.C., & Guillemin, D. (2013). The importance of literacy in the home language: The view from Australia. SAGE Open DOI: 10.1177/2158244013507270. https://journals.sagepub.com/doi/pdf/10.1177/2158244013507270

Engle & Black (2008): The Effect of Poverty on Child Development and Educational Outcomes Annals of the New York Academy of Sciences. https://nyaspubs.onlinelibrary.wiley.com/doi/epdf/10.1196/annals.1425.023

Engle, P.L., Fernald, L.C.H., Alderman, H., Behrman, J., O'Gara, C., Yousafzai, A., Cabral de Mello, M., Hidrobo, M., Ulkuer, N., Ertem, I., Selim Iltus, and the Global Child Development Steering Group (2011.). Strategies for reducing inequalities and improving developmental outcomes for young children in low-income and middle-income countries. https://digitalcommons.calpoly.edu/cgi/viewcontent.cgi?article=1049&context=psycd_fac

Gordon, R. Marston, L., Rose, P. and Zubairi, A. (2019). 12 Years of Quality Education for All Girls: A Commonwealth Perspective. REAL Centre. University of Cambridge. https://doi.org/10.5281/zenodo.2542579

Howgego, C., Miles, S. and Myers, J. (2014). Inclusive Learning: Children with disabilities and difficulties in learning-Topic Guide. https://www.heart-resources.org/wp-content/uploads/2014/09/Inclusive-Learning-Topic-Guide.pdf

Malik, F., Kamran, R., Rose, S., Singal, P., and Bari, N. (2018). Identifying disability in household surveys: Evidence on education access and learning for children with disabilities in Pakistan. Policy Paper No. 18/1. REAL

NAEYC (2009). Early childhood inclusion. https://www.naeyc.org/sites/default/files/globally-shared/downloads/PDFs/resources/position-statements/ps_inclusion_dec_naeyc_ec.pdf

Neltoft, C.L. (2021). Advancing inclusive education: Making children with disabilities visible in Togo, Lesotho and Vietnam. Education Out Loud. World Bank Education and Global Partnership for Education (GPE https://www.globalpartnership.org/blog/advancing-inclusive-education-making-children-disabilities-visible-togo-lesotho-and-vietnam

Sayed, Y. (2009). Overcoming exclusion in education: State of the world's minorities and indigenous peoples. https://minorityrights.org/wp-content/uploads/old-site-downloads/download-656-Overcoming-exclusion-in-education.pdf

Turner, M. and Morgan, A. (n.d.). Opening eyes onto inclusion and diversity in early childhood education. USQ https://usq.pressbooks.pub/openingeyes/chapter/chapter-4-opening-eyes-onto-diversity-and-inclusion-in-early-childhood-education/

UN Convention on the Rights of the Child. The UN Convention on the Rights of the Child. https://www.ohchr.org/en/professionalinterest/pages/crc.aspx

UNICEF (2013). The state of the world's children: Children with disabilities. https://www.unicef.org/media/84886/file/SOWC-2013.pdf

UNICEF (2019). A world ready to learn: Prioritizing quality early childhood education. Global Report. https://www.unicef.org/media/51746/file/A-world-ready-to-learn-2019-eng%20.pdf

USAID (2018). How-To Note Disability Inclusive Education. https://www.edu-links.org/sites/default/files/media/file/How-ToNote_DisabilityInclusiveEducation.pdf

USAID, n.d. Universal Design for Learning to Help All Children Read: Promoting Literacy for Learners with Disabilities. https://www.globalreadingnetwork.net/resources/universal-design-learning-help-all-children-read

Vargas-Barón, E., Small, J. Wertlieb, D., Hix-Small, H., Gómez Botero, R., Diehl, K., Vergara, P., and Lynch, P. (2019). Global Survey of Inclusive Early Childhood Development and Early Childhood Intervention Programs. RISE Institute.https://outlook.office365.com/owa/?viewmodel=IAttachmentViewModelPopoutFactory&path=&InternetMessageId=%3cBN6PR22MB01002B09365F0EEB283DF38694170%40BN6PR22MB0100.namprd22.prod.outlook.com%3e&AttachmentIndex=13

World Bank (2019). Inclusive Education Initiative: Transforming Education for Children with Disabilities. https://www.worldbank.org/en/topic/socialsustainability/brief/inclusive-education-initiative-transforming-education-for-children-with-disabilities

World Bank Group (2016). Improving learning outcome through early childhood development. Education Global Practice. https://documents1.worldbank.org/curated/en/827581468189575720/pdf/98448-REVISED-PUBLIC-03-WB-Improving-Learning-ECD-041116-print.pdf

www.XinhuaNet.com (2019) http://www.xinhuanet.com/english/2019-04/10/c_137963731.htm

CHAPTER 4. APPROACHES IN ECE PROGRAMS

CENTER FOR TEACHING AND LEARNING (n.d.). Experiential Learning. http://www.bu.edu/ctl/guides/experiential-learning/

Fernald, L.C. H., Prado, E., Patricia Kariger, P. & Raikes, A. (2017). A Toolkit for Measuring Early Childhood Development in Low- and Middle-Income Countries. World Bank Group. http://documents1.worldbank.org/curated/en/384681513101293811/pdf/WB-SIEF-ECD-MEASUREMENT-TOOLKIT.pdf

Government of Malawi and UNICEF (2009-2014). National strategic plan for early childhood development: Investing in a child's early years. Malawi, Africa. https://www.rogerfedererfoundation.org/fileadmin/user_data/docs/Malawi_resources_ecdstrategicplan.pdf

International Rescue Committee (IRC) (2021). PlayMatters-at-Home- Emergency Materials: Handbook Guide. https://inee.org/resources/playmatters-home-emergency-materials; https://rescue.app.box.com/s/vf2l2k1nz8fftwp1svmzoi8jic31dj9x: https://inee.org/system/files/resources/PlayMatters%20at%20Home_ECD%20Packet_1.pdf

Janis, J. (2018). Traditional Vs. Child-Centered Preschools. https://medium.com/@juliejanis96/traditional-vs-child-centered-preschools-b07570fa2412

LEGO Foundation (2018). Learning through play. UNICEF. https://www.unicef.org/sites/default/files/2018-12/UNICEF-Lego-Foundation-Learning-through-Play.pdf

Lawless, C. (2019). Learner-Centered Approaches: Why They Matter and How to Implement Them. https://www.learnupon.com/blog/learner-centered/

McLeod, S. (2019). Constructivism as a theory for teaching and learning. https://www.simplypsychology.org/constructivism.html

Ministry of Education-Ethiopia (2010). National policy framework for early childhood care and education. Ethiopia.

OURKIDS (n.d.). Montessori, Waldorf and Reggio Emilia: A comparison of philosophies-the similarities and differences of three major alternative education methods. https://www.ourkids.net/school/montessori-vs-waldorf-reggio-emilia

Pappas, C. (2014). Instructional design models and theories: The Sociocultural Learning Theory. https://elearningindustry.com/sociocultural-learning-theory

PMRC, Zambia (2017). Early childhood care, development, and education in Zambia, Africa. https://www.pmrczambia.com/wp-content/uploads/2017/12/Early-Childhood-Care-Development-and-Education-in-Zambia-Infographic.pdf

Republic of Rwanda Ministry of Education (2011). Ministry of Education early childhood development policy. Republic of Rwanda. http://ncc.gov.rw/fileadmin/templates/document/EarlyChildhooddevelopmentPolicy.pdf

Schweisfurth, M. (2013). Learner-centered education in international perspective. Journal of International and Comparative Education, 2 (1)): 1-7.

Republic of Government of Kenya (June 2006). National early childhood development policy framework. Kenya, Africa: https://unesdoc.unesco.org/ark:/48223/pf0000139026

USAID. (2020). Reigniting learning: Strategies for accelerating learning post-crisis: A review of evidence.

https://www.eccnetwork.net/sites/default/files/media/file/Technical_Report_Accelerating_Learning_Post-Crisis_Full_Report.pdf

Wittmer, D., Petersen, S.H., & Puckett, M.B. (2013). Young child: Development from pre-birth through age eight. Boston, MA: Pearson.

Wonderschool (2017). What is play-based learning? https://www.wonderschool.com/p/parent-resources/what-is-play-based-learning/

INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN ECE

Bingimlas, K. A. (2009). Barriers to the successful integration of ICT in teaching and learning environments: A review of the literature. Urasia Journal of Mathematics, science, & Technology Education 5(3), 235-245. https://www.ejmste.com/download/barriers-to-the-successful-integration-of-ict-in-teaching-and-learning-environments-a-review-of-the-4156.pdf

Bolstad, R. (2004). The role and potential of ICT in early childhood education: A review of New Zealand and international literature. New Zealand Council for Educational Research https://www.nzcer.org.nz/system/files/ictinecefinal.pdf

Levin, V. (n.d.). Distance Learning: How to engage preschoolers. Pre-K Pages. https://www.pre-kpages.com/distance-learning-how-to-engage-preschoolers/

Nikolopoulou, K. (2014). ICT Integration in Preschool Classes: Examples of Practices in Greece. Creative Education. DOI: 10.4236/ce.2014.5605. https://www.scirp.org/journal/paperinformation.aspx?paperid=45297

OECD (2012). Starting strong III. A quality toolbox for early childhood education and care. OECD. https://www.dji.de/fileadmin/user_upload/icec/Starting%20Strong%20III_englisch.pdf

Office of Education Technology (n.d.) Guiding principles for use of technology with early learners. Department of Education: USA. https://tech.ed.gov/earlylearning/principles/

Pearson (2018). Study Finds Mobile Technology Gets Parents Reading to Young Children and Improves Home Literacy Environment. https://www.pearson.com/en-us/news-and-research/announcements/2018/04/study-finds-mobile-technology-gets-parents-reading-to-young-chil.html

Pittman, T. (2019). Inside 'Sesame Street' and its mission to raise resilient kids. https://www.huffpost.com/entry/sesame-street-50th-anniversary_l_5c5c6c8ae4b0ac107d971c31

UNESCO (2020). Ensuring effective distance learning during COVID-19 disruption: Guidance for teachers. https://unesdoc.unesco.org/ark:/48223/pf0000375116;

UNESCO (2020). Guidance on distance learning: Resources for supporting learning during COVID-19 https://en.unesco.org/themes/ict-education/distance-learning-guidance

USAID (2021). A Roadmap for Measuring Distance Learning: A review of evidence and emerging practices.

https://www.edu-links.org/sites/default/files/media/file/Measuring%20Impact%20and%20Outcomes_Final_01.20.2021-508%20%281%29.pdf

West, M. and Chew, H.E. (2014). Reading in the mobile era: A study of mobile reading in developing countries. UNESCO. https://www.researchgate.net/publication/261759681_Reading_in_the_Mobile_Era

World Bank and Education Developing Center (EDC) (2015). Expanding access to early childhood development: Using interactive audio instruction. https://www.edc.org/sites/default/files/uploads/Expanding%20Access%20to%20Early%20Childhood%20Development%20-%20Full%20Report.pdf

Worldreader (2017). Leveraging Mobile Technology for Parental Engagement in the Early Years: Findings from the Read to Kids India Pilot 2015-2017. https://comms.worldreader.org/wp-content/uploads/2018/05/READ2KIDS_digital-1.pdf

CHAPTER 5. FEATURES OF QUALITY ECE PROGRAM

ACEI - Association of Childhood Education International Global Guidelines Assessment-GGA (2011). An early childhood care and education program assessment (3rd ed.). Association of Childhood Education International (ACEI). https://ceinternational1892.org/what-we-do/global-guidelines-assessment/

ACEI (n.d.). Educating young children: A Basic Guide for Training Teachers and Caregivers for Preschool Through Early Primary School Grades. https://static1.squarespace.com/static/572284eec2ea513dc4d683df/t/586e5af659cc688e1a880bf5/1483627260739/manual.pdf

Balladares, J. and Kankaras, M. (2020). Attendance in Early Childhood Education and Care Programmes and Academic Proficiencies at Age 15: Working paper No.214. Organization for Economic Co-operation and Development OECD, 2020 (http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=EDU/WKP%282020%292&docLanguage=En

Catholic Relief Services. CRS Global Education Conceptual Framework. https://crsorg.sharepoint.com/sites/TM-Global-Education/Shared%20Documents/General/20OS-235579%20Edu%20Strategy_one%20pager_Final%20Online.pdf

Center for America Progress (2017). Quality 101: Identifying the Core Components of a High-Quality Early Childhood Program. https://www.americanprogress.org/issues/early-childhood/reports/2017/02/13/414939/quality-101-identifying-the-core-components-of-a-high-quality-early-childhood-program/

Early Learning Partnership (2016). Guidance note: Measuring the quality of early learning programs. http://ecdmeasure.org/wp-content/uploads/2018/09/ELP_GN_MeasuringQuality_PRINT.pdf

Fernald, L.C. H., Prado, E., Patricia Kariger, P. & Raikes, A. (2017). A Toolkit for Measuring Early Childhood Development in Low- and Middle-Income Countries. World Bank. http://documents1.worldbank.org/curated/en/384681513101293811/pdf/WB-SIEF-ECD-MEASUREMENT-TOOLKIT.pdf

NAEYC - National Association for the Education of Young Children (naeyc.org). Early childhood program standards for accreditation. Retrieved from https://www.naeyc.org/our-work/families/10-naeyc-program-standards

NAEYC. The 10 NAEYC program standards. https://www.naeyc.org/our-work/families/10-naeyc-program-standards

Naudeau, S. Kataoka, N. Valerio, A., Michelle J. Neuman, M.J., and Elder, L. K. (2011). Investing in Young Children: An Early Childhood Development Guide for Policy Dialogue and Project Preparation. The World Bank. https://openknowledge.worldbank.org/bitstream/handle/10986/2525/578760PUB0Inve11public10BOX0353783B.pdf?sequence=1&isAllowed=y

RI Department of Education (2013). Comprehensive early childhood education: standards for approval of preschool and kindergarten programs. https://www.ride.ri.gov/Portals/0/Uploads/Documents/Instruction-and-Assessment-World-Class-Standards/Early-Childhood/Programs/RIDECECESTANDARDS.pdf

SABER - Systems Approach for better Education Results (2013). What matters most for early childhood development: A framework paper. The World Bank. http://wbgfiles.worldbank.org/documents/hdn/ed/saber/supporting_doc/Background/ECD/Framework_SABER-ECD.pdf

SRI International (2016). Prevention of suspension and expulsion in early childhood settings: A program leader's guide to supporting all children's success 1.4. implement and use appropriate teacher-child ratio. https://preventexpulsion.org/recommended-policies-practices/ (https://preventexpulsion.org/1d-implement-and-utilize-appropriate-child-teacher-ratios/) (https://eclkc.ohs.acf.hhs.gov/policy/45-cfr-chap-xiii/1302-21-center-based-option)

The Lancet (2017). Advancing Early Childhood Development: from Science to Scale: Early childhood development coming of age: science through the life course. Lancet. 2017 Jan 7; 389(10064): 77–90. doi: 10.1016/S0140-6736(16)31389-7

UNESCO, UNICEF, The World Bank, & Center for Universal Education at Brookings Institution (2017). MELQO-Measuring Early Learning Quality and Outcomes. https://www.brookings.edu/wp-content/uploads/2017/06/melqo-measuring-early-learning-quality-outcomes.pdf

UNICEF (2012). A Framework and Tool Box for Monitoring and Improving Quality, UNICEF. https://studylib.net/doc/18662489/a-framework-and-tool-box-for-monitoring-and-improving-qua...

Tadesse, S. (2016). CRS ECD Curriculum. CRS. https://www.crs.org/our-work-overseas/research-publications/early-childhood-development-curriculum

Office of ECD Virginia Department of Social Services (2008). Competencies for Early Childhood Professionals. https://va.gapitc.org/wp-content/uploads/2012/08/VA-Competencies-for-Early-Childhood-Professionals.pdf

UNESCO (2014). Holistic Early Childhood Development Index (HECDI) Framework: A technical guide. UNESCO. https://unesdoc.unesco.org/ark:/48223/pf0000229188

CHAPTER 6. MEASUREMENTS IN ECE

Cloney, D., Jackson, J. and Mitchell, P. (2019). Assessment of Children as Confident and Involved Learners in Early Childhood Education and Care: Literature Review http://ecdmeasure.org/wp-content/uploads/2019/06/EYLitReviewLearning.pdf

Fernald, L.C. H., Prado, E., Kariger, P. & Raikes, A. (2017). A Toolkit for Measuring Early Childhood Development in Low- and Middle-Income Countries. World Bank Group. http://documents1.worldbank.org/curated/en/384681513101293811/pdf/WB-SIEF-ECD-MEASUREMENT-TOOLKIT.pdf

Kagan, S.L, Moore, E., & Bredekeamp, S. (1995). Reconsidering early childhood development: Toward common views and vocabulary. National education goals panel. Hathitrust. https://www.bu.edu/wheelock/files/2018/05/National-Education-Goals-Panel.pdf

KIDS COUNT (2005). Getting ready: Findings from the National School Readiness Indicators Initiative: A 17 State Partnership. http://www.aecf.org/m/resourcedoc/RIKC-GettingReady-2005.pdf

McCoy, D.C. Black, M.M., Daelmans, B., and Dua, T. (2016). Measuring development in children from birth to age 3 at population level. https://bernardvanleer.org/app/uploads/2016/07/Early-Childhood-Matters-2016_6.pdf

Moving Minds Alliance (December 2020). Analysis of international aid levels for early childhood services in crisis contexts. SEEK Development, Strategic and Organizational Consultants GmbH. https://movingmindsalliance.org/wp-content/uploads/2020/12/analysis-of-international-aid-levels-for-early-childhood-services-in-crisis-contexts.pdf

Open Society Foundation (2015). Goals and indicators for education and development: Consolidating the architectures https://www.opensocietyfoundations.org/uploads/88e6dbf8-caa4-4513-a698-7bc1d55e1c2f/lewin-goals-indicators-edu-dev-20150515.pdf

Tadesse, S. (2016). Assessing young children. CRS ECD Curriculum Module 3 Resource Guide: Training for early childhood caregivers and teachers. Catholic Relief Services. https://www.crs.org/sites/default/files/crs-files/module-three-resource-guide.pdf

The LEGO Foundation (2018). Learning through play. UNICEF. https://www.unicef.org/sites/default/files/2018-12/UNICEF-Lego-Foundation-Learning-through-Play.pdf

UNESCO (2014). Holistic Early Childhood Development Index (HECDI) framework: a technical guide. UNESCO. https://unesdoc.unesco.org/ark:/48223/pf0000229188

UNESCO (2018). Quick Guide to Education Indicators for SDG 4. http://uis.unesco.org/sites/default/files/documents/quick-guide-education-indicators-sdg4-2018-en.pdf

UNESCO (2020). Distance learning strategies in response to COVID-19 school closures. UNESCO COVID-19 Education Response Education Sector issue notes 2.1. https://unesdoc.unesco.org/ark:/48223/pf0000373305

UNESCO Institute for Statistics/UIS (2011). International standard classification of education (ISCED). UNESCO. http://uis.unesco.org/sites/default/files/documents/international-standard-classification-of-education-isced-2011-en.pdf

UNESCO, UNICEF, Center for Universal Education at Brookings Institution, & World Bank, & (2017). MELQO-Measuring Early Learning Quality and Outcomes. https://www.brookings.edu/wp-content/uploads/2017/06/melqo-measuring-early-learning-quality-outcomes.pdf

UNICEF (2019). A world ready to learn: Prioritizing quality early childhood education. Global Report. https://www.unicef.org/media/51746/file/A-world-ready-to-learn-2019-eng%20.pdf

UNICEF and UNESCO, (n.d.). Indicators and a Monitoring Framework: 32. Early Child Development Index (ECDI). https://indicators.report/indicators/i-32/

USAID (2020). 2020 Compendium of standard PIRS for education programming. https://www.edu-links.org/sites/default/files/media/file/2020%20Compendium%20of%20Standard%20PIRS%20for%20Education%20Programming_0.pdf

Catholic Relief Services | 228 W. Lexington Street, Baltimore, MD 21201, USA
crs.org | crsespanol.org