



# DISABILITY-INCLUSIVE PRE-PRIMARY EDUCATION WHITE PAPER

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## DISCLAIMER

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The lead authors of this document are Anne Hayes, Eileen Dombrowski, and Andrea Shettle.

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**Cover photo:** Binauna village, Banke (Nepal). Jharana Kumari Tharu helps her son to dress for school. Credit: USAID.

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## ACRONYMS

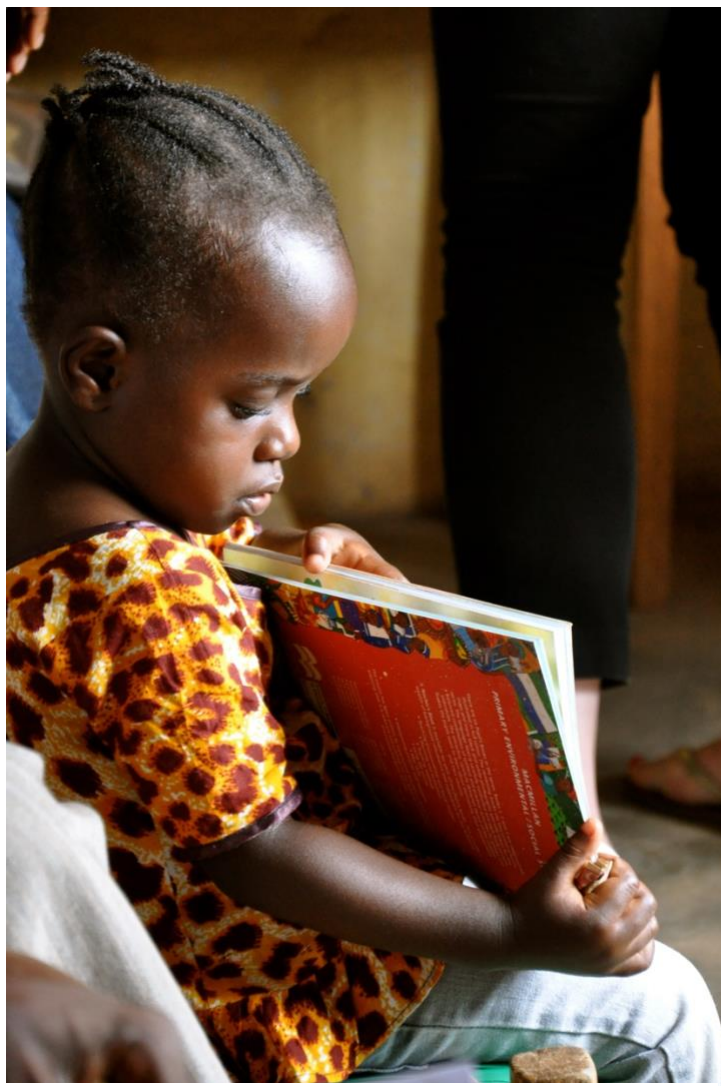
AAC	Augmentative and Alternative Communication
CEC	Council for Exceptional Children
CRPD	Convention on the Rights of Persons with Disabilities
DEC	Division for Early Childhood
DPO	Disabled Persons Organization
ECD	Early Childhood Development
ECE	Early Childhood Education
ECI	Early Childhood Intervention
EDC	Education Development Center
EGST	Early Grade Screening Tool
GLAD	Global Action on Disability
IDA	International Disability Alliance
IDP	Inclusive Development Partners
IEP	Individualized Education Plan
INEE	Inter-Agency Network for Education in Emergencies
LMIC	Low- and Middle-Income Country
LTLGP	Leading Through Learning Global Platform
MTSS	Multi-Tiered System of Support
NGO	Non-Governmental Organization
PASS	Parent-Mediated Intervention for Autism Spectrum Disorder in India and Pakistan
PPE	Pre-Primary Education
RTI	Research Triangle Institute
SEL	Social and Emotional Learning
TLM	Teaching and Learning Material
UDL	Universal Design for Learning
UN	United Nations
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UNICEF	United Nations Children’s Fund
USAID	United States Agency for International Development
WASH	Water, Sanitation, and Hygiene
WHO	World Health Organization

## I. EXECUTIVE SUMMARY

Pre-primary education (PPE) provides the foundation for later academic learning and critical social skills. The cognitive, social, and physical skills that children develop before entering primary school are fundamental to their ability to master grade-level curriculum (Juel, 2006). Recognizing the importance of early childhood education (ECE), governments have increased access to PPE significantly over the past few decades. In 1986, an average of 30 percent of children worldwide benefited from early childhood services, compared to more than 60 percent of children in 2019 (United Nations Educational, Scientific, and Cultural Organization [UNESCO], 2021a). PPE is particularly relevant for learners with disabilities as it sets the stage for inclusion in later years, supports social and academic development, and provides the opportunity for early intervention services. Yet, literature and anecdotal evidence show that most

learners with disabilities are currently not participating in PPE. Attitudinal, environmental, and institutional barriers exist that limit the equitable participation of learners with disabilities. As a result, many young learners with disabilities are missing the opportunity to learn critical foundational skills and receive essential early intervention services.

The U.S. Agency for International Development (USAID) is committed “to increasing disability-inclusive initiatives at all levels of education, from pre-primary through higher education programming” (USAID, 2022). This commitment was further extended in 2022 when USAID Administrator Samantha Power committed to promoting Universal Design for Learning (UDL) in all new education programs at the Global Disability Summit (USAID, 2022).<sup>1</sup> For disability inclusion at the PPE level to occur, donors and implementing partners need to meaningfully address the issue by promoting policies and shifting current practices to ensure access and inclusion at all levels. Civil Society in a 2015 research study on USAID solicitations stressed that inclusion must be intentional



A child explores a book in Liberia. Credit: Devon McLorg, E3/ED

<sup>1</sup> For additional information on UDL, please visit the USAID UDL toolkit: <https://www.edu-links.org/events/universal-design-learning-help-all-children-read-disabilities-toolkit-training>.



and included in all solicitations for funding, design, implementation, monitoring, and evaluation (Hayes et al., 2015). Although disability-inclusive PPE<sup>2</sup> can be progressively realized,<sup>3</sup> it is important to use evidence-based practices proven to support learners with disabilities and provide them with the necessary foundational skills for subsequent years of school, and beyond.

This White Paper is designed for donors, education practitioners, and governments, and uses the evidence base from high-income countries to show how disability-inclusive PPE programming can be realized internationally, with examples of existing promising practice from low- and middle-income countries (LMICs). These promising practices were obtained through a comprehensive landscape as well as global and regional ideation events with experts in disability and PPE. The White Paper also provides background on the status of disability-inclusive PPE worldwide and principles of disability-inclusive PPE that should apply to all programs.

Recommended practices are categorized into the following evidence-based core practices: leadership, assessment and identification, environment, families/caregivers, instruction, interactions, teaming, collaboration and training, and transition. These areas of intervention were established by the Council for Exceptional Children's (CEC) Division for Early Childhood (DEC) in 2014 and were selected by technical experts to ensure they address the priority areas related to early childhood development (ECD) and learners with disabilities. Finally, the White Paper pulls together the various recommendations for the different categories that should be considered by donors and other education stakeholders.

## **2. INTRODUCTION**

### **2.1 Objectives, Audience, and Process**

The objective of this document is to provide a summary of evidence-based best practices in PPE for learners with disabilities, including how USAID and other donors and practitioners can contribute to promoting disability-inclusive PPE in existing and future programming. This White Paper summarizes key findings from the PPE landscape review and international and regional ideation events and provides recommended practices and guiding principles to expand this important work. This White Paper provides USAID and its partners with a better understanding of how disability-inclusive PPE manifests across a range of contexts, including crisis and conflict. The study aimed to understand the organizations that are working in this space: what they are doing, what their goals/objectives are, how USAID can collaborate with these organizations to contribute to this work in the future, and how USAID can translate/actionize these ideas with Missions and partners working in the field.

Whenever available, best practices are highlighted from LMICs; however, due to the dearth of information on this topic in low-resourced settings, often good practices from high-income settings

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<sup>2</sup> It is important to note that the World Federation for the Deaf defines inclusive education for learners who are deaf as environments where learners can learn through local sign language and communicate directly with their peers, teachers, administrators, and other staff. This difference in education for young learners who are deaf should be considered throughout.

<sup>3</sup> A progressive realization framework, like that described in the Convention on the Rights of Persons with Disabilities (CRPD), allows for any point of entry for moving toward inclusion. The CRPD states: "Each State must take measures to realize economic, social, and cultural rights progressively, using the greatest amount of available resources to do so. This obligation, commonly referred to as progressive realization, acknowledges that it often takes time to realize many of these rights fully, for example, when social-security or health-care systems must be created or improved" (United Nations, 2007, p. 19).

were included with recommendations for adaptations for lower-resourced environments. Information and suggestions from this document are meant to motivate and inspire education stakeholders to design, promote, and implement disability-inclusive PPE programs. However, it is not anticipated that all the suggested actions will be addressed simultaneously within any given project or country. Instead, this information can serve as a guidance document to facilitate the progressive realization of inclusive PPE moving forward.

The audience of this White Paper is primarily USAID education staff at headquarters and in Missions. These recommendations may also apply to other donors, education practitioners, and governments working in this sector as well as education practitioners designing and implementing PPE policies and programs. The White Paper was not explicitly intended for teachers, advocates, or families, as these populations might be better served with country-specific resources.

In developing this White Paper, the research team reviewed more than 130 academic and grey documents and incorporated survey responses from 80 participants from 38 LMICs (see Section 3.3 for more information on the landscape review findings). Survey participants were from various organizations, including global organizations working in international development, donors, disabled persons organizations (DPOs), and local organizations. In addition, the White Paper includes feedback from four ideation events that took place in July 2022: one global event with headquarters' staff based in the United States working broadly on PPE and disability-inclusive development and three regional events (held in Africa, Asia, and Latin America). Fifty-four individuals participated in these ideation events and shared challenges, promising practices, and recommendations for future programming. An Advisory Council made up of 12 members (representing seven countries and including five members from global organizations working in PPE and disability inclusion) also supported the development of the White Paper.

## **2.2 Defining Learners with Disabilities**

Disability is a social concept that is based not on a person's specific impairment, but on the attitudinal and environmental barriers a person faces because of the impairment (World Bank, 2021). Because disability is a social concept, understanding of who has a disability can vary across countries. The Convention on the Rights of Persons with Disabilities defines disability as an “evolving concept ... [resulting] from the interaction between persons with impairments and the attitudinal and environmental barriers that hinder their full and effective participation in society on an equal basis as others” (United Nations, 2006). For this White Paper, “learners with disabilities” include learners with sensory, physical, communication, attentional, behavioral, developmental, intellectual, and cognitive disabilities. It is also essential to recognize that many children have multiple disabilities or co-occurring disabilities, such as sensory and physical disabilities or developmental and communication disabilities. This White Paper takes a comprehensive approach to disability and is inclusive of those with lesser to higher levels of support needs.

## Developmental Delays

From birth to age 7, children may also experience developmental delays. A developmental delay is when a learner does not reach milestones at the same time as the majority of their peers (Boggs et al., 2019). Although all children develop differently, developmental delays often indicate a delay of at least six months in the areas of emotional, cognitive, movement/motor, or physical growth or a significant delay in vision or language. Intervention provided at an early age is more likely to be successful because the child has support when the developing brain is most capable of change (Center on the Developing Child at Harvard University, 2008). Furthermore, early intervention programs for learners with disabilities or developmental delays can reduce the services and supports these learners may need in higher grades (Center on the Developing Child at Harvard University, 2008).

Children may be at risk for developmental delays for several reasons, including genetics, stunting, poor prenatal health, repeated child illness, trauma, and disability (Yale School of Medicine, 2022). Children in LMICs may be at an increased risk for developmental delays due to poor health and nutrition (Black et al., 2017). It is estimated that 200 million children in LMICs fail to achieve their developmental and cognitive potential due to chronic poverty and related factors (Grantham-McGregor et al., 2007). One study in sub-Saharan Africa found that stunting, being underweight, the frequency and severity of childhood illness, mothers not attending or completing school, and gravidity (defined as the number of times a woman has been pregnant) can be used to identify children at high risk of developmental delays (Abubakar et al., 2010).

## 2.3 Limitations

Researchers encountered several limitations in developing this White Paper. These challenges include:

- **Data on disability-inclusive PPE is limited.** There is an overall lack of data on disability-inclusive PPE. This lack of data is often recognized in the literature, stating that the dearth of information negatively affects evidence to guide policymakers and donors (Tomlinson et al., 2019).
- **There is a lack of research on evidence-based best practices of PPE in LMICs.** Minimal research has been conducted related to learners with disabilities in PPE. As a result, good practices and the evidence base from high-income countries were adapted to fit lower-resourced settings.
- **Programming that exists is often not evaluated and is limited in scope.** Although researchers obtained positive examples of disability-inclusive PPE from the literature review, surveys, and ideation events, programs did not share external evaluations with researchers. Thus, it is difficult to measure the success and sustainability of these interventions. Similarly, existing projects are often pilot projects with limited scope and scale, making it challenging to assess the feasibility of applying these practices nationally.
- **Resources often focus on challenges and barriers, with few examples of promising practices.** Literature, survey responses, and ideation events concentrate on the obstacles to enrolling and providing access for learners with disabilities in ECE programs and not on the lack



of services or inclusive environments and pedagogy once children with disabilities are in PPE. This limits the promising practices that can be shared as part of this White Paper.

## **2.4 Structure**

The White Paper provides a background on the importance of PPE for learners with disabilities and the current situation of disability-inclusive PPE globally. It then offers cross-cutting principles that should be applied to all disability-inclusive PPE policies and programs. The document also adapts recommended practices from inclusive PPE programs in high-income countries; these are detailed in Section 4 of the paper, which focuses on policies, screening and identification, teacher training, instruction, family engagement, and transition. Finally, the paper provides general recommendations to USAID and recommendations by the eight practice areas, which are based on recommended practices from The Council for Exceptional Children's Division for Early Childhood.

## **3. BACKGROUND**

Understanding the importance of PPE for learners with disabilities and the current situation of disability-inclusive PPE provides context for the subsequent recommended disability-inclusive practices. This section provides this overview and highlights the information gathered from the landscape literature review and survey.

### **3.1 Importance of PPE for Learners with Disabilities**

Any child who does not have strong foundational skills when they enter kindergarten is more likely to experience poor academic and social outcomes in later grades (Bierman et al., 2008). Conversely, having a child attend PPE can benefit the child's future and the family's current financial situation. Children who attend pre-primary school earn more income throughout their lifetime (USAID, 2021a). In addition, pre-primary school can improve children's immediate financial circumstances by enabling caretakers to pursue employment (USAID, 2021a). Heckman's (2011) analysis of ECE showed that children from disadvantaged families received the most substantial benefits of PPE, particularly when intervention began early in a high-quality program.

Both students with and without disabilities benefit when education is inclusive. For students with disabilities, inclusive ECE helps them build their foundational skills and enables them to better navigate societies as adults. When these learners participate in PPE, disabilities may be identified earlier, leading to more timely support and access to necessary resources for children and their families (Bambring et al., 1996; Vargas-Barón et al., 2009). Also, participation in PPE may amplify the positive effects of early intervention programs, by building on skills learned at home or within early intervention programs (United Nations Children's Fund [UNICEF], 2019a). Finally, learners with disabilities in inclusive settings have stronger academic skills than those in segregated settings and are more likely to graduate on time (Abt Associates, 2016).

Although a few randomized experimental studies examine the benefits of inclusive education for children without disabilities, some research suggests that they experience positive benefits from learning alongside their peers with disabilities (Odom et al., 2012). For example, research indicates that learners

without disabilities learn to be more comfortable with and aware of human diversity, become less prejudiced, and are more able to develop caring friendships when they learn in an inclusive classroom (Abt Associates, 2016). Furthermore, some families of children without disabilities believe that placing their children in an inclusive classroom may help them learn acceptance and empathy (Siller et al., 2021). Meanwhile, some research also suggests that children without disabilities do well at developing friendships in inclusive settings (Odom et al., 2006). Further, children without disabilities who learn alongside classmates with disabilities develop more knowledge and improved positive attitudes about disabilities (Diamond & Huang, 2006).

### **3.2 Current Situation of Learners with Disabilities in PPE**

An estimated 175 million children under the age of 5 were not enrolled in PPE before the COVID-19 pandemic began (Light for the World & Open Society Foundation, 2020). This does not account for the profound impact of the pandemic, particularly the closure of many childcare and early education facilities, on early childhood learning. UNICEF estimated that, in 2020 alone, 40 million children worldwide, who were enrolled in PPE, missed opportunities for ECE because of these closures (Gromada, 2020).

Even under non-pandemic circumstances, understanding how many learners with disabilities are enrolled in PPE is a challenge due to associated issues with data collection and identification. That said, learners with disabilities typically experience less access to ECE programming compared to their peers without disabilities. For example, only 62 percent of ECD and early childhood intervention (ECI) programs even attempt to target all children, including young learners with disabilities (Vargas-Barón et al., 2019). Many early childhood development programs lack the capacity to accommodate all the young learners who enroll, resulting in waiting lists (Vargas-Barón et al., 2019).

Although an increasing number of countries are expanding access to PPE, many countries still lack the policies needed to promote universal access. For example, UNESCO (2021a) has indicated that only 51 out of 184 surveyed countries have made PPE compulsory. Among these, most (29 countries) make PPE compulsory for only one year. Thirteen countries make PPE compulsory for two years, and nine countries require three years of PPE attendance (UNESCO, 2021a).

Beyond the challenges of inadequate, contradictory, or poorly implemented policies, other barriers to inclusive PPE include insufficient funding, a lack of national data on childhood disability, and stigma (Vargas-Barón et al., 2019). In addition, many countries lack community outreach and developmental screening programs that could help identify children with disabilities (Vargas-Barón et al., 2019). Furthermore, many education systems lack adaptable learning materials and teacher training on Universal Design for Learning (UDL) principles that could help develop appropriate teaching aids (UNICEF, 2021). Finally, many systems still approach ECD and early intervention using a medical model instead of a social model,<sup>4</sup> meaning learners with disabilities are viewed as persons who need to be cured or made to appear “normal” as their peers without disabilities.

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<sup>4</sup> The medical model of disability sees disability as a problem that needs to be “fixed,” while the social model of disability focuses on identifying and removing attitudinal, environmental, and institutional barriers that block inclusion of those with disabilities.

### 3.3 Landscape Review Summary

Prior to developing this White Paper, the research team conducted a thorough landscape review in inclusive pre-primary programs in LMICs. Surveys were created for this review and sent to two groups: World Vision country staff and the International Disability Alliance (IDA)/Global Action on Disability (GLAD) staff. Both groups then shared the survey with their broader networks. Each survey consisted of 24 questions designed to gather information on disability-inclusive PPE practices, such as instructional practices, curriculum design, pre-service training for pre-primary staff, screening/identification/referral practices, early intervention, and monitoring and evaluation. The final survey sample included 80 participants from 38 countries.

The review focuses on five evaluation questions, which were developed in coordination with USAID based on the main themes that emerged from the literature:

1. How is PPE for children with disabilities being defined, both within USAID as well as globally?
2. What types of assessments (e.g., assessments to identify learners with potential disabilities, assessments of development milestones, learning assessments, etc.) exist at the pre-primary level for learners with disabilities, if any?
3. What training model(s) worked best to provide teachers with the resources and support they need to best meet the needs of pre-primary learners with disabilities? What models did not work or did not follow international standards as outlined by the CRPD or international disability communities?
4. What instructional models worked best to improve classroom instruction and pre-literacy outcomes among pre-primary learners with disabilities?
5. What challenges or barriers exist that keep pre-primary learners with disabilities from accessing PPE or keep PPE models from being fully inclusive?

The findings of each of these evaluation questions can be found below.

#### **1. *How is PPE for children with disabilities being defined, both within USAID as well as globally?***

There is not much literature related to country-specific definitions of disability-inclusive PPE. Survey participants were asked how PPE for learners with disabilities was defined in their country, and many shared what was occurring in response. As a result, there was no consistent definition of inclusive PPE for learners with disabilities across, or sometimes within, countries. Participants also shared that the length and type of PPE for learners with disabilities depends on the type of disability and level of support needed.

#### **2a. *What types of assessments to identify learners with potential disabilities exist at the pre-primary level for learners with disabilities, if any?*** According to survey participants, hearing and vision screening is not consistently nor universally implemented in pre-primary classrooms in LMICs. Additionally, many survey respondents reported referral services existing in their country but that the country did not have the resources to support all who needed services.

- 2b. What types of assessments of development milestones and learning assessments exist at the pre-primary level for learners with disabilities, if any?** Partly due to donor funding, assessment of developmental milestones, including learning-related milestones within PPE, has become more common. However, this is primarily implemented at the national level for population surveys or other research, rather than for formative purposes at the classroom level.
- 3. What training model(s) worked best to provide teachers with the resources and support they need to best meet the needs of pre-primary learners with disabilities? What models did not work or did not follow international standards as outlined by the CRPD or international disability communities?** Much of the literature around inclusive education focuses on the attitudes and perspectives of teachers, with many teachers reporting that they did not feel equipped to teach children with disabilities (Ojok & Wormnæs, 2013; Oswald & Swart, 2011; Elder, 2015). Research cites a lack of training as the common reason for this lack of self-efficacy (Fyssa et al., 2014; Hu, 2020). This was especially true for teachers of learners who are deaf or blind, as these teachers feared that because they did not know the local sign language or Braille, it would be difficult for them to serve these children (Cosmas, 2021). There is less in the literature about what training model or curriculum works best, particularly for teachers of pre-primary learners with disabilities. Survey participants reported that about half of the teachers in their country received in-service and/or pre-service training on disability-inclusive PPE. However, participants were not clear about the scale at which this was occurring (e.g., projects that occur at a national scale versus only for a particular program). They also noted that most in-service training was provided by international donors or non-governmental organizations (NGOs) rather than by the government.
- 4. What instructional models worked best to improve classroom instruction and pre-literacy outcomes among pre-primary learners with disabilities?** Ideally, PPE systems would follow Buyse and Peisner-Feinberg's (2013) framework on ECD. This framework builds a multi-tiered system of support (MTSS) and provides different levels of intervention based on need. Adapted from the Buyse and Peisner-Feinberg framework, tiers include promotion (Tier 1), intervention (Tier 2), and individualization (Tier 3) (see Section 5.5 for more information). The landscape review found promising initial steps toward creating Tiers 1 and 2 of this system. Within Tier 1, more than half of survey participants reported using UDL principles, including incorporating different learning styles. Additionally, 64 percent reported using play-based instructional strategies. Within Tier 2, 42 percent of survey participants reported using small group instruction, though it does not appear this is currently being used to provide targeted support to learners with disabilities. Within Tier 3, 49 percent of survey participants reported using preferential seating. However, no specific interventions for learners with disabilities were reported being used.
- 5. What challenges or barriers exist that keep pre-primary learners with disabilities from accessing PPE and/or that keep PPE models from being fully inclusive?** Many barriers to disability-inclusive education are identified within the literature, including poverty, stigma, safety, physically inaccessible classrooms or schools, and the lack of access to the general education classroom. The literature also found that the COVID-19 pandemic has emerged as a recent barrier, as the additional time away from school has caused learners with disabilities to not enroll or to fall further behind. The most common barriers identified by participants can be found in Table 1.

TABLE 1. BARRIERS TO INCLUSION, IDENTIFIED BY SURVEY PARTICIPANTS

BARRIERS TO INCLUSION	N	%
Physical Access	63	84
Cost	62	83
Family Stigma	62	83
Class Size	61	81
Teacher Preparedness	60	80
Material Access	60	80
Lack of Braille or Sign Language	57	76
Teacher/Peer Stigma	52	69
Language of Instruction (including sign language) <sup>5</sup>	52	69
Safety Concerns	47	63
Transportation	46	62
Education Not Valued by Families	42	56

Although much progress is yet to be made to ensure that PPE is inclusive of learners with disabilities, the landscape review discovered many promising practices at the country level, several of which have been included throughout this White Paper. Still, further work can be done to ensure that more permanent and comprehensive educational supports exist for pre-primary learners with disabilities and their families and that more training is provided for teachers in pre-primary classrooms.

## 4. PRINCIPLES OF DISABILITY-INCLUSIVE PPE

USAID lists equity and inclusion as one of its six principles of education programming (USAID, 2020). This White Paper expands on the principle of equity and inclusion and provides additional principles that should be considered when implementing all PPE programming. These principles were discussed and agreed upon during the global and regional ideation events and should be applied at the regional, school, and classroom level. In addition, these principles should also be applied across all levels of intervention. The principles are:

- Value the right to education for every child, regardless of disability type or level of support needs.** PPE should be available to all children, as all children benefit from early language, literacy, math, and social skills. The PPE landscape revealed that PPE is currently unavailable for most learners with disabilities. When it is available, policies often stipulate that PPE enrollment is only for learners with perceived “mild or moderate” disabilities. More than 30

<sup>5</sup> “Language of instruction” means a different language of instruction than the one that the child uses and understands.

years of research in high-income settings has shown that disability-inclusive PPE programs benefit both learners with disabilities and their peers without disabilities (Barton & Smith, 2015). Learners with disabilities have significant gains in peer acceptance, friends, and cognitive development when educated in inclusive PPE settings (Odom et al., 2011).

- **Ensure safety, dignity, and respect.** All children should be educated in a safe environment where they are respected and treated with dignity. Learners with disabilities are more likely than their peers without disabilities to experience abuse and neglect. The World Health Organization (WHO) estimates that learners with disabilities, in general, are 4.3 times more likely to experience some form of abuse, 3.7 times more likely to experience physical abuse, 4.3 times more likely to experience emotional abuse, and 4.6 times more likely to experience sexual abuse (Jones et al., 2012). In addition, learners with disabilities often experience neglect at school and home, leading to injury, poor self-esteem, and increased harmful behaviors (Fudge Shormans & Sobsey, 2017). It is paramount that PPE policies and programs ensure that learners with disabilities have dignity and receive respect in both formal and informal preschool settings.
- **Promote gender equality and social inclusion.** Often, more than one marginalizing factor can impede PPE access. In addition to disability, factors such as gender, ethnicity, race, language, socio-economic status, and geographic location can all serve as barriers to education. For example, the Government of Nepal has collected data disaggregated by disability, gender, and geographic location. These data show that girls with disabilities in rural areas have significantly less access to basic education compared to girls with disabilities in urban areas (UNICEF, 2021). The UNESCO Global Monitoring Report (2020), however, suggests that education stakeholders should not view diversity as a problem but as an opportunity to have educational systems be responsive to all learners' needs. UNICEF's guidance (2014) is that good preschool programs respect all forms of diversity. It is also essential to consider the family's culture, financial situation, and language and how beliefs and stigmas may influence the community's involvement and acceptance of a child with a disability (Hanson & Espinosa, 2017). In cases where stigma may impede stakeholders' acceptance and support of children with disabilities, additional support and education may be beneficial. For example, where these negative beliefs about the ability of children with disabilities are present, additional awareness-raising activities may be helpful for the community as well as training on gender and social inclusion for all teachers and PPE staff.
- **Use a strength-based approach to interventions and support.** A strength-based approach focuses on children's strengths and capacities instead of on problems or concerns. This approach is vital for all children, but in particular for children with disabilities, as education practitioners often emphasize a learner's deficits and limitations instead of their abilities and interests (Elder et al., 2018; Thomas et al., 2001). A strength-based practice includes looking at a child holistically instead of focusing on diagnoses and labels. Deficit-based approaches may reinforce stigma and have a negative impact on school–family partnerships (Connor et al., 2008; Keyes & Owens-Johnson, 2003). Conversely, students who participated in strength-based PPE instead of needs- or deficit-based programming exhibited more positive behaviors, improved engagement, and enhanced learning (Raab et al., 2009). Thus, all PPE programming should focus on child-centered programs that reinforce strength and capacity. At a systems level, education



stakeholders should be trained on the strength-based approach, any individual education plan (IEP) guidance should promote abilities and strengths, and materials and resources should use empowering, strength-based language when referring to persons with disabilities.

- **Adopt an integrated approach.** It is crucial to create PPE programs with a holistic, multi-sectoral approach. This includes recognizing that the needs of each learner go beyond education and may include health, nutrition, and overall well-being (UNESCO, 2020). Pre-primary programs should have plans in place to address the needs of learners that go beyond their educational needs. Screening programs should also work across sectors, partnering with the Ministry of Health and the community's medical system (where appropriate). This multi-sector approach should be implemented at the policy level as well and is especially important in countries where the Ministry of Education does not oversee PPE (UNESCO, 2020).
- **Engage DPOs in all aspects of inclusive PPE.** PPE programming should also actively engage DPOs as advisors for programming, which is also a core element of the CRPD. The CRPD's Article 4 on General Principles requires that DPO<sup>6</sup> and disability representatives are an active and integral part of all disability-related policies and programs (United Nations, 2006). Engaging DPOs in PPE can yield several benefits: linking families with community resources; educating school systems, families, and caregivers on the educational rights of learners with disabilities; helping representatives of DPOs serve as mentors for younger children with disabilities; and linking families with other families of learners with disabilities who can provide additional support and guidance.

## 5. EVIDENCE-BASED INCLUSIVE PRACTICES

Inclusion at the pre-primary level takes a multifaceted approach. The Council for Exceptional Children's Division for Early Childhood (2014) developed a series of recommended practices for inclusive PPE within the United States. These recommendations were developed through an extensive consultation process and are based on evidence-based practices. Although these were developed in a high-income country, they apply to all PPE programs and thus were selected as the framework to present recommended best practices. These evidence-based core practices for inclusive PPE include:

- Leadership
- Assessment and identification
- Environment
- Families/caregivers
- Instruction
- Interactions
- Teaming/collaboration
- Transition

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<sup>6</sup> DPOs are defined as organizations in which persons with disabilities provide leadership and constitute a majority (51 percent or more) of the staff, board, and volunteers.

These recommendations serve as a framework for the various aspects of international PPE programming. The following section provides more information on these recommended practices and how they might be applied to an LMIC context.

## 5.1 Leadership

For inclusion to be manifested in later years, childhood education programs need to establish a foundation for inclusion by ensuring that learners with disabilities can equitably participate in PPE programs and services. To support this, policies must address the need for PPE to include anti-discrimination legislation and diversity-driven policies (UNESCO, 2021a). Government entities and policymakers are key to developing policies and programs that provide and expand PPE. These key groups of individuals must be educated about disability and must support making all PPE inclusive of children with disabilities. These individuals can set the tone for inclusion and ensure that decisions are made in partnership with DPOs, practitioners, and families/caregivers. PPE programs should engage this critical group and build their capacity as needed.

Although 185 countries have ratified the CRPD<sup>7</sup> (United Nations, 2022) with the Sustainable Development Goals that address the need for inclusive PPE, many countries have not yet adopted policies requiring inclusive PPE. A 2019 UNICEF survey on inclusive ECE and ECI found that only an estimated one-third of countries in South Asia, North America, Europe, Central Asia, Latin America, and the Caribbean have regulations on disability-inclusive PPE, with countries in Sub-Saharan Africa, East Asia, and the Pacific having even less related legislation (UNICEF, 2019b).

A closer examination of inclusive and/or PPE policies and their implementation draws a more complex picture. UNICEF (2021), for example, found that most countries in South Asia have laws protecting the rights of children with disabilities to learn in general education schools. Despite these laws, many learners with disabilities are segregated from peers without disabilities or are in regular classrooms without any provisions in place for make learning accessible (UNICEF, 2021). UNICEF (2021) also reported that some countries have policies that directly contradict each other, with some promoting inclusive education and others in the same country endorse segregated systems. UNICEF (2021) further noted that programs targeted at marginalized populations often take a siloed approach, meaning that one program might focus on girls and another program on learners with disabilities. The silo approach to communities experiencing marginalization may fail to address some intersectional barriers that exclude girls with disabilities from education (UNICEF, 2021).

Several research and guidance documents provide suggestions on different elements that should be part of inclusive PPE policies. These include:

- **Ensure the right to education for all learners with disabilities.** Policies should explicitly mandate the right for all learners, regardless of the type of disability or level of support needed, to attend PPE on an equal basis. These policies should be accompanied by dedicated budgets for

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<sup>7</sup> This is as of May 2022.

the long-term implementation of these policies (Light for the World & Open Society Foundation, 2020).

- **Address the other seven recommended practices.** Policies should address assessment, environment, families/caregivers, instruction, interactions, teaming/collaboration/training, and transition.
- **Promote collaboration with other ministries.** Inclusive PPE policies should be developed in collaboration with Ministries of Health, Social Protection, Finance, and others as needed (UNESCO, 2021b).
- **Embed data collection.** Policies should promote capturing information on other marginalizing factors (gender, ethnicity, language, etc.) of learners with disabilities in PPE settings to support future policy and budgetary decisions (UNICEF, 2021).
- **Address how inclusive PPE will continue during times of natural disaster, crisis, or pandemics.** Crises and conflict exacerbate factors that lead to the exclusion of learners with disabilities across all education levels (Fund, 2020). The disruption of education systems not only negatively affects learners with disabilities but also places more stress on families and caregivers or learners with disabilities (Neece et al., 2020).

In addition to policymakers, regional and district supervisors, administrators, and head teachers benefit from education and awareness-raising on the importance of inclusive PPE. Supportive leadership on all levels can be transformational for learners with disabilities accessing and transitioning to quality inclusive programming (Frankel et al., 2017).

## 5.2 Assessment and Identification

Assessment occurs anytime teachers or school personnel gather information to make informed education decisions (DEC, 2014). PPE programs need to include an element of assessment to monitor student progress to provide learners with more intensive instruction as needed. As part of assessment, practitioners should work as a team with families and caregivers to understand children's strengths, preferences, interests, and accommodations (Hayes et al., 2018).

The two types of screening that are most common within pre-primary programs are developmental screenings and screening and identification for specific disabilities (such as hearing and vision). For both types of screening, it is important to have a clear plan for what will occur before, during, and after screening. It is also essential to determine the goal of screening prior to implementing screening, which is described in more detail below.

### Screening to Include, Not Exclude

Regardless of the type of screening conducted, it is important to identify the goal of screening and set up a plan for what will occur following screening. After milestone screening, a plan should include providing caregivers with the results and activities they can do to support their children at home. Based on the results, teachers should also plan how often they would like to implement screening and any support they will provide to learners in the classroom.

After disability screening, learners should be referred to health professionals for an official diagnosis and thereafter receive any needed services. Therefore, before screening begins, education practitioners should map referrals. In addition, teachers should be trained before screening begins so they can better accommodate these learners' needs in the classroom. If mapping or training cannot occur before screening begins, then programs may need to reconsider screening (WHO & UNICEF, 2012). Practitioners also need to ensure that screening is an ethical process. As part of this, practitioners need to guarantee that screening will be done to include rather than exclude learners. In addition, screening should be used to ensure that learners receive all the accommodations and supports needed to succeed in the classroom. It should not be used as a primary tool to determine a learner's placement (Hayes et al., 2018). (See textbox, "Importance of a Sign-Language-Rich Environment.")

#### 5.2.1 Developmental Screenings

Developmental screening is an assessment that looks at developmental milestones in different categories (e.g., social-emotional, communication, gross motor) and whether a child can meet these milestones. Screenings are conducted on a continual basis, and any noted delays lead to a more thorough diagnostic examination (Moodie et al., 2014). Practitioners need to select a research-based tool that is appropriate for the context and will provide accurate results. The chosen tool should be:

- **Adapted for the local context.** It is vital to ensure that tools are adapted to the local context as the timing of developmental milestones can vary across cultures (Moodie et al., 2014).
- **Appropriate for the context.** In addition to ensuring that the tool has been adapted for the local context, the tool may also need to be adapted to the specific context. For example, some child-direct developmental milestone assessments are labor intensive and require extensive materials. If these tools will be used on an ongoing basis in a school with large class sizes, practitioners may want to consider a modified or different tool that takes less time and requires fewer materials.

## Promising Practices in Developmental Screening

The following provides promising practices in developmental screening that researchers found through the landscape review:

- **Malawi:** Researchers in the United States developed the Malawi Developmental Assessment Tool, which is a child-direct assessment meant to be used with children ages 0-6. It is currently mainly used within research studies as well as impact evaluations; Sightsavers used it to measure the impact of its ECD programming within Malawi.
- **Myanmar:** Many early childhood education programs are measuring children's developmental milestones. The classroom teacher records these milestones for individual children quarterly. Teachers then work with children on the areas that need improvement, share children's assessments with parents, and provide suggestions on activities to work on at home.
- **Zambia:** Using the Early Grade Screening Tool (EGST), screening is done at the school level when a child first enrolls in school. Those with suspected disabilities are referred to assessment centers for further testing.

### 5.2.2 Screenings for Specific Disabilities

This type of screening, such as hearing and vision screening, focuses on particular disabilities. These screenings can be helpful to ensure that any children with potential disabilities are identified and referred to health professionals for a more thorough diagnostic exam. Programs need to select a research-based tool that will provide accurate results. The chosen tool should be:

- **Used in the way it was intended.** Practitioners should reconsider using a census tool to obtain individual screening results, as this may result in inaccurate data.
- **Validated.** Any tool used needs to have been validated to the local context, age group, or type of disability being screened (Vargas-Baron et al., 2019).

Several research and guidance documents provide suggestions on the different elements that should be part of a screening and identification program. These include:

- **Getting caregiver consent/refusal.** It is critical to inform families or caregivers about a scheduled school-based screening and their right to refuse screening for their children. If screening is universal, caregivers do not need to give consent but should be fully informed in writing, in person verbally, or by other means (text, newsletter, etc.) and given the opportunity to opt-out of the screening.
- **Respecting confidentiality.** For any disability screening, screening needs to occur in an individual setting (e.g., not in a group) and in a quiet place. Any data collected from these screenings should be kept in a secure location.
- **Using results to provide accommodations and support.** The results of developmental milestones or disability screening should be used to provide accommodations and support. If a

teacher is using small group instruction to provide additional support to struggling learners, this could be an excellent opportunity to provide additional support to children who have been identified as struggling in specific developmental areas. For hearing and vision screenings, children should be linked with the referrals mapped by practitioners, which should include learning in local sign language, Braille instruction, augmentative and alternative communication (AAC), etc., before the screening was conducted. For both types of screening, results and recommended next steps/actions (e.g., activities families can work on at home) should be shared with caregivers.

Within the landscape review, researchers found several promising practices in assessment, which are described in the textbox below. However, these are not yet standard practices within most pre-primary classrooms.

### Promising Practices in Screening and Identification

The following provides promising practices in screening that researchers found through the landscape review.

- **Armenia:** The government offers referral services free of charge twice per year at state centers in urban areas.
- **India:** Sara Shiksha Abhiyaan (a government-funded basic education program) conducts screening camps to identify children with potential disabilities, including hearing and vision.
- **United States:** The most common vision chart used in the United States with children who are in their pre-primary years is the Lea Chart. This chart is recommended due to its use of shapes rather than letters, which allows learners to complete the assessment even if they do not yet know all their letters.

## 5.3 Environment

PPE environments should be accessible, child-friendly, and safe to ensure students' full participation in learning experiences. This includes accessible water, sanitation, and hygiene (WASH) systems. Schools should also follow best practices related to WASH, which require facilities to be an appropriate size for small children and other necessary facility functions to reduce incidences of gender-based violence (e.g., well-lit bathrooms close to the school's main building) (UNESCO, 2020). Schools should also have ramps, wide doorways, and enough space to move freely with limited obstacles especially for those using wheelchairs or have challenges seeing (UNESCO, 2020). Desks and furniture may need to be rearranged to allow for wheelchairs or unobstructed pathways for learners who are blind or have low vision (Franke et al., 2017). Planned environmental arrangements are also necessary to facilitate learning. For example, teachers can strategically place and organize materials throughout the classroom to create opportunities for learners to communicate and learn communication skills; this could mean presenting desired materials where the learner can see them but not reach them so that the learner will ask for them (Denton, 2020).

Schools should think of accessibility beyond just physical infrastructure by also providing assistive devices, inclusive teaching and learning materials (TLMs), and child-friendly environments. Access to



assistive devices may increase classroom participation for children with disabilities. Even with the presence of assistive devices, however, teachers should continue to check in with students to ensure they have equitable learning and interactions with their peers. (UNESCO, 2020). Educational assistive devices can include large print, magnifying glasses, AAC devices, slate boards, large calculators or keyboards, Frequency Modulation (FM) systems to amplify teacher instruction, Braille, etc.

The materials young learners can access in their PPE can significantly affect their educational success. TLMs should be relevant to learners' developmental needs and backgrounds (Inter-Agency Network for Education in Emergencies [INEE], 2010). This means using age-appropriate content for young learners, building on their prior knowledge or personal experiences, and, ideally, teaching in a language that learners use and understand. To maximize teaching using a UDL framework for learners with and without disabilities, TLMs should be both selected and presented in multiple formats (Rose et al., 2014). In terms of selection, this might include low-cost storybooks, audio or video adaptations of educational content, and the use of concrete objects and manipulatives. Whenever possible, toys, puzzles, and games should also be available to children in a PPE setting (Frankel et al., 2017). These should be made available in different forms, formats, and sizes so they can be used by learners with different types of disabilities. In terms of presentation, this might include young learners reading a picture book in pairs and small groups, walking around the classroom to identify images posted on the walls, or practicing shape identification using local plants and artifacts. This is a critical element of UDL, which is described more in Section 5.5.1. The key is to diversify options for young learners to interact with new content. Finally, TLMs should be representative and inclusive of diverse and marginalized populations (Research Triangle Institute [RTI] International, 2015). For example, half of all characters in stories and pictures should be female, and at least 15 percent should have disabilities. This helps to promote equity and representation through modeling diverse perspectives and lived experiences.

Shifts to remote learning because of the COVID-19 pandemic and other school interruptions have further marginalized learners with disabilities. Where education is delivered in a remote or blended manner, inclusion is essential to reaching persons in vulnerable situations (UNESCO, 2021b). UDL strategies can also help young learners with and without disabilities learn remotely. For example, television programming can embed accessibility features such as sign language, and radio programs can use songs and dramatic role play to act out key concepts. Families can also be encouraged to use household objects for children to practice counting, color identification, or shape recognition (World Bank, 2020). Additionally, when a program produces take-home materials such as story books or homework packets, it should consider including accessibility features such as large font size or Braille adaptations.

## Importance of a Sign-Language-Rich Environment

Children who miss the opportunity to learn a language—whether spoken or signed—during their first five years of life are at risk of learning no language at all (Hänel-Faulhaber, 2017; Laurent Clerc National Deaf Education Center, 2017; Napoli et al., 2015). Even a delay in learning the child’s first language from birth to age 1 can permanently hinder language processing for the rest of their life (Laurent Clerc National Deaf Education Center, 2017). Spoken languages are, at best, an unreliable way for children who are deaf or hard of hearing to learn their first language. Although some do well in learning a spoken language first, others do poorly, even with a cochlear implant and other supports (Humphries, et al., 2012). Experts in linguistic acquisition have persistently advised that children who are deaf or hard of hearing should be exposed to signers who are fluent in their country’s sign language as early in life as feasible (Malloy, 2003; Baker, 2011; Napoli et al., 2015). When children who are deaf or hard of hearing learn sign language from fluent signers, they are better able to learn spoken or written language later (Napoli et al., 2015). Children immersed in an environment of fluent signers are also more likely to become literate in a written language (Malloy, 2003) and to be academically successful at school (Baker, 2011).

One study in Zambia (Banda, 2021) found that teachers believed preschool plays an important role in promoting literacy skills for children who are deaf. However, the study also reported that learners who are deaf in Magwero, Eastern District, Zambia, had few models who were fluent signers at either school or home because teachers were poorly trained. As a result, children who are deaf had very little interaction or communication, limiting their opportunity for learning language. The author recommended training more preschool teachers in special education, particularly sign language (Banda, 2021).

Research evidence through the decades confirms the critical importance of enabling young children who are deaf to access a visual language—that is, the sign language of their country—to prepare them for attaining literacy in primary school (Allen et al., 2014). Specifically, early exposure to sign language improves letter knowledge, social adaptability, and sustained visual attention as well as enables children to attain the cognitive-behavioral milestones necessary for academic success (Allen et al., 2014). Early exposure to fluent sign language is also found to improve phonological awareness: Sign languages contain a visual phonological structure and can train the brain in the underlying phonological skills required to understand the phonological basis of written language (Petitto et al., 2001; Brentari, 2011). Meanwhile, delaying access to sign language for young children increases the risk not only of language deprivation but also of cognitive delays, mental health difficulties, lower quality of life, higher trauma, and limited health literacy (Hall, 2017). The brains of adults who are deaf and who learned sign language late (age 4 and beyond) show that this delay in language results in permanent changes in how they process and understand language (Mayberry et al., 2011).

## 5.4 Families/Caregivers

Although family engagement is essential in all levels of education, it is particularly critical in early childhood. Family engagement was also one of the most frequent recommendations during ideation events held during this project. Practitioners should build trusting relationships with families and be sensitive and responsive to cultural, linguistic, and socio-economic diversity. In addition, families should be engaged throughout all aspects of their child’s education and be provided with clear and unbiased information to make informed, evidence-based decisions. UNESCO (2020) points out that families are often in the best position to understand the needs of their children; thus, teachers who engage their learners’ families can learn from their knowledge. Young children may only spend 25 hours in a pre-

primary program but may spend more than 95 hours at home in a week (USAID, 2021b), so it is critical for families and caregivers to reinforce intervention skills at home (UNESCO, 2020).

At the school level, some experts note that families who are themselves marginalized may experience challenges that prevent them from being actively involved with their children's school (Page et al., 2007; Beauregard et al., 2014). For example, some families may have to work multiple jobs and be less available to attend school events, or some parents may be illiterate and unable to support learning at home. UNESCO (2021a) states that early childhood educators need to be able to work with families, particularly from marginalized communities. Even when services are provided in the preschool setting, schools should have positive relationships with families, find opportunities for meaningful decision-making, and find ways to support families when a need relates to their child's educational growth (McWilliam, 2010).

In addition to engaging families in high-level policy formulation and decision-making at the governmental or school level, UNESCO (2020; 2021a) also highlighted the importance of engaging and involving families and caregivers in implementing programming targeted at their children. For example, UNESCO noted (2020) that some LMICs have successfully used child-centered, play-based learning to promote inclusion. In Serbia, a new curriculum called "Years of Ascent" was launched in 2018 that includes joint engagement of children and families in child-centered play-based learning (UNICEF, 2019a).

Some interventions engaging families may target learners with a specific disability or need. For example, a parent-mediated intervention for learners on the autism spectrum in India and Pakistan (PASS) uses video feedback to address family-child interactions (Rahman et al., 2016). Initially used in high-income countries, PASS

successfully improved communication, including initiating communication between the child and the families or caregivers (Rahman et al., 2016). Additionally, a program implemented by the World Bank in Vietnam created family-support teams, composed of teachers and deaf adults, to train deaf children and their families in sign language (World Bank Group, 2015).

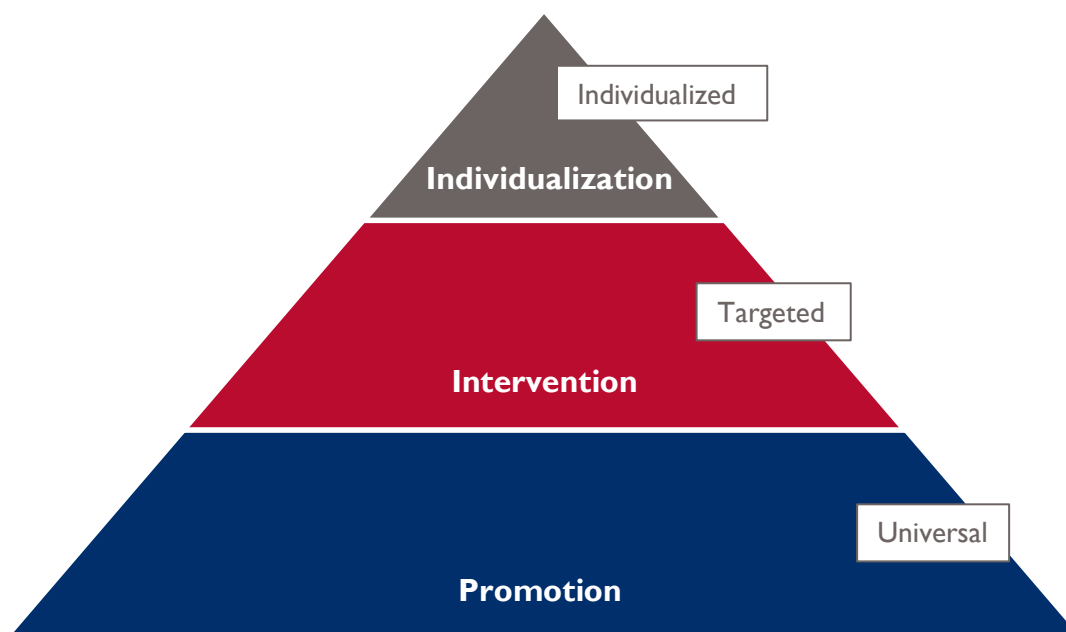


Children coloring in Afghanistan. Credit: Assistance in Building Afghanistan by Developing Enterprises (ABADE) Program/Sohrab Samanian

## 5.5 Instruction

Instruction should use the MTSS to provide inclusive instruction to all learning while also recognizing that some learners will benefit from more intensive and individualized instruction. The MTSS uses different tiers of support with additional, adjusted, and more intensive instruction to meet the needs of diverse learners (DEC, 2021). These tiers are adapted from Buysse and Peisner-Feinberg's framework (2013) and include universal promotion of inclusion (Tier 1), targeted intervention (Tier 2), and individualized instruction (Tier 3), which are highlighted in Figure 1.

FIGURE 1. TIERS OF THE MTSS IN PPE



### 5.5.1 Tier 1: Promotion of Inclusive Instruction for All Learners

All children, including those with and without disabilities, should receive inclusive instruction in PPE programs. UDL, as the basis for learning, enables the transition to a more inclusive system (UNICEF, 2021). Research shows that UDL in PPE is effective for all children as it allows learner choice, self-monitoring, and accessible learning materials (Lohmann et al., 2018). Many donors also support UDL as an inclusive instructional technique. For example, at the Global Disability Summit, USAID Administrator Samantha Power committed to promoting UDL in all new education programs (USAID, 2022).<sup>8</sup>

<sup>8</sup> For additional information on UDL, please visit the USAID UDL toolkit: <https://www.edu-links.org/events/universal-design-learning-help-all-children-read-disabilities-toolkit-training>.

## Universal Design for Learning

Based on both neuroscience and learning sciences, UDL builds on the premise that there is tremendous variability in how children learn (Meyer et al., 2014). UDL in PPE can create a more enriching environment that benefits the development of all learners and promotes the inclusion of learners with disabilities (Horn & Banerjee, 2009). UDL is also a core element of the [USAID How-To Note on PPE](#). USAID stated, “These principles should also be integrated at every level of pre-primary education sub-sector, including teacher preparation and training, curriculum development, design of the physical environment, material development, and instruction” (USAID, 2021b, pg. 2). The three basic principles of UDL are described below.

- **Multiple means of engagement.** Learners can be motivated to learn in different ways. Providing options or choices—in story reading, exercises, or group practice—is one of the best ways to motivate learners. Increasing learner motivation can also help to increase learner focus.
- **Multiple means of representation.** Learners learn differently at different times, which means that teachers must present information in multiple ways. Some learners learn best by hearing, others by seeing, writing, or acting out information. Instruction should offer a variety of ways to learn new information and match learners’ strengths.
- **Multiple means of action and expression.** As learners learn differently, teachers should try offering various options and allow learners to select how they prefer to show their knowledge in a particular subject matter.

In addition to UDL as a pedagogy, instruction in PPE should be play-based and include pre-literacy and pre-numeracy instruction. UK Aid conducted a literature review on best practices for pre-literacy and pre-numeracy that applies to learners with disabilities and includes:

- **Target expressive language.** The review found that expressive language was a crucial prerequisite for many literacy and math skills, including phonological awareness, reading comprehension, and mathematical reasoning. As a result, this skill, whether in spoken, signed, or tactile language, should be targeted within pre-primary classrooms (Nag et al., 2014).
- **Focus on print awareness.** The review found a link between print awareness and later success in literacy. As a result, it is crucial to ensure that pre-primary includes exposure to books and other print materials (Nag et al., 2014). This also includes Braille.
- **Focus on mathematical strategies rather than rote math memorization.** The review found that there was too little focus on mathematical strategies (e.g., strategies for arithmetic) and too much emphasis on rote memorization of mathematics (e.g., number identification). This includes allowing learners to point to numbers and use manipulatives instead of relying solely on verbal responses.

## Play-Based Learning

Defining “play-based learning” requires practitioners to first understand the meaning of “play.” Play is an amorphous concept: it seems simple to define, but those definitions vary widely. Additionally, there are different types of play, including free play (child-directed voluntary play) and guided play (free play that is guided by an adult with a focus on learning outcomes) (Weisberg et al., 2016). Play is especially important for learners with disabilities, as it allows for opportunities for engagement with their peers without disabilities. Guided play is especially helpful as learners may need prompting and modeling to ensure successful interaction and engagement (Movahedazarhouli, 2018).

Researchers and theorists have some shared ideas on what “play” entails. UNICEF (2018) has summarized these ideas to define play as being meaningful, joyful, actively engaging, iterative, and socially interactive. UNICEF (2018) has also emphasized the need for children to control their play experience, take the initiative, and make choices. When children play, they may have opportunities to learn how to share with other children, gain experience with abstract concepts of geometry through solid blocks in different shapes, or learn to express their imagination (UNICEF, 2018). Learning through play supports social and emotional development, problem-solving skills, critical thinking, and creativity and it expands language and other skills (LEGO & UNICEF, 2018).

Teachers and other adults have a fundamental role in enabling learning through play by providing materials that will spark curiosity and spontaneous interactions. They can also support play-based learning by following the child’s lead in pretend play (UNICEF, 2018). The pre-primary level is a helpful context for children to learn through play and practice core skills and may increase the likelihood that children with disabilities learn in an inclusive environment (Buysse et al., 1996). Play in preschool has also been linked to increasing language skills for learners with disabilities (Barton, 2015) and decreasing negative behaviors (Machalick et al., 2009).

### 5.5.2 Tier 2: Intervention for Learners with Delays

Providing services as early as possible, while the brain is still developing, can increase children’s ability to learn new skills and, thus, improve their success in school and life (National Early Childhood Technical Assistance Center, 2011). Knowing which learners may be experiencing developmental delays and providing them with targeted additional support is ideal, but screening can be challenging for many LMICs that lack normed tools and identification practices and protocols (Hayes et al., 2018). Those children identified as being developmentally delayed may benefit from explicit small group instruction and embedded learning strategies through play (Buysse & Peisner-Feinberg, 2013). Strategies for Tier 2 instruction include:

- **Explicit small group interventions.** Learners who continue to struggle over time when compared to their peers often benefit from small group instruction (Shapiro, 2014). For this intervention, all learners may be placed in small groups based on their learning strengths and needs. For example, a teacher can group learners who have similar challenges. During small group instruction, learners in the class who are doing better in pre-literacy (or pre-mathematics) can use this time to work on more complex tasks. Small groups ideally consist of fewer than six learners; to make this feasible, schools may want to strategically use school volunteers, such as caregivers and community members, to allow for small group instruction and



support other learners in the classroom during small group instruction time. Teachers can also spend part of the small group portion of the lesson working with struggling learners and part of the lesson overseeing other groups.

- **Embedded learning strategies.** Embedded learning strategies promote child engagement and learning in everyday activities, routines, and transitions (McDonnell et al., 2006). For example, when a child is bouncing a ball or jumping, the instructor can count how many times the child bounces the ball or jumps. Embedded learning can be an effective tool for all pre-primary learners and especially those with disabilities (Snyder et al., 2018; Noh et al., 2009). Good practices for embedded learning strategies can include using the “teachable moments” by intervening when a learner is confused or exploring, integrating learning into daily activity and play, and supporting learners in learning successively complex material (Gasbarro, 2008). When embedded strategies are frequent, context-based, and follow the child’s interest, they are more likely to be effective (McBride & Schwartz, 2003).

### 5.5.3 Tier 3: Individualized Intervention for Learners with Identified Disabilities

In addition to the supports provided in Tier 1 and Tier 2, learners with identified disabilities benefit from early, individualized intervention. This can include sign language instruction for children who are deaf, which reduces linguistic deprivation (Humphries et al., 2012), and mobility and orientation support for learners who are blind, which increases independence, confidence, and safety. WHO warns that “if children with developmental delays or disabilities and their families are not provided with timely and appropriate early intervention, support, and protection, their difficulties can become compounded—often leading to lifetime consequences, increased poverty, and profound exclusion” (WHO & UNICEF, 2012).

Early intervention is not defined consistently worldwide but is generally considered a service before primary school to support children and families (Frankel et al., 2017). Early intervention leads to short-term benefits for learners with disabilities, and research shows that there are long-term benefits as well, including improved educational outcomes, lower crime rates, increased employment, and long-term health benefits (Barnett & Ackerman, 2006). Early intervention can also strengthen caregivers’ mental health when it is coupled with support, education, and building confidence in how to support their children at home (Scherer et al., 2019). In addition, when early intervention is provided during a child’s developmental stages with a disability or a developmental delay in early years, high-income countries have found that interventions generate a return to society ranging from \$1.80 to \$17.07 for each dollar spent (Karoly et al., 2005).

Often, LMICs have few experts to provide interventions, and more often, interventions that do exist are only available within the health systems. However, a review of case studies in LMICs on early intervention showed promising practices; the gap in meeting early intervention services for children with disabilities was addressed through community-based group interventions facilitated by trained and supervised health or peer support workers (Smythe et al., 2021).

### **Promising Practices in Interventions for Learners with Identified Disabilities: Northern Macedonia**

UNICEF supported an online platform in Northern Macedonia to help educators and families provide early intervention services. The platform, developed in coordination with the Association of Special Educators and Rehabilitators, provides parents and caregivers with information about key developmental milestones, how to recognize early signs of developmental delay, and how to stimulate child development through play and exercises. Additionally, the platform allows parents to submit online requests for an assessment from the Association of Special Educators and Rehabilitators (UNICEF, 2020).

In the classroom, additional initiatives can also support the participation of learners with disabilities. These include:

- **Developing individualized education plans.** When learners have IEPs at an early age, teachers can better understand the learners' strengths and needed accommodations. Like all initiatives, IEPs should be developed in close coordination with families and caregivers.
- **Establishing clear routines.** Routines, particularly those during transitions throughout the school day, create predictability and are helpful for learners with attentional, emotional, developmental, and intellectual disabilities. Routines, activities, and games may need to be adjusted to allow all children to participate. For example, some children may benefit from outdoor activities or physical activities before they can concentrate in a group setting (Frankel et al., 2017).
- **Using visual schedules and Augmentative and Alternative Communication.** Visual schedules allow children to understand the daily plan and prepare them for transitions. AAC can be used for choice-making, emotional regulation, and socialization. This type of support is beneficial not only for learners with communication challenges but also for learners with intellectual or developmental disabilities.
- **Training learners to use assistive technologies.** Assistive technologies can be valuable tools for children with disabilities from their early years into adulthood. These can be high-tech, such as tablets, or low-tech, such as fidget toys, and can help children with autism or attentional disabilities better concentrate.
- **Encouraging participation in all activities but adapting as needed.** Some expectations may need to be slightly adjusted to allow for equitable participation. For example, learners with motor planning issues or limited physical mobility may prefer to rip paper instead of using scissors (Frankel et al., 2017).

## Braille Instruction and Materials

Often before formal education, young children who are blind have limited exposure to Braille or other written materials, such as signs, storybooks, or magazines (Chen & Dote-Kwan, 2018). These children tend to arrive at preschool without the pre-literacy skills that many peers with sight have developed. Some examples include understanding basic parts of a book, such as page numbers, letters, and pictures, as well as skills around the act of reading (e.g., reading from left to right or from the top of a page to the bottom) (Kongkul, 2019). This places children who are blind at a disadvantage when compared to their classmates with sight.

Barlow-Brown and Connelly (2002) found that children who are blind or have low vision and arrive at preschool with limited or no knowledge of Braille letters performed significantly worse on phonological awareness, an important literacy skill, than children who had knowledge of some Braille letters or entire words. To promote early literacy skills in children who are blind or have low vision, Chen and Dote-Kwan (2018) recommend work in three areas: developmentally appropriate language input, dialogic reading practices, and natural literacy learning opportunities. Foundational skills include motor-sensory training with the palms, thumbs, and fingers; motor strength training in the hands and fingers; and learning to detect Braille dots (Lee et al., 2021). Developmentally appropriate language consists of speaking with the child about things they (the child) can perceive, such as objects they are holding, sounds they are hearing, or actions they are performing. Dialogic reading practices include guiding a child's hand along text, especially if there is Braille text; guiding the child's hand to any tactile images; and prompting the child to repeat words or actions performed in the story. Finally, natural literacy learning opportunities can include reading to the child who is blind to foster an early interest in reading, working with the child to turn pages, labeling objects in the house with Braille or tactile symbols, and decorating the covers of books to make them interesting.

Once a child who is blind reaches an appropriately equipped school, they are typically taught Braille in a structured manner, beginning with a subset of the Braille alphabet consisting of tactilely different letters (Barlow-Brown & Connelly, 2002). Braille literacy should ideally start at the pre-primary level. For many years, the popular belief was to use only standard-sized Braille when teaching, but recent research by Barlow-Brown et al. (2019) has provided evidence that children may learn Braille more quickly through larger tactile Braille representations without any subsequent difficulty transferring their knowledge to standard-sized Braille. In addition, some practitioners have debated whether it is better to teach the 26-letter alphabet (Grade 1 Braille) before moving on to include contractions or Braille representations of clusters of letters, also referred to as Grade 2 Braille (Emerson et al., 2009). A longitudinal study by Emerson et al. (2009) found that children who were introduced to Braille contractions earlier in their literacy development had higher literacy performance in subsequent years, especially in vocabulary and spelling.

## 5.6 Interactions

Disability-inclusive PPE should focus on children with disabilities having meaningful classroom interactions with adults and peers and building positive behavior and social-emotional learning (SEL). PPE provides an opportunity for meaningful peer engagement and explicit social skills instruction (Marshall et al., 2011) facilitated by teachers. For example, one author suggested that teachers in early childhood programs can encourage positive peer engagement by providing learning opportunities that encourage

more learner interaction (Baldanza, 2013). However, not much information exists in the literature about peer engagement and SEL for learners with disabilities in pre-primary classrooms. High-income country research found that learners with self-regulation difficulties or those perceived to have severe disabilities need more teacher support than learners without disabilities to participate in social activities (Kuutti et al., 2021). Additionally, learners who have difficulty with self-regulation can benefit from joint play, but peers typically exclude these children; therefore, having teachers create peer-to-peer engagement opportunities can be necessary to ensure joint play occurs (Kuutti et al., 2021). Learners who have meaningful peer relationships are more likely to have higher self-esteem (Bishop & Inderbitzen, 1995) and a more positive attitude toward learning and going to school (Tomada et al., 2005).

When children who are deaf or hard of hearing do not have interactions with peers with whom they can communicate, they may feel rejected and become socially withdrawn (Wauters & Knoors, 2007). This reinforces the concept that learners who are deaf benefit from learning in sign-language-rich environments where they can communicate with their peers, including teachers and peers who may be hearing and can communicate through sign language.

### **Importance of Social Inclusion for Learners with Intellectual and Developmental Disabilities, Including Autism**

Social inclusion is important for all learners with disabilities; however, having support to develop social skills and relationships at an early age is particularly important for learners with intellectual and developmental disabilities. Research from high-income countries showed that inclusive, as opposed to segregated, PPE provides the best environment for learners with disabilities to build social skills (Joseph et al., 2017). The lack of meaningful and inclusive interaction of children with intellectual and developmental disabilities can lead to long-term impacts of decreased employment, shortened life expectancy, and reduced likelihood of living independently as an adult (Strain & Schwartz, 2001).

Learners with autism are often miscategorized as not wanting to have friendships with peers as they may face initial barriers establishing friendships due to communication and social challenges. These children benefit from proactive and moderated opportunities to develop friends at young ages through social prompting, modeling, and reinforcement (Rossetti, 2014). Without these systematic interventions, learners with autism may be at an increased risk for social isolation and miss opportunities to develop meaningful relationships with peers (Hansen et al., 2014). Peer coaching on inclusion, visual schedules, social stories, and social cue cards have all been found to be helpful in facilitating social engagement for learners with autism (Hansen et al., 2014). Similarly, research from 133 studies in 23 different high-income countries showed that children with Down syndrome have demonstrated increased academic and social skills when placed in inclusive PPE settings (de Graaf et al., 2012).

Positive behavior supports are also increasingly being applied in the early classroom setting (Hammeter et al., 2016) as they provide positive replacement behaviors that can facilitate all learners' success in later years (Dunlap et al., 2003). Examples of positive behavior supports include communicating through positive phrasing, stating behaviors the teacher wants to see in the classroom, recognizing when learners are doing desired behaviors versus only pointing out negative behaviors, and establishing token or activity reinforcers for positive behaviors (PACER Center, 2014).

Research suggests that the most effective positive behavior support programs that intervene across natural environments are family-centered and involve family support and family education (Fox et al., 2002; Bayat et al., 2010). Developing partnerships between the family and relevant professionals is essential to the process (Fox et al., 2002). Additionally, some research suggests that teachers learn positive behavior support techniques best with in-class consultation as opposed to participating in group training (Carter et al., 2011; Carter & Norman, 2010; Bayat et al., 2010).

Positive behavior supports teach and reinforce desired behaviors and can minimize undesired ones (e.g., expressing frustration verbally or through AAC or sign language instead of hitting oneself or others) (Percy et al., 2017). Positive behavior supports should not be used to suggest that having a disability must be cured or is inherently wrong, be punitive in any way, or use measures that would restrain or cause trauma or stress to the individual with disabilities (Gardiner, 2017). All children, but especially learners with disabilities, should learn at an early age to self-advocate. This can include setting personal boundaries and stating personal preferences (Gardiner, 2017).

Additionally, all children should be supported in the development of SEL skills at an early age. USAID defines social and emotional skills as “a broad set of cognitive, social, and emotional competencies that affect how children and youth interact with each other, solve problems, make decisions, and feel about themselves” (USAID, 2019, pg. 1). In addition to the positive relationships mentioned above, SEL includes working and playing in groups; thinking and acting independently; solving conflicts; managing responsibilities; identifying, expressing, and regulating emotions; and showing respect for others (USAID, 2019). However, SEL strategies may need to be adapted to support the inclusion of learners with disabilities. For example, instead of talking about emotions, research in high-income countries showed that learners with developmental and intellectual disabilities benefited from using pictures or expressing emotions through colors (e.g., today is a “red” or “mad” day, yesterday was a “green” or “happy” day). Play-based learning is also an effective way to teach and reinforce SEL (Barton, 2017).

## **5.7 Teaming, Collaboration, and Training**

A team approach supports inclusive PPE programs and can facilitate a learner’s individual progress in education. Thus, educators and families should work together to plan supports and services. Partnership and collaboration between families, educators, administrators, and other professionals “is the cornerstone of effective early intervention services and inclusion” (Bailey et al., 2006). This requires transparency, respect, commitment, and trust (Summers et al., 2005). Although the team should discuss issues related to identification, accommodations, services, etc., the ultimate decisions should be made by the family and, if possible, together with the child with a disability (Frankel et al., 2017).

Community engagement can also reduce the social stigma associated with learners with disabilities and encourage families of these learners to access PPE programs. Educating communities and families of children without disabilities on the benefits of disability-inclusive programming is also essential and may facilitate meaningful relationships between learners with disabilities and their peers and potentially reduce bullying. Some international agencies such as UNESCO (2020) have highlighted the importance of “meaningful consultation” with communities and families in designing policies on inclusive education. Meanwhile, many education policies across South Asia also highlight the need to engage families, caregivers, and DPOs when planning and implementing disability-related programs (UNICEF, 2021).

However, UNICEF (2021) notes that only a few countries have translated these policies into action. One of these few exceptions is Afghanistan, which under the previous government had a Task Force on Disability that developed inclusive laws; members of the task force included families, caregivers, school communities, DPOs, and other support organizations (UNICEF, 2021). Another exception is Bangladesh, where the National Coordination Committee, the Inter-Ministerial Task Force on Disability Issues, and other mechanisms enable coordination between government and education stakeholders (UNICEF, 2021). Ultimately, the engagement of families and caregivers is essential to driving the movement toward inclusion (UNESCO, 2020).

To realize inclusion at the classroom level, all early education providers and teachers must receive training on diversity, equity, inclusion, and accessibility. According to USAID, “a skilled and specialized workforce is critical for delivering high-quality pre-primary education” (USAID, 2021b, pg. 37). This includes training any volunteers or paraprofessionals who may be delivering PPE services. To encourage inclusion, education stakeholders may want to consider this training as part of pre-service and in-service criteria for teacher certification. A positive example of teacher training is in Bangladesh; directorates of primary education officers, field officers, and teachers received training in inclusive education and have progressed in integrating inclusive education into pre-service teacher training programs (UNICEF, 2021).

### Promising Practices in Teacher Training

Promising practices in teacher training from the landscape review:

- **Malawi** offers an in-service training program led by Chancellor College, Sightsavers, and national ECD trainers for community-based ECE focused on disability inclusion (Soni et al., 2020).
- **Trinidad and Tobago** offers three weeks of in-service training on disability-inclusive education: One week is devoted to the history and philosophy of inclusive education, one week to assessment screening, and one week to inclusive strategies teachers can use within inclusive classrooms (Joseph, 2014).
- **Zimbabwe** offers full-time and part-time pre-service teacher preparation on disability inclusion within ECE at both the diploma and degree levels (Munjanganja & Machawira, 2015).

## 5.8 Transition

According to the DEC recommendations, “transition” refers to the “events, activities, and processes associated with key changes between environments or programs during the early childhood years and the practices that support the adjustment of the child and family to the new setting” (Council for Exceptional Children, 2014, pg. 16). A well-coordinated transition between pre-primary and primary school can maximize the effects of PPE (Stipek et al., 2017). However, in many LMICs, the transition between PPE and primary education can be disjointed due to a decentralized education system, where often a different ministry oversees PPE versus primary education. For example, in Malawi, PPE is led by the Ministry of Gender, Children, Disability, and Social Welfare, while the Ministry of Education oversees primary education (Sherif & Venter, 2021). A study implemented by the RISE Institute in 2019 looked at early childhood programming in 121 countries and found that only 37 percent of programs



implemented transition planning for the transition from pre-primary to primary school (Vargas-Baron et al., 2019).

The transition from home to PPE is also a critical stage. For many children, this entry is their first experience in a learning environment as well as their first time spending a significant amount of time away from home. In high-income countries, research showed that many families are nervous and uneasy with the transition to a PPE setting (Lovett & Haring, 2003). For these reasons, PPE professionals need to work with families to provide support and communicate with them about their child's progress.

In addition, it is critical to think through how to support learners with disabilities as they transition from PPE to primary school. Successful transition plans should include the following aspects:

- **Aligning PPE and Grade 1 curriculum.** All PPE should link to the primary curriculum by providing foundational learning skills, such as pre-literacy and numeracy. This alignment in curriculum will ensure that learners are able to build on the knowledge they have acquired in pre-primary rather than beginning the primary education system already behind (Bailey et al., 2017).
- **Coordinating PPE and Grade 1 teachers.** Communication and coordination between PPE and Grade 1 teachers are crucial to ensure learners smoothly transition to higher grades. For learners with disabilities, this is especially important to ensure that all accommodations and supports given to the learner in the pre-primary classroom are continued in the primary classroom.
- **Engaging with families.** Engaging families to support a positive transition into primary school is associated with improved teacher, family, and learner satisfaction and better child outcomes (Council for Exceptional Children, 2014). This engagement could include a joint meeting with the family, pre-primary teacher, and primary teacher as well as a visit to the primary classroom so the family can familiarize themselves with the new environment (Sands & Meadan, 2022).
- **Preparing the learner.** All children need support when preparing to transition to a new setting, and this support is especially helpful for children with disabilities (Ehrlich et al., 2021). Primary schools generally have larger class sizes, and teachers have different expectations and teaching styles, which may cause changes to the support provided to learners with disabilities (Daley et al., 2011). Visiting the classroom and meeting the new teacher a few days before primary school begins can give all learners, including those with disabilities, a chance to adjust to the new environment.

## 6. SPECIFIC RECOMMENDATIONS

This White Paper provides various recommendations on how disability-inclusive PPE can be realized in LMICs. These recommendations are organized around the evidence-based core practices for inclusive PPE. They include promising practices on disability-inclusive PPE captured from the landscape review and evidence-based initiatives from high-income countries that apply and can be adapted to lower-resourced settings. Highlights of the key recommendations are summarized below in Table 2.

TABLE 2. SUMMARY OF KEY RECOMMENDATIONS BY INCLUSIVE PRACTICE

INCLUSIVE PRACTICE	SUMMARY OF PRIMARY RECOMMENDATIONS
<b>General</b>	<ul style="list-style-type: none"> <li>✓ <b>Promote disability inclusion</b> within solicitations, including the requirement of an inclusive approach as part of the selection criteria.</li> <li>✓ <b>Encourage cross sectoral work</b> that not only looks at education but also connects to health programming, especially as it relates to screening and identification.</li> <li>✓ <b>Build the evidence base</b> for LMICs by integrating research opportunities in programming when possible.</li> <li>✓ <b>Support a twin-track approach</b> to inclusion, which mandates that broader PPE programs address the inclusion of learners with disabilities while also supporting disability-targeted activities.</li> <li>✓ <b>Include all learners with disabilities</b> regardless of the type of disability or perceived support needs, instead of starting with learners with perceived “mild” disabilities or focusing on only one type of disability.</li> </ul>
<b>Leadership</b>	<ul style="list-style-type: none"> <li>✓ <b>Support the development of policies</b> that promote disability-inclusive education at all levels, including PPE. Policies should embed the need for data collection, include the other recommended practices, and state how PPE may need to be adapted to address times of crisis, natural disabilities, or pandemics. It is also important that policies are accompanied with strategic plans and budgets to move from policy into practice.</li> <li>✓ <b>Build the capacity</b> of national, regional, and local leaders to support the implementation of disability-inclusive PPE.</li> <li>✓ <b>Promote collaboration between ministries</b>, including Ministries of Health and Ministries of Social Protection to facilitate support for learners on various levels.</li> <li>✓ <b>Train leaders, staff, and teachers</b> on the value of disability-inclusive PPE and instructional practices that include UDL.</li> </ul>
<b>Assessment</b>	<ul style="list-style-type: none"> <li>✓ <b>Put in safeguards</b> to ensure screening and identification support inclusion and not exclusion.</li> <li>✓ <b>Use validated tools</b> appropriate to the local context.</li> <li>✓ <b>Obtain family consent</b> and engage families throughout all aspects of identification and referral.</li> <li>✓ <b>Ensure confidentiality</b> by following international protocols.</li> </ul>

INCLUSIVE PRACTICE	SUMMARY OF PRIMARY RECOMMENDATIONS
	<ul style="list-style-type: none"> <li>✓ <b>Use results to provide accommodations, referrals, and supports</b>, and ensure that these processes are established in advance of conducting any screening.</li> </ul>
Environment	<ul style="list-style-type: none"> <li>✓ <b>Ensure the environment is physically accessible, child-friendly, and safe</b> and that learners are free from abuse or neglect. This applies to WASH stations as well.</li> <li>✓ <b>Provide assistive devices</b> for learners who may require them as accommodations.</li> <li>✓ <b>Promote inclusive teaching and learning materials</b> that follow the principles of UDL and promote diversity and equity by representing learners with disabilities and other marginalized groups in images and stories.</li> <li>✓ <b>Ensure that inclusive remote or blending-learning</b> platforms or materials are accessible and follow the principles of UDL.</li> <li>✓ <b>Promote sign language-rich environments</b> for learners who are deaf so they can learn from fluent sign language speakers and interact with peers and adults in PPE settings.</li> </ul>
Families/ Caregivers	<ul style="list-style-type: none"> <li>✓ <b>Engage families/caregivers</b> throughout all aspects of their children's education.</li> <li>✓ <b>Include families/caregivers in early intervention activities</b> to support these interventions at home and in the community.</li> <li>✓ <b>Educate families on inclusive PPE</b> so they can serve as advocates for their children.</li> </ul>
Instruction	<ul style="list-style-type: none"> <li>✓ <b>Use a multi-tiered system of support</b> in which learners receive intensified instruction based on their needs.</li> <li>✓ <b>Promote the use of UDL in PPE settings</b> for all children, including play-based instruction, emergent literacy and mathematic skills, and expressive language instruction.</li> <li>✓ <b>Provide explicit small group interventions and embed learning strategies</b> in everyday activities.</li> <li>✓ <b>Provide early intervention for learners with identified disabilities</b>, including pre-Braille literacy skills, sign language instruction, and other interventions that support the development and learning of all children.</li> </ul>
Interactions	<ul style="list-style-type: none"> <li>✓ <b>Provide meaningful social interactions</b> between learners with and without disabilities through modeling and facilitating interactions.</li> <li>✓ <b>Promote positive behavior supports</b> within the classroom to reinforce desired positive behaviors, communication, and actions.</li> </ul>

INCLUSIVE PRACTICE	SUMMARY OF PRIMARY RECOMMENDATIONS
	<ul style="list-style-type: none"> <li>✓ <b>Integrate SEL instruction</b> during formal and informal instruction periods.</li> <li>✓ <b>Support learners to self-advocate</b> for their needs, strengths, and accommodations.</li> </ul>
<b>Teaming, Collaboration, &amp; Training</b>	<ul style="list-style-type: none"> <li>✓ <b>Promote partnerships between PPE educators and families/caregivers</b> in all aspects of education, including identification, selection of accommodations and services, and supports.</li> <li>✓ <b>Engage DPOs in policies and programs</b> related to disability-inclusive PPE.</li> <li>✓ <b>Seek opportunities to engage communities</b> and educate families/caregivers of learners without disabilities on the benefits of disability-inclusive PPE.</li> <li>✓ <b>Train staff and teachers on disability-inclusive PPE</b> instruction and other recommended practices.</li> </ul>
<b>Transition</b>	<ul style="list-style-type: none"> <li>✓ <b>Prepare for the transition from PPE to primary school</b> through curriculum alignment and coordination among teachers.</li> <li>✓ <b>Engage families in PPE transitions</b>, including engaging with teachers and staff in primary schools prior to enrollment to facilitate a continued collaborative environment.</li> <li>✓ <b>Prepare the learners with disabilities</b> to transition from PPE to primary school, including helping them become familiar with the new environment and expectations.</li> </ul>

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## 8. GLOSSARY

**Accommodations:** Changes that reduce barriers and allow students to effectively receive information and express learning. These can include changes in the presentation, response, timing, scheduling, setting, or language used.

**Assessment:** The process of gathering and evaluating information on what students know, understand, and can do (Clarke, 2012).

**Augmentative and Alternative Communication (AAC):** A set of tools and strategies that an individual uses in communication. These can include speech, text, gestures, facial expressions, touch, sign language, symbols, pictures, and speech-generating devices (International Society for Augmentative and Alternative Communication, n.d.).

**Braille:** A widely used touch system of reading and writing for people who are blind that uses a special code made from six raised dots on a grid (World Blind Union, 2021).

**Developmental Delays:** When a learner does not reach milestones at the same time as the majority of their peers (Boggs et al., 2019).

**Developmental Screening:** An assessment that looks at developmental milestones in different categories (e.g., social-emotional, communication, gross motor) and whether a child can meet them. These screenings are conducted on a continual basis, with any delays leading to a more thorough diagnostic examination (Moodie et al., 2014).

**Disability:** A social concept that is based, not on a person's specific impairment, but on the attitudinal and environmental barriers a person faces because of the impairment (World Bank, 2021).

**Embedded Learning Strategies:** Learning strategies that promote child engagement and learning in everyday activities, routines, and transitions (McDonnell et al., 2006).

**Multi-Tiered System of Support (MTSS):** The provision of inclusive instruction to all learning while giving some learners more intensive and individualized instruction. MTSS uses different tiers of support with additional, adjusted, and more intensive instruction to meet the needs of diverse learners (DEC, 2021).

**Disabled Persons Organization (DPO):** An organization led, directed, and governed by persons with disabilities who also compose a clear majority of their membership (United Nations Disability Inclusion Strategy, 2021).

**Pre-Primary Education (PPE):** The one-to-three years of organized schooling before primary school, generally from ages 3 to 6, though overage and underage enrollment is common (USAID, 2021a).

**Sign Language:** Complete and natural languages, which are expressed by movements of the hands and face. Similar to spoken languages, each sign language has its own vocabulary and grammar rules distinct both from other sign languages and from spoken languages (NIH, 2020).

**Universal Design for Learning (UDL):** Adaptations to make learning more accessible to persons with disabilities that may be helpful to all individuals.