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DISABILITY-INCLUSIVE PRE-PRIMARY EDUCATION LANDSCAPE REVIEW

August 2022

ACKNOWLEDGEMENTS

This document was developed by Inclusive Development Partners (IDP) with the support of the U.S. Agency for International Development (USAID) through the USAID Leading Through Learning Global Platform (LTLGP). LTLGP is a global education learning system for USAID and its partners to enhance thought leadership and education program quality. LTLGP is implemented by Education Development Center, Inc. (EDC). EDC designs, implements, and evaluates programs to improve education, health, and economic opportunity worldwide.

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IDP would like to thank the USAID headquarters teams who actively engaged in the landscape review's design, including Rebeca Martinez and Josh Josa. We also appreciate the support of the LTLGP team at EDC and would like to acknowledge Mauren Plaisimond, Scott Pulizzi, and Cornelia Janke. Lastly, we would like to thank Catherine Frazier for reviewing and editing this document.

Cover photo: Students in Nepal engage in arts and crafts at the temporary school structure. Photo by: Kashish Das Shrestha for USAID

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ACRONYMS

ASQ	Ages and Stages Questionnaire
CBM	Christian Blind Mission
CRPD	Convention on the Rights of Persons with Disabilities
EARC	Education Assessment Resource Center
ECD	Early Childhood Development
ECE	Early Childhood Education
EDC	Education Development Center
EGST	Early Grade Screening Tool
EQ	Evaluation Question
ESP	Education Sector Plan
GLAD	Global Action on Disability
IDA	International Disability Alliance
IDELA	International Development and Early Learning Assessment
IDP	Inclusive Development Partners
INGO	International Non-Governmental Organization
LAC	Latin America and the Caribbean
LMIC	Low and Middle-Income Country
LTLGP	Leading Through Learning Global Platform
MDAT	Malawi Developmental Assessment Tool
MELQO	Measuring Early Learning Quality and Outcomes
MTSS	Multi-Tiered System of Support
NGO	Non-Governmental Organization
OPD	Organization of Persons with Disabilities
PPE	Pre-Primary Education
SDG	Sustainable Development Goal
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

1. EXECUTIVE SUMMARY

Research shows that all children, especially children with disabilities, benefit from participation in pre-primary education (PPE) programs (UNICEF, 2019). Disability-inclusive PPE enables children with disabilities to acquire foundational skills needed to benefit from the education system and later contribute to society at large. These foundational skills include phonological awareness, pre-numeracy, social and emotional skills, physical abilities, and other skills that prepare children for the early years of primary school (USAID, 2021). Research also indicates that disability-inclusive PPE can enhance the benefits of home-based early intervention programs that may have been delivered before age 3, by building upon emerging skills.

However, in low- and middle-income countries (LMICs), children with disabilities have limited access to PPE compared to their peers without disabilities due to environmental, economic, organizational, and attitudinal barriers. Not much is known about the extent to which children with disabilities currently receive and/or are included within PPE programming. As a result, a large gap remains within the evidence base for disability-inclusive PPE.

Access to PPE has, however, increased significantly over the past few decades. In 1986, an average of 30 percent of children around the world benefited from early childhood services, compared to the more than 60 percent in 2019 (UNESCO, 2021b). Although much has changed, progress is still too slow to meet the Sustainable Development Goal (SDG) Target 4.2 for universal access to PPE by 2030. UNICEF (2019) estimates that, at the present rate of progress, more than half of LMICs will miss this target. This landscape review uses the definition of disability used by the Convention on the Rights of Persons with Disabilities (CRPD), which states that disability is an "evolving concept and that disability results 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). This includes individuals with sensory, mobility, intellectual, developmental, behavioral, attentional, and cognitive disabilities.

1.1 LANDSCAPE BACKGROUND AND PURPOSE

This landscape review is part of the United States Agency for International Development's (USAID) Leading through Learning Global Platform (LTLGP), which is implemented by the Education Development Center (EDC). LTLGP is a global education learning system for USAID and its partners to enhance thought leadership and education program quality. This landscape review was designed to provide USAID and its partners with a better understanding of how disability-inclusive PPE manifests across a range of contexts, including in contexts of crisis and conflict. To make a meaningful contribution, USAID wants 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 they can translate/actionize these ideas with missions and partners working in the field. This resulting Disability-Inclusive PPE Landscape Review will immediately contribute content to USAID's training on PPE and help USAID achieve their commitment at the Global Disability Summit by providing a more robust evidence base on PPE for learners with disabilities.

1.2 METHODOLOGY

For each of the landscape review's five questions, Inclusive Development Partners (IDP) generated an evaluation question (EQ) related to an area of PPE:

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 and/or that keep PPE models from being fully inclusive?

This review included an extensive literature review of 129 documents from both academic and grey literature and two surveys developed to capture gaps in the existing literature and current practice in the field from the perspectives of donors, practitioners, and advocates.

Surveys were developed for this review and sent to two groups: World Vision country offices[1] and the International Disability Alliance (IDA)/Global Action on Disability (GLAD). Both groups then shared the survey with their broader networks. Each survey consisted of 24 questions and was designed to gather information on disability-inclusive PPE practices, such as instructional practices, curriculum design, pre-service training for pre-primary staff, screening/identification and referral practices, early intervention, and monitoring and evaluation. The final survey sample included 80 participants from 38 countries.[2] Participants came from a variety of organizations, including global organizations working in international development, donors, organizations of persons with disabilities (OPDs) and local organizations.

1.3 ANSWERING THE EVALUATION QUESTIONS

For each of the landscape review's five questions, IDP generated an EQ related to an area of PPE. A summary of the findings by evaluation question can be found below.

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

[1] World Vision has nearly 35,000 staff across 100 countries and six continents, as well as an extensive network throughout these countries. IDP chose World Vision during the proposal phase to ensure that the landscape review was as exhaustive as possible. World Vision sent the survey to 59 of its offices.
[2] This did not include 10 participants removed due to a lack of alignment with the survey criteria, which included not being from a LMIC and/or not representing an organization.

Answer: Although international donors and coalitions have set clear global definitions of general PPE, no definitions specified that PPE should be inclusive of all children with disabilities, regardless of level of support needs. There is not much in the literature related to country-specific definitions of disability-inclusive PPE. Survey results found that the definition of PPE for children with disabilities varies widely across individual countries. In addition, the literature and survey reveal:

- **Donors shared a definition of PPE, but it was not explicitly inclusive of all children with disabilities.** Donors tended to have a shared definition for PPE, which was generally from age 3 to age 6. However, this definition did not specifically mention inclusion of all children with disabilities regardless of level of support needs.

- **Definitions of PPE from survey participants varied widely across countries.** Survey participants were asked how pre-primary education for learners with disabilities was defined within their country, and many shared what was occurring within their country within this definition. As a result, there was often no consistent definition of PPE across countries. Participants also shared that the length and type of pre-primary education depends on the type and level of disability.

- **Definitions varied depending on the type of placement mentioned.** When asked about a definition of pre-primary education for children with disabilities, participant definitions reflected a range of placements, mostly focused on segregated and integrated schools. Participants also noted that children with disabilities are most likely out of school for reasons such as stigma, parents keeping children with disabilities at home, and/or a lack of capacity or availability of inclusive education systems.

- **Definitions varied depending on disability type**. Several participants reported that the age of enrollment for learners with disabilities depended on the type of disability. However, due to the lack of consistent screening and identification, learners are often under-identified or misidentified.

- **Definitions varied between survey participants from the same country.** Sometimes several individuals from the same country, often a mix of different implementers and donors, completed the survey. In these cases, participants reported different definitions of PPE for that country. As was the case above, participant responses also included additional detail about disability-inclusive PPE, including the age of enrollment and the extent learners with disabilities are given access to PPE. This variation may be due to considering learners with disabilities within their definition as well as extenuating circumstances (e.g., urban versus rural).

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?

Answer: Partly due to donor funding, assessment of developmental milestones, including learning-related milestones, within PPE have become more common. However, this is primarily implemented at the national level rather than for formative purposes at the classroom level. Although promising practices are emerging to identify learners with potential disabilities, they are not yet standard practice within most pre-primary classrooms in LMICs.

- **Assessments for developmental milestones.**[3] Of survey participants, 46.3 percent shared that their screening practices include assessing for developmental milestones (15 percent reported conducting developmental screening and 31.3 percent reported conducting "screening of all types"). However, a third of these participants reported that these developmental milestone assessments occur as part of the medical system, as opposed to within pre-primary classrooms.

- **Assessments for potential disabilities.** According to survey participants, hearing and vision screening are not consistently implemented in pre-primary classrooms in LMICs. The literature reports that most screening activities within classrooms are conducted through observation alone rather than through validated tools (Dunphy, 2008; Mulunda, 2017). While 41.4 percent of survey participants reported that they conduct screening for hearing and vision (3.8 percent reported vision screening, 6.3 percent reported hearing screening, 31.3 percent reported conducting "screening of all types"), most noted that screening occurs through the health system. For those who conduct screening within the classroom, the Washington Group Questions, which is a tool intended for census-level disability data collection and not yet validated for classroom use, are most used.

- **Referrals.** Of survey participants, 84 percent reported that referral services are available on a small scale but that the systems often lack the capacity (financial, human resources, location) to meet the needs of all children in country. Of those who reported referral services within their countries, the most common services are provision of eyeglasses, hearing aids, and mobility aids. Service delivery is mainly supported with donor and philanthropic funding through non-governmental organizations (NGOs) (58 percent), international non-governmental organizations (INGOs) (58 percent), and, to a lesser extent, OPDs and clinics versus through government provision. Only 23 percent reported that schools support service delivery. The financial burden of paying for services often falls on the parents of pre-primary learners (64 percent), with some support provided by international projects (56 percent) and NGOs (51 percent).[4]

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?

Answer: 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). A lack of training was commonly cited as the 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 who are 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,

[3] Developmental milestone assessments look at how children grow and change over time and whether they are meeting developmental milestones in playing, learning, speaking, behaving, and moving (Lipkin et al., 2020).
[4] Survey participants could choose more than one response when answering the question about service delivery.

2021b). However, there is less in the literature about what training model or curriculum works best, particularly for teachers of pre-primary learners with disabilities.

- **Pre-service training.** The survey found that about half of pre-primary teachers receive pre-service training on disability-inclusive PPE (52 percent). A few participants reported that qualified teachers who have received pre-service training are more likely to be found in urban areas, as opposed to the more rural parts of a given country. Several participants also reported that pre-primary teachers receive training related to disability inclusion as part of their pre-service education but that the training is very basic.

- **In-service training.** There is not much in the literature about in-service pre-primary teacher training related to inclusive education. Around half of survey participants reported that teachers in LMICs receive in-service training on disability-inclusive PPE (48 percent). Some participants (6 percent) shared that any in-service training that teachers receive is primarily provided by NGOs rather than the government. Others reported that in-service training is limited to certain areas, such as learning the local sign language or screening and identification.

4. What instructional models worked best to improve classroom instruction and pre-literacy outcomes among pre-primary learners with disabilities?

Answer: Ideally, PPE systems would follow Buysse and Peisner-Feinberg's (2013) framework on early childhood development (ECD). This framework builds on multi-tiered systems of support (MTSS) and provides different levels of intervention based on need. Adapted from the Buysse and Peisner-Feinberg framework, tiers include promotion (Tier 1), intervention (Tier 2), and individualization (Tier 3). See **Section 7** for more information about this framework.

PROMOTION

- **Universal Design for Learning (UDL).** Research shows that integrating principles of UDL in early childhood education (ECE) can be particularly effective for a broad range of learners as it allows learner choice, self-monitoring, and accessible learning materials (Lohmann et al., 2018). Although not much exists in the literature around using UDL within pre-primary classrooms in LMICs, 53 percent of survey participants reported that teachers in country use instructional strategies that incorporate a variety of learning styles. Play can be a core element of UDL, especially in early childhood. Of survey participants, 64 percent reported that teachers are using play-based instruction within their pre-primary classrooms.

- **Peer engagement and social skills instruction.** ECE provides an opportunity to provide meaningful peer engagement and explicit social skills instruction (Marshall et al., 2018) facilitated by teachers. 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). Although not much is found in the literature about its use in LMICs, high-income country research does find that learners with self-regulation difficulties or perceived to have severe disabilities need more teacher support than learners without disabilities in order to participate in social activities (Kuutti et al., 2021).

- **Positive behavior supports.** Positive behavior supports are 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 and stating behaviors the teacher wants to see in the classroom, recognizing when students are doing desired behavior versus only pointing out negative behaviors. and establishing a token or activity reinforcer for positive behavior (PACER, 2014). Of survey participants, 55 percent reported that positive behavior supports are used within classrooms in their country.

INTERVENTION

- **Small group interventions.** Not much exists in the literature on the use of small group interventions for children with disabilities within pre-primary settings. Of survey participants, 42 percent reported using small groups and paired instruction, but none of the participants mentioned how they use small groups as a tool to provide interventions to struggling learners.

- **Embedded learning strategies.** Embedded learning strategies occur when teachers insert planned, individualized teaching into children's ongoing activities. These were not found in the literature for pre-primary learners within LMICs, and none of the survey participants reported the use of these strategies in classrooms. However, the research within high-income countries shows these strategies can be an effective tool for struggling pre-primary learners.

INDIVIDUALIZATION

- **Early intervention.** Literature on early intervention for pre-primary learners within LMICs is limited, and none of the survey participants reported this occurring within classrooms in their country. However, for a learner who is deaf, hard of hearing, or deafblind, the best chance for achieving equitable learning outcomes is to immerse them in a fluent sign language-rich environment to the greatest extent feasible from the first year of life onwards (Humphries et al., 2012; Laurent Clerc National Deaf Education Center, 2017; Klaudia, 2013). Research also suggests that learners who are blind benefit the most when they first learn pre-braille skills in the first stage of their braille literacy instruction (Ng Ai Lee et al., 2021).

- **Planned environmental arrangements.** Much has been said in the literature about planned environmental arrangements for children with disabilities. Of survey participants, 49 percent said that teachers use preferential seating within classrooms in the country. This involves placing a student in a location within the classroom that is most beneficial for their learning. Additionally, a participant from Myanmar shared that they always place children who have low vision in the front row, and teachers always ensure that children who are deaf or are hard of hearing can see the teacher and each other. However, this strategy alone does not ensure access; it is important for teachers to continually check for understanding to ensure that students are learning. Additionally, it does not replace the need for sign language for students who are deaf, or braille instruction for students who are blind.

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?

Answer: 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 barrier more recently, as the additional time away from school has caused learners with disabilities to not enroll or to fall farther behind. The most common barriers identified by participants can be found in Exhibit 1.

EXHIBIT 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)[5]	52	69
Safety Concerns	47	63
Transportation	46	62
Education Not Valued	42	56

1.4 RECOMMENDATIONS

Implementers should take several steps to improve their programming in the areas of screening, teacher training, and instructional strategies. Initial recommendations are outlined below; additional recommendations will be collected through a series of ideation events, which will be included in a white paper submitted later in the project.

- **Perform referral mapping before implementing screening**. Prior to conducting screening, implementers should map existing services within the community. This should include organizations within the community that might provide services such as physical therapy or sign language instruction, medical clinics that conduct vision and hearing exams, and NGOs or others that may provide glasses, hearing aids, or other assistive devices.

- **Train teachers on environmental accommodations they can implement for children with possible disabilities**. In addition to referring children with possible disabilities to

[5] Language of instruction means a different language of instruction than the one that the child uses and understands.

services, teachers can modify the environment to accommodate these children's needs (e.g., providing a visual schedule or placing the learner near peers who can offer support). These accommodations may be helpful in cases where learners do not receive referral services for various reasons, including financial constraints or the lack of referral services in their community.

- **Ensure that all pre-primary teachers receive pre-service and in-service training on UDL.** LMICs' classrooms most likely contain children with unidentified disabilities. One way to help teachers prepare for the variety of needs that might exist in their classroom is to provide these teachers training on UDL. By providing content in different ways and allowing learners to respond in different ways, teachers will ensure that the content reaches a broader range of learners with a variety of needs and learning styles.

- **Ensure early intervention for learners who are blind, deaf, hard of hearing, deafblind, or have intellectual or developmental disability.** Pre-primary education should offer early intervention services for students with identified disabilities as early as possible to ensure that they enter primary education ready to learn.

2. BACKGROUND

Research shows that all children, especially children with disabilities, benefit from participation in pre-primary education (PPE) programs. However, often in low- and middle-income countries (LMICs), children with disabilities have limited access to PPE compared to their peers without disabilities due to environmental, economic, organizational, and attitudinal barriers. Not much is known about the extent to which children with disabilities currently receive and/or are included within PPE programming. As a result, a huge gap remains within the evidence base for disability-inclusive PPE. For example, a review of good practices for early childhood inclusive education conducted by Christian Blind Mission International (CBM) found insufficient information on PPE in LMICs and thus they were unable to include this area within their analysis (Wapling, 2016). This finding is consistent with the lack of research/evidence found by this study; however, there were also a few promising practices that could be built upon in the future.

Definition of Disability Within This Landscape Review

This landscape review uses the definition of disability used by the Convention on the Rights of Persons with Disabilities (CRPD), which states that disability is an "evolving concept and that disability results 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 the purposes of this landscape review, this includes learners who may have the following disabilities:

- Albinism
- Autism
- Behavioral, attentional/social-emotional disabilities
- Blind or have low vision
- Deaf or hard of hearing
- Deafblind
- Intellectual disability
- Learning disabilities
- Physical disabilities

2.1 PURPOSE OF THE LANDSCAPE REVIEW

This landscape review is part of the United States Agency for International Development's Leading Through Learning Global Platform (USAID LTLGP), which is implemented by the Education Development Center (EDC). LTLGP is a global education learning system for USAID and its partners to enhance thought leadership and education program quality. This is done by bringing USAID together with international and local implementing partners, researchers, donors, private sector actors, representatives of other education networks, and partner-country government leaders in a system of global learning networks and hubs. These three global learning networks—the USAID Education in Crisis and Conflict Network, the USAID Global Reading Network, and a new USAID Higher Education Learning Network—create opportunities for members to share and address education needs while benefiting from and contributing to a global community of learning.

This landscape review was designed to provide USAID and its partners with a better understanding of how disability-inclusive PPE manifests across a range of contexts, including in contexts of crisis and conflict. To make a meaningful contribution, USAID wants 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 they can translate/actionize these ideas with missions and partners working in the field. This resulting Disability-Inclusive PPE Landscape Review will immediately contribute content to USAID's training on PPE and help USAID achieve their commitment at the Global Disability Summit by providing a more robust evidence base on PPE for learners with disabilities.

2.2 HISTORY AND CURRENT GLOBAL CONTEXT OF DISABILITY-INCLUSIVE PRE-PRIMARY EDUCATION

Nearly 175 million pre-primary aged children are not in a PPE program—and many of them will begin primary school without the foundational skills they need to do well in school (USAID, 2021; United Nations Children's Fund [UNICEF], 2019). Out of 193 countries, only 63 countries provide PPE for free, and 51 countries make PPE compulsory. In only 46 countries, at least one year of pre-primary education is both free and compulsory (United Nations Educational, Scientific, and Cultural Organization [UNESCO], 2021b). Most countries where pre-primary education is either free, compulsory, or both are either high- or upper-middle-income countries (UNESCO, 2021c). Although many countries have made progress in PPE enrollment, it is slow and uneven. For example, children in emergency settings often have no access to pre-primary learning—a significant finding considering that nearly a quarter of the world's pre-primary aged children are in one of 33 countries affected by conflict. Also, children who are in low-income households, in rural areas, or have mothers who did not attend secondary school are less likely to attend PPE programs (UNICEF, 2019).

Fortunately, access to PPE has changed significantly in the past few decades. In 1986, an average of only about 30 percent of children around the world benefited from early childhood services, compared to more than 60 percent in 2019 (UNESCO, 2021b). Although much has changed, progress is still too slow in terms of the Sustainable Development Goal (SDG) Target 4.2 for universal access to PPE. UNICEF (2019) estimates that, at the present rate of progress, more than half of LMICs will miss this target of universal PPE by 2030. More recently, UNESCO (2021b) has noted that the COVID-19 pandemic has compounded the exclusion of children on the basis of gender, disability, ethnicity, and other marginalized identities.

Similar to other populations experiencing disadvantages, countries that collect data on children with disabilities consistently find these children are more likely to be out of school than their peers without disabilities. Data on disability and PPE is limited, but UNICEF (2019) reported that existing data indicates that the gap between children with and without disabilities is more severe at the pre-primary level than at the primary level or above due to lack of access. Globally, an estimated 100 million children with disabilities are younger than age 5; PPE disparities mean that many of these children are missing their crucial window for learning foundational skills before primary school (UNICEF, 2019).

Many factors can contribute to inequitable participation in PPE for young children with disabilities. UNESCO (2021a) indicated that one factor is that many early education programs simply do not welcome children with disabilities due to stigma and lack of teacher preparedness, and parents struggle to enroll their children. However, some parents decline to send children with disabilities to early education programs due to safety concerns. Even when early education programs enroll learners with disabilities, these programs may not be inclusive of their needs. For example, teachers may lack opportunities for training or mentoring on how to accommodate diverse needs among their learners (UNESCO, 2021a). Despite these challenges, some promising practices exist. UNICEF (2019) noted that Mongolia has education policies that focus attention on rural children with and without disabilities. As another example, Indonesia gives additional funding to early childcare and education centers that serve poor learners, learners with disabilities, or learners affected by emergencies. Practices like these and others need to be built upon, scaled up, and replicated globally to ensure that quality PPE access can reach all children.

2.3 BENEFITS OF DISABILITY-INCLUSIVE PRE-PRIMARY EDUCATION

Research has repeatedly confirmed that PPE is essential to the future academic success of learners (Duncan et al., 2007) and their long-term well-being as adults (Black et al., 2016). The years before a child turns 6 are a crucial window of opportunity for enabling them to learn well over a lifetime. Early childhood is a critical time for brain and language development, and children have an immense capacity for learning. When children have the foundational skills they need before they start their primary education, they are more likely to complete both primary school and secondary school (USAID, 2021). Children who attend pre-primary school have higher incomes throughout their lifetimes. Enrolling young children in PPE also has more immediate financial consequences for the whole family by enabling mothers and other caretakers to pursue employment. Parents whose children attend pre-primary education programs tend to enter the workforce earlier and work more years than parents whose children do not have access to PPE (USAID, 2021).

In accordance with SDG Target 4.2, UNICEF (2019) has called for all children to receive at least one year of quality PPE by 2030. Their report on pre-primary education indicates that PPE typically has the strongest impact in LMICs and for the "most disadvantaged children," which are findings similar to other stakeholders in the field. They find that children who attend quality early childhood education programs not only pass into higher grades of schooling but also are more likely to develop critical thinking skills and participate in the workforce as adults. This finding is important in light of the 610 million children and adolescents who are not currently achieving basic proficiency in reading, writing, or math skills (UNICEF, 2019). Without access to pre-primary school education, many children start primary school already behind their peers—and the gap typically widens throughout their school years (UNICEF, 2019).

In addition, both learners with disabilities and learners without disabilities benefit when education is inclusive. For learners with disabilities, disability-inclusive PPE means they, too, are better prepared when they start school. Learners with disabilities in inclusive settings typically have stronger academic skills than peers educated in segregated settings and are more likely to graduate on time (Abt Associates, 2016). Students with disabilities who spend more of their school day with peers without disabilities also demonstrate stronger language and mathematical skills than students with similar disabilities who spend less time with peers without disabilities (Hehir, Grindal, & Eidelman, 2012). Meanwhile, their non-disabled peers learned to be more comfortable with, and aware of, human differences, less prejudiced, and better able to develop caring friendships. For example, students in inclusive schools were more likely to have friends with disabilities and to stand up for peers with disabilities who experience teasing or social rejection (Abt Associates, 2016). UNICEF (2019) suggests that disability-inclusive PPE helps children with disabilities better integrate into the education system and society at large. UNICEF (2019) also indicates that disability-inclusive PPE can enhance the benefits of home-based early intervention programs that may have been delivered before age 3.

3. METHODOLOGY

3.1 GENERAL OVERVIEW

Five evaluation questions (EQs) were developed, each related to an area of PPE:

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 and/or that keep PPE models from being fully inclusive?

This review included an extensive literature review of 129 documents from both academic and grey literatures and two surveys developed to capture gaps in the existing literature and current practice in the field from the perspectives of donors, practitioners, and advocates.

3.2 SUMMARY OF LITERATURE REVIEW METHODOLOGY

The literature review was conducted via Google Scholar from April 14–22, 2022. The following search terms were used: *early childhood education* on its own and in combination with the word *disability*; *pre-primary education* on its own and in combination with the word *disability*; and *"inclusive early education"*

(with the quotation marks). The "custom range" option was used to restrict the search to the past 20 years (from 2002 to 2022). The results were sorted by relevance.

Even the smallest set of search results garnered hundreds of hits (term searched: *"inclusive early education"*) or thousands of hits (term searched: *pre-primary education disability*). The largest sets of search results had millions of hits. Researchers browsed titles to identify articles that seemed sufficiently relevant, read the abstract, and then decided whether to include these articles in the literature review. Altogether, 129 articles were selected for inclusion in the literature review based on their alignment with the five research questions. Articles were included if they addressed these research questions within LMICs or established best practices in these five areas.

These articles were used to develop the survey questions as well as reinforce the survey findings through evidence from the literature base. Sixty-four of these articles were cited within this landscape review and can be found in the reference section at the end of this report.

3.3 SUMMARY OF SURVEY METHODOLOGY

Two surveys were developed for this review: one for World Vision staff and affiliates[6] and one to more broadly engage the perspectives of additional stakeholders, such as organizations of persons with disabilities (OPDs). Each survey consisted of 24 questions and was designed to gather information on disability-inclusive PPE practices, such as instructional practices, curriculum design, pre-service training for pre-primary staff, screening/identification and referral practices, early intervention, and monitoring and evaluation. Survey data was collected from April 5–May 12, 2022, via Google Forms.

Although 90 surveys were collected, the final survey sample included 80 participants; 10 participants were removed as they did not meet the criteria for sampling as follows: six survey participants were not from or working in LMICs,[7] three survey participants answered as individuals instead of organizations, and one participant represented a business with no connection to disability. Sixty percent of participants were from international NGOs, such as World Vision, Save the Children, and International Rescue Committee.

For this study, Inclusive Development Partners (IDP) used the geographic regions outlined by USAID[8]: Africa, Asia, Europe and Eurasia, Latin America, and the Caribbean (LAC), and the Middle East. Survey participants by organization and by region as well as a map of regions can be found in the following exhibits.

[6] World Vision has nearly 35,000 staff across 100 countries and six continents, as well as an extensive network throughout these countries. IDP chose World Vision during the proposal phase to ensure that the landscape review was as exhaustive as possible.
[7] Countries that did not meet the study criteria include the United States (4), Australia (1), and the United Kingdom (1).
[8] https://www.usaid.gov/where-we-work

EXHIBIT 2. SURVEY RESPONSE BY ORGANIZATION TYPE

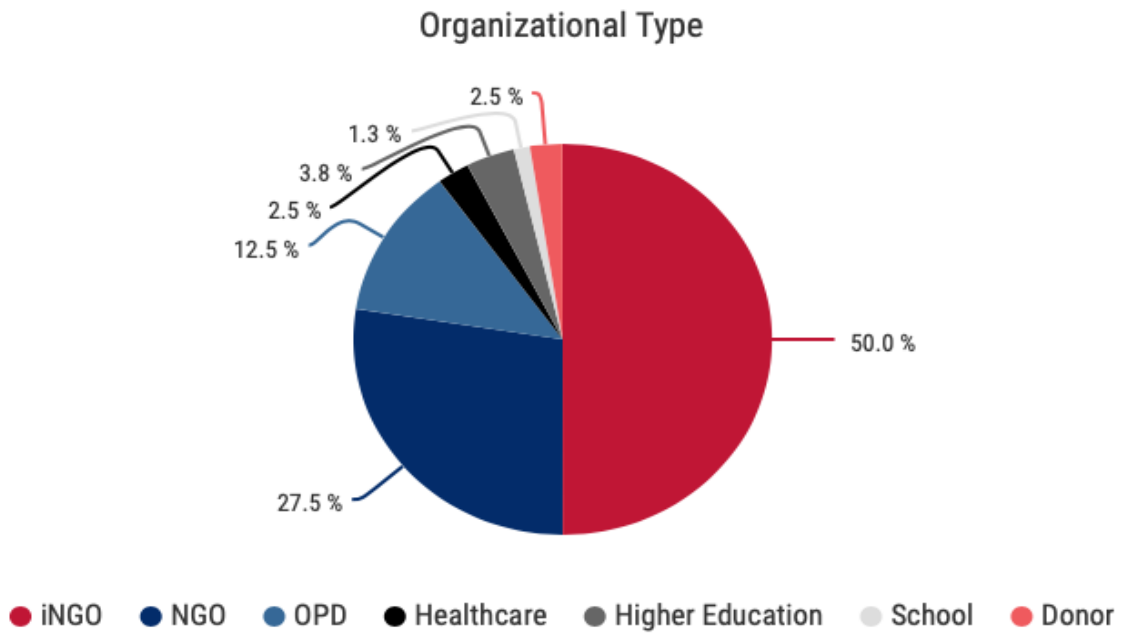


EXHIBIT 3. SURVEY RESPONSE BY REGIONS

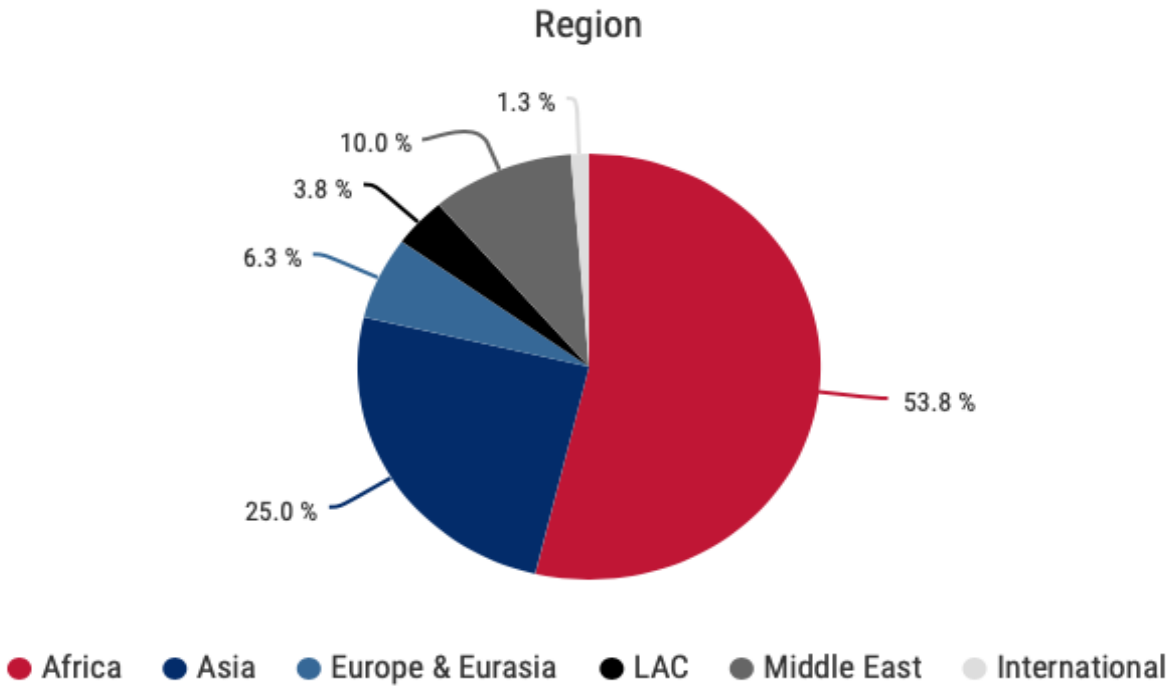


EXHIBIT 4. SURVEY RESPONSE BY MAP OF REGIONS

3.4 LIMITATIONS

Researchers collected data through a literature review and a global survey sent out through World Vision and the International Disability Alliance (IDA)/Global Action on Disability (GLAD). The literature review was limited to documentation that was publicly available or provided to the research team, while the survey data was limited to the global networks of World Vision and IDA/GLAD. As a result, the landscape review does not provide a complete picture of the situation occurring globally in the area of PPE but can provide a snapshot of current evidence and practice. Additional limitations of our approach can be found below.

- **The landscape review was limited to educational programs for pre-primary learners.** To limit the scope, this landscape review was limited to educational programming. As a result, we did not include any programming occurring outside of the formal and informal education system, such as programming within the health-system and broader community.

- **The survey was only disseminated in English, which limited the ability of other language speakers to participate**. To avoid inadvertently prioritizing some languages over others, the survey was only disseminated in English. As a result, it may not have been accessible to those who spoke languages other than English.

- **Latin America has less representation.** Only three countries (Colombia, the Dominican Republic, and El Salvador) responded to the survey sent out by World Vision and IDA/GLAD. As a result, the landscape review is less representative of what is occurring within PPE in Latin America.

- **The survey responses may overestimate the scale of PPE implementation occurring**. Many of the surveys reported promising practices occurring in PPE for children with disabilities. However, the scale of these practices was often unclear. For example, one survey participant reported that children with disabilities are screened for all types of possible

disabilities but did not report the scale of this endeavor (i.e., answering if this is occurring nationwide or in a small program in one province). As a result, many findings may need to be taken as initial, promising practices rather than established country-wide implementation.

- **Survey respondents were predominantly from international NGOs.** Sixty percent of survey respondents were from international NGOs, such as World Vision, Save the Children, and International Rescue Committee. As a result, their responses may reflect the work being implemented by international NGOs, rather than that of government-provided programming.

4. DEFINITIONS OF PRE-PRIMARY EDUCATION

EQ1: How is PPE for children with disabilities being defined, both within USAID as well as globally?

Answer: While international donors and coalitions have set clear global definitions of inclusive PPE, no definitions specified that PPE should be inclusive of all children with disabilities, regardless of level of support needs. There is not much in the literature related to country-specific definitions of disability-inclusive PPE. Survey results found that the definition of PPE for children with disabilities varies widely across individual countries.

- **Donors shared a definition of PPE, but it was not explicitly inclusive of children with disabilities**. Donors tended to have shared definitions for PPE, which was generally from ages 3 to 6. However, this definition did not specifically mention inclusion of all children with disabilities regardless of level of support needs. Donor definitions can be found in **Exhibit 5**.

EXHIBIT 5. DONOR DEFINITIONS OF GENERAL PRE-PRIMARY EDUCATION

DONOR	DEFINITION
USAID	One-to-three years of schooling "immediately prior to primary school" (USAID, 2021)
UNICEF	"…Organized learning programmes for children aged 3 years and up to the start of primary education" (UNICEF, 2019)
UNESCO	Formal schooling that begins at ages 3, 4, or 5 and is completed before primary school starts (UNESCO, 2021c)
SGDs	Key indicators used to measure progress toward Target 4.2 is the percentage of children aged 36 to 59 months who receive "at least one year of a quality pre-primary education program" (United Nations [UN] General Assembly, 2015)

- **Definitions of PPE from participants varied widely across countries**. As part of the surveys sent to World Vision offices and GLAD and IDA membership, participants were asked, "How is PPE for children with disabilities being defined in your country?" As part of their response, many shared what was occurring within their country within this definition, including that the length and type of PPE depends on the type and level of disability. Partly due to this specificity, responses varied widely across countries. Many survey participants cited that depending on the severity of the disability, children with disabilities can start at an older age and continue for longer (i.e., children will start at age 7 and go to age 12, depending on development). For young children with disabilities, participants also reported many different

ranges in age for both PPE as well as primary education. Some responses indicated a confusion with early childhood development services provided to children ages 0 to 3. A selection of definitions shared by survey participants can be found below in **Exhibit 6**.

EXHIBIT 6. COUNTRY-SPECIFIC DEFINITIONS OF PRE-PRIMARY EDUCATION FOR CHILDREN WITH DISABILITIES

COUNTRY	DEFINITION GIVEN
Albania	Children enroll in PPE at ages 3–6
Armenia	PPE starts at age 3, but in most of cases, children with disabilities are kept at home
Cambodia	PPE goes from ages 3–5
Dominican Republic	Preschool includes three courses: nursery at age 3, kindergarten at age 4, and pre-primary at age 5
Egypt	PPE for learners with disabilities is called the "nursery stage" (ages 4–6)
El Salvador	PPE includes boys and girls ages 0–7, with most children enrolling at age 4
Ethiopia	PPE for learners with disability is from ages 7–10
Jordan	Varies. PPE can be from ages 3–5, ages 4–6, or one year prior to entering primary school
Kenya	Children join pre-primary (PP 1) when they are age 4
Lesotho	Children normally enroll at age 2, but those with a disability go later (possibly at age 4)
Nepal	Children enroll in early childhood development centers at the age of 36 months until 60 months
Uganda	PPE is ages 3–6, but some people run daycare centers that accommodate children under age 3

- **Definitions varied depending on the type of placement mentioned.** Participant definitions reflected a range of placements, mostly focused on segregated and integrated schools. Participants also noted that children with disabilities are most likely out of school for reasons such as stigma, parents keeping children with disabilities at home, and/or a lack of capacity or availability of inclusive education systems.

- **Definitions varied depending on disability type.** Several participants reported that the age of enrollment for learners with disabilities depended on the type of disability. A participant in the Democratic Republic of Congo reported that children with albinism had access to pre-primary education "without any problem" but that children who are deaf and/or blind did not have access to pre-primary education. This issue, referred to as a "hierarchy of the excluded" (Kalyanpur, 2008), is also reflected in the literature. CBM completed a review in 2016 that found that, in many cases, countries included only children with physical disabilities in mainstream classrooms, as this required one-time accommodations rather than ongoing changes. Children with disabilities whose barriers are more complex to dismantle were referred to segregated schools or not given access to education at all (Wapling, 2016). Additionally, due to the lack of consistent screening and identification, learners are often under-identified or misidentified.

- **Definitions varied between survey participants from the same country.** In a few cases, the survey was completed by several individuals from the same country, which was often a mix

of different implementers and donors. In these cases, participants reported different definitions of PPE for that country, including the age of enrollment and the extent learners with disabilities are given access to PPE. This may be due to survey respondents considering learners with disabilities within their definition as well as extenuating circumstances (e.g., urban versus rural). Three examples can be found in **Exhibit 7.**

EXHIBIT 7. DIFFERING DEFINITIONS OF PRE-PRIMARY EDUCATION FOR THE PHILIPPINES, RWANDA, AND TANZANIA

COUNTRY	DEFINITION 1	DEFINITION 2	DEFINITION 3
Philippines	Limited access to PPE for children with disabilities	Children enroll in kindergarten at age 5, but in some provinces, they enroll at a later age because of the distance to school	Ages 3–5
Rwanda	Children enroll in PPE from ages 4–6	Children enroll at age 3	Children with disabilities are enrolled later due to being kept home by their families
Tanzania	Children with disabilities go to school at age 7; there is no PPE for children with disabilities	From ages 3–6	PPE for children with disabilities is from ages 5–6

5. ASSESSMENTS TO IDENTIFY PRE-PRIMARY LEARNERS WITH POSSIBLE DISABILITIES

EQ2: 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?

Answer: 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. While promising practices are emerging to identify learners with potential disabilities, they are not yet standard practice within most pre-primary classrooms.

5.1 ASSESSMENTS OF DEVELOPMENTAL MILESTONES

The CRPD SDG Target 4.2 commits to the need to enable all children to access "quality early childhood development, care, and pre-primary education" (2016). One of the indicators for Target 4.2 is to have a "proportion of children aged 24–59 months who are developmentally on track in health, learning, and psychosocial well-being" (UN General Assembly, 2015).

In response to this indicator, several organizations worked to develop tools that could be used to measure developmental progress among young children. One consortium, called Measuring Early Learning Quality and Outcomes (MELQO), led by UNESCO, UNICEF, the World Bank, and the Brookings Institution, worked to create a tool related to developmental milestones that are globally comparable, but locally adaptable. This screening tool has been piloted in more than 25 countries, including Tanzania, Nicaragua, Peru, Columbia, and Laos (UNICEF, 2017). Save the Children has also

developed a similar tool called the International Development and Early Learning Assessment (IDELA), which measures early learning and development for children ages 3.5–6. IDELA has been used by more than 120 organizations across 78 countries (Save the Children, 2017). A few other tools are also used in many countries (see **Exhibit 8)**. However, the implementation of most of these assessments tends to be by international donors, international non-governmental organizations (INGOs), and researchers, and there is little-to-no local implementation at the school level.

EXHIBIT 8. DEVELOPMENTAL MILESTONE ASSESSMENTS

NAME OF TOOL	AGES USED	DESCRIPTION	ILLUSTRATIVE COUNTRIES USED
Ages and Stages Questionnaire (ASQ)	0–5.5	The ASQ-3 is a developmental screening instrument focused on five skill areas: personal social, gross motor, fine motor, problem solving, and communication. It was developed as a parent reporting tool but is also used in some early childhood programs.	Brazil, Bulgaria, Chile, China, Denmark, Ecuador, Georgia, Ghana, India, Iran, Lebanon, Myanmar, North Macedonia, Thailand, Turkey, Ukraine
International Development and Early Learning Assessment (IDELA)	3.5–6	IDELA is a free, child direct assessment that covers four domains: motor development, emergent literacy, emergent numeracy, and social-emotional development.	Afghanistan, Bangladesh, Bhutan, Bosnia, Cambodia, Ethiopia, Jordan, Mali, Nepal, Rwanda, Vietnam
Malawi Developmental Assessment Tool (MDAT)	0–6	MDAT is a culturally appropriate, child direct assessment tool, which uses locally available materials, originally developed for use in Malawi; it includes domains of gross motor, fine motor, language, and social skills.	Bangladesh, Burkina Faso, Kenya, Mozambique, Malawi, Nepal, Nigeria, Pakistan, Rwanda, Tanzania, Uganda, Zimbabwe, Zambia
Measuring Early Learning Quality and Outcomes (MELQO)	4–6	MELQO is a free, child direct assessment tool that covers four domains: executive function, social-emotional development, early mathematics skills, and early literacy skills.	Bangladesh, Cambodia, Kenya, Kyrgyzstan, Laos, Madagascar, Mongolia, Nicaragua, Sudan, Tanzania

None of the survey results mentioned assessing children using the MELQO or IDELA tools, but 46.3 percent of survey participants shared that screening practices in their country included assessing developmental milestones (15 percent reported developmental screening and 31.3 percent reported "screening of all types"). However, a third of these participants reported that these developmental milestone assessments occur in their country as part of the medical system, as opposed to within pre-primary classrooms. Several participants did report promising practices within classroom-based developmental assessments, which can be found below.

Promising Practices in Developmental Milestone Assessments

Myanmar: Each organization that runs an early childhood education program is measuring children's developmental milestones. These milestones are recorded by the class teacher for individual children on a quarterly basis, and teachers work with the children on the areas that need improvement as well as share children's measurements with parents and provide suggestions on activities to work on at home.

Philippines: A developmental milestone checklist called the Early Childhood Development (ECD) Checklist is used in classrooms, and any delays are reported to the social welfare office.

Zambia: Using the Early Grade Screening Tool (EGST), screening is done at the school-level when a new child first reports to school. Those with suspected disabilities are referred to assessment centers for further testing.

5.2 ASSESSMENTS TO IDENTIFY LEARNERS WITH POSSIBLE DISABILITIES

Unidentified vision and hearing disabilities can impede learners' ability to access instruction and be successful learners. However, hearing and vision screening are not consistently implemented in pre-primary classrooms in LMICs. The literature reports that most screening activities within classrooms are conducted through observation alone rather than through validated tools (Dunphy, 2008; Mulunda, 2017). As part of a study on PPE in Zambia, participants reported significant challenges to assessing learners, including the lack of assessment tools and the lack of trained personnel. Because screening was based on observable physical appearance and behavior, as a result, only visible and more prevalent disabilities were identified (Mulunda, 2017).

This research evidence also aligns with the survey results. While 41.4 percent of survey participants reported that screening for hearing and vision is conducted at some level in their country (3.8 percent reported vision screening, 6.3 percent reported hearing screening, 31.3 percent reported conducting "screening of all types"), most noted that screening occurs through the health system. For those who conduct screening within the classroom, the Washington Group Questions, which is a tool intended for census-level disability data collection and is not validated for classroom use, are most used. However, in Malawi, caregivers are reportedly given the World Health Organization (WHO) Ten Questions Screen tool. If a caregiver answers "yes" to any of the questions, the government refers the child to a clinic for assessment.

Promising Practices in Assessments to Identify Learners with Disabilities

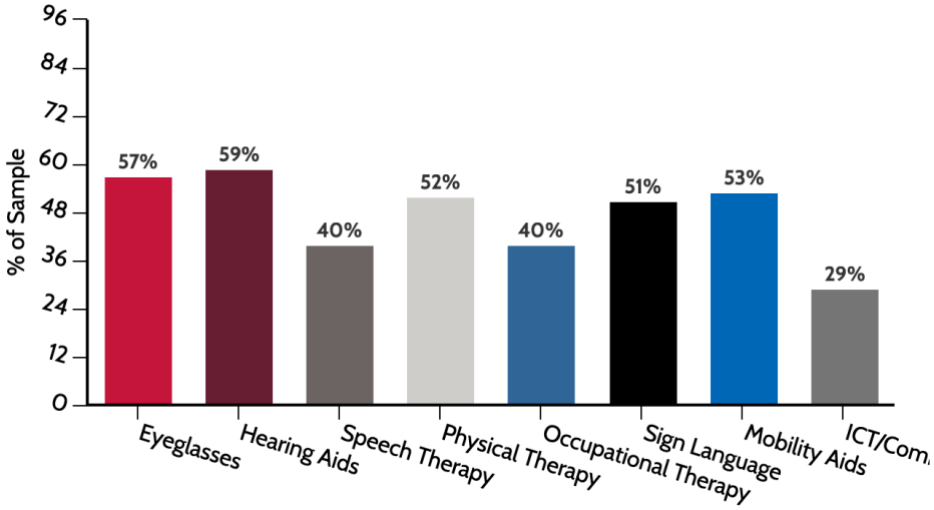
India: Sara Shiksha Abihyaan (a government-funded basic education program) conducts screening camps to identify children with potential disabilities, including hearing and vision.

Mozambique: NGOs are advocating for screening to be introduced as part of the national action plan on disability; vision screening tools are used in the medical system and are available to ECD teachers.

5.3 REFERRAL FOLLOWING SCREENING

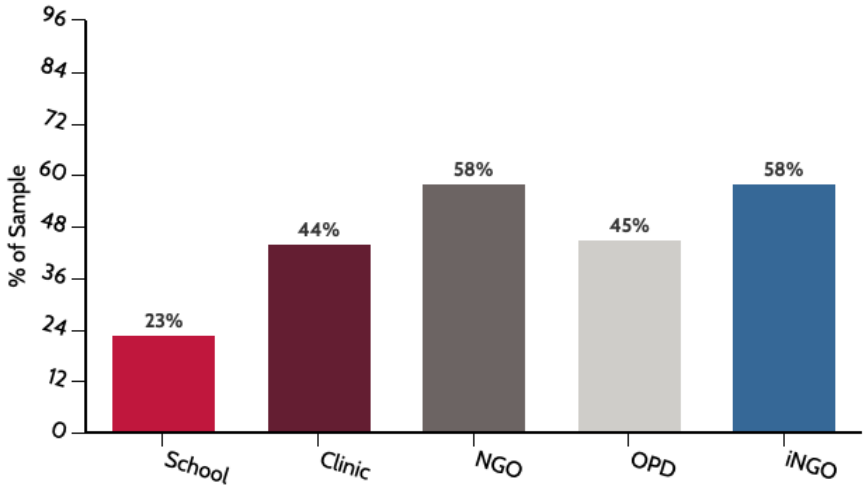
Referral for formal diagnosis and the provision of services is a crucial part of any screening program. Without a referral system, the drawbacks of identifying children as having a disability (such as stigma around disability) may outweigh the potential benefits (if no services are provided). However, many countries with a screening program do not have an organized system of referral to ensure that identified learners receive the services and supports they need. Of survey participants, 84 percent reported referral services are available on a small scale but that the systems often lack the capacity (financial, human resources, location) to meet the needs of all children in country. Of those who reported referral services within their countries, the most common services are provision of eyeglasses, hearing aids, and mobility aids (see **Exhibit 9**).

EXHIBIT 9. TYPES OF REFERRAL SERVICES, AS REPORTED BY SURVEY PARTICIPANTS



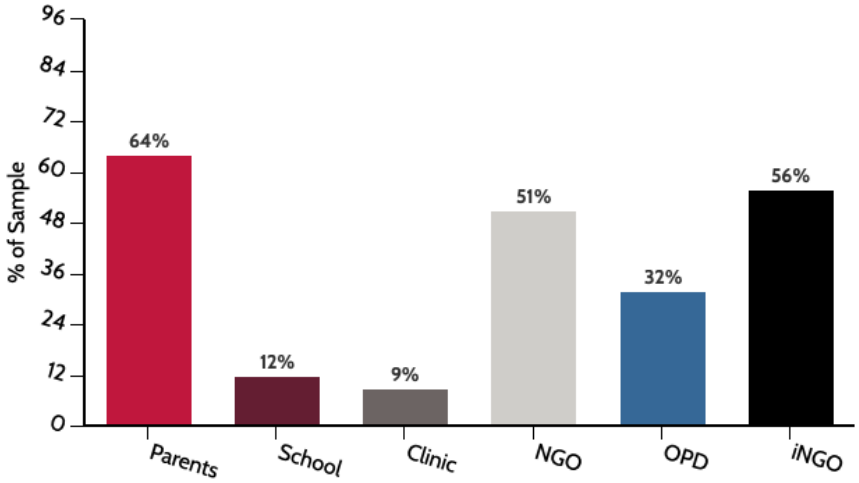
Service delivery is mainly supported with donor and philanthropic funding through NGOs, INGOs, and, to a lesser extent, OPDs and clinics versus through government provision. This distribution can be found in **Exhibit 10**.

EXHIBIT 10. WHO PROVIDES REFERRAL SERVICES, AS REPORTED BY SURVEY PARTICIPANTS



The financial burden of paying for services often falls on the parents of pre-primary learners with some support provided by international projects and NGOs. The distribution can be found in **Exhibit 11**.

EXHIBIT 11. WHO PAYS FOR REFERRAL SERVICES, AS REPORTED BY SURVEY PARTICIPANTS



Additionally, in some countries, screening and identification may be used to exclude rather than include, with referral to services often meaning referral to a segregated school environment. In Kenya, survey participants shared that if a child is referred to the Education Assessment Resource Center (EARC), EARC will also determine the child's placement in schools; for a child who has perceived severe disabilities, this means a referral to a segregated school. In Uganda, survey participants shared that screening is mainly conducted to deny admission to learners with disabilities.

Promising Practices in Referral Following Assessment

Albania: Referral is part of the child protection units, which are responsible for providing children with disabilities support as well as referring these children to the primary health care and social protection units.

Armenia: The government offers services free of charge for only one month twice per year within state centers in urban areas.

6. TEACHER TRAINING SYSTEMS

EQ3: 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?

Answer: 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). A lack of training was commonly cited as the 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 who are blind, as these teachers feared that because they did not know sign language or braille it would be difficult for them to serve these children (Cosmas, 2021b). Within primary education, research has found that teacher training is more effective when it incorporates coaching following training, as well as the use of teachers' guides (Piper et al., 2018; African Population Health and Research Center, 2018). However, there is less in the literature about what training model or curriculum works best for teachers of learners with disabilities, with even more of a gap for what works for teachers of pre-primary learners with disabilities.

6.1 CURRENT PRACTICES FOR PRE-SERVICE TEACHER TRAINING RELATED TO INCLUSION

In the literature, the qualifications of PPE teachers have been identified as one of the key indicators of educational quality (Blackburn, 2016). Pre-service teacher training should include courses on disability-inclusive PPE for all teachers, including both teachers focused on teaching pre-primary learners with disabilities (whether within integrated classrooms, inclusive classrooms, or in segregated classrooms or schools) as well as teachers within integrated and inclusive classrooms. Not much exists in the literature about pre-service training related to disability inclusion, but one promising practice was found in Zimbabwe. That country offers full-time and part-time pre-service teacher preparation on disability inclusion within early childhood education, at both the diploma and degree levels (Munjanganja & Machawira, 2015).

The survey found that about half of pre-primary teachers receive pre-service training on disability-inclusive PPE (52 percent). A few participants reported that qualified teachers who had received pre-service training are more likely to be found in urban areas, as opposed to the more rural parts of the country. Several participants also reported that pre-primary teachers receive training related to disability inclusion as part of their pre-service education but that this training is very basic. One participant from

Laos reported that pre-service training related to disability inclusion is more focused on how to support individual types of disabilities (e.g., how to teach braille for learners who are blind) rather than focused on Universal Design for Learning (UDL) and what accommodations will meet the needs of diverse learners. A participant from Rwanda reported that courses on inclusive education have only recently been offered at the teachers' colleges, and that these courses are very general and theoretical. In Zambia, a participant shared that all teacher training colleges are mandated to offer a course on inclusive or special education but that student teachers still need more knowledge of flexible teaching methods, especially related to teaching aids and information communication technology.

6.2 CURRENT PRACTICES FOR IN-SERVICE TEACHER TRAINING RELATED TO INCLUSION

Within primary education, research has found that teaching training is more effective when it incorporates coaching following training, as well as the use of teachers' guides (Piper et al., 2018). However, there is not much in the literature about in-service pre-primary teacher training related to inclusive education. In a study of kindergarten school directors in China (Hu, 2020), directors reported that in-service trainings were not consistent and were often just one-time trainings without any post-training follow-up. They also shared that early childhood and special education trainings were completely separate without any attempt to prepare all teachers for inclusive education. One director noted that in-service training should be targeting disability-inclusion strategies rather than focused on the characteristics of individual children with disabilities (Hu, 2020).

Around half of survey participants reported that teachers in their country or program receive in-service training on disability-inclusive PPE (48 percent). Several participants (n=5) shared that any in-service training that teachers receive is primarily provided by NGOs rather than the government. Others reported that in-service training is limited to certain areas, such as sign language or screening and identification. Survey participants in Nepal shared that the priority for training funds is generally given to primary and secondary education, and often this means that pre-primary teachers are not given the opportunity to attend training. A participant from Mozambique also shared that while inclusive education is one of the modules of the new ECD curriculum, it has not been delivered widely due to the lack of trainers and funding.

Promising Practices in In-Service Teacher Training

Malawi: Malawi offers a training program, which is led by Chancellor College, Sightsavers, and National ECD trainers, for community-based early childhood centers focused on disability inclusion (Soni et al., 2020).

Trinidad & Tobago: The country 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 could use within inclusive classes (Joseph, 2014).

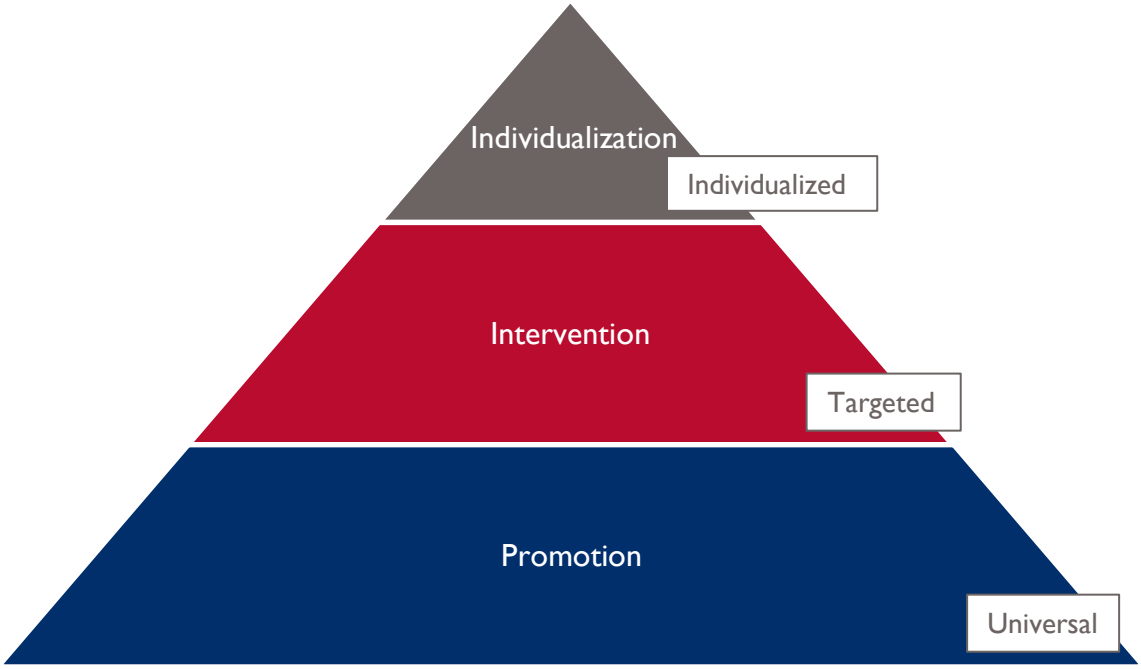
Uganda: World Vision offers seminars and workshops on disability-inclusive education to teachers. Additionally, coordination center tutors are given basic training in inclusive education and support teachers on an ongoing basis.

7. BEST PRACTICE IN DISABILITY-INCLUSIVE PRE-PRIMARY EDUCATION PROGRAMMING

EQ4: What instructional models worked best to improve classroom instruction and pre-literacy outcomes among pre-primary learners with disabilities?

Ideally, PPE systems would follow Buysse and Peisner-Feinberg's (2013) framework on ECD. This framework builds on multi-tiered systems of support (MTSS) and provides different levels of intervention based on need. The tiers include promotion (Tier 1), prevention (Tier 2), and intervention (Tier 3) (see **Exhibit 12)**.

EXHIBIT 12. ECD FRAMEWORK



The following sections highlight how interventions organized within the tiered ECD framework are taking place in LMICs.

7.1 PROMOTION (FOR ALL LEARNERS)

In this tier, there should be a focus on universal access to PPE for all children, including those with already identified disabilities. Although PPE is important for all children, it can be critical for children with disabilities. Research shows that children with disabilities who participate in disability-inclusive PPE programs have improved social skills, communication skills, and self-esteem (Maryland State Department of Education, 2022) compared with children with disabilities who do not participate.

Unfortunately, of the 81.3 percent of survey participants who reported having publicly available PPE programming in their country, only 50 percent reported that it is inclusive of learners with disabilities.

EXHIBIT 13. PERCENT OF SURVEY PARTICIPANTS THAT REPORTED HAVING DISABILITY-INCLUSIVE PPE PROGRAMMING IN THEIR COUNTRY/PROGRAM

INCLUSIVE PROGRAMMING	N	%
Yes	17	50
No	12	35.3
Missing	4	11.8
Not Applicable	1	2.9
Total	75	100

UNIVERSAL DESIGN FOR LEARNING

UDL can be an effective pedagogy to teach valuable pre-literacy and pre-numeracy skills. More about UDL can be found below.

Universal Design for Learning

UDL is based on the architectural concept, called "Universal Design" that posits that the barrier is in the design and not the individual. With that in mind, changes to the design of the physical environment make it more accessible to persons with physical disabilities and ultimately benefits all individuals (e.g., curb cuts also help people with strollers, bike riders, etc.). UDL is also based on the premise that there is tremendous variability in how children learn (Meyer et al., 2014). Based on both neuroscience and learning sciences, UDL uses three basic principles:

- 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 will 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. Learners can learn best by hearing, 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 a variety of options and allow learners to select the way that they prefer to show knowledge.

Research also shows that using UDL in PPE is particularly effective for all children as it allows learner choice, self-monitoring, and accessible learning materials (Lohmann et al., 2018). Although not much exists in the literature around using UDL within pre-primary classrooms in LMICs, 53 percent of survey participants reported that teachers in their country or program use instructional strategies that incorporate a variety of learning styles. However, in some countries, this transformation is still in

progress as teachers work to move away from lecture-style, call-and-response teaching. A participant in Mozambique reported that UDL instructional strategies are being gradually introduced to replace the teacher-led style of instruction still dominant in ECD centers and community preschools. A participant in Albania also shared that teachers mainly use lecture to explain new content to children, and children mainly stay seated with limited time for play.

Play-Based Learning

To define "play-based learning" requires first understanding the meaning of "play." Play is an amorphous concept: everyone thinks they know what it is, but there are widely varying definitions. Researchers and theorists have some shared ideas. UNICEF (2018) summarizes these ideas on play to include it being meaningful, joyful, actively engaging, iterative, and socially interactive. UNICEF (2018) also emphasizes the need for children to have control over their play experience, taking initiative and making choices. When children play, they may have opportunities to learn how to share with other children or gain experience with abstract concepts of geometry through solid blocks in different shapes or learn to express their imagination (UNICEF, 2018). Play is especially important for learners with disabilities, as it allows for opportunities for engagement with their peers without disabilities. However, guided play is especially helpful as learners may need prompting and modeling to ensure successful interaction and engagement (Movahedazarhouligh, 2018).

Teachers and other adults have a key role in enabling learning through play by providing materials that will spark curiosity and spontaneous interactions. They also can support play-based learning by following the child's lead in pretend play (UNICEF, 2018). Sixty-four percent of survey participants reported that teachers are using play-based instruction within their pre-primary classrooms.

PRE-LITERACY AND PRE-NUMERACY INSTRUCTION

Not much exists in the literature around pre-literacy and pre-numeracy instructions for pre-primary learners with disabilities in LMICs. Additionally, none of the participants shared any specific details for how pre-literacy and pre-numeracy curriculum is implemented in their countries. However, ideally pre-primary classrooms would use best practices for pre-literacy and pre-numeracy combined with a UDL approach. UK Aid conducted a literature review on best practices for pre-literacy and pre-numeracy, which includes:

- **Target expressive language.** The review found that oral or expressive language was a crucial pre-requisite for many literacy and math skills, including phonological awareness, reading comprehension, and mathematical reasoning. As a result, expressive language, including sign language expressive 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 printed materials (Nag et al., 2014).

- **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 focus on rote memorization of mathematics (e.g., number identification).

MEANINGFUL PEER ENGAGEMENT AND SOCIAL-EMOTIONAL LEARNING

PPE provides an opportunity to provide meaningful peer engagement and explicit social skills instruction (Marshall et al., 2018) facilitated by teachers. For example, one author suggests that teachers in early childhood programs can encourage positive peer engagement by providing learning opportunities that encourage more interaction among students (Baldanza, 2013). However, not much exists in the literature around peer engagement and social-emotional learning for learners with disabilities in pre-primary classrooms. Research does find that learners with self-regulation difficulties or that are perceived to have severe disabilities need more teacher support than learners without disabilities in order to participate in social activities (Kuutti et al., 2021). Additionally, learners who have difficulty with self-regulation can benefit from joint play, but other learners typically exclude them—so having teachers create peer-to-peer engagement opportunities can be necessary to ensure these occur (Kuutti et al., 2021).

POSITIVE BEHAVIOR SUPPORTS

Examples of positive behavior supports include communicating through positive phrasing and stating behaviors the teacher wants to see in the classroom, recognizing when students are doing desired behavior versus only pointing out negative behaviors, and establishing a token or activity reinforcer for positive behavior (PACER, 2014). 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). Research suggests that the most effective positive behavior support programs are family-centered and involve family support and parent education (Fox et al., 2002; Bayat et al., 2010). Developing partnerships between the family and relevant professionals are essential to the process (Fox et al., 2002). Additionally, some research suggests that teachers learn positive behavior support techniques best with in-class consultation rather than by simply participating in group training (Carter et al., 2011; Carter & Norman, 2010; Bayat et al., 2010).

Of survey participants, 55 percent reported that positive behavior supports are used within classrooms in their country. However, none of the participants shared what this looks like in practice or additional details. One participant in Kenya shared that while positive reinforcement is used within classrooms, punishment is used as well as "sanctions" for bad behavior.

7.2 INTERVENTION (LEARNERS IDENTIFIED AS HAVING DELAYS THROUGH MILESTONE TRACKING)

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 in reality, screening can be challenging for many LMICs that lack normed tools and identification practices and protocols (Hayes et al., 2018). Developmental delay can be caused by several reasons, including premature birth, trauma or exposure to trauma, malnutrition, and disability (Yale School of Medicine, 2022). Those children identified as being

developmentally delayed may benefit from explicit small group instruction and embedded learning strategies through play (Buysse & Peisner-Feinberg, 2013). More detail about these strategies can be found below.

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 upon their learning strengths and needs. For example, learners can be placed together in groups with other learners who have similar challenges. During small group instruction, learners in the class who are doing better in pre-literacy (or pre-mathematics) could use this time to work on more complex tasks. Small groups ideally consist of six or fewer 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.

Not much exists in the literature on the use of small group interventions for children with disabilities within pre-primary settings. Of survey participants, 42 percent reported teachers using small groups and paired instruction in their country or program, but none of the participants mentioned how they use small groups as a tool to provide interventions to struggling learners.

EMBEDDED LEARNING STRATEGIES

Embedded learning strategies are used to promote child engagement and learning in everyday activities, routines, and transitions (McDonnel et al, 2014). For example, when 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 struggling pre-primary learners (Snyder et al., 2018; Noh et al., 2009). Embedded learning strategies are not found in the literature for pre-primary learners within LMICs, and none of the survey participants reported the use of these strategies in classrooms in their country or program. However, the research within high-income countries shows these strategies can be an effective tool for struggling pre-primary learners (Snyder et al., 2018; Noh et al., 2009). Best practice for embedded learning strategies can include using the "teachable moment" 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).

7.3 INDIVIDUALIZATION (LEARNERS WITH KNOWN DISABILITIES)

Children 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. The 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, 2012). In addition to early intervention, planned environmental arrangements can also facilitate disability inclusion within PPE. More information about these interventions can be found below. While best practices were found for early intervention for students

who are blind and deaf, no information existed in the literature about best practices for learners with intellectual or developmental disability or those who are deafblind within LMICs. Further research is needed in this area.

EARLY INTERVENTION FOR LEARNERS WHO ARE DEAF

Research has repeatedly confirmed that the human brain must learn its first language during the first five years of life: if this crucial window is missed, young learners risk experiencing language deprivation into adulthood (Hänel-Faulhaber, 2017; Laurent Clerc National Deaf Education Center, 2017; Napoli et al., 2015). For a learner who is deaf or hard of hearing, whether with or without a hearing device, the best chance for learning their first language is to immerse them in a fluent sign language-rich environment to the extent feasible from the first year of life onwards (Humphries et al., 2012; Laurent Clerc National Deaf Education Center, 2017; Klaudia, 2013). Early intervention programs have helped entire families to sign with their deaf child in Vietnam and elsewhere (World Bank Group, 2015). However, none of the survey participants shared early intervention programming for learners who are deaf within their countries.

EARLY INTERVENTION FOR LEARNERS WHO ARE BLIND

Likewise, none of the survey participants shared early intervention programming for learners who are blind within their countries. However, research suggests that learning braille as their primary system for reading in childhood is associated with higher life-satisfaction, self-esteem, and job satisfaction compared to their peers who did not learn braille (Silverman and Bell, 2018). Research suggests that learners who are blind benefit best when they first learn pre-braille skills in the first stage of their braille literacy instruction. For young learners who are blind, this means improving both the dexterity and the tactile perception of their fingertips. Foundational skills include motor-sensory training with the palms, thumbs, and fingers, motor strength in the hands and fingers, and learning to detect braille dots (Ng Ai Lee et al., 2021).

PLANNED ENVIRONMENTAL ARRANGEMENTS

Much has been said in the literature about planned environmental arrangements for children with disabilities. For example, teachers can strategically place and organize materials to create opportunities for learners to communicate and learn communication skills: this could mean presenting desired materials where the learner can see it but not reach it, so the learner will ask for it (Denton, 2020). Of survey participants, 49 percent said that teachers use preferential seating within classrooms in their country, which involves placing a student in a location within the classroom that is most beneficial for their learning. Additionally, a participant from Myanmar shared that they always place children who have low vision in the front row, and teachers always use face-to-face communication with children who are deaf or are hard of hearing. However, for children are deaf, this should be combined with a sign-language-rich learning environment.

8. CHALLENGES OR BARRIERS TO DISABILITY-INCLUSIVE PRE-PRIMARY EDUCATION

EQ5: 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 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 barrier more recently, as the additional time away from school has caused learners with disabilities to fall farther behind, or not enroll at all. The most common barriers identified by participants can be found in **Exhibit 14** and the following sections.

EXHIBIT 14. 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)[9]	52	69
Safety Concerns	47	63
Transportation	46	62
Education Not Valued	42	56

PHYSICALLY INACCESSIBLE PROGRAMS

A physically inaccessible environment is a common barrier in the literature; schools are physically inaccessible because learners need ramps, wide doors, or brighter classrooms, and as a result cannot fully access their environment (Amran & Obaydullah, 2019; Cosmas, 2021a). Eighty-four percent of survey participants reported physical inaccessibility as a barrier. One participant in Uganda also reported that water, sanitation, and hygiene (WASH) facilities at schools are not accessible, which leads to unhygienic conditions for pre-primary learners with disabilities. While nothing was found about the

[9] Language of instruction means a different language of instruction than the one that the child uses and understands.

accessibility of WASH facilities within pre-primary programs, UNESCO found that many primary schools lack accessible toilets, as well as separate toilets for girls (UNESCO, 2020).

POVERTY AND THE COST OF PRE-PRIMARY EDUCATION

UNESCO (2021a, 2021b) indicates that poverty is the prevailing reason why many children remain excluded from early childhood care and education. UNESCO (2021a) also cites that living in a rural area or an emergency or crisis-affected country and other factors, such as level of parental education, hinder children's access to early childhood care and education programs. However, in countries collecting relevant data, UNESCO (2021a) notes that children with disabilities are consistently more likely than their peers without disabilities to be out of school. Poverty, for example, may prevent parents from accessing wheelchairs or rehabilitative services as well as other basic needs, such as food and clothes (Cosmas, 2021b). Poverty was also highlighted as a barrier in surveys, noted as a barrier by 83 percent of survey participants. It is an especially large barrier in countries where the majority of PPE is privately run, as was reported by a survey participant in Uganda.

STIGMA

Parents may confront barriers just attempting to find pre-primary programs that are willing to accept children with disabilities. In a review of 51 Education Sector Plans (ESPs) in 51 LMICs, the Global Partnership for Education (2018) found that most countries say parental shame about disability frequently motivates their choice to keep their child at home and out of school. In other cases, ESPs said that parents kept children with disabilities at home due to their worry that the child would have negative experiences without them in school or because the parent assumes the child will always be in perpetual need of care. The Global Partnership for Education (2018) also points to attitudes toward disability among teachers and school authorities as being "pivotal" to school attendance.

Stigma was also a common barrier reported by survey participants, with more participants reporting stigma from parents as a barrier (83 percent) than stigma from teachers or peers (69 percent). A survey participant in Lesotho responded that parents do not send their children to school because they believe they are "futureless." Similarly, a participant in Rwanda shared that parents are humiliated to have a child with a disability and hide them at home due to this shame. No survey participants described the stigma that existed among teachers, but the literature found that many teachers place the burden of successful assimilation on learners with disabilities rather than the teachers themselves (Ngcobo & Muthukrishna, 2011; Law et al., 2004). In one study, both regular and special education teachers shared that the success of inclusive education depends on the learner's ability to adjust themselves to the preschool environment (Fyssa et al., 2014).

LACK OF SCHOOL RESOURCES AND PERSONNEL

Of survey participants, 81 percent identified overcrowded classrooms as a barrier to inclusion. Survey participants in Albania and South Africa reported that the high number of children in a classroom made it impossible for teachers to respond to the needs of different learners. A survey participant in Laos shared that parents often feel the teacher is already overburdened due to large class sizes and that it would be too much for the teacher to also teach their child with a disability.

Within the literature, teachers highlight that there is a lack of material resources to support disability-inclusive education (e.g., braille books, hearing aids, pictures, sign language dictionaries, and others) (Cosmas, 2021b). A lack of resources was also identified as a barrier by 80 percent of survey participants, and lack of braille and sign language materials specifically was reported as a need by 76 percent of participants. One participant in Kenya also shared that schools are not able to provide sign language interpreters or materials in braille, which served as a barrier to learners who are deaf or blind.

LACK OF TEACHER PREPAREDNESS

As mentioned in **Section 6**, the lack of teacher preparedness to teach pre-primary learners with disabilities is a common theme within the literature; it was also shared as a barrier by 80 percent of survey participants. Participants from Rwanda and Uganda stated that this barrier causes children with disabilities to be kept out of school because parents fear that teachers will not be equipped to handle their children.

TRANSPORTATION

Transportation is commonly identified as a barrier both within the literature and the survey. Some parents hesitate to send children with disabilities to school because they fear for their child's safety on the way to school (UNESCO, 2021a). Ghana's ESP also highlights the challenge of transporting learners to and from school as a barrier to education for children with disabilities (Global Partnership for Education, 2018). Of survey participants, 62 percent reported that transportation is a barrier. Several participants shared that transportation is a particular barrier for pre-primary learners with disabilities, as they are too small to travel to school by themselves and the distance is often great. This means that parents need to take them to and from school, which often interferes with their ability to work.

THE COVID-19 PANDEMIC

Save the Children found that the COVID-19 pandemic had a more negative impact on learning among children with disabilities than for children without disabilities (Burgess & Dulieu, 2020). For example, 71 percent of children with disabilities lacked access to the materials they needed to learn at home compared to 51 percent of children without disabilities. Teachers evidently tried to provide extra support to students with disabilities: parents of children with disabilities were more likely to report a teacher checking in at least once (43 percent for girls, 37 percent for boys) than parents of children without disabilities (36 percent for girls, 32 percent for boys). Despite these efforts, parents reported that 24 percent of children with disabilities learned "nothing at all" compared to 19 percent of children without disabilities (Burgess & Dulieu, 2020).

These findings were also reflected in surveys. One participant in Albania reported that the COVID-19 pandemic has increased barriers to education and has had a negative effect on the progress achieved for children with disabilities.

9. RECOMMENDATIONS

As shown above, the literature base for inclusive pre-primary education in LMICs still contains many gaps, some of which we have attempted to fill using the information from survey participants. Additional work is needed to continue to fill these gaps and expand the global understanding of the state of disability-inclusive PPE and to understand what is needed to improve learning outcomes for pre-primary learners with disabilities. The following are initial recommendations for implementers, based on the existing data and gaps identified during this review. Additional recommendations will be collected through a series of ideation events, which will be included in a white paper submitted later in the project.

PERFORM REFERRAL MAPPING BEFORE IMPLEMENTING SCREENING

The purpose of screening is to help ensure learners with disabilities receive the support they need to be successful in the classroom. Schools may need to refer learners to nearby medical clinics, and caregivers may benefit from knowing what other services, if any, exist in the community. Prior to conducting screening, implementers should map existing services within the community. This should include organizations within the community that might provide services such as physical therapy or sign language instruction, medical clinics that conduct vision and hearing exams, and NGOs or others that may provide glasses, hearing devices, or other assistive devices. This mapping should also include the type of services provided, such as physical therapy, contact information for the clinic or organization, and any information on the potential cost of services.

If a learner is identified during a screening test as having a potential disability, schools should send caregivers information on existing services and options for referrals. Additionally, implementers should post this list of community resources at the school, so parents and others in the community may have access to this information as well.

TRAIN TEACHERS ON ENVIRONMENTAL ACCOMMODATIONS

In addition to referring children with possible disabilities to services (e.g., referring students with low vision to an NGO that provides glasses), teachers can modify the environment to accommodate these children's needs. These accommodations will also be helpful in cases where learners are not able to receive referral services for various reasons, including financial constraints or the inability to access appropriate medical facilities. Suggestions for classroom modifications for learners who are blind, have low vision, or are deaf or are hard of hearing is below. Best practices applicable to other disabilities within LMICs (including autism and those who are deafblind) were not found in the literature and should be explored further.

FOR LEARNERS WHO MAY HAVE LOW VISION

- See if the learner who has difficulty with near distance (difficulty seeing things close up) can use a magnifying glass.
- Reinforce learning with tactile materials or manipulatives, such as letters and real objects, that learners can touch to learn concepts.

- Place learners who have difficulty seeing the chalkboard or who have challenges with distance vision in the front row.
- Keep the chalkboard clean and use colored chalk that contrasts strongly with the color of the chalkboard.

FOR LEARNERS WHO MAY BE HARD OF HEARING

- Ensure the learner looks at the teacher before beginning the lesson. A light touch, wave, or other visual signal may help get the learner's attention.
- Look directly at the learner and speak clearly without shouting.
- Use visual cues (e.g., if instructing learners to take out their pencils, the teacher should hold the pencil up for the learner to see).
- Place learners in the front of the class and away from windows, doors, and other sources of noise.
- When other learners speak, especially those who sit behind or further away from the learner, repeat their comments and questions.
- Use visual schedules to show clear shifts in lessons and subjects.

FOR LEARNERS WHO MAY HAVE PHYSICAL DISABILITIES

- If a learner has difficulty holding a pencil firmly, wrap some tape or local materials around the pencil to create a wider grip.
- Encourage peers to support learners with physical disabilities if they need help with turning the page or moving around the classroom.
- If a learner is unable to write, assign a peer as a notetaker, and accept answers orally.
- Encourage learners to participate in all activities but allow them to speak up if they feel pain and need to adjust their positioning. Encourage community and school involvement if learners need help with transportation, access to toilets, or entering the school. This can be done through parent-teacher associations and dialogues on how to make schools more accessible.

FOR LEARNERS WHO HAVE CHALLENGES WITH COMMUNICATION

- Provide information orally while also writing key points on the chalkboard.
- Follow up with learners to ask them individually if they understand the directions and information or if they need additional support.

- For learners who may have difficulty speaking, if they appear to be uncomfortable answering questions out loud, ask them to instead write the answer on the chalkboard or on a piece of paper.

FOR LEARNERS WHO MAY HAVE INTELLECTUAL OR DEVELOPMENTAL DISABILITY

- Use pictures or objects to reinforce learning and new concepts.
- Have learners work in small groups or pairs with learners who understand the concepts well.
- Allow learners to point to pictures or symbols, match pictures and letters, and trace letters to show their understanding of concepts.
- Provide visual schedules.

ENSURE ALL PRE-PRIMARY TEACHERS RECEIVE TRAINING ON UNIVERSAL DESIGN FOR LEARNING

As mentioned in **Section 6**, many teachers feel ill-equipped to teach children with disabilities. However, as many LMICs lack consistent screening and identification, LMICs' classrooms most likely contain children with undiagnosed disabilities. One way to help teachers prepare for the variety of needs that might exist in their classroom is to provide these teachers training on UDL. By providing content in different ways and allowing learners to respond in different ways, teachers will ensure that the content reaches learners with a variety of needs and learning styles.

ENSURE EARLY INTERVENTION FOR LEARNERS WHO ARE BLIND AND/OR DEAF

As mentioned in **Section 7**, research confirms that learners who are blind benefit best when they first learn pre-braille skills in the first stage of their braille literacy instruction. Additionally, research says that the best chance for students for who are deaf to learn language is to immerse them in a fluent sign language environment to the greatest extent possible from the first year of life onwards (Humphries et al., 2012; Laurent Clerc National Deaf Education Center, 2017; Klaudia, 2013). Pre-primary education should offer this early intervention for students who are blind and deaf as early as possible to ensure that they enter primary education ready to learn.

10. CONCLUSION

This landscape review attempted to answer five evaluation questions broadly focused on the definition of PPE, the assessment of PPE learners, teacher training, pre-primary instructional strategies, and the barriers that currently exist to disability-inclusive PPE. Disability-inclusive PPE is a new area for many donors and implementing partners, and findings from this report will help build the evidence base by highlighting lessons learned and promising practices that should be replicated in the future.

This landscape review report is part of a broader activity, which will include online community-based ideation events to gather more promising practices. Additionally, a crucial part of disability-inclusive development is the mantra of "nothing about us without us." To ensure that the perspectives and lived experience of persons with disabilities is incorporated into the landscape review activity, IDP will ensure

that the advisory council (made up of international and local pre-primary experts) will include persons with disabilities. IDP will also ensure that the ideation events are inclusive of persons with disabilities. Finally, the last deliverable of the landscape review activity is a white paper that will include principles and recommendations for future disability-inclusive PPE implementation.

Although much progress is yet to be made to ensure that PPE is inclusive of learners with disabilities and that learners with disabilities are given the supports and services they need to be successful, this landscape review discovered many promising practices occurring at the country level. 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.

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ANNEX A. SURVEY QUESTIONS

Inclusive Development Partners (IDP) is partnering with World Vision to conduct a review of pre-primary education for learners with disabilities throughout the world. This includes information related to inclusive pre-primary education themes and practices such as pedagogy, curriculum design, pre-service training for pre-primary staff, screening and identification practices, early intervention and monitoring, and evaluation. When we refer to learners with disabilities, we are referring to learners who may have the following disabilities:

- Blind or have low vision
- Deaf or hard of hearing
- Physical disabilities
- Intellectual disability
- Learning disabilities
- Behavioral, attentional/social emotional disabilities
- Albinism
- Autism

For the purposes of this questionnaire, we are considering pre-primary education to be educational programs for learners during the two-to-three years before they enter Grade/Standard 1 of primary school (typically ages 3-6).

Name: _____

Organization: _____

Title: _____

Country: _____

Pre-Primary Education

1. How is pre-primary education for learners with disabilities defined in your country (the age at which children typically enroll in pre-primary, setting, content, etc.)?

2a. Does your organization/entity's programming in your country include pre-primary education?

- ○ Yes
- ○ No
- ○ Other: _____

2b. If yes, is this programming inclusive of learners with disabilities?

- ○ Yes
- ○ No
- ○ Other: _____

2c. If yes, please describe.

3a. What type of payment is required for public pre-primary education in your country?

- Public pre-primary education is free for all learners
- Public pre-primary is offered but a portion of the cost subsidized by the government
- There is no public pre-primary in my country
- Other: _____

3b. If free, how many years of free pre-primary education are offered?

- 1
- 2
- 3
- Other: _____

3c. What percentage of learners are currently enrolled in pre-primary education in your country?

- Less than 10%
- 10-25%
- 26-50%
- 51-75%
- More than 75%
- Other: _____

3d. Do most learners enrolled in pre-primary education attend public or private institutions?

- Most learners enrolled attend public
- Most learners enrolled attend private
- All privately run (no public option)
- Other: _____

4a. What other organizations/entities are implementing or advising on pre-primary programming in your country? Please list these implementers and a short description of their work.

4b. Do any of these pre-primary programs provide access to education for learners with disabilities?

- Yes
- No (Skip to question 23)
- Other: _____

4c. If yes, please describe their work.

Pre-Primary Education for Children with Disabilities

5a. If pre-primary programs provide access to education for learners with disabilities, which disabilities are typically included? (check all that apply)

- Learners who are blind or have low vision
- Learners who are deaf or hard of hearing

- Learners with physical disabilities
- Learners with intellectual disability
- Learners with learning disabilities
- Learners with behavioral, attentional/social emotional disabilities
- Learners with albinism
- Learners with autism
- Pre-primary programs in my country do not provide access to education for learners with disabilities
- Other: _____

5b. Please list the name of the organizations providing access or other forms of support to pre-primary education for learners with disabilities.

6. What type of pre-primary programming do these programs provide?

- Learners with disabilities are educated in segregated school settings
- Learners with disabilities are educated in pre-primary school but educated in segregated classrooms for learners with disabilities
- Learners with disabilities are included in pre-primary education settings for a portion of the day, but spend the rest of the day in segregated classrooms for learners with disabilities
- Learners with disabilities are included in general education classrooms for the whole school day
- Parents/caregivers of learners with disabilities are given resources to support their children at home
- Other: _____

7. What type of pre-primary programming do young learners who are deaf generally receive?

- Learners who are deaf are educated in boarding school settings for learners who are deaf
- Learners who are deaf are educated in pre-primary day schools for learners who are deaf (children go home at night)
- Learners who are deaf are educated within classrooms comprised of other learners who are deaf within a general education school
- Learners who are deaf are included in general education classrooms for a portion of the day, but spend the rest of the day in classrooms for learners who are deaf
- Learners who are deaf are included in general education classrooms with learners who are hearing for the whole school day
- Parents/caregivers of learners who are deaf are given resources to support their children at home
- Learners who are deaf are not given access to pre-primary education
- Other: _____

8. What type of pre-primary programming do young children who are blind generally receive?

- Learners who are blind are educated in segregated boarding schools
- Learners who are blind are educated in segregated pre-primary day schools (children go home at night)
- Learners who are blind are educated in segregated pre-primary classrooms within a general education school

- Learners who are blind are included in general education classrooms for a portion of the day, but spend the rest of the day in segregated classrooms
- Learners who are blind are included in general education classrooms for the whole school day
- Parents/caregivers of learners who are blind are given resources to support their children at home
- Learners who are blind are not given access to pre-primary education
- Other: _____

9. What type of pre-primary programming do young children with intellectual disability generally receive?

- Learners with intellectual disability are educated in segregated boarding schools
- Learners with intellectual disability are educated in segregated pre-primary day schools (children go home at night)
- Learners with intellectual disability are educated in segregated classrooms within a general education school
- Learners with intellectual disability are included in general education classrooms for a portion of the day, but spend the rest of the day in segregated classrooms
- Learners with intellectual disability are included in general education classrooms for the whole school day
- Parents of learners with intellectual disability are given resources to support their children at home
- Learners with intellectual disability are not given access to pre-primary education
- Other: _____

10. Please provide an example of a pre-primary program in your country that has (positively) included a child or children with disabilities in their programming.

Screening and Identification

11a. What type of screening is currently being implemented within pre-primary classrooms in your country?

- Learners are screened for developmental milestones
- Learners are screened for hearing disabilities
- Learners are screened for vision disabilities
- Learners are being screened for all types of disabilities
- Learners are not being screened
- Other: _____

11b. If screening is currently being implemented, please describe the process, position/organization(s) involved, referral, and ongoing supports available to the child or family.

12a. In your country, what services can pre-primary children be referred to for additional support after milestone or disability screening?

- Eyeglasses
- Hearing aids
- Speech therapy
- Physical therapy

- Occupational therapy
- Sign language
- Braille pre-literacy
- Mobility aids (wheelchairs, canes, etc)
- Communication aids/ICT
- Assessment by a medical professional
- Diagnostic assessment by an organization (non-medical)
- Other: _____

12b. If services are provided, who provides them?

- The school
- A medical clinic
- A local non-governmental organization
- A local organization for persons with disabilities
- An internationally funded project
- Other: _____

12c. If services are provided, who pays for them?

- Parents/caregivers
- The school
- A medical clinic
- A local non-governmental organization
- A local organization for persons with disabilities
- An internationally funded project
- Other: _____

12d. If referral services are available, please describe the services currently available in your country in both urban and rural areas, including how often they occur, who is responsible for doing it, who coordinates it, and how it is funded (if known).

Instructional Supports for Students with Disabilities

13a. What instructional/pedagogical methods do pre-primary programs in your country utilize (check all that apply)?

- Small group/paired instruction
- Pedagogical methods that incorporate multiple learning styles (e.g., the teacher uses oral instruction but also writes content on the board)
- Positive behavior supports (e.g., teacher reinforces student positive behavior)
- Play-based learning
- Preferential seating (e.g., the teacher places the student with low vision closer to the board)
- 1:1 aides / paraprofessionals for learners needing more support
- Other: _____

13b. If instructional/pedagogical methods are used, please describe.

Organizations of Persons with Disabilities

14. What organizations of persons with disabilities (OPDs) operate in your country?

15. How do organizations working in pre-primary education engage with OPDs?

- Organizations do not engage with OPDs
- Organizations have some engagement with OPDs (engage on a few topics)
- Organizations regularly engage/partner with OPDs

16a. Do any of the OPDs in your country offer services or implement programming for young children with disabilities, including inclusive education and support to parents/caregivers?

- Yes
- No
- Other: _____

16b. If yes, please list the OPDs working with young children with disabilities in your country and a short description of their programming.

Crisis and Conflict

17a. Do any organizations in your country implement programming related to pre-primary education within conflict and crisis settings?

- Yes
- No
- Other: _____

17b. If yes, is it inclusive of learners with disabilities?

- Yes
- No
- Other: _____

17c. If yes, please list the organizations offering access to pre-primary education for learners with disabilities within crisis settings.

Pre-Service and In-Service Training

18a. In your country, do pre-primary teachers receive any pre-service education on how to teach learners with disabilities or how to differentiate their teaching for different learning styles?

- Yes
- No
- Other: _____

18b. If yes, please describe the pre-service education teachers receive.

19a. In your country, do pre-primary teachers receive any in-service training on how to teach learners with disabilities or how to differentiate their teaching for different learning styles?

- Yes
- No
- Other: _____

19b. If yes, please describe the in-service training teachers receive.

Barriers & Innovative Practices

20a. What barriers exist in your country that keep pre-primary learners with disabilities from accessing and/or being fully included into pre-primary education?

- Parents cannot afford to send their children with disabilities to school
- Teachers are not prepared to teach learners with disabilities
- Schools are not physically accessible for learners with disabilities
- Materials/curriculum are not accessible for learners with disabilities
- Teachers and peers demonstrate stigma toward learners with disabilities
- Instruction not in the learner's local/primary language (including sign language)
- Transportation (school is too far, getting learners with disabilities to/from school is a challenge, etc.)
- Parents do not want to enroll their child due to concerns of stigma toward the family
- Parents are reluctant to enroll their child with disabilities due to concerns for their safety
- Parents do not see the value in educating their child with a disability
- Classroom student/teacher ratios are too high for the teacher to adequately support learners with disabilities
- Teacher has minimal knowledge of reading braille or sign language (for learners who are blind or deaf)

20b. Please describe the barriers identified in 20a.

21a. In your country, are there any alternative forms of pre-primary education services, specifically serving those with disabilities in rural or urban settings where there are no preprimary institutions (e.g., home-based pre-primary, play groups, etc.)?

- Yes
- No
- Other: _____

21b. If yes, please describe.

22. Are there any innovative or emerging practices in the country in the area of pre-primary education for learners with disabilities that you'd like to share?

23a. Are you willing to be contacted for further questions?

- Yes
- No
- Other: _____

23b. If yes, please list your email address and WhatsApp (if applicable).

24. Please list the name, location(s), contact information, and primary contact of any organizations working in the pre-primary education space that you recommend we reach out to.

ANNEX B. SURVEY DATA

EXHIBIT 15. SURVEY PARTICIPATION BY ORGANIZATION TYPE

ORGANIZATION TYPE	N	%
INGO	40[10]	50.0
Local NGO	22	27.5
OPD	10	12.5
Higher Education	3	3.8
Healthcare	2	2.5
Donor	2	2.5
School	1	1.3
Total	80	100

EXHIBIT 16. SURVEY PARTICIPANTS BY REGION

REGION	N	%
Africa	43	53.8
Asia	20	25.0
Middle East	8	10.0
Europe and Eurasia	5	6.3
Latin America and the Caribbean	3	3.8
International	1	1.3
Total	10	100

EXHIBIT 17. ORGANIZATIONS WITH PPE PROGRAMMING

DOES YOUR ORGANIZATION HAVE PPE PROGRAMMING?	N	%
Yes	65	81.3
No	12	15.0
Missing	2	2.5
Not applicable	1	1.3
Total	80	100

[10] 27 of the 40 INGO participants were from World Vision.

EXHIBIT 18. ORGANIZATIONS WITH INCLUSIVE PPE PROGRAMMING

IF SO, IS IT INCLUSIVE OF LEARNERS WITH DISABILITIES?	N	%
Yes	17	50
No	12	35.3
Missing	4	11.8
Not applicable	1	2.9
Total	75	100

EXHIBIT 19. COST OF PPE

WHAT TYPE OF PAYMENT IS REQUIRED FOR PUBLIC PRE-PRIMARY EDUCATION IN YOUR COUNTRY?	N	%
Free for all learners	36	45
Subsidized by government	28	35
No public PPE	16	20
Total	80	100

EXHIBIT 20. ENROLLMENT IN PPE (OF THOSE WHO REPORTED ENROLLMENT)

WHAT PERCENTAGE OF LEARNERS ARE CURRENTLY ENROLLED IN PRE-PRIMARY EDUCATION?	N	%
26-50	10	27.8
51-75	7	19.4
More than 75	7	19.4
10-25	7	19.4
Less than 10	5	13.9
Total	36	100

EXHIBIT 21. TYPE OF PPE

DO MOST LEARNERS ATTEND PUBLIC OR PRIVATE INSTITUTIONS?	N	%
Public	40	54.8
Private	30	41.1
Both	3	4.1
Total	73	100

EXHIBIT 22. WHO HAS ACCESS TO INCLUSIVE PPE (N=53)

DISABILITY TYPE	N	%
Physical Disabilities	43	79.6
Learning Disabilities	36	66.7
Blind/Low Vision	34	62.9
Deaf/Hard of Hearing	33	61.1
Intellectual Disability	33	61.1
Behavioral/Attentional	33	61.1
Autism	30	55.6
Albinism	28	51.9
No Access	7	12.9

EXHIBIT 23. EDUCATION FOR PPE LEARNERS WHO ARE DEAF (N=53)

WHAT TYPE OF EDUCATION DO PPE LEARNERS WHO ARE DEAF RECEIVE?	N	%
Boarding School	13	24.5
Integration	13	24.5
Resource Classroom	9	17.0
No Access	8	15.1
Segregated Day School	7	13.2
Home	2	3.8
Periodic Integration	1	1.9

EXHIBIT 24. EDUCATION FOR PPE LEARNERS WHO ARE BLIND (N=52)

WHAT TYPE OF EDUCATION DO PPE LEARNERS WHO ARE BLIND RECEIVE?	N	%
Boarding School	17	32.7
Integration	10	19.2
No Access	8	15.4
Segregated Day School	6	11.5
Resource Classroom	6	11.5
Periodic Integration	4	7.7
Home	1	1.9

EXHIBIT 25. EDUCATION FOR PPE LEARNERS WHO HAVE INTELLECTUAL DISABILITY (N=52)

WHAT TYPE OF EDUCATION DO PPE LEARNERS WHO HAVE INTELLECTUAL DISABILITY RECEIVE?	N	%
Integration	15	28.8
Boarding School	12	23.1
No Access	10	19.2
Resource Classroom	5	9.6
Segregated Day School	4	7.7
Periodic Integration	4	7.7
Home	2	3.8

EXHIBIT 26. SCREENING AT PPE LEVEL (N=72)

WHAT TYPE OF SCREENING IS BEING IMPLEMENTED WITHIN PRE-PRIMARY CLASSROOMS?	N	%
No Screening	35	43.8
Screening All Types	25	31.3
Developmental Screening	12	15.0
Hearing Screening	5	6.3
Vision Screening	3	3.8

EXHIBIT 27. SUPPORTS AVAILABLE TO LEARNERS AND FAMILIES (N=75)

WHAT SERVICES CAN PRE-PRIMARY CHILDREN BE REFERRED TO FOR ADDITIONAL SUPPORT AFTER SCREENING?	N	%
Hearing Aids	44	59
Eyeglasses	43	57
Mobility Aids	40	53
Physical Therapy	39	52
Sign Language/Braille	38	51
Speech Therapy	30	40
Occupational Therapy	30	40
ICT	22	29

EXHIBIT 28. WHO PROVIDES SERVICES AFTER SCREENING (N=77)

IF SERVICES ARE PROVIDED, WHO PROVIDES THEM?	N	%
NGO	45	58
International Project	45	58
OPD	35	45
Clinic	34	44
School	18	23

EXHIBIT 29. WHO PAYS FOR SERVICES AFTER SCREENING (N=77)

IF SERVICES ARE PROVIDED, WHO PAYS FOR THEM?	N	%
Parents	49	64
International Project	43	56
NGO	39	51
OPD	25	32
School	9	12
Clinic	7	9

EXHIBIT 30. INSTRUCTIONAL/PEDAGOGICAL METHODS USED IN PRE-PRIMARY PROGRAMS (N=77)

IF SERVICES ARE PROVIDED, WHO PAYS FOR THEM?	N	%
Play-based	49	64
Positive Behavior Support	42	55
Multiple Learning Styles	41	53
Preferential Seating	38	49
Small Group/Paired	32	42
1:1 Support	19	25

EXHIBIT 31. OPD ENGAGEMENT (N=74)

HOW DO ORGANIZATIONS WORKING IN PPE ENGAGE WITH OPDS?	N	%
Some Engagement	50	68
Do Not Engage	13	17
Engage/Partner with OPDs	11	15

EXHIBIT 32. OPD SERVICE PROVISION (N=57)

DO ANY OPDS OFFER SERVICES OR IMPLEMENT PROGRAMMING FOR YOUNG CHILDREN WITH DISABILITIES?	N	%
Yes	39	68
No	18	32

EXHIBIT 33. CRISIS AND CONFLICT SERVICE PROVISION (N=64)

DO ANY ORGANIZATIONS IMPLEMENT PROGRAMMING RELATED TO PRE-PRIMARY EDUCATION WITHIN CONFLICT AND CRISIS SETTINGS?	N	%
Yes	33	52
No	31	48

EXHIBIT 34. INCLUSIVE CRISIS AND CONFLICT SERVICE PROVISION (N=64)

IF SO, IS IT INCLUSIVE?	N	%
Yes	25	51
No	24	49

EXHIBIT 35. PRE-SERVICE INCLUSIVE EDUCATION TEACHER TRAINING (N=67)

DO PRE-PRIMARY TEACHERS RECEIVE ANY PRE-SERVICE EDUCATION ON HOW TO TEACH LEARNERS WITH DISABILITIES?	N	%
Yes	35	52
No	32	48

EXHIBIT 36. IN-SERVICE INCLUSIVE EDUCATION TEACHER TRAINING (N=69)

DO PRE-PRIMARY TEACHERS RECEIVE ANY IN-SERVICE EDUCATION ON HOW TO TEACH LEARNERS WITH DISABILITIES?	N	%
Yes	33	48
No	36	52