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Assessing Practitioner and Infrastructure Capacity for Inclusive Early Childhood Development Education in ECDE Centres in Lilongwe Urban, West and East, Malawi

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ABSTRACT

Inclusive Early Childhood Development Education (ECDE) is fundamental to equitable access to learning and holistic child development. Although Malawi has established policy commitments to inclusive education, evidence regarding the capacity of ECDE practitioners and learning environments to implement inclusive education remains limited. This study assessed practitioner and infrastructural capacity for inclusive education in ECDE centres in Lilongwe Urban, Lilongwe West and Lilongwe East, Malawi. The study employed an exploratory case study design (Yin, 2018) combining qualitative interviews and focus group discussions with structured, descriptive quantitative observation of infrastructure. Data were collected from 152 participants across 34 semi-structured interviews and six focus group discussions, together with structured observation of infrastructure in 34 ECDE centres. Interview and focus group data were analysed thematically following Braun and Clarke's (2006) six-phase framework, while observational data were analysed using descriptive statistics. Findings indicate substantial gaps in practitioner preparation and infrastructural capacity. More than half of participants (56.6%) held only Primary School Leaving Certificate or Junior Certificate of Education qualifications, and formal inclusive-education training was limited, short-term and unevenly distributed. Despite this, 88% of practitioners expressed positive attitudes toward inclusion. Infrastructure assessments revealed severe accessibility barriers: only 20.6% of centres had ramps, 11.8% had disability-friendly toilets, and 8.8% had signage or grab bars. Only 14.7% of centres had adequate inclusive learning materials. Inclusive ECDE implementation in Lilongwe is constrained not by unwillingness but by a capacity-commitment gap, in which practitioners' positive attitudes toward inclusion consistently outpace the training, resources and infrastructure needed to translate those attitudes into inclusive practice. Strengthening inclusive ECDE requires coordinated investment in competency-based practitioner development, progressive accessibility standards, inclusive learning materials, mentorship and multisectoral monitoring.

INTRODUCTION

Early Childhood Development Education (ECDE) constitutes a critical phase of children's development, shaping cognitive, emotional and social growth and laying foundations for lifelong learning (Heckman, 2006; UNESCO, 2021). In Malawi, ECDE serves children aged one to five years before entry into primary education. The Government of Malawi has recognized ECDE as a national priority, reflected in the Malawi Growth and Development Strategy III (Government of Malawi, 2017a) and the National Early Childhood Development Policy (Government of Malawi, 2017b), which emphasize equitable and inclusive access to early learning. The Malawi 2063 agenda further commits the nation to ensuring that every child experiences early childhood development.

Despite these commitments, important gaps remain between policy aspiration and implementation. Approximately 55% of children aged three to five years in Malawi do not access an early learning programme, and fewer still benefit from services adapted to diverse learning needs (UNICEF Malawi, 2022). The National Inclusive Education Strategy (Government of Malawi, 2021) provides for inclusive practice across educational levels, yet the extent to which these commitments have

translated into effective inclusive provision at ECDE level remains insufficiently documented.

Inclusive ECDE requires more than the physical enrolment of children with disabilities or other diverse learning needs; it requires practitioners with appropriate knowledge, skills, attitudes and qualifications, together with physical environments that are accessible, safe and responsive to diversity. Practitioner capacity and infrastructural capacity therefore constitute two foundational dimensions of effective inclusive ECDE provision, and the present study approaches inclusive ECDE as a systems issue in which human capacity and the physical learning environment interact to shape children's opportunities for meaningful participation.

Malawi's education sector has undergone considerable policy development in relation to inclusive education, yet an important implementation gap persists: policy mandates do not, by themselves, demonstrate that ECDE centres possess the trained practitioners, appropriate resources and accessible infrastructure required to implement inclusive education effectively. This gap carries practical consequences. Children with disabilities may be enrolled in centres that lack the capacity to support them, policymakers may lack sufficiently detailed evidence on

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where to prioritise investment, and progress toward national inclusive-education objectives becomes difficult to monitor in the absence of baseline institutional data. The problem is compounded by the historically limited research attention given to ECDE in Malawi relative to primary and secondary education.

This study therefore addresses an important evidence gap by examining practitioner capacity and the accessibility of ECDE infrastructure in Lilongwe Urban, Lilongwe West and Lilongwe East, and by exploring the challenges practitioners face in implementing inclusive education. The study was guided by three objectives: to assess practitioners' knowledge, skills, training and attitudes toward inclusive education; to examine the user-friendliness and accessibility of ECDE centre infrastructure; and to explore the challenges practitioners face in providing inclusive education and the contextual factors that constrain or enable inclusive practice. The study contributes empirical evidence to inform policymaking, resource allocation and intervention design for inclusive ECDE in Malawi and in comparable low-resource Sub-Saharan African contexts, while applying a Universal Design for learning perspective to the joint assessment of practitioner and infrastructural capacity. Beyond this empirical contribution, the study advances a conceptual argument, termed here the inclusive ECDE capacity-commitment gap, which reframes exclusion in under-resourced ECDE systems as a problem of institutional capacity rather than of practitioner willingness.

LITERATURE REVIEW

The Importance of Early Childhood Development Education

High-quality ECDE provides an important foundation for children's subsequent educational, social and economic development. International evidence links effective early childhood programmes to improved academic outcomes, enhanced social-emotional development and long-term societal benefits, including higher lifetime earnings and reduced social problems Heckman (2006); UNESCO (2021). Malawi's national development agenda explicitly recognises early childhood development as a priority, yet substantial challenges remain in both access and quality, particularly among marginalised populations, UNICEF Malawi (2022). For inclusive ECDE, the central question is therefore not simply whether children have access to a centre, but whether that centre provides an environment in which children can participate, learn and develop meaningfully.

Inclusive Education in Early Childhood Development Education

Inclusive education represents a commitment to equitable learning opportunities through the identification and removal of barriers to participation, UNESCO (1994). Within ECDE, inclusion requires learning environments and pedagogical approaches that accommodate diverse

needs, including disability, socioeconomic circumstance and cultural difference; it cannot be reduced to placing children with disabilities in mainstream centres. International consensus indicates that inclusive ECDE requires systemic transformation rather than simple integration (Florian & Black-Hawkins (2011), a paradigm operationalised through Universal Design for Learning (UDL), which advocates the proactive design of curricula, environments and instructional approaches so that diversity is anticipated from the outset rather than accommodated only after barriers emerge, CAST (2018). This perspective is particularly relevant to ECDE because early learning environments must simultaneously accommodate differences in communication, mobility, sensory processing, attention and developmental level. Empirical evidence from rural Malawi illustrates why this systemic view matters in practice: even where caregivers hold generally positive views of inclusion, children with disabilities remain excluded from education and other services because of compounding barriers of cost, distance, transport and community stigma, factors that attitude alone cannot overcome, Banks et al (2022). This finding foreshadows a central argument of the present study, namely that positive attitudes and effective inclusion are not the same thing.

Practitioner Capacity for Inclusive ECDE

Practitioner capacity encompasses the knowledge, skills, attitudes and professional support necessary for effective inclusive education, including knowledge of child development, disability-specific knowledge, differentiated instructional strategies and the ability to adapt curricula to diverse learners. Evidence consistently indicates persistent weaknesses in teacher preparation for inclusive education, particularly in relation to disability-specific knowledge and inclusive pedagogy; Ainscow & Miles (2008). Practitioners' attitudes matter greatly: positive attitudes increase willingness to adapt teaching, collaborate with other professionals and build accepting learning environments, whereas negative attitudes may contribute to segregation or neglect of children requiring additional support; Sharma, Forlin, & Loreman (2008). Training and continuing professional development are therefore central to inclusive ECDE (Save the Children, 2017), and Vygotsky's (1978) concept of More Knowledgeable Others and scaffolding underscores the importance of mentorship from experienced practitioners in building this capacity. Recent regional evidence reinforces this picture: professional learning opportunities strengthen teachers' capacity to implement learner-centred, inclusive approaches, Njiru & Odundo (2024), while the availability of qualified practitioners and instructional resources is a significant predictor of children's school readiness, Kitsao-Wekulo *et al.*, (2023). A Zimbabwean study of ECDE centres in Masvingo province similarly found that caregiver and teacher preparedness, rather than policy or enrolment criteria, was the factor most consistently limiting inclusion of children

with disabilities at the ECDE level (Musengi, 2021), while South African evidence indicates that teachers' willingness to include learners with barriers to learning is frequently undermined by inadequate training and insufficient in-school support rather than by resistance to inclusion itself, Motitswe, (2025). In Malawi specifically, limited numbers of trained caregivers and weaknesses in training quality remain significant barriers to inclusive service delivery (Ministry of Education, Science and Technology, MoEST, (2020).

Infrastructural Capacity for Inclusive ECDE

Infrastructural capacity refers to the physical and organisational conditions that support participation and learning. Physical accessibility includes ramps, sufficiently wide doorways, accessible toilets, appropriate furniture and accessible indoor and outdoor learning spaces (UNICEF, 2013). Accessibility, however, extends beyond mobility: classroom environments must also consider lighting, acoustics, sensory stimulation and the arrangement of learning materials, all of which affect children's ability to concentrate, communicate and engage, particularly children with sensory sensitivities, Kearney (2012). Outdoor environments and playgrounds are similarly important, since an inaccessible playground can effectively exclude children from a central component of early learning. Infrastructural deficits remain widespread in developing-country contexts, including Malawi, where safe water, sanitation and disability-inclusive facilities are frequently absent from community-based centres, UNICEF Malawi, (2022); UNICEF/WHO Joint Monitoring Programme, (2023). A regional mapping of progress toward disability-inclusive education across Eastern and Southern Africa similarly found that physical inaccessibility, alongside weak data systems and under-resourced teacher support, remains one of the most persistent barriers to inclusive service delivery across the region, even where national policy commitments are in place, Grimes *et al.*, (2023).

Comparative and Regional Perspectives

Comparative evidence illustrates how governance and institutional coordination shape the translation of inclusive-education policy into practice. In England, the Early Years Foundation Stage integrates curriculum guidance, inspection and inclusive-practice requirements within a single statutory framework, and promoting consistency across providers. In Nigeria, the National Policy on Education and Universal Basic Education programme have expanded access to early childhood care and education, but implementation has been constrained by fragmented institutional responsibility, uneven financing and shortages of qualified teachers, Obiweleuzor (2015); Salami (2014). Evidence from Southern Africa points to a comparable pattern: South Africa has integrated inclusive early childhood development into national policy through leadership and governance structures intended to drive implementation in ECD playrooms, yet studies of these

structures find that leadership capacity, resourcing and coordination between departments continue to constrain what is delivered on the ground, Bipath, Tebekana, & Venketsamy (2021), while broader reviews across the Southern African Development Community region similarly report that policy commitments to inclusive education routinely outpace the human, financial and infrastructural capacity required for implementation, Mpu & Adu (2021). Even in relatively well-resourced South African settings, learners with disabilities continue to experience compounded barriers to learning, including inaccessible infrastructure and insufficiently differentiated teaching, Chirowamhangu (2024). These comparisons suggest that legislative commitment alone cannot guarantee inclusive outcomes unless matched by governance capacity, sustainable financing and practitioner development, a pattern consistent with Malawi's own experience of strong policy commitment alongside uneven implementation capacity.

Theoretical Framework: Universal Design for Learning

This study is guided by the Universal Design for learning framework, developed by the Center for Applied Special Technology, CAST (2002, 2018). UDL provides a framework for proactively designing learning environments and instructional practices to promote accessibility and engagement for learners with different characteristics, rather than treating learner differences as exceptions requiring adjustment after difficulties arise. The framework rests on three principles: Multiple Means of Representation, providing diverse ways for learners to access information (visual, auditory, tactile); Multiple Means of Action and Expression, providing varied ways for learners to demonstrate understanding; and Multiple Means of Engagement, providing varied ways of motivating and engaging learners according to individual preference. In this study, UDL was applied both to the assessment of the physical learning environment, in terms of whether classrooms, toilets and playgrounds were designed to accommodate diverse physical and sensory needs, and to practitioner capacity, in terms of whether practitioners could employ diverse teaching approaches and materials. The resulting conceptual model treats inclusive ECDE as a systems-capacity issue in which practitioner competence and environmental accessibility interact to produce inclusive outcomes: neither dimension alone is sufficient, since accessible infrastructure cannot guarantee meaningful inclusion if practitioners lack the requisite knowledge and skills, and well-prepared practitioners cannot deliver inclusive practice within inaccessible physical environments.

MATERIALS AND METHODS

Research Design

The study employed an exploratory case study design, Yin (2018), combining qualitative interviews and focus group discussions with structured, descriptive quantitative

observation of infrastructure. This mixed within-case design was considered appropriate for developing an in-depth understanding of practitioners' experiences alongside a systematic, numerically comparable record of the physical conditions across ECDE centres, since neither strand alone could adequately capture both the interpretive and the material dimensions of inclusive capacity.

Study Setting, Population and Sampling

The study was conducted in Lilongwe Urban, Lilongwe West and Lilongwe East, three sites purposively selected to capture variation across urban, peri-urban and rural-adjacent educational contexts. The study population comprised the approximately 180 registered ECDE centres operating in the three districts (80 Urban, 55 West and 45 East). A purposive, maximum-variation sampling strategy (Patton, 2015) was used to select 34 centres (12 Urban, 11 West and 11 East), representing approximately 19% of the population and capturing variation in geographic location, ownership type and operational status. Within selected centres, participants, comprising centre heads, teachers, caregivers and committee members, were purposively recruited based on their knowledge of and involvement in ECDE provision. Sample size was determined by thematic saturation, Guest, Bunce, & Johnson (2006), yielding 34 individual interviews and six focus group discussions (three with teachers, three with caregivers, each comprising four to eight participants), for a total of 152 participants. For precision, the term practitioners is used throughout this article to refer specifically to teachers and caregivers, who deliver direct instruction and care and whose knowledge, skills and attitudes were the object of assessment. Committee members, while sampled and analysed alongside practitioners for descriptive purposes, functioned analytically as institutional and community informants rather than as practitioners; their accounts provided governance-level and community-attitude perspectives that contextualise, rather than substitute for, direct pedagogical practice.

Data Collection Instruments and Procedures

Three instruments were used: a semi-structured interview guide addressing qualifications, training, knowledge, attitudes and challenges (30 to 45 minutes per interview); a focus group discussion guide exploring collective experiences and community attitudes (60 to 90 minutes per group); and a structured observation checklist recording the presence or absence of accessibility features across seven domains, namely general accessibility, classroom

design, sanitation, playgrounds, water access, learning materials and signage. Instruments were developed in English, translated into Chichewa and back-translated for accuracy, and piloted in three non-participating centres. Ethical approval was obtained from the Emmanuel University Research Ethics Committee (Protocol EU/ECDE/2023/02), together with permissions from the Ministry of Gender and the Directorate of Special Needs Education. Written informed consent was obtained from all participants, with thumbprints witnessed impartially where necessary. Interviews were audio-recorded and conducted privately at centres; focus groups were conducted at central community locations; and infrastructure checklists were completed through walking observation with centre heads. Recordings were transcribed verbatim, Chichewa transcripts translated into English, and participants anonymised using coded identifiers.

Data Analysis and Trustworthiness

Interview and focus group data were analysed thematically following Braun and Clarke's (2006) six-phase framework, comprising familiarisation, initial coding, theme generation, theme review, theme definition and writing, supported by Atlas.ti/NVivo 12 software. Observational checklist data were analysed descriptively, using frequencies and percentages, to quantify infrastructure accessibility. Trustworthiness was addressed using Lincoln and Guba's (1985) criteria: credibility through prolonged engagement, methodological triangulation and member checking with ten participants; transferability through detailed description of context and participants; dependability through an audit trail of research decisions; and confirmability through reflexive journaling and peer debriefing with two non-investigator researchers. Ethical principles of voluntary participation, confidentiality, protection from harm and reciprocal benefit-sharing, through the offer of findings-dissemination workshops, were maintained throughout.

RESULTS AND DISCUSSION

Participant Characteristics

A total of 152 participants took part in the study, comprising 34 individual interview participants and 118 focus group participants across six groups (Table 1). Participants were predominantly female (86.8%), and caregivers constituted the largest occupational group (48.7%), followed by teachers (34.2%) and committee members (17.1%). Participants were distributed relatively evenly across Lilongwe Urban (35.5%), Lilongwe West (32.2%) and Lilongwe East (32.2%).

Table 1: Participant characteristics by role, gender and district (N = 152)

Characteristic	Category	Interviews n (%)	FGD n (%)	Total N (%)
Role	Teachers	14 (41.2%)	38 (32.2%)	52 (34.2%)
	Caregivers	12 (35.3%)	62 (52.5%)	74 (48.7%)
	Committee members	8 (23.5%)	18 (15.3%)	26 (17.1%)

Gender	Female	28 (82.4%)	104 (88.1%)	132 (86.8%)
	Male	6 (17.6%)	14 (11.9%)	20 (13.2%)
District	Lilongwe Urban	12 (35.3%)	42 (35.6%)	54 (35.5%)
	Lilongwe West	11 (32.4%)	38 (32.2%)	49 (32.2%)
	Lilongwe East	11 (32.4%)	38 (32.2%)	49 (32.2%)
Total		34	118	152

Note. Source: study data.

Practitioner Capacity for Inclusive ECDE

Findings revealed substantial qualification gaps (Table 2). Of the 152 participants, 30.9% held Primary School Leaving Certificate (PSLC) qualifications, 25.7% held Junior Certificate of Education (JCE) qualifications, 20.4% held Malawi School Certificate of Education (MSCE) qualifications, 21.1% held ECDE certificates, and only 3.3% reported diploma- or degree-level qualifications. Overall, 56.6% of participants held only PSLC or JCE qualifications, below the level generally required for entry into mandated ECDE Certificate programmes. As one teacher explained, “I have been teaching at this centre for

five years, but I only have my JCE. I want to get the ECD certificate, but I cannot afford the fees, and the training centre is far from my village” (Teacher, Lilongwe West). Formal inclusive-education training was unevenly distributed and generally limited to short-term exposure. Among teachers, 33 of 52 reported having received training, primarily through short IECE or ECDE courses, compared with 18 of 74 caregivers and 4 of 26 committee members. Where training had occurred, it consisted of workshops lasting approximately two days to two weeks; no participant reported ongoing professional development or mentorship in inclusive education.

Table 2: Practitioner and committee-member qualifications by role (N = 152)

Qualification	Teachers (n=52)	Caregivers (n=74)	Committee members (n=26)	Total (%)
PSLC	9 (17.3%)	25 (33.8%)	13 (50.0%)	47 (30.9%)
JCE	13 (25.0%)	23 (31.1%)	3 (11.5%)	39 (25.7%)
MSCE	12 (23.1%)	7 (9.5%)	12 (46.2%)	31 (20.4%)
ECDE Certificate	14 (26.9%)	18 (24.3%)	0 (0.0%)	32 (21.1%)
Diploma/Degree	4 (7.7%)	1 (1.4%)	0 (0.0%)	5 (3.3%)

Note. Percentages may not sum to 100% due to rounding. The committee-member column as recorded sums to 28 cases (107.7% of n = 26) rather than 26, and the table total accordingly sums to 154 rather than 152; this discrepancy originates in the original data-coding sheets and could not be resolved without access to the raw committee-member records, so the figures are reported here as coded, with the error flagged rather than silently corrected. Downstream summary statistics that depend on this column (including the 20.4% overall MSCE figure) should be treated as provisional pending verification against source coding sheets.

Participants also demonstrated variable knowledge of disability categories (Table 3): 68.4% could identify physical or mobility impairment, 52.6% visual impairment, 47.4% hearing impairment and 44.7% language difficulties, compared with only 28.9% for intellectual disability and 10.5% for autism spectrum conditions. A caregiver

in Lilongwe East explained the resulting gap between recognition and practice: “I can see when a child is not walking like others or when a child does not speak. But I do not know what to do to help them learn. We were never taught these things.”

Table 3: Practitioners' reported ability to identify selected disabilities and special needs

Disability/need	Able to identify (%)	Unable to identify (%)
Physical/mobility impairment	68.4	23.7
Visual impairment	52.6	18.4
Hearing impairment	47.4	15.8
Language difficulties	44.7	13.2
Intellectual disability	28.9	7.9
Autism spectrum	10.5	2.6

Note. Remaining percentages reflect partial or uncertain identification and do not sum to 100 with the two reported categories.

Note. Source: study data.

Despite these deficits, attitudes toward inclusion were overwhelmingly positive, with 88% of participants

expressing positive attitudes and 12% expressing negative attitudes. A committee member in Lilongwe Urban captured this tension: “Every child deserves to learn.

Whether they have a disability or not, they are all God's children. We want all children in our centre, but we need help to know how to teach them."

Infrastructural Capacity

Structured observation revealed widespread infrastructural deficiencies (Table 4). Only 20.6% of centres had ramps, 41.2% had wide doors, and 61.8%

had spacious classrooms, while accessibility-specific features were markedly weaker: 11.8% had disability-friendly toilets, 8.8% had grab bars and 8.8% had signage. Inclusive playgrounds were present in 29.4% of centres, and only 14.7% had adequate inclusive learning materials. Basic facilities fared somewhat better, with 67.6% of centres reporting safe water and 64.7% reporting non-slippery floors.

Table 4: Accessibility and infrastructure characteristics of ECDE centres (N = 34)

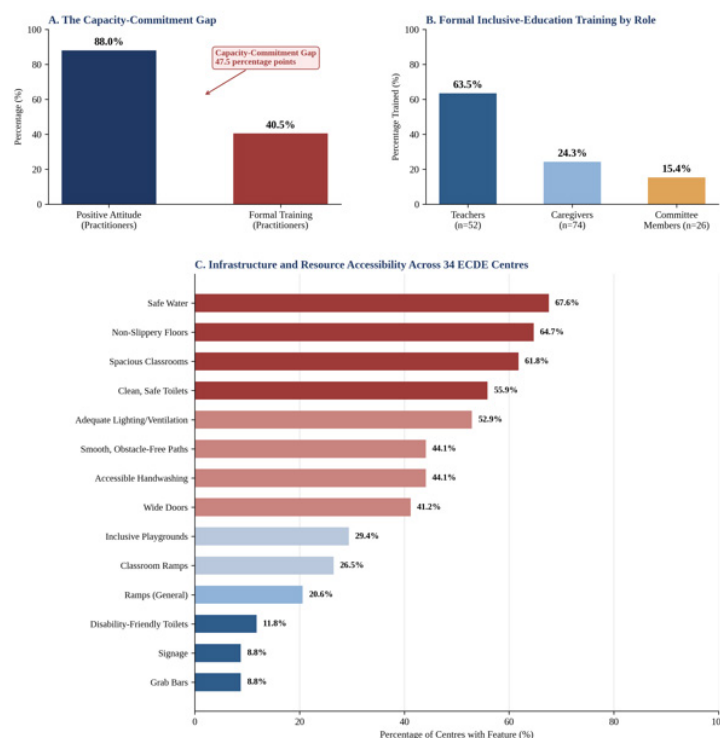
Feature	Present (%)	Feature	Present (%)
Ramps	20.6	Non-slippery floors	64.7
Smooth, obstacle-free paths	44.1	Disability-friendly toilets	11.8
Wide doors	41.2	Grab bars	8.8
Spacious classrooms	61.8	Clean, safe toilets	55.9
Classroom ramps	26.5	Safe water	67.6
Adequate lighting/ventilation	52.9	Accessible hand washing	44.1
Signage	8.8	Inclusive playgrounds	29.4
		Adequate inclusive materials	14.7

Note. Percentages calculated from the 34 centres included in the infrastructure observation.

Photographic observation reinforced these figures. At one Lilongwe West centre, the toilet had cracked walls, no door and no grab bars; at a Lilongwe East

centre, a classroom entrance had a narrow doorway of approximately 65 centimetres and a step with no ramp alternative, preventing wheelchair access; and an

Positive Attitudes (88.0%) Coexist with Deficits in Training and Accessibility
The Inclusive ECDE Capacity-Commitment Gap in Lilongwe, Malawi (N = 132 Participants, N = 34 Centres)



Source: study data (Tables 1, 2 and 4). Note: Practitioners refer to teachers (n=52) and caregivers (n=74). Committee members (n=26) are institutional and community informants rather than practitioners. Capacity-commitment gap calculated as positive attitude (88.0%) minus formal training (40.5%), both measured on the practitioner base (N=126).

Figure 1: Practitioner attitudes, formal training and infrastructure accessibility across ECDE centres in Lilongwe.

Note. Practitioners refer to teachers (n = 52) and caregivers (n = 74); committee members (n = 26) are institutional and community informants rather than practitioners. The capacity-commitment gap in Panel A is calculated from two participant-level rates (positive attitude and formal training, both N = 126) to ensure a like-for-like comparison; it is not calculated against the centre-level infrastructure figures in Panel C, which use a different denominator (N = 34).

uncovered well was documented at a Lilongwe Urban centre, presenting drowning and hygiene risks. A centre head summarised the practical consequence: “Look at our toilet. It has cracks, no door, and the floor is slippery. How can a child with crutches use this? We know it is bad, but we have no money to build new ones.”

Figure 1 summarises these results across the two capacity dimensions. Panel A expresses the study’s central finding as a single, like-for-like comparison: 88.0% of practitioners (teachers and caregivers, $N = 126$) reported positive attitudes toward inclusion, against only 40.5% who had received any formal inclusive-education training, a gap of 47.5 percentage points on the same participant base. Panel B disaggregates training by role, and Panel C presents the full infrastructure and resource-accessibility profile of the 34 centres.

Challenges in Providing Inclusive Education

Participants identified five interconnected challenges: lack of training in inclusive or special-needs education, inadequate teaching and learning materials, limited support staff, large class sizes and negative community attitudes toward specific disabilities. The majority of each participant group reported experiencing such challenges (48 of 52 teachers, 68 of 74 caregivers and 20 of 26 committee members), and lack of training was identified as the most significant barrier, cited by 89.5% of participants. As one caregiver explained, “I want to help the child who cannot hear, but I do not know sign language... The training we received was only two days; it was not enough.” Staffing emerged as a related constraint: caregivers frequently described serving without remuneration, a situation a committee member linked directly to workforce retention: “These caregivers come every day, but they receive nothing. No salary, no lunch, no transport. Some have left to find paid work.” Although most participants supported inclusion in principle, negative attitudes toward specific disabilities persisted in some communities; as one teacher observed, “Some parents hide their children with disabilities at home. They say the child will be laughed at or cannot learn.”

Discussion

The Inclusive ECDE Capacity-Commitment Gap

The findings reveal a consistent pattern across all three objectives: practitioners generally support inclusion, but structural capacity to deliver it remains weak. This study terms this pattern the inclusive ECDE capacity-commitment gap: positive attitudes coexist with insufficient professional preparation, disability-specific knowledge, materials and infrastructure, such that willingness to include is not matched by the institutional means to do so. Framed this way, the gap can be read as a chain of constraint running from insufficient training, through insufficient disability-specific knowledge and insufficient materials, to inaccessible infrastructure, each link narrowing practitioners’ ability to translate

a genuinely inclusive attitude into inclusive practice. As Figure 1 illustrates, the 47.5-percentage-point gap between practitioners’ positive attitudes and their formal training is the clearest single expression of this pattern. This is a more precise and more useful diagnosis than a general statement that ECDE centres lack resources, because it identifies where in the system the constraint binds and, correspondingly, where intervention would have to occur to break the chain. It also qualifies an overly simple explanation of exclusion in which negative attitudes are treated as the primary barrier. Consistent with earlier evidence on teacher preparation for inclusion (Ainscow & Miles, 2008; Sharma *et al.*, 2008), and with the Malawian finding that positive caregiver attitudes do not by themselves secure children’s inclusion in education (Banks *et al.*, 2022), the present study suggests that in the Malawian ECDE context, attitudinal readiness has outpaced the professional and material conditions required to act on it, echoing regional evidence that qualified, well-resourced practitioners are central to inclusive service quality (Kitsao-Wekulo *et al.*, 2023; Musengi, 2021; Njiru & Odundo, 2024).

From Disability Recognition to Pedagogical Competence

Practitioners’ relatively stronger recognition of physical and visual impairments, compared with intellectual disability and autism spectrum conditions, indicates that recognition of difference is not equivalent to pedagogical competence. A practitioner may notice that a child is not walking or speaking typically while lacking the knowledge to adapt communication, activities, and materials or peer support accordingly. From a UDL perspective (CAST, 2018), this suggests that practitioner preparation in Malawi needs to move beyond disability identification toward the practical design of flexible learning experiences, including visual aids, simplified instructions, peer support and adapted materials, strategies that provide a concrete bridge between UDL principles and classroom realities in low-resource ECDE settings.

Infrastructure as a Structural Barrier

The infrastructure findings provide some of the clearest evidence in the study. With only 20.6% of centres offering ramps and roughly one in ten offering disability-friendly toilets or grab bars, inaccessible infrastructure functions as a direct, rather than incidental, barrier to participation for children with mobility or sensory needs. This is consistent with international evidence that infrastructural deficits remain widespread in low-resource settings despite policy recognition of their importance (UNICEF, 2013; UNICEF Malawi, 2022). The finding that only 14.7% of centres had adequate inclusive learning materials further indicates that physical accessibility alone is insufficient: a centre can have a ramp and an accessible toilet and still fail to provide meaningful inclusion if its teaching materials do not accommodate diverse learners.

An Interconnected, Systems-Level Problem

Taken together, the findings support the study's conceptual proposition that practitioner capacity and infrastructural capacity interact to shape inclusive outcomes rather than operating independently. Training deficits constrain practitioners' ability to adapt teaching and materials; inadequate materials make inclusive teaching more difficult even where practitioners are motivated; unpaid or insecure staffing reduces retention and continuity of support; and inaccessible infrastructure can prevent participation even where practitioners are willing to include children. This interconnection implies that single-strand interventions, such as training practitioners without improving infrastructure, or building ramps without training practitioners, are likely to have limited effect in isolation, a pattern that mirrors comparative evidence on the need for coherent, mutually reinforcing policy and governance systems in ECDE reform (Obiweluo, 2015; Salami, 2014).

UDL in a Low-Resource Context

Applying UDL in Malawi cannot simply involve importing an idealised model of fully accessible infrastructure, since some centres in this study operated under highly constrained physical conditions. The findings instead support a progressive application of UDL, proceeding from basic safety and sanitation, through essential accessibility features such as ramps and accessible toilets, toward enhanced, comprehensively UDL-informed learning environments. This staged approach recognises that inclusive design must be economically and contextually realistic for low-resource ECDE systems while still providing a clear trajectory toward fuller accessibility.

Implications for Policy and Practice

The findings support several coordinated interventions. At the national level, an affordable, competency-based ECDE qualification pathway, incorporating flexible and distance-learning delivery, could address the qualification deficit among practitioners holding only PSLC or JCE qualifications. Continuous professional development, delivered through structured, ongoing mechanisms rather than isolated short workshops, is needed to build disability-specific knowledge and inclusive pedagogy. Progressive, staged accessibility standards would allow centres to advance incrementally rather than treating full accessibility as an all-or-nothing requirement, while cluster-based mentorship could extend professional support beyond training events. District-level accessibility audits, using the observation instrument developed for this study, would allow infrastructure investment to be prioritised on the basis of evidence. Finally, strengthening parent and community engagement, alongside the development of locally produced, context-responsive inclusive learning materials, would address both the persistence of disability stigma in some communities and the scarcity of adequate materials identified in this study.

Limitations

Several limitations should be considered when interpreting these findings. The 34-centre sample across three Lilongwe districts limits generalisability to the wider Malawian ECDE system, particularly rural and remote districts. Reported attitudes may have been affected by social desirability bias, meaning that participants stated support for inclusion may not fully correspond with observed practice. Five sampled centres were temporarily closed during data collection because of a lack of volunteer caregivers; while this limited direct observation, it simultaneously illustrates the workforce-sustainability problem identified by the study. Infrastructure was assessed at a single point in time; the observation checklist cannot establish whether accessibility conditions are representative across seasons, and features such as path and playground usability, water availability and sanitation conditions are plausibly worse during Malawi's rainy season than the dry-season conditions under which data collection occurred. A data-coding discrepancy was also identified in the committee-member qualification counts reported in Table 2, which sum to two more cases than the stated subgroup size; this has been flagged transparently rather than resolved by assumption, and the affected figures should be re-verified against the original coding sheets before further use. Finally, the cross-sectional design prevents conclusions about change over time or causal relationships between training and inclusive practice.

CONCLUSION

This study demonstrates that inclusive ECDE in Lilongwe-Malawi, faces a capacity crisis rather than an attitudinal one. Practitioners largely support inclusion, but many lack adequate qualifications, specialised training and disability-related knowledge, while the physical environments of many centres remain inaccessible and inclusive learning materials are scarce. The study's central conceptual contribution, the inclusive ECDE capacity-commitment gap, captures this pattern more precisely than a general resource-deficit account: it identifies a specific chain running from insufficient training and disability-specific knowledge, through insufficient materials, to inaccessible infrastructure, that limits practitioners' ability to convert genuinely inclusive attitudes into inclusive practice. The evidence supports an integrated reform agenda combining qualified practitioners, continuous professional development, accessible infrastructure, inclusive learning materials and community participation. The study provides an important baseline from which Malawi and its development partners can design, implement and evaluate more context-responsive inclusive ECDE interventions.

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