AOSIS

Early Childhood Care and Education in Botswana: Implications for access and quality

CrossMark
click for updates

Authors:
Lebogang J. Pillar[1] 🅓
Shanil J. Haricharan[1] 🅓

Affiliations:
[1]Nelson Mandela School of Public Governance, Faculty of Commerce, University of Cape Town, Cape Town, South Africa

Corresponding author:
Shanil Haricharan,
shanil.haricharan@uct.ac.za

Background: The value of Early Childhood Care and Education (ECCE) is recognised as beneficial to the child and society. Research evidence on pre-primary ECCE access and quality in Sub-Saharan Africa is scarce.

Aim: The aim of this article is to examine Botswana's pre-primary school programme in enhancing accessibility and quality of ECCE provision.

Setting: The study was conducted in 12 of the 24 primary schools implementing the pre-primary programme in a Gaborone sub-region.

Methods: Adaptations of the Levesque Access Framework and Woodhead Quality Framework were applied to this qualitative research study. Using semi-structured interviews, 11 pre-primary teachers, 5 school heads or Heads of Department, and 3 Principal Education Officers (PEO) were interviewed, and the data collected was analysed thematically.

Results: The findings suggest that the main barriers to the effective pre-primary programme rollout are supply-side and systemic. These barriers represent the public institutional environment (e.g. funding, inter-governmental co-ordination), policy design (e.g. the physical infrastructure delivery model, administrative barriers, enrolment policy), and programme implementation (enrolment practices, teaching personnel, learning materials, and assessment of learners).

Conclusion: Although over 600 public schools have implemented the pre-primary programme, meeting the objectives of universal access, equitability, inclusivity, and quality remains a challenge in Botswana, as in many other African countries.

Contribution: The findings offer research frameworks and evidence for understanding pre-primary ECCE accessibility and quality. Further, the research has policy, programmatic, and practice-based implications for pre-primary educators and policymakers.

Keywords: Early Childhood Care and Education (ECCE); inclusive access; equitable access; learners with special needs; ECCE quality indicators; infrastructure; Botswana.

Introduction

The aim of Early Childhood Care and Education (ECCE) is the holistic development of a child's social, emotive, cognitive, and physical needs to build a solid and broad foundation for lifelong learning and well-being (Bakken, Brown & Downing 2017; Rahmatullah et al. 2021). The value of ECCE has long been recognised as beneficial to the child and society (Richter et al. 2019; Vandenbroeck, Lenaerts & Beblavý 2018). Children (from birth to 8-years-old) who undergo pre-primary education tend to have better holistic development (physically, mentally, emotionally and motor and sensory skills) and are less likely to need special education (Nold et al. 2021; Taiwo & Tyolo 2002). In addition, ECCE benefits the economy, reduces poverty levels and criminal justice spending (Bakken et al. 2017), decreases the need for remedial programmes (Vandenbroeck et al. 2018), strengthens parents' job stability, and increases future earning capacity (Harmon et al. 2006).

Research evidence on ECCE access and quality in sub-Saharan Africa is scarce (McCoy & Wolf 2018). However, with the adoption of regional and international treaties such as the Dakar Framework for Action: Education For All (2000), Convention on the Rights of the Child (2005), and the African Child Policy Forum (2011), African governments are slowly showing interest in the development of younger children and implementing ECCE programmes (Earle, Milovantseva & Heymann 2018). Importantly in a poverty and inequality context, the equitability, accessibility, and quality of ECCE programmes is crucial for the realisation of ECCE benefits.

The Botswana government's decision to provide quality, inclusive, equitable and universally accessible ECCE services in the form of 1-year pre-primary education to all eligible children from 2012 onwards (Botswana Ministry of Education 2015) was a milestone for ECCE in that country. Pre-primary is usually the period in childhood before children enter formal primary schooling (Rahmatullah et al. 2021) – a transitory period into formal learning (Biersteker et al. 2008). This stage is an opportunity for young children to familiarise themselves with school rules, learn structure and interact with peers, thereby preparing them for primary school and a journey of lifelong learning. Attaining school readiness includes both academic preparation (e.g. exposure to literacy and numeracy) and development of other skills essential for formal learning (e.g. motor skills, social and emotional learning, executive function, and engagement, etc.) (Spier et al. 2019).

The provision of pre-primary education in Botswana was initiated in a context of limited access to ECCE services due to factors ranging from affordability, availability, and accessibility, to the absence of an enabling regulatory environment (Botswana Ministry of Education 2015; Maundeni 2013). In the absence of government investment in ECCE prior to 2012, private entities, community-based organisations (CBOs), non-governmental organisations (NGOs), and religious organisations took up the mantle of providing a range of ECCE services. Notably, the current pre-primary programme, based at existing primary schools, represents a continuation of public policy that was set in motion in 1994 on the back of recommendations made by the Revised National Policy on Education of 1994 (RNPE) (Bose 2008; Botswana Ministry of Education 1994). The decision to introduce a year of pre-primary education was taken because of the growing demand for ECCE services and the inadequate access to ECCE services (Bose, Mberengwa & Monyatsi 2012). The government of Botswana set an enrolment target of at least 40.0% for pre-primary classes in its National Development Plan-10 (NDP-10), covering the period 01 April 2009 – 31 March 2016 (Botswana, Ministry of Finance Development and Planning 2009, Botswana Ministry of Education 2015). The 2012 Education Statistics Report (Statistics Botswana Ministry of Education 2015a), however, reported an enrolment rate of just 18.4%. The low enrolment rate led the government to boldly set a new enrolment target of 100.0% at all government schools by 2020 (Botswana Ministry of Education 2015).

As a matter of fact, by 2021, 629 of the 729 (86.3%) government primary schools had implemented the pre-primary programme (State of the Nation Address 2022), but the student enrolment rate remained low at an estimated 27.0% (or 25 640 children) (Principal Education Officer [PEO] interview 2020), Ministry of Basic Education (MoBE) (2020). Enrolment and availability of services is skewed in favour of certain localities or regions, especially in the cities and towns, compared to the rural areas (Mwaipopo et al. 2021). Regarding the delivery of quality ECCE, the National Education for All: Country Report (Botswana Ministry of Education 2015) noted barriers such as the limited availability of learning resources; the absence of regulation; the absence of mechanisms and processes for assessing children's development and readiness to proceed to Standard One (first year of primary school); variable quality standards; and the limited number of teachers trained in ECCE.

The available research on the pre-primary programme in Botswana focused on the Integrated Early Childhood Development (IECD) curriculum (Bawani & Maphahlele 2021; Mwaipopo 2017). The paucity of studies identifies a research gap on the essential indicators of access and quality of the pre-primary programme in Botswana. Consequently, the aim of this article, based on a qualitative study, is to examine the capacity of Botswana's pre-primary programme to enhance the accessibility and quality of ECCE.

The broad objectives of the study were threefold:

- To understand the extent to which the scale-up of the pre-primary programme has achieved universal, equitable, and inclusive access to ECCE in Botswana;
- To examine the factors that have an impact on the quality of the pre-primary programme; and,
- To identify the implications of access and quality for ECCE and suggest recommendations to support programme accessibility and quality.

Early Childhood Care and Education in the African context

To achieve goal four of the United Nation's Sustainable Development Goals (SDGs), member states are expected to ensure equitable and inclusive quality education for their citizens and promote lifelong learning for all (United Nations 2015). Specifically, the expectation of Target 4.2 is that children must have access to quality early childhood development (ECD) by 2030 and, at minimum, compulsory quality 1-year pre-primary free education to support their readiness to enter primary school (United Nations 2015). Despite these commitments, the United Nations Educational, Scientific and Cultural Organization (UNESCO) Report (World Bank 2020), indicates that the average worldwide enrolment rate for ECD is 62.0%, with the rate in sub-Saharan Africa standing at mere 32.0%.

It is well understood that child-centred interventions to improve welfare in terms of health, physical, intellectual, and social well-being are most effective when introduced early in the lives of children (i.e. from conception to 6 years of age) (Ghosh 2019; Noboa-Hildalgo & Urzua 2012). As such, an increasing number of international organisations, development agencies and policymakers have shown interest in ECCE investment in this stage of childhood in African countries. One of the main challenges in expanding ECCE provision, however, is the competing developmental needs of low-income countries. For instance, sub-Saharan Africa not only has a definite need for ECCE, but also has the highest population of children who suffer from malnutrition and poverty. These two phenomena are not unrelated, with malnutrition and poverty inextricably linked to the high number of children with low cognitive, social, and emotional levels of development (Ekholuenetale et al. 2020; Santos et al. 2008).

Therefore, for the governments of low-income countries, responsibility goes beyond simply supporting ECCE in vision and principle alone. For these governments, there must also be programmatic support in the form of resource mobilisation and equitable allocation (Aidoo 2008). This means choosing cohesive and robust ECCE programmes that encompass an essential package of childcare, health, nutrition, education, and family support (Aidoo 2008). Thus, while many African countries are signatories to international declarations on ECCE, the continent continues to experience challenges in attaining universal, equitable, and inclusive access – and children in sub-Saharan Africa continue to be the most marginalised when it comes to ECCE provision (World Bank 2020). For example, despite the Zimbabwean government's efforts as a forerunner in providing ECD centres in the 1980s – efforts that were followed up by introducing two ECD classes at primary school level in 2004 – access to ECCE remains low, particularly in rural areas, resettlements, and illegal settlements in the peri-urban areas (Mugweni 2017). The Zimbabwean example is typical of the plight of most countries in the region, including Botswana (Bose 2008; Maundeni 2013).

This is not to suggest that there has been no progress on the continent. A few countries, like Ghana and South Africa, have made significant progress with access. For example, in 2007, the Government of Ghana introduced a compulsory and free kindergarten pre-primary programme and, by 2016, the pre-primary net enrolment rate was 80.0% (Ghana Ministry of Education 2016). Notwithstanding the high enrolment rate, however, a third of Ghana's pre-primary children still scored low in basic developmental milestones, such as following instructions, working independently, and getting along with others (McCoy & Wolf 2018). Similarly, in South Africa in 2019 '93% (nearly 2.2 million) of children in the pre-school age group (5–6-year-olds) were reported to attending some kind of educational facility, mostly Grade R or Grade 1' (Hall 2022:188).

Universal, equitable, and inclusive access to Early Childhood Care and Education

Universal access to education means ensuring that all eligible learners can access learning opportunities in a timely manner, regardless of their social standing, abilities, religion, and gender (Mugweni 2017). It requires government to adopt policies that address barriers to access, which may include physical, social, economic, emotional, and environmental factors (Michigan Department of Education 2006). Furthermore, universal access to primary education is important in that it tackles inequality created by limited access to ECCE (Heckman 2011; Maleq, Fuentes & Akkari 2022).

Inclusive ECCE is a 'systematic approach to providing high quality education which effectively meets the academic, social and health needs of all learners from the local community' (eds. Bellour, Bartolo & Kyriazopoulou 2017:10). Moreover, inclusivity demands access for those who are most vulnerable to marginalisation and exclusion, such as children with disabilities, special educational needs, or low socioeconomic status; migrants; newcomers; and other children at risk (eds. Bellour et al. 2017; Forlin et al. 2015; Mag, Sinfield & Burns 2017).

On the other hand, equitable access can be understood as a balancing exercise between social justice, fairness, and learners' rights to education and equal representation within the pre-primary programme. Mugweni (2017) defines equitable access as the fair distribution of opportunities and resources for talent and skill development. Equitability relates to the treatment of learners, which requires that the education system appreciates the particular circumstances of each learner and equips them with the specific tools and resources they need to reach their full potential (Levitan 2015). This important egalitarian principle ensures equal opportunity and fair, consistent and inclusive allocation of resources. It also, therefore, seeks to address existing barriers to participation, such as an individual or group's religious, spiritual, cultural or linguistic background, socio-economic status, gender, age or abilities (Majoko 2017; Mugweni 2017).

Conceptual frameworks

There are several theories and frameworks relating to ECCE. While all of these theories are relevant to ECCE, this article will primarily draw on Levesque's Conceptual Framework for Healthcare Access (Levesque, Harris & Russell 2013) and Woodhead's Quality Framework (1996).

Frameworks comprising key principles, indicators or variables, which are derived from the philosophy of an ECCE policy or a teaching curriculum, are necessary for the attainment of the desired outcomes of any quality ECCE programme. The variables in question include infrastructure; teacher-to-learner ratio; learners' experience; parent involvement; access to learning or teaching material; age-appropriate resources; availability of qualified teachers; and access to support staff (Gobena 2020; Whitebread, Kuvalja & O'Connor 2015). Before delving into the two main frameworks mentioned above, however, it is prudent to pause briefly on the subject of quality.

'Quality' is a dynamic concept as it relates both to the maintenance of high standards and to the attainment of outcomes (Pianta, Downer & Hamre 2016). It is also a subjective construct, influenced by the values, beliefs and interests of any particular group (Mugweni 2017). The provision of high quality ECCE is essential for optimal developmental outcomes, particularly for children from underprivileged backgrounds (Fenech 2011; Schady 2006). Indeed, poor quality ECCE may cause more harm than good, as it has been observed to increase aggression and poor language development among children, to mention just a few of its consequences (Bose 2008; Samuels et al. 2015). Over and above conceptual frameworks then, the practice of good quality in ECCE should always be kept in mind as a fundamental condition for success.

The Levesque Framework

The Levesque Framework (Levesque et al. 2013) is regarded as one of the most comprehensive frameworks in the health sector (Archambault, Côté & Raynault 2020; Cu et al. 2021). It provides five dimensions of access (approachability, acceptability, availability and accommodation, affordability, and appropriateness) and five aligned abilities of individuals and populations (to perceive, to seek, to reach, to pay, and to engage) in healthcare (Levesque et al. 2013). Although it is designed for health systems, the framework equally applies to ECCE programmes. Therefore, it was appropriate for Archambault et al. (2020) to adapt the framework as an integrated approach to understanding the inter-related processes, factors and stages affecting access to quality ECCE, as presented graphically in Figure 1. The five dimensions represent the supply side, that is, the ECCE programmes and institutional environment; whereas the parents' abilities and the social environment represent the demand side. Through these multidimensional insights, the framework may assist an ECCE programme to identify areas of strength and weakness in achieving or attaining inclusive and equitable access.

The Woodhead framework

Woodhead's framework calls for the formulation of an objective that takes into consideration perspectives on childhood development, values, wealth, the curriculum, and the programme's founding documents (Woodhead 1996). The framework is comprised of three sets of quality indicators, namely, inputs, processes, and outcomes. Input indicators are the easiest to establish and measure, and include elements such as buildings and surroundings; materials; equipment; and staffing. Process indicators refer to day-to-day activities, and are more difficult to standardise. These indicators consist of style of care; children's experience;

the approach to learning and teaching; and the adult or parent or caregiver relationship. Finally, outcome indicators measure the impact of the ECCE experience, and consist of children's health; abilities; adjustment (Bakken et al. 2017; Mitchell, Wylie & Carr 2008); and cognitive, physical, and socio-emotional development (Janta, Van Belle & Stewart 2016).

Research design and methods

To examine the accessibility and quality of the pre-primary ECCE programme in Botswana, a qualitative research approach was used. This approach was interpretative by nature, and drew upon individual interviews, in-situ observations and document analysis. Using purposive sampling, data were solicited in-person using semi-structured questions from a total of 19 educators and officers working closely with the programme. Specifically, the interviewees were comprised of 11 pre-primary teachers, 5 school Head Teachers or Heads of Department, and 3 PEO – one each from the government Departments of Curriculum Development and Evaluation (DCDE, Pre-Primary Unit), the Regional Education Office (REO), and the MoBE (Pre-Primary Unit). In consideration of the key factors that determine accessibility and quality of ECCE, the interviewees were selected based on the roles that they play in the provision and/or implementation of accessible quality ECCE as per the programme. As a result the PEO (MoBE) as the programme owner provided insight to the conceptualisation of the programme and expected outcomes. PEO (DCDE – Pre-Primary) as the curriculum developer spoke to the strength of the curriculum and its expected implementation and deliverables. PEO (REO) gave a breakdown of their facilitation of the roll-out of the programme particularly in resourcing it. The teachers,
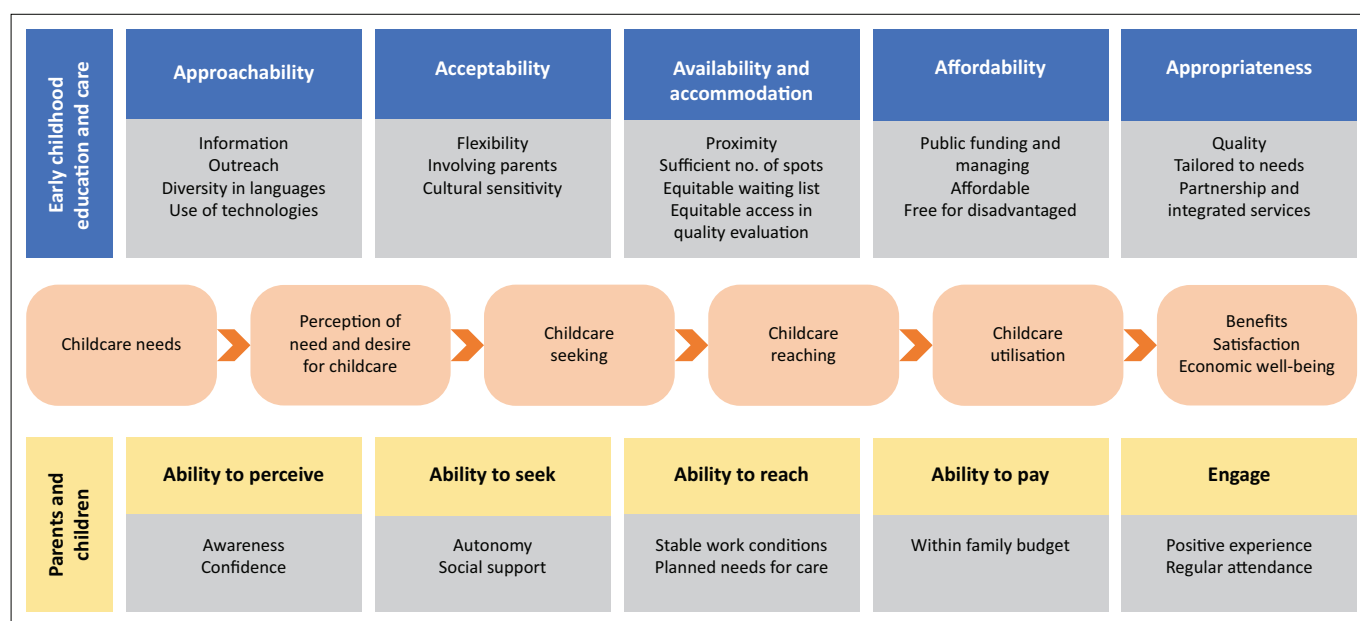
Source: Archambault, J., Côté, D. & Raynault, M.F., 2020, 'Early childhood education and care access for children from disadvantaged backgrounds: Using a framework to guide intervention', *Early Childhood Education Journal* 48(3), 345–352.

FIGURE 1: Archambault et al.'s (2020) conceptual access framework for quality Early Childhood Care and Education (ECCE).

heads of department and school head teachers spoke to their challenges, successes and constraints in operationalising the programme.

The study was conducted in a Gaborone sub-region of Botswana, where the estimated population of children is 231 592, of which an estimated 17 938 are under the age of five (Statistics Botswana 2015b).[1] There are 29 government primary schools in the sub-region, of which 24 have implemented the pre-primary programme. In January 2020, the total number of children enrolled in the pre-primary programme in this sub-region was 914 (PEO REO Interview 2020). Twelve of the 24 participating schools were selected for use in this study through purposive sampling, using the following criteria: (1) that there was more than one stream of the pre-primary class; (2) that the programme had been offered for more than 3 years; and (3) that the schools were located in a mixture of low, medium, and high-income areas in the sub-region.

The 11 teachers interviewed for the study were the primary research informants, as they dealt with the basic implementation of the programme. Of these 11 teachers, 10 were female and 1 was male. Ten of the teachers had completed a diploma in integrated early childhood care and development, and almost half (45%) had more than 10 years of ECCE teaching experience; the rest had between 2 and 6 years of experience. During the study, it was understood that the school heads provided supervisory and administrative support to the teachers, while the PEO from the DCDE provided technical support. The PEO from the REO was responsible for the programme's monitoring and supervisory role and the PEO from the MoBE was the programme owner and provider of strategic leadership.

In addition to the interviews, data were also collected at all sampled schools through class observations, watching the learners at play, and via an assessment of the physical infrastructure. Documents reviewed included the pre-primary curriculum, which provided detail on the programme's content and the learners' assessment tools; the teachers' scheme books and lesson plans, which provided insights into their lesson preparation and delivery of content and overall class management; and the children's assessment books (being books in which teachers note their observational and formative assessment of each child for record keeping and development tracking) for insights into the frequency of assessments and assessment methodology.

All 19 interview transcripts, in-situ observations, and documentary reviews were analysed using inductive thematic analytical processes. This method was appropriate in understanding the experiences and behaviours of ECCE teachers as it is designed to search for common or shared meanings using an interpretative research paradigm (Kiger & Varpio 2020). The method entailed, firstly, applying divergent and convergent analytical processes in generating codes through familiarity with the data set. The next step

1.2015 Population and Housing Census is the latest report with age segmented data. The preliminary 2022 Census does not include this data.

involved an examination of the coded and collated data extracts to identify potential themes (Kiger & Varpio 2020) that had significance to the two objectives of the study and related to, firstly, universal, equitable, and inclusive ECCE access, and secondly, input and process of ECCE quality indicators. These themes were further reviewed against criteria of adequate commonality, coherence, supporting data, and distinct from each other (Kiger & Varpio 2020). The themes were then located within the five dimensions of Archambault et al.'s (2020) conceptual access framework for quality ECCE.

Ethical considerations

Ethical clearance was obtained from the University of Cape Town and a research permit from the MoBE was obtained for this study. The respondents were informed of the research objectives and their consent to voluntarily participate in the study was sought and obtained. Participants were also informed of their rights, which included the right to confidentiality, anonymity, privilege of choice in answering any question, and the right of withdrawal.

Results

The dominant themes that emerged display the interconnected nature of universal, equitable, and inclusive access to ECCE in delivering quality learning outcomes. Furthermore, the themes intersect with the five dimensions of the Levesque Framework as presented in Archambault et al.'s (2020) version in Figure 2. It is evident from the findings that the characteristics of demand (representing the abilities of parents) and supply (representing the five institutional and programme dimensions) interface at different stages along the value chain in the ECCE ecosystem and influence the different themes of accessible and quality ECCE. Importantly, the framework provides an integrated approach to understanding the supply and demand enablers and barriers and their interdependencies.

The themes and summary of the key findings of the study are presented in Table 1 and Figure 2, and are further elaborated in this section. The identifiers of the direct quotes are participant number, designation and gender.

Universality of Botswana's pre-primary programme

Generally, all the schools involved in this study shared similar narratives relating to the universality sub-themes of enrolment rates and infrastructure, as presented below.

Lagging enrolment rate

In the study setting of the Gaborone sub-region, 24 out of the 29 primary schools (83.0%) had implemented the pre-primary programme, with an enrolment rate of just 914 learners (REO 2020) out of a population of 17 938 of children aged 5-years-old. A key barrier to universality, as discussed below, is the lack of available classrooms, which is linked to the absence of dedicated budgets for the programme.
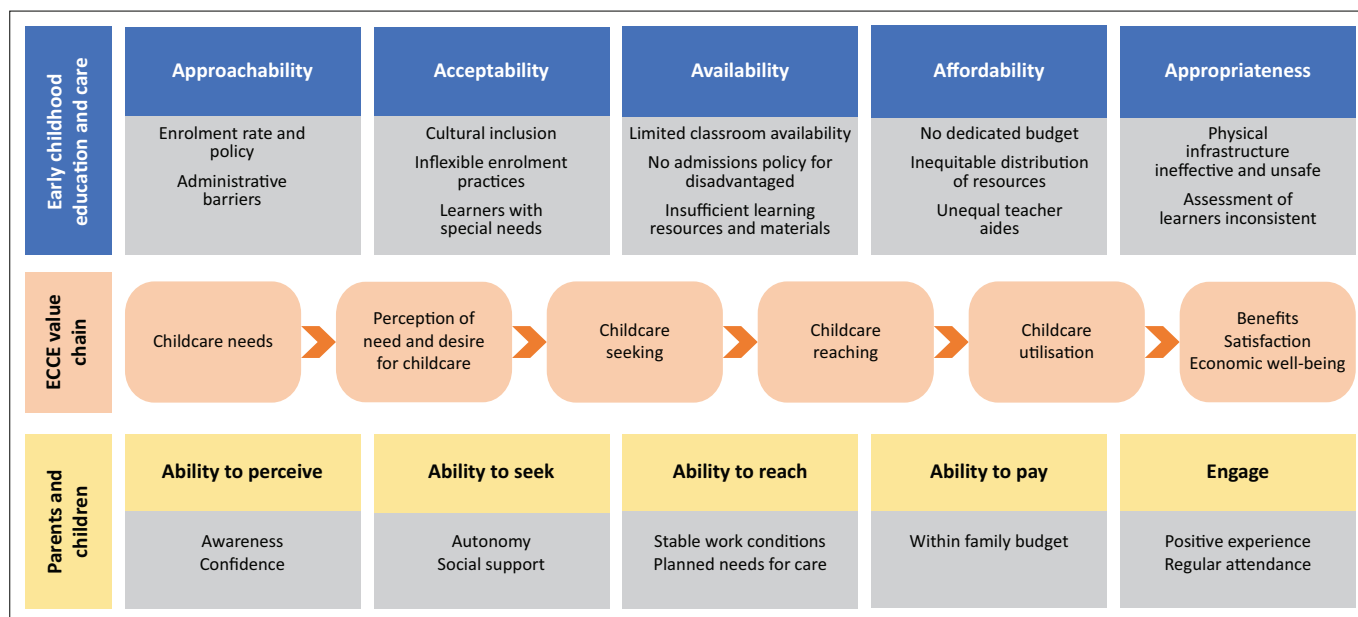
Source: Archambault, J., Côté, D. & Raynault, M.F., 2020, 'Early childhood education and care access for children from disadvantaged backgrounds: Using a framework to guide intervention', *Early Childhood Education Journal* 48(3), 345–352.
ECCE, Early Childhood Care and Education.

FIGURE 2: The dominant themes of universal, equitable, and inclusive Early Childhood Care and Education access framed in Archambault et al.'s (2020) conceptual access framework for quality Early Childhood Care and Education.

TABLE 1: Summary of themes and key findings for Early Childhood Care and Education access and quality of the pre-primary programme.

Objective	Themes	Key findings
(1) To understand the extent to which the scale-up of the pre-primary programme has achieved universality, inclusivity, and equitable access to ECCE in Botswana	Universality: • Enrolment rates • Administrative barriers • Physical infrastructure delivery model	• Less than 50% of the annual applicants get admission due to classroom infrastructure constraints; existing buildings being used • No administrative policy or process for children from vulnerable or disadvantaged backgrounds • First-come basis enrolment policy and no waiting list system • Various application documentation creates onerous burden on parents • No dedicated budgets for building new classrooms
	Inclusivity: • Cultural inclusion • Inclusion of learners with special needs	• Provision for cultural diversity and inclusion, for example, cultural corners • No provision or special dispensation for marginalised and vulnerable groups • Schools and teachers not adequately prepared to support learners with special needs • The Assessment and Diagnostic Centre unable to provide timely support
	Equitability: • Equitable distribution of resources • Teacher's aides (TA) • Distribution of learning material	• Inconsistencies in the distribution of resources among schools • Not all schools provided with TA • Disparity in the distribution of learning material amongst the various schools
(2) To examine the factors that have an impact on the quality of the pre-primary programme	Input indicators: • Learning resources and material • Teachers' in-service training • Efficacy of physical infrastructure	• Limited supply and variety of learning resources and materials • Effective in-service training of teachers • Classroom space limitations • Some of the infrastructure, for example, classrooms, playgrounds, and toilets, do not meet the recommendations of the ECCE policy framework and curriculum, raising safety concerns
	Process indicators: • Assessment of learners	• Use of varying assessment methodologies

ECCE, Early Childhood Care and Education.

Administrative barriers

Enrolment practices (e.g. the first-come-first-served system) can further contribute to the marginalisation of disadvantaged or minority groups. Families from these social groups tend to access services at the last minute due to the instability and uncertainty of their lives (Halperin 2007).

In this study, all schools had a first-come-first-served enrolment policy and lacked a waiting list system. A teacher explained the process as follows:

'We open up for applications in October and the public is informed by word of mouth. We admit learners who are between four and half to five years. If a learner is under four and a half years, we reject them, and their parents will have to reapply in the next academic year. All our admissions are on a first-come basis, and we do not keep a waiting list.' (PS1/T1/F)

Most the schools in this study shared similar narratives. For instance, a school Head Teacher stated that their school did not have a preferential admissions policy for the vulnerable groups in their community. As a result, they could not make exemptions during the enrolment process. It is unclear whether a national policy or guideline on admissions exists. The MoBE website provides the requirements for registration of a learner, but is silent on when one can register a learner. It was difficult to ascertain the number of children from vulnerable communities that were turned away as schools do not keep this data and have no waiting list for admissions.

Finally, the submission of various documents required by ECCE centres creates an onerous burden on parents that may act as a barrier to access, as it is common for people from low socio-economic backgrounds to be without the documents (Vesely 2013).

Deficient physical infrastructure delivery model

Neither the NDP-10 nor the national budget speeches made between 2016 and 2020 made specific budget provision for the ECCE programme. At the inception of the pre-primary programme, due to budgetary constraints, schools had to find existing vacant structures to be converted into classrooms (PEO1/MoBE/F 2020). To meet the universal access target, all 12 schools in this study refurbished their existing spaces, such as the library (two schools), library office (one school), school hall (two schools), storerooms (one school), unused classrooms (four schools) or the kitchen (two schools) to serve the purpose of providing pre-primary classrooms. It can be assumed that this situation was not unique and negatively affected the full rollout of the programme at all government primary schools (PEO2/DCDE/F).

Despite the intention of schools to expand their pre-primary programmes, the necessity to reinvent physical spaces for use as classrooms severely limits their ability to provide universal access. On average, primary schools in the Gaborone sub-region that was the focus of this study receive 70–100 applications per annum for pre-primary enrolment. The schools' intake capacity, however, is limited to less than half of the applications received. As expressed by one school Head Teacher:

> 'We receive over 100 applications for pre-primary but can only admit 30 students. If we had extra facilities, we would start a second stream of pre-primary classes.' (PS2/H2/M)

Across the sub-region, numerous schools experienced the limitations of pre-primary facilities that negatively impact enrolment or lead to overcrowding. As another teacher noted:

> 'We sometimes find ourselves admitting more than the recommended number of learners due to parents' pleas. At times, some parents involve the area councillor or Member of Parliament.' (PS10/T10/F)

This situation perpetuates the widening of the inequality gap (Maundeni 2013) as more than half of the learners are deprived of access, while other learners get a head start with pre-primary education.

Inclusivity of the pre-primary programme

Inclusive education not only ensures that learners are assisted to reach their full potential (Levitan 2015), but also teaches and cultivates acceptance of diversity in learners from an early age (Hehir et al. 2016). Importantly, inclusive access looks at whether a programme is representative of the diversity in the community within which it exists. This is assessed by looking at the cultural diversity of the centres, both in appearance (along racial, tribal, and gender lines) and in teaching practices. Additionally, inclusivity refers to a school's ability to accommodate learners with special needs, as well as its ability to accept learners from low socio-economic status so that all class members can flourish without being discriminated against or excluded.

Cultural inclusion: Creating a sense of belonging and acceptance

Botswana is considered a homogenous nation with more than 60% of its population being of Tswana descent (Boikhutso & Jotia 2013). As a result, racial and cultural inclusion was not a consideration in the current study. Botswana's pre-primary programme is taught in the country's two official languages, Setswana and English. Teachers mostly use Setswana, as most learners are not conversant with the English language. Setswana is spoken by an estimated 80% of the population in Botswana and is, therefore, deemed to be the most inclusive of the languages spoken (Chebanne 2016). Only three primary schools reported having children from other nationalities, such as Zimbabwe and Zambia. One of these schools also had a Motswana learner of Khoi San descent, whose mother tongue was not Setswana. Two examples of teachers promoting inclusion in their classroom are embodied in the quotes below:

- 'I try to learn a few common phrases in Shona and Sesarwa [Setswana word for Khoi San dialect], especially the greetings and nursery rhymes.'
- 'I use English in my classes and translate into Setswana for those who do not understand as English is the commonly spoken language by the learners.'

In the course of this investigation, it was evident that a few teachers were conscious about ensuring that their classes remained as inclusive as possible, principally by using the appropriate language to achieve the objective of inclusive access. Using the learners' language fosters cultural inclusion as it supports the dimensions of acceptability. In turn, cultural and language inclusion increases learners' participation in class (eds. Bellour et al. 2017; Ketsitlile 2011), especially for those of Khoi San descent as they face considerable discrimination and exclusion in the education sector, resulting in their underrepresentation in the education system (Ketsitlile 2011). The exclusion of the San is demonstrated in the education system by the use of education as a tool of assimilation of the San into Tswana culture. Examples of this assimilation is the apparent disregard of the San cultural norms, beliefs and language (Ketsitlile 2011). Further studies on language use are necessary to understand this form of cultural exclusion of indigenous communities.

Learners with special needs: Affirming their ability to reach full potential

Seven out of the 12 primary schools (58%) in the study confirmed that they had enrolled learners with disabilities. The learners' special needs ranged from minor physical disabilities to speech impediments, autism, and undiagnosed conditions. Although these schools enrolled learners with special needs, the schools had limited resources to

competently offer the special needs learners an inclusive learning environment. For instance, one teacher indicated that she felt unequipped to deal with her learner's special needs, and admitted that her school fundamentally lacked a support system. She stated:

'I had a learner who would mentally drift out, would not participate in any of the class activities. He isolated himself from the rest of the class. He could not speak. I suspect he was autistic. The only thing he enjoyed doing was playing with building blocks and colouring pictures of helicopters and aeroplanes. If you gave him a picture of any object other than these two, he would not colour. Unfortunately, he did not return to school after the reopening of schools post COVID-19 lockdown.' (PS11/T11/F)

A teacher from another school shared a similar narrative and the frustrating delay in receiving support from the guidance and counselling teacher:

'They have not been able to help me and I do not know how to deal with the child. The latest update was that the matter had been referred to the Botswana Central Assessment Centre (CRC) for assessment, which is a diagnostic assessment centre for children with disabilities.' (PS5/T6/F)

A teacher from a third school also had trouble in accessing CRC services as the centre had a long waiting period to assess students. These findings indicate that schools admitting special needs learners in this Gaborone sub-region do not have the necessary infrastructure and response system to deal with their needs.

Equitable access to the pre-primary programme

Understanding equitable access involves a two-pronged approach: firstly, one must make a comparison with other primary schools to measure how evenly balanced the distribution of resources are; and secondly, one must consider how the administrative enrolment processes result in equitable access to pre-primary services (Mugweni 2017). This study examined whether Botswana's pre-primary programme has created an environment where learners experience a similar learning journey regardless of where they are enrolled or their backgrounds. In instances of disadvantaged communities, such analysis examines whether the programme has provided equitable access and services.

Equitable distribution of resources

Equitable distribution of resources refers to resource allocation that creates an environment that supports learners to excel and attain their fullest potential (Travers 2018). These resources include: human talent, time, money, educational material, and any other resources that support the effective delivery of the programme's objectives. In the context of this study, it was found that schools experienced unequal access to essential resources, such as teacher's aides (TA) and learning materials.

Few teachers' aides affect the quality of pedagogy

One of Botswana's ECCE programme requirements is that TA are assigned to each pre-primary class. In cases where the school is in a community with a language barrier – that is, where Setswana is not the primary language, it is stipulated that a TA will be sourced from the local community to assist with the local language (Botswana Ministry of Education 2013) as it is appreciated that teaching ECCE learners in their mother tongue produces better academic results, and helps build their cultural identity and pride (Effiong 2013). In Botswana, the building of cultural identity and pride is of great importance, especially for the minority non-Tswana *merafe* (tribes), and members of the Khoi San community.

Five of the 12 primary schools did not have TAs; one had a temporary TA; two had tertiary students acting as TAs on a 2-month attachment; and two had *Tirelo Sechaba* (a national service employment youth programme) participants. The remaining two schools had TAs with a certificate in ECD. One teacher at a school without a TA lamented that:

'We have over 60 learners spread into two classrooms but have no TA. It is impossible to cope, especially when there are slow learners in class; they tend to get left behind.' (PS1/T1/F)

Her counterpart, in another school, expressed a similar concern:

'We do not have TAs. Instead, we have tertiary students who are on attachment for two months […] this arrangement adversely affects continuity and relationship building between the learners and the TAs.' (PS3/T4/M)

Teachers' (including TA) qualifications have a significant correlation with delivering quality ECCE, as they influence classroom learning and the quality of pedagogy through the standard of interactions, class management and learning delivery (Manning et al. 2017). Therefore, teachers or TAs with limited or no qualifications can have a negative impact on the quality of ECCE.

Uneven distribution of learning material

The Pre-Primary Curriculum Framework (Botswana Ministry of Education 2013) provides a detailed breakdown of the type of support or learning material needed for each learning area. These include: books, toys, building blocks, alphabets, outdoor equipment, and sports equipment. Out of the 12 schools, half reported to have adequate supplies of learning resources, both in variety and quantity, whilst the remaining six complained of a shortage of learning resources at their schools.

One teacher disclosed that:

'Due to limited supply in learning materials, we, as teachers, either create the crafts needed for class […] or sometimes we ask parents to donate.' (PS11/T11/F)

Her counterpart at another school expressed similar sentiments:

'We cope by selling snacks at school to raise funds to buy additional materials and where we can, we create the necessary crafts using our own material.' (PS10/T10/F)

The teacher quoted above indicated that her school was in a low-income area, and most parents were unable to make contributions for the purchase of learning resources. It should be noted that although schools are funded by government, the education policies permit schools to raise funds towards a particular project through parents contributions or the community and local businesses. The emerging pattern of unequal distribution of resources illustrates the different experiences of learners in Botswana's primary schools and this possibly may affect the quality of the education children receive, thereby undermining the attainment of equitable access.

Quality of pre-primary Early Childhood Care and Education programme

Drawing on Gobena's (2020), Mugweni's (2017), and Whitebread et al.'s (2015) literature on quality ECCE and applying Archambault et al.'s (2020) conceptual framework and from the thematic analysis of the interviews conducted, the following dominant themes on quality pre-primary ECCE emerged: the adequacy of learning resources and materials; the effectiveness of teachers' in-service training; the physical infrastructure of the learning institution; the supply and variety of learning resources and materials; the curriculum; and the use of various learner assessment methodologies.

Adequacy of learning resources and materials

Learning resources refer to materials that stimulate the development of fine and gross motor skills; aid in the implementation of the curriculum; facilitate play-based learning; and are used in the creation of interest corners. These materials facilitate the delivery of the curriculum and help in the implementation of play-based learning. Given these resources' wide-ranging application, their availability (or lack thereof) has an impact on the quality of ECCE delivery (Mugweni 2017; Whitebread et al. 2015; Zewdie et al. 2016).

In this study, it was found that half of the schools had adequate learning materials, while the other half did not. The schools with adequate learning materials also had challenges, as affirmed by one teacher who stated that 'the only challenge that I have is that we have not been supplied with storybooks. I however, brought about twenty of my own books'. At another school with a sufficient supply of learning resources, the playground was in a bad state of repair. A teacher at that school pointed out that 'the two swings that we have are broken' and that 'they also did not dress the playground with a layer of pit sand to protect the learners from injury when they fall'. For the purposes of this study, however, the focus shall primarily remain on the state of pedagogical materials over the state of recreational spaces.

It is certainly the case that the lack, or insufficient supply, of instructional material has a negative impact on effective teaching and learning (Mupa & Chinoneka 2015). For instance, one teacher observed:

> 'In some instances, the lack of adequate learning material negatively affected learning. Our learners learn by watching visual demonstrations of concepts, so in instances where we do not have the necessary resources to demonstrate these concepts, the concepts may become too complex and theoretical for our learners to grasp.' (PS3/T3/F)

Further, the absence of certain resources creates difficulties for teachers in assessing a child's development, such as gross motor skills. As another teacher explained:

> 'In this assessment, we use the jungle gym or trampoline, swings, etc., but because ours are either broken or not assembled, when I assess the learners, I stick to rudimentary methods of assessment, which do not require these equipment.' (PS4/T5/F)

Distinct differences were observed between well and under-resourced, schools. The former generally had a functional playground and their classroom walls displayed a variety of charts, depicting body parts, animals, fruits, and numbers. Conversely, under-resourced schools' play areas were dilapidated with broken swings, and their classrooms had fewer charts and examples of student artwork on the wall. These under-resourced schools tended to be in low-income, high-density areas.

Effective teacher in-service training

Teacher training contributes to the quality of ECCE services and learning (Chopra 2016; McCoy & Wolf 2018) and brief, in-service training of teachers is considered to lead to long-term gains in early childhood learning (Chopra 2016; McCoy & Wolf 2018). In this investigation, all the teachers had a diploma in Early Childhood Education from various institutions, except for one who had an advanced certificate. The teachers also receive induction training for a week on the ECCE curriculum, lesson planning, and class management, as well as on how to assess children and to facilitate learning through play. Additionally, teachers have access to DCDE in-service training modules. Most teachers (85.0%) had attended in-service training, with half attending more than one in-service training.

One teacher expressed her appreciation of the in-service training as it particularly helped her to overcome a shortage of learning material. As she recounted:

> 'At one of the in-service trainings, we had a session on crafts, and how to recycle waste material into some of the required learning materials. I use this training since my school has shortage of learning materials.' (PS6/T7/F)

As a result of the in-service trainings, other teachers also reported that they could design the various charts required. A review of teachers' scheme books revealed that most teachers were able to plan their lessons using lessons learnt from their in-service training. Some teachers had made their own scheme books using the sample in the curriculum. Finally, it should be noted that the teacher's lesson plans were in line with the guidelines provided by the Curriculum Framework (Botswana Ministry of Education 2013). Overall,

the teachers were pleased with the in-service training, and requested further regular training, although some did note inconsistencies in the distribution of in-service training opportunities between schools.

Efficacy of the physical infrastructure

Infrastructure refers both to classroom buildings and furniture, and other school facilities such as sanitation blocks, communal areas, and outdoor play areas. Cognisant of space as a critical factor in the successful delivery of quality ECCE, the pre-primary programme guidelines recommend that there should be 1.5 m² of play space per child (Botswana Ministry of Education 2013). However, the classrooms used at these schools were not constructed for the purpose of ECCE and were therefore not in compliance with these guidelines. As one teacher confirmed:

> 'The local council refurbished our old kitchen, removed the chimneys, increased ventilation and repainted [...] They informed us that they were not mandated to increase the building area space so we have to work with what we have.' (PS3/T4/M)

Only four schools were satisfied with the size of their classrooms, and in some cases, schools had to do away with the learning or educational corners aligned to the six learning areas of the curriculum that are meant to enhance learners' educational interest, curiosity, and overall learning experience. As a substitute, teachers put up charts, and a few creative teachers' set-up temporary learning corners related to a specific theme.

It is significant to mention that the outdoor play area, particularly, is a key learning area component in the government's ECCE curriculum. This is the focus area that includes physical, creative, and aesthetic development (Botswana Ministry of Education 2013). At all the schools, the outdoor play area consisted of two or three swings, a slide and a jungle gym, regardless of whether the schools had one or two streams of pre-primary classes. The play areas were not fenced or cordoned off from the rest of the primary school. This posed a risk to the learners as they could wander off without their teacher or TA noticing. The play areas were also easily accessible to the senior primary school pupils who also used the play equipment. Most schools raised concerns about the insufficient outdoor play equipment, limited variety, and its capacity to protect learners from injury.

Hand basins and toilets should be at a suitable height to minimise accidents and pre-primary learners ought to have toilet training for their safety (Botswana Ministry of Education 2013). In the case of this study, at least one school Head Teacher complained that they had no junior toilets, despite requests to the local (albeit, financially strapped) city council to provide them. Other Department Heads echoed similar frustrations with the local council, which is also responsible for providing classroom and other infrastructure in schools. In dealing with this situation, some teachers changed their timetable to make provision for a class toilet break. As shared by one teacher:

> 'We had to introduce supervised toilet breaks. They help us ensure that the learners are safe at all times.' (PS6/T7/F)

Consistency in learners' assessment methods

Assessment is central in providing a high quality ECCE programme (eds. Snow & Van Hemel 2008) as it provides teachers with feedback about the level of comprehension and development of their learners. It also informs lesson planning and acts as a monitoring and evaluation tool. Finally, it provides parents with an account of the developmental progression of their children (Bagnato, Elliott Stephen & Witt 2007).

The Curriculum Framework (Botswana Ministry of Education 2013) provides guidelines for the continuous assessment of learners in all six learning areas. The framework recommends that assessments should be carried out continuously throughout the term. Teachers are expected to keep notes and document patterns and peculiar incidents, and use these to inform their end-of-term report. All schools reported that they follow these guidelines. However, there were inconsistencies with the frequency and the manner the assessments were carried out. For example, one teacher used the observation method and reported that she kept a file on a learner's performance; while another assessed learners' individually through testing their fine motor skills, identification of colours, shapes, and numbers, among other skills.

Teachers reported challenges with implementing the framework, including, in some cases, the lack of learning materials necessary for the assessment of some learning areas – particularly physical development. One teacher, for instance, reported that in some cases they ended up modifying the recommended assessment as they did not have the necessary equipment to perform it in the recommended fashion.

Discussion

The results indicate that delivery in all five institutional and programmatic dimensions, as depicted in the conceptual and analytical framework (Archambault et al. 2020) (refer to Figure 2), are essential for supply and meeting the demand of accessible and quality ECCE. Linked to these dimensions, the findings broadly indicate the following: (1) lagging enrolment rate with schools' intake capacity limited to less than 50% of applications; (2) administrative barriers posed by enrolment practices and onerous documentation; (3) deficient and ineffective physical infrastructure; (4) the necessary infrastructure and response system for learners with special needs are inadequate; (5) inconsistencies in the distribution of resources; (6) limited supply and variety of learning resources and materials; (7) variations in learners' assessment methodologies; and (8) safety concerns of play areas and bathrooms.

Several of these observations were already noted in the Botswana, National Education for All: Country Report for the delivery of quality ECCE (Botswana Ministry of

Education 2015), but continue to bedevil the rollout of the programme. Despite these challenges, it is important to recognise that most teachers do possess the requisite ECCE qualification, have attended effective in-service training, do use innovative methods to promote and show cultural diversity and inclusion.

Due to the complexities and challenges of public governance in developing countries, the effective implementation of policy continues to frustrate many governments. To achieve the policy objective of universal, inclusive, and equitable access and quality ECCE in Botswana and other developing nations, the following key issues, framed within Archambault et al.'s (2020) ECCE framework, necessitates deeper insights and interventions:

Firstly, a central narrative was the availability of physical infrastructure for the pre-primary programme. Notwithstanding the high number (81.6%) of government primary schools in Botswana that have implemented the pre-primary programme, the student enrolment rate remains low (estimated at 27.0%) (PEO, MoBE 2020). While Botswana's reliance on available buildings at schools has contributed to providing classroom space, it has failed to provide classrooms at the scale required to achieve the accessibility targets set by the government. It is noted that in some countries such as Malawi and South Africa, partnership models with local community-based childcare centres have been developed with the aim of increasing accessibility of ECCE centres (Munthali, Mvula & Silo 2014) and it is proffered that such examples may offer insights into alleviating the space shortage. In her study of ECCE quality in New Delhi, Chopra (2016) found that poor infrastructure facilities adversely affect class management, teaching, interaction with the learners, and overall quality of the learning experience.

In addition, teachers expressed concerns for the safety of learners due to inadequate and inappropriate bathroom and playground facilities. Facilities such as sanitation blocks, communal areas, and outdoor play areas should be age appropriate for safety and accessibility of pre-primary learners, and ought to comply with government recommendations (Chukwbikem 2013; Mugweni 2017). Also, the lack of proper infrastructure negatively affects ECCE access for children from disadvantaged families. Play areas are vital during the pre-primary phase of learning with play dominating children's lives, and it is through forms of play that a child expresses what she or he has learnt (Berk & Meyers 2013). Therefore, such amenities are essential to the delivery of quality ECCE learning (Chukwbikem 2013).

Secondly, a critical enabler of physical infrastructure is the commitment by the government to adequately fund the rollout of the programme. As in other developing countries, the lack of resources emerged as a major barrier to attaining accessible and quality ECCE. Dedicated budgets for pre-primary education programmes are fundamental if the noble policy goals of universal, equitable, and inclusive quality ECCE are to be met. Ensuring inclusive education also requires sufficient resourcing for support structures –

for example, assessment and diagnostic centres, and well-trained teachers and TAs to support learners with special needs.

Moreover, policy guidelines must ensure equitable distribution of resources across schools and regions, with emphasis on vulnerable, marginalised, and immigrant communities. Researchers recommend at least 10% of a country's education budget is allocated to pre-primary education (Zubairi & Rose 2017). At the inter-governmental level, improved planning, budgeting, coordination, and alignment between national, regional, and local governments is essential in delivering their joint ECCE mandates, and thereby promoting integrated approach to ECCE service provision.

Thirdly, another dominant theme was the administrative barriers experienced by parents in accessing the programme. Enrolment policies that are not conscious of the challenges faced by disadvantaged members of society, including minorities and special needs learners, may inadvertently exclude them from accessing ECCE services (Halperin 2007). Such policies and practises affect parents' abilities to seek, reach, and pay for ECCE services (Archambault et al. 2020), and impedes their perceived need and awareness of the benefits of available ECCE services and their ability to engage with the ECCE system. To support this need, awareness campaigns and outreach programmes should target communities from low socio-economic backgrounds, 'minority' groups, and marginalised communities that lack the abilities to seek public goods such as ECCE (Johnson, Padilla & Votruba-Drzal 2017).

Fourth, granting access to learners with special needs is not only about achieving enrolment targets, but also requires the schools to have appropriate support structures. Furthermore, the school curriculum and policies should be inclusive and teachers ought to be adequately trained in teaching children with special needs. In the absence of these provisions, inclusive access remains a hollow promise, as learners will not have the ability to engage (Archambault et al. 2020) and will be unable to reach their potential (Report of the Inter-Departmental Group 2015).

Delayed diagnosis of disabilities could also result in teachers misunderstanding learners, resulting in frustration (both for the teacher and the learner), exclusion, and isolation. For the special needs learner, the result of such exclusion and isolation is inevitably an increase in stigma around their condition (eds. Hirpa & Ewing 2021; Lange & Thompson 2006). Moreover, this situation poses a grave threat to their acquisition of cognitive skills and could fundamentally result in doing more harm than good (Samuels et al. 2015).

Finally, consistent with the findings of various studies that teacher training improves classroom quality (Hafeez 2021; Kelley & Camilli 2009), this study observed that those teachers who had attended regular training sessions were better equipped to cope with the classroom challenges and were

more innovative in the face of limited resources. Kennedy (2016) reveals that in the United States of America, teachers' personal development has a direct positive influence on the children's attitude towards learning. Further, it was observed that continuous training gradually improved the teachers and their teaching methodology. Khandaker (2021) and Zulu, Aina and Bipath (2022) concur that one way of improving quality ECCE is through the training of teachers and ensuring that they obtain the necessary minimum qualifications.

Limitations and implications

There are a few limitations of this study. Firstly, it was restricted to a small sample of schools (n = 12) in an urban sub-region with a small sample of respondents (n = 19). Secondly, it was confined to examining the selected variables of ECCE access and quality. Therefore, the generalisability of the results is limited. Nevertheless, this article contributes to the modest extant scholarship on pre-primary ECCE access and quality in sub-Saharan Africa, and to adaptations of frameworks, such as the Levesque Access Framework (2013) and Woodhead Quality Framework (1996). Additionally, the findings have policy, programme, and practice implications for pre-primary education policymakers and practitioners. Further research on the multiple determinants of ECCE access and quality is warranted using integrated approaches through the lens of African perspectives. To better understand these issues surrounding ECCE, enormous efforts are required from researchers in collaboration with practitioners to expand the body of knowledge of ECCE in Botswana and across continental Africa in general.

Conclusion

The aim of this article was to examine Botswana's pre-primary school programme in enhancing accessibility and quality of ECCE provision. While this programme is offered at slightly over 600 (83.6%) (PEO, MoBE interview 2020) primary schools, meeting the objectives of universal access, equitability, inclusivity, and quality remains a challenge in Botswana. Particularly, the programme has not achieved the universal access target of 100.0% by 2020 set by the government; in reality, only 27.0% (PEO, MoBE interview 2020) of eligible children are attending classes. The evidence suggests that the main barriers to effective programme rollout are supply-side and systemic (as presented using the adapted Levesque Framework). These barriers represent the public institutional environment (e.g. funding, inter-governmental co-ordination), policy design (e.g. the physical infrastructure delivery model, administrative barriers, enrolment policy), and programme implementation (enrolment practices, teaching personnel, learning materials, assessment of learners).

The value of ECCE as beneficial to the child, community, and society is well documented. Importantly, due to the risks faced by children in developing countries, access to quality ECCE is of utmost importance in breaking the cycle of social exclusion, inequality, poverty, and violence. While governments are well-intentioned as signatories to continental and global commitments in ECCE (such as Target 4 of the SDG), similar commitment is absent in investing in the most fundamental development phase (0–8 years) of a child's growth through adequately resourcing ECCE programmes.

For Botswana to achieve Target 4.2 of the SDG by 2030, a minimum, compulsory quality 1-year pre-primary free education to support children's readiness to enter primary school as stipulated in the SDGs (United Nations 2015), will require the adoption of an integrated model of ECCE delivery. Such a delivery model will require synergy between government departments such as health, social development, welfare, and public works and partnerships with local communities, NGOs and development agencies. In addition, it will require huge inflows of dedicated funding for scaling up the provision of new build physical infrastructure; well-trained and sufficient teaching personnel; appropriate support structures for children with special needs; and inclusive enrolment policies, along with the other issues raised in this study.

Acknowledgements

Data availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Disclaimer

The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of any affiliated agency of the authors, and the publisher.

References

African Child Policy Forum, 2011, *The African report on child wellbeing: Budgeting for children*, The African Child Policy Forum, Addis Abba.

Aidoo, A.A., 2008, 'Positioning ECD nationally: Trends in selected African countries: Opportunities and challenges', in M. Garcia, A. Pence & J.L. Evans (eds.), *Africa's challenge: Early childhood care and development in sub-Saharan Africa*, pp. 29–49, The World Bank, Washington, DC.

Archambault, J., Côté, D. & Raynault, M.F., 2020, 'Early childhood education and care access for children from disadvantaged backgrounds: Using a framework to guide intervention', *Early Childhood Education Journal* 48(3), 345–352. https://doi.org/10.1007/s10643-019-01002-x

Bagnato, S.J., Elliott Stephen, N. & Witt, J., 2007, *Authentic assessment for early childhood intervention best practices*, The Guilford school practitioner series, Guilford Publications, New York, NY.

Bakken, L., Brown, N. & Downing, B., 2017, 'Early childhood education: The long-term benefits', *Journal of Research in Childhood Education* 31(2), 255–269. https://doi.org/10.1080/02568543.2016.1273285

Bawani, E.L. & Mphahlele, R.S., 2021, 'Investigating the role of teacher training of reception teachers in implementing the pre-primary curriculum in Francistown, Botswana', *South African Journal of Childhood Education* 11(1), 1–14. https://doi.org/10.4102/sajce.v11i1.882

Bellour, F., Bartolo, P. & Kyriazopoulou, M. (eds.), 2017, *Inclusive early childhood education literature review*, European Agency for Special Needs and Inclusive Education, Odense.

Berk, L.E. & Meyers, A.B., 2013, 'The role of make-believe play in the development of executive function: Status of research and future directions', *American Journal of Play* 6(1), 98–110.

Biersteker, L., Ngaruiya, S., Sebatane, E. & Gudyanga, S., 2008, 'Introducing pre-primary classes in Africa: Opportunities and challenges', in M. Garcia, A. Pence & J.L. Evans (eds.), *Africa's future, Africa's challenge*, pp. 227–248, The World Bank, Washington, DC.

Boikhutso, K. & Jotia, A.L., 2013, 'Language identity and multicultural diversity in Botswana', *International Journal of Lifelong Education* 32(6), 797–815. https://doi.org/10.1080/02601370.2013.814725

Bose, K., 2008, 'The gaps and remedies of early childhood care and education (ECCE) programs of Botswana', *Educational Research and Reviews* 3(3), 77–82.

Bose, K., Mberengwa, L.R. & Monyatsi, P.P., 2012, 'Parents' perspectives on the need for professional development for early childhood teachers in Botswana', *Nurture: Journal of Pakistan Home Economics Association* 6(1), 1–13. https://doi.org/10.55951/nurture.v6i1.60

Botswana Ministry of Education, 1994, *The revised national policy on education*, p. 2, Government Printers, Gaborone.

Botswana Ministry of Education, 2013, *Pre-primary curriculum framework*, p. 8, Government Printers, Gaborone.

Botswana Ministry of Education, 2015, *Education for all country report*, Government Printers, Gaborone.

Botswana Ministry of Finance Development and Planning, 2009, *National development plan – 10 April 2009 – March 2016*, Government Printers, Gaborone.

Chebanne, A., 2016, 'Found and lost languages: A survey of the past and current situation of Botswana ethic and linguistic communities', *Botswana Notes and Records* 48, 160–175.

Chopra, N., 2016, 'Quality early childhood education for disadvantaged children: An investigation in the MCD schools', *International Journal of Early Years Education* 24(1), 49–62. https://doi.org/10.1080/09669760.2015.1096236

Chukwbikem, P.E.I., 2013, 'Resources for early childhood education (ECE)', *Mediterranean Journal of Social Sciences* 4(8), 161–172. https://doi.org/10.5901/mjss.2013.v4n8p161

Cu, A., Meister, S., Lefebvre, B. & Ridde, V., 2021, 'Assessing healthcare access using the Levesque's conceptual framework – A scoping review', *International Journal for Equity in Health* 20(1), 1–14. https://doi.org/10.1186/s12939-021-01416-3

Earle, A., Milovantseva, N. & Heymann, J., 2018, 'Is free pre-primary education associated with increased primary school completion? A global study', *International Journal of Child Care and Education Policy* 12(1), 1–19. https://doi.org/10.1186/s40723-018-0054-1

Effiong, M., 2013, 'Factors influencing foreign language classroom anxiety: An investigation of English learners in four Japanese universities', Doctoral thesis, Faculty of Humanities, University of Southampton, pp. 296.

Ekholuenetale, M., Barrow, A., Ekholuenetale, C.E. & Tudeme, G., 2020, 'Impact of stunting on childhood cognitive development in Benin: Evidence from demographic and health survey', *Egyptian Paediatric Association Gazette* 68(1), 1–11. https://doi.org/10.1186/s43054-020-00043-x

Fenech, M., 2011, 'An analysis of the conceptualisation of "quality" in early childhood education and care empirical research: Promoting "blind spots" as foci for future research', *Contemporary Issues in Early Childhood* 12(2), 102–117. https://doi.org/10.2304/ciec.2011.12.2.102

Forlin, C., Sharma, U., Loreman, T. & Sprunt, B., 2015, 'Developing disability-inclusive indicators in the Pacific Islands', *Prospects: Quarterly Review of Comparative Education* 45(2), 197–211. https://doi.org/10.1007/s11125-015-9345-2

Ghana Ministry of Education, 2016, *Education sector performance report, 2016*.

Ghosh, S., 2019, 'Inequalities in demand and access to early childhood education in India', *International Journal of Early Childhood* 51(2), 145–161. https://doi.org/10.1007/s13158-019-00241-8

Gobena, G.A., 2020, 'Factors influencing participation in early childhood education: Its implication to quality education', *International Online Journal of Education and Teaching (IOJET)* 7(1), 355–371.

Hafeez, M., 2021, 'Impact of teacher's training on interest and academic achievements of students by multiple teaching methods', *Pedagogical Research* 6(3), em0102. https://doi.org/10.29333/pr/11088

Hall, C., 2022, 'Children's access to education', in M. Tomlinson, S. Kleintjes & L. Lake (eds.), *South African child gauge 2021/2022*, pp. 184–191, Children's Institute, University of Cape Town, Cape Town.

Halperin, V., 2007, 'Québec day care: Access for all?', Master's thesis, Concordia University, Montreal.

Harmon, C., Finn, C., Chevalier, A. & Viitanen, T., 2006, *The economics of early childhood care and education: Technical research paper for the national economic and social forum*, Open Access Publications, School of Economics, University College Dublin, Dublin.

Heckman, J.J., 2011, 'The economics of inequality: The value of early childhood education', *American Educator* 35(1), 31–47.

Hehir, T., Grinald, T., Freeman, B., Lamoreau, R., Boraquaye, Y.S. & Burke, S., 2016, *Summary of evidence on inclusive education*, Institutio Alana Abt Associates, São Paulo.

Hirpa, D.A. & Ewing, B.F. (eds.), 2021, 'Exclusion of children with disabilities from early childhood education: Including approaches of social exclusion', *Cogent Education* 8(1), 1952824. https://doi.org/10.1080/2331186X.2021.1952824

Janta, B., Van Belle, J. & Stewart, K., 2016, *Quality and impact centre-based early childhood education and care*, Rand Corporation, Santa Monica, CA and European Union, Cambridge UK.

Johnson, A.D., Padilla, C.M. & Votruba-Drzal, E., 2017, 'Predictors of public early care and education among children of low-income immigrants', *Children and Youth Services Review* 73, 24–36. https://doi.org/10.1016/j.childyouth.2016.11.024

Kelley, P. & Camilli, G., 2009, 'The impact of teacher education on outcomes in centre-based early childhood education programs: A meta-analysis', *Review of Educational Research* 88(3), 401–433.

Kennedy, M.M., 2016, 'How does professional development improve teaching?', *Review of Educational Research* 86(4), 945–980. https://doi.org/10.3102/0034654315626800

Ketsitlile, L.E., 2011, 'The status of literacy education for the San of Botswana', *AlterNative: An International Journal of Indigenous Peoples* 7(3), 196–206. https://doi.org/10.1177/117718011100700301

Khandaker, R., 2021, 'Professional training: Crucial need to enhance the efficacy of preschool teachers in the context of Bangladesh', *Open Access Library Journal* 8(9), 1–23. https://doi.org/10.4236/oalib.1107880

Kiger, M.E. & Varpio, L., 2020, 'Thematic analysis of qualitative data, AMEE Guide No. 131', *Medical Teacher* 42(8), 846–854.

Lange, S.M. & Thompson, B., 2006, 'Early identification and interventions for children at risk for learning disabilities', *International Journal of Special Education* 21(3), 108–119.

Levesque, J.F., Harris, M.F. & Russell, G., 2013, 'Patient-centred access to health care: Conceptualising access at the interface of health systems and populations', *International Journal for Equity in Health* 12(1), 1–9. https://doi.org/10.1186/1475-9276-12-18

Levitan, J., 2015, 'The difference between educational equality, equity, and justice and why it matters', *American Journal of Educational Forum*, viewed 10 January 2022, from http://www.ajeforum.com/the-difference-between-educational-equality-equity-and-justice-and-why-it-matters-by-joseph-levitan/.

Mag, A.G., Sinfield, S. & Burns, T., 2017, 'The benefits of inclusive education: New challenges for university teachers', in I. Bondrea, C. Simion, and M. Inta (eds.), *MATEC Web of Conferences*, EDP Sciences, June 7–9, 2017, vol. 121, p. 12011.

Majoko, T., 2017, 'Inclusion in early childhood education: A Zimbabwean perspective', *International Journal of Inclusive Education* 21(12), 1210–1227. https://doi.org/10.1080/13603116.2017.1335354

Maleq, K., Fuentes, M. & Akkari, A., 2022, 'The adaptation of early childhood care and education to cultural and local characteristics in West Africa: Challenges for educational psychology research', *The European Education Researcher* 5(1), 59–75. https://doi.org/10.31757/euer.514

Manning, M., Garvis, S., Fleming, C. & Wong, G.T., 2017, 'The relationship between teacher qualification and the quality of the early childhood education and care environment', *Campbell Systematic Reviews* 13(1), 1–82. https://doi.org/10.4073/csr.2017.1

Maundeni, T., 2013, 'Early childhood care and education in Botswana: A necessity that is accessible to few children', *Creative Education* 4(7), 54–59. https://doi.org/10.4236/ce.2013.47A1008

McCoy, D.C. & Wolf, S., 2018, 'Changes in classroom quality predict Ghanaian pre-schoolers' gains in academic and social-emotional skills', *Developmental Psychology* 54(8), 1582–1599. https://doi.org/10.1037/dev0000546

Michigan Department of Education, 2006, *Universal education glossary terms*.

Mitchell, L., Wylie, C. & Carr, M., 2008, *Outcomes of early childhood education: Literature review*, New Zealand Council for Educational Research, Wellington.

Mugweni, R.M., 2017, 'Issues of access, equity and quality in early childhood development programmes in Zimbabwe', *Sociology Study* 7(6), 315–324. https://doi.org/10.17265/2159-5526/2017.06.002

Munthali, A.C., Mvula, P.M. & Silo, L., 2014, 'Early childhood development: The role of community based childcare centres in Malawi', *SpringerPlus* 3(1), 1–10. https://doi.org/10.1186/2193-1801-3-305

Mupa, P. & Chinooneka, T.I., 2015, 'Factors contributing to ineffective teaching and learning in primary schools: Why are schools in decadence?', *Journal of Education and Practice* 6(19), 125–132.

Mwaipopo, C., 2017, 'Challenges in the provisions of early childhood care and education services in rural areas of Botswana', Masters' degree research essay, University of Botswana, Gaborone.

Mwaipopo, C., Maundeni, T., Seetso, G. & Jacques, G., 2021, 'Challenges in the provision of early childhood care and education services in rural areas of Botswana', *African Educational Journal* 9(3), 753–761. https://doi.org/10.30918/AERJ.93.21.097

Noboa-Hidalgo, G.E. & Urzua, S.S., 2012, 'The effects of participation in public child care centres: Evidence from Chile', *Journal of Human Capital* 6(1), 1–34. https://doi.org/10.1086/664790

Nold, J., De Jong, D., Moran, J., Robinson, D. & Aderhold, F., 2021, 'Early childhood education: Academic and behavioural benefits of Prekindergarten educational programming', *SAGE Open* 11(2), 21582440211010154. https://doi.org/10.1177/21582440211010154

Pianta, R., Downer, J. & Hamre, B., 2016, 'Quality in early education classrooms: Definitions, gaps, and systems', *Future of Children* 26(2), 119–138. https://doi.org/10.1353/foc.2016.0015

Rahmatullah, B., Muhamad Rawai, N., Mohamad Samuri, S. & Md Yassin, S., 2021, 'Overview of early childhood care and education in Malaysia', *Hungarian Educational Research Journal* 11(4), 396–412. https://doi.org/10.1556/063.2021.00074

Report of the Inter-Departmental Group, 2015, *Supporting access to the early childhood care and education (ECCE) programme for children with a disability*.

Richter, L., Black, M., Britto, P., Daelmans, B., Desmond, C., Devercelli, A. et al., 2019, 'Early childhood development: An imperative for action and measurement at scale', *BMJ Global Health* 4(Suppl 4), e001302. https://doi.org/10.1136/bmjgh-2018-001302

Samuels, M.L., Taylor, S., Shepherd, D., Van Der Berg, S., Jacob, C., Deliwe, C.N. et al., 2015, 'Reflecting on an impact evaluation of the Grade R programme: Method, results and policy responses', *African Evaluation Journal* 3(1), 10. https://doi.org/10.4102/aej.v3i1.139

Santos, D.N., Assis, A.M.O., Bastos, A.C.S., Santos, L.M., Santos, C.A.S., Strina, A. et al., 2008, 'Determinants of cognitive function in childhood: A cohort study in a middle income context', *BMC Public Health* 8(1), 1–15. https://doi.org/10.1186/1471-2458-8-202

Schady, N., 2006, *Early childhood development in Latin America and the Caribbean*, World Bank Policy Research Working Paper 3864, World Bank, Washington, DC.

Snow, C.E. & Van Hemel, S.B. (eds.), 2008, 'Early childhood assessment: Why, what and how', *Report of the committee on developmental outcomes and assessment for young children for the National Research Council*, National Academies, Washington, DC.

Spier, E., Leenknecht, F., Carson, K., Bichay, K. & Faria, A.M., 2019, 'Tipping the scales: Overcoming obstacles to support school readiness for all in low-and middle-income countries', *Early Years* 39(3), 229–242. https://doi.org/10.1080/09575146.2019.1636571

Statistics Botswana, 2015a, *Education statistics report 2012*, Statistics Botswana, Gaborone.

Statistics Botswana, 2015b, *Population and housing census 2011: National statistical tables*, Statistics Botswana, Gaborone.

Taiwo, A.A. & Tyolo, J.B., 2002, 'The effect of pre-school education on academic performance in primary school: A case study of grade one pupils in Botswana', *International Journal of Educational Development* 22(2), 169–180. https://doi.org/10.1016/S0738-0593(01)00020-7

Travers, J., 2018, *What is resource equity? A working paper that explores the dimensions of resource equity that support academic excellence*, Minnesota Department of Education, Watertown.

United Nations Committee on the Rights of Children, 2005, *Convention on the Rights of Children (CRC/C/GC/7/Rev.1)*, United Nations, Geneva.

United Nations Educational, Scientific and Cultural Organisation, 2000, 'Dakar framework for action: Education for all', in *Meeting Our Collective Commitments*, World Forum on Education, Dakar, Senegal, UNESCO, Paris, April 26–28, 2000.

United Nations, 2015, *Transforming our world: The 2030 agenda for sustainable development (A/RES/70/1)*, United Nations General Assembly, Geneva.

Vandenbroeck, M., Lenaerts, K. & Beblavý, M., 2018, *Benefits of early childhood education and care and the conditions for obtaining them*, European Expert Network on Economics of Education, Publications Office of the European Union, Luxembourg.

Vesely, C.K., 2013, 'Low-income African and Latina immigrant mothers' selection of early childhood care and education (ECCE): Considering the complexity of cultural and structural influences', *Early Childhood Research Quarterly* 28(3), 470–486. https://doi.org/10.1016/j.ecresq.2013.02.001

Whitebread, D., Kuvalja, M. & O'Connor, A., 2015, 'Quality in early childhood education: An international review and guide for policy makers', *Wise Innovation Summit for Education*, University of Cambridge.

Woodhead, M., 1996, *In Search of the Rainbow: Pathways for Young Disadvantaged Children*, Bernard van Leer Foundation, The Hague.

World Bank, 2020, *School Enrollment: Preprimary*, viewed 04 September 2022, from https://data.worldbank.org/indicator/SE.PRE.ENRR.

Zewdie, T., Desta, D., Tefera, D., Lemma, G. & Desie, Y., 2016, *Quality of early childhood care and education in Ethiopia*, Addis Ababa University Institute of Educational Research, Addis Ababa.

Zubairi, A. & Rose, P., 2017, *Their world report: How financing pre-primary education gives every child a fair start in life*, Real Centre, University of Cambridge.

Zulu, P.P., Aina, A.Y. & Bipath, K., 2022, 'Education and training experiences of early childhood care and education practitioners in rural and urban settings of Durban, South Africa', *South African Journal of Childhood Education* 12(1), a1167. https://doi.org/10.4102/sajce.v12i1.1167