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From Global Best Practices to Local Transformation: What Can Pakistan Learn from Developed Countries in Early Childhood Care and Education? A Comparative Narrative Review

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Abstract

Background. ECCE integrates care, education, workforce and governance. Comparing national systems can be helpful to inform the reform process, but this could lead to overlooking differences in resources, institutions and social context in the process of borrowing policies. **Objective.** This is a narrative review to identify what can be learned from ECCE research in Finland, Sweden, Norway, Singapore, Japan and Australia and what adaptations can be made locally. **Method.** Literature search was performed in the three databases, namely Semantic Scholar, OpenAlex and PubMed on 5 October 2026, through a narrative search including broad search terms related to governance, curriculum, workforce, access, quality, inclusion, Pakistan. Abstracts of and selected accessible full-texts were reviewed. This did not constitute a systematic review. **Comparative scope and findings.** An analysis of recent evidence from Pakistan finds policy-to-practice gaps and significant differences between school types: A study of 52 public, private and nonprofit schools in Karachi indicates that overall classroom quality is weak, but there is comparatively high quality in interactions; and a stepped-wedge trial in a rural setting in Sindh shows positive results for school readiness from a youth delivered community ECCE program. Local responsibility, play, well-being, and evaluation of learning environments are highlighted in Nordic research, as are variation and ongoing quality issues. The quality of Japanese observations also varies, with care routines and interactions being relatively strong and learning activities being relatively weak. Evidence available for Singapore and Australia was less and was primarily comparable/review type. **Conclusion and policy implications.** The Pakistanis should borrow functions and not institutional templates: build the capacity of providers at the provincial level, provide support for educators through practice-based development, create play-rich, language-responsive environments, integrate ECCE with family and community services, and observe settings and children's experiences while not compromising quality by testing children. The proposed road map is tentative. This manuscript should not be considered complete or even suitable for publication until such time as official policy and statistical verification has been completed, and access to pre-2021 literature has been gained.

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Introduction

ECCE as A System, Not a School Stage

This review takes the lens of ECCE to refer to services and relationships for children birth to age 8 as designated in the research brief. It does not prescribe that countries deliver these out of one institution or under one ministry – it includes care, early learning, protection, health and family relationships. Different ages and categories of children including childcare, nursery, preschool, kindergarten and early primary cannot be assumed to be the same and should be reported separately. The review question for the policy is not whether one national label is better, but how the opportunities are made available and maintained in public systems.

Just being a part of a service does not make it developmentally supportive. The Japanese quality study highlights the need to ensure that quality is maintained when expanding provision, but points out that children can be exposed to poor quality provision (Fujisawa et al., 2023). The study review of comparative evidence cautions against assuming benefit based on access alone. The authors draw on the concept of Nordic evaluation to describe quality as contestable and context-specific instead of an objective score (Urban et al., 2023). Structural conditions (staffing, materials, space), process quality (interactions, learning experiences), and child outcomes are therefore differentiated to make a defensible comparison.

Why Compare These Six Systems?

Each of the six cases provides a distinct reference point for analysis: Nordic welfare-state traditions, the city-state policy environment in Singapore, multiple types of institution in Japan, and the national regulatory and curriculum architecture in Australia. They are not a league table and they cannot be combined into one "developed-country model." The information found on these sources does not permit an accurate, up-to-date description of each nation's law, financial formula, participation rate, or qualification limits; these are not assumed. Comparative value is in asking what aspects of the value is being achieved, how, and under what circumstances.

Changes in goals and governance mechanisms are not necessarily the result of adopting a fixed best practice, but rather are influenced by institutional histories and evolving expectations of ECEC (Alexiadou et al., 2022). Nordic researchers note that the term Nordic model, which can be misleadingly used to overgeneralise commonality, also acknowledges the differences that exist between Nordic countries, but has been a common theme of child-centeredness and inclusion (Urban et al., 2023). The comparison is then to be read as policy learning across differences.

Pakistan and the Case for Contextual Reform

According to a document analysis of national education policies made in Pakistan in 1998, 2009 and 2017, ECCE was given little priority for decades, was further highlighted in the 2009 policy, followed by the 2017 policy and the authors called for monitoring and planning for implementation of ECCE (Siddique & Aurangzeb, 2024). In Punjab, 386 schools and interviews/focus groups of

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25 government tier participants reveal incoherence in the delegation, finance, information and motivation in accountability relationships (Ansari et al., 2024). It is significant that adoption of a curriculum or policy statement does not mean that educators will be provided with materials, support, time and feedback to implement it.

Process quality was low across the board in classrooms, but comparatively good in teacher–child interactions, with no difference between public and private schools and between private and nonprofit schools with respect to the number of children in each classroom or to the level of formal qualifications; outcomes were consistently poorer in public schools than in private and nonprofit schools, and though the size of private schools was greater than that of the nonprofit schools, there was no comparison between the levels of process or child outcomes across the classrooms observed in the two types of school (Mazhar et al., 2026). This sample is not representative of Pakistan as a whole, but it raises doubts about the validity of the structural input/quality of the classroom assumption and points to a need for further research on organizational practice and support. A community stepped-wedge cluster-randomized implementation trial in 99 villages in rural areas of Sindh found a 0.30-standard-deviation difference in school readiness in favor of the program (95% CI 0.20–0.40) compared to control when the program was implemented in 91 villages, and trained female youth provided the program (Yousafzai et al., 2025). While this is very relevant implementation evidence, it relates to a specific program, rather than national system-wide effects, and was targeted at selected villages and children close to the preschool age.

The contribution of the review is therefore in the form of a feasibility argument, which focuses on transferring functions that can be adapted, and not on transplanting higher cost structures or assumptions about centralized capacity. In a previous cross-country investigation of Pakistan and Indonesia, the same discontinuities between policies and practices are also highlighted, alongside a call for governance that is locally responsive and for workforce development (Muthmainnah & Sajjad, 2025), though here in an abstract level of evidence of the narrative.

Research Aim, Objectives and Questions

Aim. To synthesize recent academic evidence on ECCE in Pakistan and six comparator countries and identify context-sensitive policy lessons for improving access, quality and equity in Pakistan.

Objectives. (1) Describe recent research on Pakistan's ECCE policy and provision; (2) examine available comparative evidence concerning Finland, Sweden, Norway, Singapore, Japan and Australia; (3) compare governance, pedagogy, workforce, quality and inclusion where evidence permits; (4) distinguish evidence of policy design from implementation and outcomes; and (5) propose feasible, measurable reform priorities for Pakistan.

Research questions. (1) What does retrieved recent research indicate about ECCE in Pakistan? (2) What system features and implementation tensions are described for the six comparators? (3) Which findings are comparable across contexts, and what cannot be compared responsibly? (4) What adaptations are plausible in Pakistan's provincial, linguistic, fiscal and workforce conditions? (5) What staged actions and indicators could support reform?

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Review Methodology

Design and Search

This is NOT a systematic review, meta-analysis or PRISMA review, it is a comparative narrative literature review. Searches were performed in the academic indexes available for this task: Semantic Scholar, OpenAlex and PubMed on 5 October 2026. Six, four and four different phrasings were used in four broad searches, namely, (a) cross country systems and governance; (b) Pakistan policy, participation, workforce and implementation; and (c) country specific curriculum, quality, workforce and inclusion. The following terms were used: early childhood education, early childhood care and education, preschool, ECCE/ECEC, policy, governance, quality, curriculum, teacher workforce, inclusion, and country names. The searches have been limited to publication years 2021-2026 and confirmed retractions have been excluded from the search results where index metadata indicated so.

Official national and institutional websites were not investigated; nor was a search of Scopus, Web of Science, ERIC, Google Scholar, Education Source or ScienceDirect. The following computers were not included in the available options during this turn: Internet and years prior 2021. Therefore, it is not possible for this review to confirm current statutory rules, budgets, national participation figures or provincial policy versions from primary sources and it cannot provide the requested literature and/or the older foundational scholarship for 2010-2020. The coverage of sources in the following is not intended to be complete.

Selection, Extraction and Synthesis

Records examined by titles, metadata and abstracts. It was a criterion of relevance to Pakistan, to one or more comparator countries or a dimension of cross-cutting importance to the question that was given priority. Where two reports were made of the same study conducted in Karachi, the peer-reviewed journal report was prioritized over the earlier preprint report. Full text was read for 2023 Nordic evaluation study and Japanese ECERS-3 study. From abstracts, the following were utilized: the Pakistan Karachi study, the process evaluation in Punjab, the policy-document analysis in Norway, the policy analysis in Finland/Sweden, the teacher-workforce comparison, and the LEAPS trial. Detailed methods beyond what is reported in those abstracts were not inferred.

The extraction fields were country, source type, design, age/context, evidence dimension, reported result and transfer relevance and limitation. Synthesis does not constitute a catalogue, but rather common dimensions of: governance, access, curriculum/pedagogy, workforce, inclusion/family, quality and outcomes. The claims are stated in prose as reported findings, analytical interpretations or proposed recommendations. A duplicate removal and screenings log was not kept that could be reproduced, so there are no screening totals reported. It is a narrative search in which the narrative is transparent but not exhaustive, it is not a selection study.

Comparative Framework and Limitations of Evidence

The framework also poses questions about visibility of the function of a policy and possibility of a similar function being realized using the institutions and resources of Pakistan. It distinguishes between policy and practice, access and quality, credential and competence, and system

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monitoring from child testing. Evidence is highly uneven: there is more directly relevant material from Pakistan than Nordic sources, while more material on comparative and quality-framework sources from Singapore, and from Australia, more in comparative/quality-framework sources, while there is one particularly informative observational study from Japan. The policy profiles below are consequently evidence snapshots, not audited national descriptions.

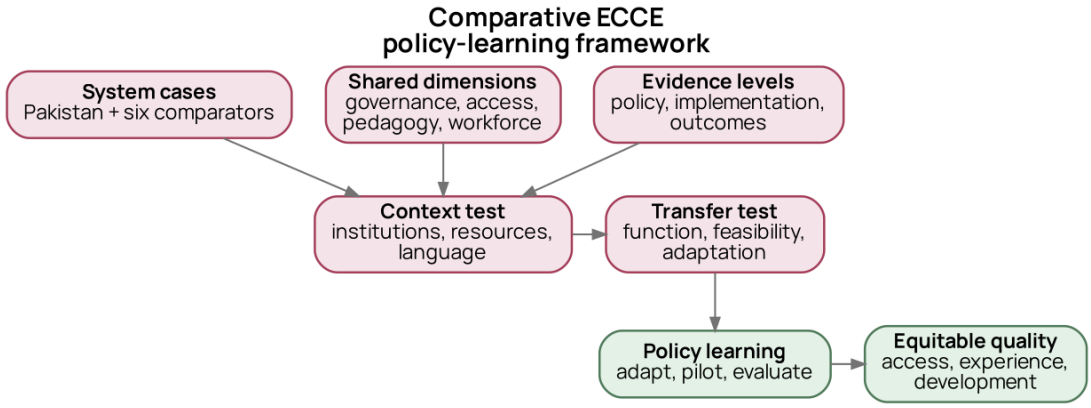

Figure 1. Comparative ECCE research framework

The analytical pathway is from cross case evidence, to contextual and feasibility tests, to adapted policy learning, and the evidence limits of policy, implementation and outcomes are as described.

Pakistan: Policy-To-Practice Evidence

Recent policy literature in Pakistan suggests a progressive formal recognition but not assurance of implementation of the policy. According to the policy documents analysis, ECCE's visibility increased in 2009 and 2017 when compared to previous national policies and calls for action (Siddique & Aurangzeb, 2024). The evaluation of the scaled implementation in Punjab shows gaps in the linkages between the levels of government: delegation and resources, resources to data, data to teacher allocation, teacher allocation to incentives, and incentives to professional support did not effectively reinforce the objective of quality early learning (Ansari et al., 2024). Such results suggest that there is a difference between the coherence of the policy in principle and the coherence between tiers.

That implementation problem becomes real in the local classroom. Findings for process quality showed that overall there was a low level of process quality across the 52 schools studied, although there was a relatively high level of process quality in schools' interactions, and process quality and child outcome patterns varied between public, private and nonprofit schools (Mazhar et al., 2026). The study is a cross-sectional study with geographical restrictions, which does not establish that the differences come from the ownership of the sector. Practical implication is more restricted: uniform input rules may not capture organizational practice and teaching interactions that are associated with observed quality.

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The Sindh LEAPS trial is a complementary model. Youth trained women conducted community ECCE in villages connected to eligible feeder schools, and classes ranged up to 20 children; implementation was possible in most, but not all, of the clusters, and the positive impact on school-readiness was reported (Yousafzai et al., 2025). This assists in the delivery and assessment of community based delivery when there is a lack of conventional preschool supply. Does not demonstrate that the volunteer/youth delivery is an adequate substitute for a qualified professional workforce or can achieve the same results in other provinces or populations.

A recent study of Quetta (reported in the abstract) uses a mixed-methods design with 365 teachers and 30 interviews to report on low awareness of policy components, weak curricular alignment, limited use of ECE-specific strategies and resource, and administrative constraints. This is a corroborative estimate of the province, as the source is a repository record with only the abstract available. Overall, the evidence indicates that prioritizing governance routines and supporting educators and observing the quality of the processes are more likely to improve classroom practice than simply relying on curricular publication.

Country Evidence Profiles

Finland

Recent literature depicts Finnish ECEC as a mix of care, education and upbringing, national guidance and curriculum reform, and scholarship on play, pedagogical leadership and family-related aspects (Harju-Luukkainen et al., 2021). A policy review indicates that there is long-standing staff shortages and concerns around attracting and retaining higher educated staff (Nikkola, 2022) and there are mandatory national core curriculum guidance in 2016 and an Early Childhood Education Act in 2018. They are sources that bring in ideas of purpose for a system and a desire for policy shifts, but not of uniformly excellent classroom quality. The transferable lesson is that there is a problem of short supply if there is a mismatch between coherent expectations and educator preparation and family partnership, without funded training pathways, and recruitment and retention plans.

Sweden

Based on a comparative study of Finland and Sweden, the objectives and governance of ECEC have changed gradually in a step-by-step fashion, depending on the function of the ECEC sector, ranging from the welfare function to labour-market and education functions (Alexiadou et al., 2022). Well-being, play and child-centredness, professionalism and inequality reduction are shared focus in a Nordic evaluation study (Urban et al., 2023) carried out in five countries. It also reveals that the responsibilities for evaluation are mostly local and local practice is variable (Urban et al., 2023). These are not necessarily Swedish policy facts, but themes across the Nordic systems. The useful function for Pakistan is local feedback and improvement within shared national/provincial commitments, without capacity and accountability, unequal provision can be reproduced.

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Norway

The review evidence that has been gathered in recent years indicates that Norwegian ECEC for children aged one to five is regulated and subsidised in the public sector, and that children's holistic development takes place through play, care and learning. The same review found that quality observed after the policy was implemented continued to be in the medium-to-low range and that ongoing monitoring and process quality issues persist (Størksen et al., 2024). Norway is also linked to nature-oriented pedagogy and children's participation in the literature on curriculum comparison, but the literature examined relates to selected curriculum documents, rather than to a nationally representative classroom observation (Ozgunay et al., 2026). The lesson is two-folded: public regulation does not ensure quality; quality can be seen through lived pedagogy and structural constraints in the outdoor space must be examined.

Singapore

There is little evidence available here. A comparative study of libraries based on the curriculum approach compares Singapore and Finland as two advanced systems, and does not have enough detailed abstract evidence for comparisons of specific national financing, participation or workforces (Meilasari et al., 2023). As a special issue, curriculum themes that are highlighted include inclusion, infant–toddler care, social-emotional learning, bilingual language/literacy, and teacher research from a curriculum perspective (Yang et al., 2021). These are themes that are useful but not as an evaluation of system-wide outcomes. There are not any nationwide preschool affordability, teacher–child ratio, or quality-assurance indicators made here. The likely lesson is curriculum adaptation, which means making the curriculum local and inclusive of the common expectations, subject to verification with official frameworks and studies of implementation.

Japan

The Japanese system is described in a study of kindergartens, nursery centers and integrated certified centers under various administrative systems (Fujisawa et al., 2023). At the time studied, it reports, the content of the curricular guidelines of the three institutions had become similar (Fujisawa et al., 2023). This source is not a current legal audit and is based on provisions of the policy as it existed at the time of the study. On the other hand, relatively high total scores for personal care routines and interaction were obtained in an observational study for nursery classes in the Kanto region which are accredited (Fujisawa et al., 2023). Statistically significant differences were observed between the centers in the sample (Fujisawa et al., 2023). The authors warn that the ECERS-3 should be used with caution across cultures (Fujisawa et al., 2023). In addition, they assert that the sample used for the one municipality is not representative of the multiple provider types in Japan (Fujisawa et al., 2023). This is proof that a national guideline is not necessarily uniform in quality and it encourages local observation and coaching/combating for improvement.

Australia

A comparative chapter on Finland and Australia explores formal quality regulation of structural and process quality and highlights that qualified early childhood teachers and professional learning

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are keys to quality (Ukkonen-Mikkola et al., 2022). A recent comparison of Australia, Singapore and New Zealand curricula reveals that all recognise that childhoods are diverse and articulate diversity differently (Turgut-Kurt et al., 2026). While these sources provide opportunities to explore quality standards and inclusive curriculum as interrelated policy components, they do not provide an up-to-date summary of Australian law or evidence of the impact of regulatory instruments on children. It is neither a wholesale adaptation of a national standards framework, but rather is the development of a small, usable set of provincial minimum conditions and observation indicators that can be implemented across public, private and community provision.

Comparative Synthesis: What the Evidence can and cannot Establish

The commonality that can be defended across the retrieved evidence is that written frameworks must be accompanied by workforce capacity, enactment and feedback to be learning experiences. In Nordic evidence, the focus of evaluation was on learning environments and pedagogical practice, not on individual children in relation to learning objectives; staff reported that the size of the group, staffing and ratios may limit the extent to which they are able to implement the intentions in their practice (Urban et al., 2023). The aim of policy and support available in Pakistan is also found to be similar, however, there is no direct matched measures are being done across countries in Pakistan (Ansari et al., 2024; Mazhar et al., 2026). Analytic inference is that the most important transferable principle is system coherence, non-imitation of one curriculum.

Secondly, there are more than one with respect to quality. The results of the Japanese study reflect differences within a global quality label by highlighting a stronger quality of care, but weaker quality of learning activities. A study of Karachi, Pakistan, also found similar trends, with higher interactions compared to overall process quality and opposing results in the different school sectors (Mazhar et al., 2026). These results indicate that the planning for improvement should focus on the specific dimensions, not on ranking schools by one composite score. They don't claim that the same instruments have measurement equivalence between languages and cultures.

Third, the access strategies have to be evaluated for inclusion and delivery sustainability. The LEAPS trial offers Pakistan-specific experimental implementation evidence of the feasibility of enhancing school readiness through a community-based program in specific rural contexts (Yousafzai et al., 2025). The Japanese study cautions that quality may be compromised in the growth of provision (Fujisawa et al., 2023). It also observes differences in quality between centres (Fujisawa et al., 2023) as an accredited centre. A separate report of variation in local evaluation practices is found in Nordic evaluation research (Urban et al., 2023). Hence, universal access must be scaled up and not first scaled up and then quality.

Fourth, best practice is culturally and politically rooted internationally. Nordic researchers say that the way in which the evaluations are made carries a set of assumptions regarding childhood, quality and governance, and warn against 'decontextualised rankings' (Nordic researchers, 2023). This is particularly true when comparing countries that vary in their approach to financing welfare, its administrative scope and language. The tables below differentiate between documented evidence and not-verified fields, as no comparable (documented) values could be retrieved for all seven countries regarding enrollment, fees, expenditure, ratios or outcomes.

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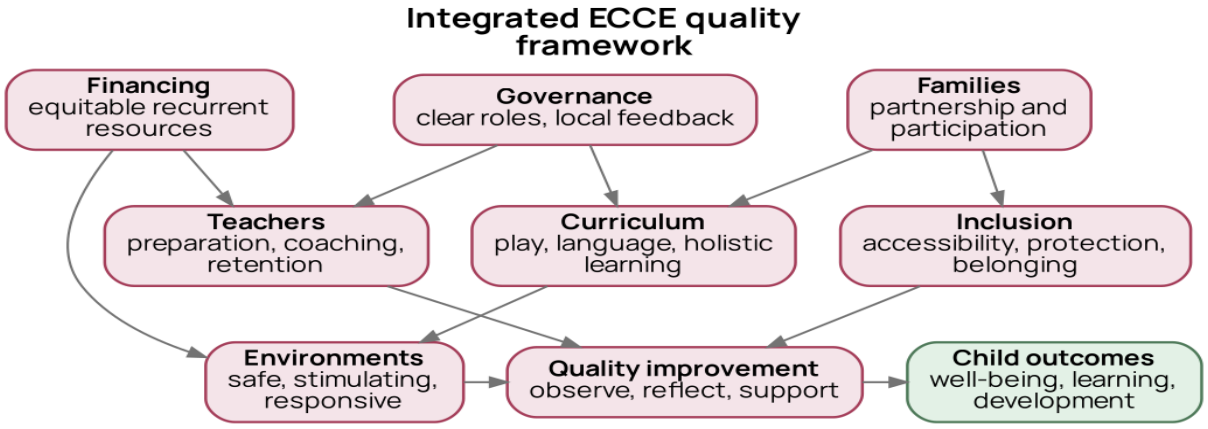

Figure 2. Integrated ECCE quality framework

The governance and financing is seen as enabling conditions for curriculum, teacher practice, inclusion and environments, and quality-improvement feedback is linked to child outcomes. These systems views align with Nordic findings which indicate that quality is created in everyday interactions and is dependent on structural conditions (Urban et al., 2023).

Table 1. Overview of ECCE Evidence in Pakistan and Six Comparator Countries

Case	Evidence available in this review	Strongest supported point	Key limitation
Pakistan	Policy analysis; Punjab implementation evaluation; Karachi quality study; Sindh randomized implementation trial	Policy-to-practice gaps coexist with promising locally delivered program evidence (Ansari et al., 2024; Siddique & Aurangzeb, 2024; Yousafzai et al., 2025)	Not nationally representative; current official policy and national participation data not checked
Finland	Recent system overview and policy review	Curriculum/guidance reform and workforce capacity both matter (Harju-Luukkainen et al., 2021; Nikkola, 2022)	No current official framework audit in this review
Sweden	Finland–Sweden policy comparison; Nordic system evaluation	Shared values operate through locally varied governance (Alexiadou et al., 2022; Urban et al., 2023)	Not a current Swedish national profile
Norway	Recent review; Nordic evaluation; comparative curriculum analysis	Regulation does not prevent medium-to-low process-quality concerns (Størksen et al., 2024)	Secondary synthesis; no official-document verification

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Case	Evidence available in this review	Strongest supported point	Key limitation
Singapore	Curriculum/library study and editorial	Curriculum is described as hybrid and enactment/inclusion remain relevant issues (Yang et al., 2021)	Limited system-level empirical evidence retrieved
Japan	Full-text observational study and teacher-education chapter	Quality profiles vary across centers; interaction and care routines differ from learning-activity scores (Fujisawa et al., 2023)	One region and accredited nursery centers only
Australia	Finland–Australia quality comparison and curriculum comparison	Standards, professional learning and inclusion are useful comparison themes (Turgut-Kurt et al., 2026; Ukkonen-Mikkola et al., 2022)	No national policy audit or matched outcome data

Table 2. Policy and Governance Comparison: Verified Evidence Boundary

Dimension	Pakistan	Finland/Sweden/Norway	Singapore/Japan/Australia	Comparative implication
Policy recognition	National-policy analysis reports increased ECCE recognition in 2009 and 2017 (Siddique & Aurangzeb, 2024)	Finnish reforms and Finland–Sweden policy change described in recent scholarship (Alexiadou et al., 2022; Nikkola, 2022)	Japan's separate institution/regulation arrangements are described in a research study; Singapore/Australia official arrangements not verified here (Fujisawa et al., 2023)	Align goals across levels; validate current legal responsibilities before assigning mandates
Local implementation	Punjab study identifies delegation, finance, information and motivation incoherence (Ansari et al., 2024)	Nordic evaluation reports local responsibility and variation in local practice (Urban et al., 2023)	Not established consistently from retrieved evidence	Devolution needs capacity, data and feedback, not decentralization alone
Current statutory instruments	Not independently verified	Not independently verified	Not independently verified	Official primary documents are required before

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		final policy comparison

Table 3. Curriculum and Pedagogy Comparison

Case/evidence	Supported curricular or pedagogical finding	Transferability assessment
Pakistan	Policy-to-classroom alignment problems reported in Quetta; Karachi interaction quality comparatively stronger than overall process quality (Ali et al., 2026; Mazhar et al., 2026)	Build play, language and interaction into coaching and observation; validate provincial curriculum text
Finland	Playful learning, national guidance, family-related factors and pedagogy are covered in a recent research volume (Harju-Luukkainen et al., 2021)	Adapt principles with multilingual materials and educator-led local planning
Sweden/Norway	Nordic evidence emphasizes play, well-being and learning environments; Norwegian curriculum comparison highlights nature-based learning (Ozgunay et al., 2026; Urban et al., 2023)	Use low-cost local outdoor materials where safe; avoid importing culturally specific routines
Singapore	Curriculum described as a hybrid of Eastern/Western influences; inclusion, bilingualism and curriculum-based teacher research are themes (Yang et al., 2021)	Adapt global ideas through Pakistan's language and cultural context; evidence remains thin
Japan	Care routines and interaction scored relatively higher than learning activities in an observed sample (Fujisawa et al., 2023)	Balance relational practice with rich, accessible materials and purposeful adult scaffolding
Australia	Comparative source identifies national curriculum and diversity framework as a relevant policy domain (Turgut-Kurt et al., 2026)	Develop culturally and linguistically responsive curricular examples, including Indigenous/local knowledge principles adapted to Pakistan's own communities

Table 4. Workforce Qualifications, Training and Professional Standards

Evidence	Finding	Pakistan application
Pakistan	In a Karachi sample, 60% of teachers had higher education and about half had ECE training; overall process quality remained low (Mazhar et al., 2026)	Pair credential pathways with supervised practice, coaching, retention and leadership support

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Evidence	Finding	Pakistan application
Finland	Recent review reports educator shortages and need to invest in training-place capacity and workforce attraction (Nikkola, 2022)	Do not set abrupt qualification thresholds without funded bridge routes
Norway/Pakistan comparison	A four-country study reports differences in entry requirements and professional development; abstract-level evidence only (Yiğit et al., 2025)	Use as a signal to examine training quality, not a sufficient basis for detailed qualification law comparison
Japan	Teacher pathways include different credentials by institution type; chapter urges raising qualifications and accessible continuing development (Uchida, 2021)	Develop common ECE competencies while preserving multiple supported entry routes
Australia and regional evidence	Professional learning and qualified teachers are emphasized in a Finland–Australia comparison; Asia-Pacific editorial warns that competence frameworks can narrow autonomy (Li et al., 2022; Ukkonen-Mikkola et al., 2022)	Competency standards should support professional judgement, not become checklist compliance

Table 5. Access, Affordability and Participation

Indicator	Pakistan	Comparator evidence in this review	Status of seven-country comparison
Enrollment/participation rate	No current nationally verified rate retrieved	The Japanese study reports age-specific uptake figures, but this review found no comparable current series (Fujisawa et al., 2023)	Not comparable; do not present a ranking
Affordability/fees	Current national and provincial fee data not retrieved	Some comparative studies discuss fees, but this review lacks harmonized current figures (Eryiğit et al., 2024)	Not found on a like-for-like basis
Rural access	LEAPS provides trial evidence from selected rural Sindh villages (Yousafzai et al., 2025)	Nationally comparable rural access estimates not retrieved	Needs official, age- and service-defined data

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Indicator	Pakistan	Comparator evidence in this review	Status of seven-country comparison
Inclusion	Pakistan review identifies cost, gender, disability and access concerns in Punjab (Rashid et al., 2025)	Inclusion themes occur in Nordic and Australia/Singapore curriculum research (Turgut-Kurt et al., 2026; Urban et al., 2023)	Policy commitments and actual participation must be separately measured

Table 6. Financing, Infrastructure and Quality Assurance

Topic	Evidence and limitation	Proposed Pakistan use
Financing	No harmonized budget/expenditure figures for all seven cases found in the evidence read	Cost a minimum service package by province and publish allocations/execution
Infrastructure	Karachi study reports large classes/high ratios but exact ratios not available in the abstract (Mazhar et al., 2026)	Prioritize safe space, water/sanitation, shade, accessible play materials and class-size monitoring
Quality assurance	Nordic evaluation emphasizes self-evaluation of environments and pedagogy, with local variation (Urban et al., 2023)	Combine minimum standards with formative support and local data review
Structural/process quality	Japanese observation finds higher relative scores for care routines and interaction than learning activities (Fujisawa et al., 2023); quality also varied between centers (Fujisawa et al., 2023)	Observe child experience and interaction, not only buildings, inputs or enrollment

Table 7. Strengths and Challenges across Seven Cases

Case	Evidence-based strength	Evidence-based challenge or unresolved issue
Pakistan	LEAPS improved readiness in a defined rural implementation trial (Yousafzai et al., 2025)	Policy implementation gaps and uneven quality in local samples (Ansari et al., 2024; Mazhar et al., 2026)
Finland	Coherent national guidance and play/family-oriented system described (Harju-Luukkainen et al., 2021)	Workforce shortages described in review literature (Nikkola, 2022)
Sweden	Finland–Sweden policy analysis reports incremental change in policy goals and governance rationales (Alexiadou et al., 2022)	Nordic evaluation research documents local responsibility and variation in practice (Urban et al., 2023)

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Case	Evidence-based strength	Evidence-based challenge or unresolved issue
Norway	Public regulation and holistic orientation described (Størksen et al., 2024)	Review reports medium-to-low observed quality and ongoing monitoring concerns (Størksen et al., 2024)
Singapore	Locally hybrid curriculum documented as a theme (Yang et al., 2021)	Thin independent system-level evidence in this search
Japan	Strong relative interaction/care dimensions in observed sample (Fujisawa et al., 2023)	Weaker learning-activity scores and between-center variation (Fujisawa et al., 2023)
Australia	Comparative quality regulation and inclusion frameworks are research themes (Turgut-Kurt et al., 2026; Ukkonen-Mikkola et al., 2022)	Direct current implementation/outcome evidence not established here

Table 8. International Practices and Adaptability to Pakistan

Practice/function	Source basis	Adaptability	Conditions and safeguards
Playful, child-centered learning	Finnish research volume and five-country Nordic evaluation study (Harju-Luukkainen et al., 2021; Urban et al., 2023)	Adaptable	Local-language play materials; coaching; avoid premature formal academics
Community-based preschool access	LEAPS trial (Yousafzai et al., 2025)	Pilot and evaluate	Safeguarding, mentoring, stable pay/stipends, referral links and transition routes
Learning-environment self-evaluation	Nordic evaluation study (Urban et al., 2023)	Adaptable by function	Use non-punitive quality improvement with structural indicators and independent validation
Relational care and group social learning	Japan observation and policy discussion (Fujisawa et al., 2023)	Adaptable with balance	Retain culturally meaningful collective practice while supporting each child's language and developmental needs
National minimum quality framework	Comparative Australia/Nordic evidence (Ukkonen-Mikkola et al., 2022; Urban et al., 2023)	Modify	Provincial co-design, low-burden indicators, staged funding and support before sanctions

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Practice/function	Source basis	Adaptability	Conditions and safeguards
Direct copy of high-cost staffing/finance structures	No direct Pakistan feasibility evidence	Not recommended without costing	Estimate fiscal and workforce requirements first

Table 9. Policy Recommendations

Recommendation	Lead actors (proposed)	Early indicator
Agree on minimum birth-to-eight service principles and age definitions	Federal/provincial ministries, curriculum bodies	Published harmonized glossary and responsibility map
Build province-level delivery compacts with district feedback	Provincial departments and districts	Timely district plans and documented quarterly review
Create supported educator pathways	Teacher education institutions, departments, employers	Share of ECCE staff receiving supervised practice-based development
Fund community and school-based provision by need	Provincial finance/education departments, local partners	Budget execution and underserved-area places created
Establish formative process-quality monitoring	Provincial quality units, teacher mentors	Observed learning-environment improvement and feedback completion
Embed inclusion, language and family partnership	Providers, local government, families	Accessible provision and family participation disaggregated by context

Table 10. Proposed Strategic Roadmap

Horizon	Priorities	Responsible stakeholders	Resources/challenges	Measurable indicators (proposed)
Short term (1–2 years)	Map existing services; define common minimum package; pilot educator coaching and community access in underserved districts	Provincial departments, districts, teacher colleges, community organizations	Baseline data, trainers, safe venues; risk of fragmented pilots	District service map completed; pilot sites reporting attendance, staffing, safety and observation data

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Horizon	Priorities	Responsible stakeholders	Resources/challenges	Measurable indicators (proposed)
Medium term (3–5 years)	Scale tested models; fund bridge qualifications; integrate referral links with health/protection services; establish provincial quality-improvement cycles	Provincial governments, health/social welfare agencies, universities, providers	Recurrent financing and workforce retention; uneven administrative capacity	More children reached in underserved areas; increased training completion and classroom-process indicators; referral follow-through
Long term (5–10 years)	Establish stable entitlement and funding mechanisms; embed longitudinal evaluation; revise standards using child/family/community evidence	Legislatures, federal-provincial councils, statistical agencies, research institutions	Political continuity, fiscal space, comparable data	Sustained equitable participation, reduced quality gaps, improved child development indicators with valid measures

Lessons and Adaptability

Borrowing Functions Rather Than Institutional Forms

The most flexible lesson from Finland is to relate the curriculum intentions to the professionalism, leadership and family partnership of the teacher(s), not to the curriculum document itself as an intervention (Harju-Luukkainen et al., 2021). Evaluation is locally located as evidenced in the Nordic study, which reports of local variation in practice and the importance of staff competence for quality (Urban et al., 2023). It is important to keep in mind that high process quality does not automatically follow from public regulation or subsidy, as is the case in Norway (Størksen et al., 2024).

Singapore offers a more modest but meaningful reminder that international ideas are translated into local histories and cultures; that is, it is a counterpoint to the notion that borrowing is copying (Yang et al., 2021). The study reports differences in quality among all the accredited centres that share the standards (Fujisawa et al., 2023) and relative strengths in caring routines, interactions and disadvantaged learning-activity scores (Fujisawa et al., 2023). The issues of structural standards and professional learning are highlighted in the Australian quality-regulation discussions; Pakistan would require a staged and costed version that can reach the provinces and providers (Ukkonen-Mikkola et al., 2022).

Not suitable when the practice assumes high public spending, a stable specialist workforce, small administrative units, universal digital records or a uniform service system. However, those conditions have not been confirmed for each of the seven cases and the suggestion is methodological – test and cost each suggested measure on a local level prior to scale-up. Adaptations to practices are required for credential requirements, assessment tools, quality ratings

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and curricular examples. Cross country instrument validity and long term child outcomes and distributional effects require further evaluation.

Barriers in Pakistan

Administrative coordination, funding, and teacher support and data utilization have shown themselves to be concrete constraints in Punjab (Ansari et al., 2024). Observation in Karachi reveals that quality is not solely dependent on staff qualifications and varies across sectors (Mazhar et al., 2026). The Punjab review reveals that cost, gender and access, as well as infrastructure issues, teacher training and budget constraints are intersecting challenges, but the abstract does not offer a clear national estimate (Rashid et al., 2025). The policy inference is that the multilingual diversity and rural–urban difference in Pakistan necessitates locally produced language materials and delivery approaches, which is not the case in retrieved studies and is observed as a consequence of the multilingualism factor.A policy inference is that locally produced language materials and delivery approaches are needed due to the multilingualism factor and the rural–urban difference in Pakistan, which is not measured in retrieved studies. Federal–provincial coordination should therefore establish shared commitments for outcomes, and leave the design of delivery to provinces and districts with transparency under an accountability compact.

Proposed Reform Model and Policy Recommendations

The proposed Pakistan ECCE reform model connects the nine elements: (1) clear governance responsibilities; (2) equitable access & affordability; (3) play-based, culturally and linguistically responsive curriculum; (4) supported workforce pathways; (5) safe and accessible environments; (6) child protection & inclusion; (7) family and community partnership; (8) predictable financing and provider accountability; and (9) monitoring of structural and process quality (Ansari et al., 2024; Urban et al., 2023; Yousafzai et al., 2025). This is a suggested structure, rather than a government model. It's based on the findings from the implementation evaluation processes in Pakistan and the findings from the trials conducted locally as well as comparative trials on contextual quality evaluation.

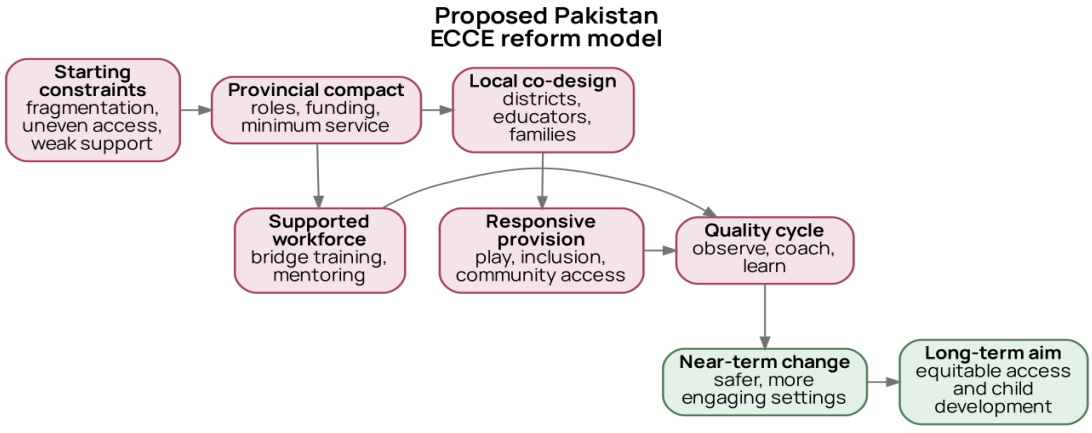

Figure 3. Proposed ECCE reform model for Pakistan

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This figure is an analytical recommendation and is not a policy in place, as it is proposed to go from fragmented implementation to supported provision to improved child and equity outcomes via provincial compacts and local co-design.

Governance. Create a national-provincial agreement on the age bands for ECCE, minimum functions and data responsibilities; allow districts to adapt to the national-provincial agreement; keep provincial authority on implementation. Create a responsibility matrix, reoccurring budget lines and annual delivery plans.

Workforce. Design modular, cumulative credentials and compensation incentives for existing teachers, to include core child development, play facilitation, multilingualism, disability inclusion, safeguarding and supervised practicum. Combine training with mentoring, planning and retention activities. Better than to impose a high entry bar that would turn away experienced staff without developing a replacement staff, as stated in the evidence from Finland itself, which speaks about recruitment/retention issues (Nikkola, 2022).

Pedagogy and environment. Provide opportunities for early literacy/numeracy skills and for movement, talk, story, exploration and play that are carefully structured, rather than worksheet-driven or too early for formal instruction. Provide low-cost open-ended local materials, safe outdoor opportunities and accessible layouts. For each environment, observe and reflect on whether interaction and learning is occurring; don't assume it happens if there are toys or a curriculum.

Equity and integration. Focus public funding, transport/community delivery (if feasible) and referral co-ordination with Health, Nutrition and Child-protection services on underserved rural settlements, low-income urban communities, children with disabilities and linguistically marginalized groups (LMGs), according to the extent of their need. LEAPS proposes one access route that has been tested locally, it is not a substitute model of the universal access route (Yousafzai et al., 2025).

Quality assurance. Implement a positive provincially-led improvement cycle: base minimum safely/structurally; conduct brief observations of interactions/learning environment; conduct educator self-observations; coach; provide feedback to educators' families; provide follow-up. Report access and process quality separately, disaggregated by provider type, location, by sex, by disability (where lawful and feasible), by language. Do not use rankings of young children or minimise centres to a single score, rather Nordic evidence focuses on the assessment of settings and systems, not on the direct assessment of children's performance (Urban et al., 2023).

Implementation and Accountability

The short, medium and long-term steps identified in Table 10 are specified. During the first two years, mapping of provision and a baseline should be done in each province, followed by a pilot of a defined service package in a range of districts. Scale approaches in years 3–5 are those that show reach, safety, and acceptable cost and quality improvement; increase training via district mentor networks and colleges. Stabilize funding and entitlements from year 5 to 10 and assess

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outcomes of children and families over time. These are suggested planning times, and not official government pledges.

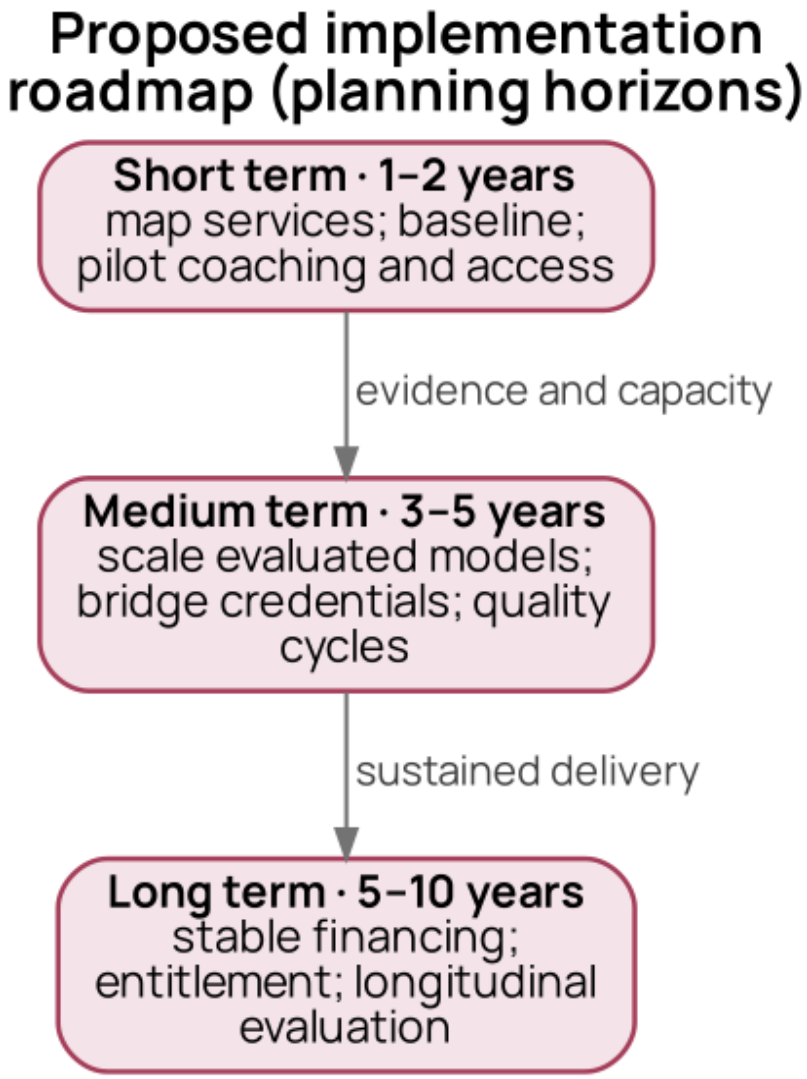

Figure 4. Proposed strategic implementation roadmap

The staged sequence is a planning proposal – dates are not the only criteria for movement between horizons, but rather evidence of implementation and affordability/capacity at province level.

Evaluation should be based on a theory of change and implementation measures given that outcomes reported in the LEAPS trial are within a defined delivery model and eligibility context (Yousafzai et al., 2025). The Japanese authors warn of loose cultural interpretations of ECERS-3 and suggest that there are differences between centres (Fujisawa et al., 2023). Proposed solutions should include enrollment and attendance, affordability and distance, educator training and

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retention, classroom interactions and access to diverse activities, inclusion and referrals, family involvement, public expenditure and implementation, and child development measured using culturally and linguistically responsive tools. Compare like with like (age group, service type, calendar period and instrument) and report missingness.

Discussion

This comparison does not add any validity to the argument of "Finland is best" or that "Pakistan should have a Nordic system." The 6 countries are institutionally diverse, and there is a lack of literature to justify one effectiveness rank. Local variation and structural constraints are part of Nordic policy values (Urban et al., 2023). The difference between regulation and quality of implementation is questioned in a Norway review, which reports medium-to-low quality for publicly regulated provision (Størksen et al., 2024). While the observation in Japan showed a unique quality profile, the country cannot be represented by the sample from the accredited centres from one municipality (Fujisawa et al., 2023).

The most robust argument Pakistan can make from the evidence is a sequencing argument: first develop clear responsibilities and a Minimum Feasible Service; at the same time invest in teachers and basic environments; and subsequently extend service through a local partnership; and then use data to focus attention on service and to adjust practice (Ansari et al., 2024; Siddique & Aurangzeb, 2024). This sequence tackles the well-documented disconnect between formal recognition of policy and coherent delivery. It also considers the potential of community delivery to enhance readiness in some settings, but not in any one; and the potential that despite their success in one setting, community delivery might not work in another, and may not be suitable (Yousafzai et al., 2025).

The original contribution of the review is a framework of adaptation based on functions; practices are evaluated on their function, conditions, evidence from Pakistan and safeguards for scale. For instance, formative quality evaluation comes not as a checklist, but rather as a relevant function to make practice visible and to facilitate improvement. Play-based pedagogy is not a frilly curriculum label but requires teachers who can observe, extend and record children's activity. Teacher skills are not a proxy of effective interaction; they must be related to preparation, coaching, working conditions and leadership. The Pakistan Karachi results, in which the classrooms without formal structural indicators exhibited better results in some ways although their results were weaker, confirm that multidimensional approach (Mazhar et al., 2026).

Research Gaps and Future Directions

There is no integrated, up-to-date, official-source comparison for all 7 countries found in the literature retrieved. It also doesn't offer matched participation, fees, expense, staffing ratios or developmental outcome data. There is a need for nation-wide indicators of structural and process quality, provincial child- and classroom-level studies on curriculum enactment, and longitudinal studies of child outcomes and classroom quality in Pakistan; cost/benefit and equity analysis of community delivered models; and validation of observation instruments across languages and cultural contexts. Comparative work should make clear which services and service age groups are being discussed, and involve a policy analysis as well as observation and practitioner/family

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perspectives. No claims of literature gap are made which were not identified in this search, but it is not a claim that there is no such research.

Limitations

This is a preliminary review. The activity-based academic source set and the year filter for publication only allowed search for the year 2021-2026 in Semantic Scholar, OpenAlex and PubMed. No search was completed for Scopus, Web of Science, ERIC, Google Scholar, Education Source, ScienceDirect, official government and international websites, or 2010-2020 sources or foundational sources. Thus the legal aspects, versions of the national curriculum, national statistics, budgets, fees, ratios and institutional responsibilities are not legally verified. Full texts of two key pieces of literature were read, while the abstracts of other empirical and policy literature are mostly represented by other empirical and policy literature that did not provide methodological details in its own abstract. Evidence is unbalanced in terms of country, comprises a repository study and comparative reviews, and lacks harmonized indicators. No reproducible screened-record log for the narrative selection process and no screening totals are claimed. There is limited measurement equivalence across cultures and country differences in age bands, governance and type of services limit direct comparisons. Findings should not be seen as an appraisal of all existing national systems but rather a provisional evidence synthesis.

Conclusion

Adopting the functions of the systems instead of the structures of the six countries would be helpful for Pakistan. The evidence available suggests that the following areas of coherent governance, educator development, play-rich, responsive practice, accessible community provision, partnership with the family and inclusion and quality improvement focused on learning environments are supported. It also shows that the formal policy and public regulation, as well as international reputation, does not ensure uniformity in implementation and quality. To improve access, workforce and quality support, finance locally responsive provision, and assess outcomes using valid and disaggregated measures, Pakistan should expand access together with workforce and quality support, finance locally responsive provision, and evaluate outcomes with valid and disaggregated measures. Recommendations and country comparisons are preliminary until official sources of policy and historical literature and current harmonized statistics are confirmed.

Author Contributions

Author 1: Conceptualization, literature search, article selection, data extraction, synthesis of findings, and original manuscript drafting.

Author 2: Literature search, screening of relevant articles, critical evaluation of the literature, data extraction, and manuscript writing.

Author 3: Interpretation and synthesis of findings, thematic organization, preparation of tables and figures, and critical revision of the manuscript.

Author 4: Supervision, conceptual guidance, critical review and editing, and final approval of the manuscript.

All authors contributed to the development of the manuscript, reviewed the final version, and approved it for submission.

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