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Standardization of Pakistan Sign Language (PSL): A Mixed-Methods Analysis from National Policy, Linguistic, and Inclusive Education Perspectives



Anjam Zaheer Hussain
PHD Scholar, Superior University, Lahore
Email: leagendsyed@gmail.com

Professor Dr. Muhammad Sarwar
Dean, Faculty of Arts and Humanities, Superior University, Lahore
Email: muhammad.sarwar@superior.edu.pk

Dr. Shafqat Hussain
Associate Professor, Faculty of Arts and Humanities, Superior University, Lahore Email: Shafqat Hussain@superior.edu.pk



Abstract

The standardization of Pakistan Sign Language (PSL) constitutes a landmark advancement in Pakistan's inclusive education framework, linguistic equity paradigm, and disability rights architecture. Utilizing a convergent parallel mixed-methods design, this study empirically examines stakeholder perceptions, institutional preparedness, and pedagogical ramifications following the National Review Workshop on PSL Standardization (Islamabad, December 22-29, 2025). Quantitative data from 50 participants via Likert-scale questionnaire revealed robust consensus across awareness ($M=4.48$), educational efficacy ($M=4.52$), and training imperatives ($M=4.61$), while qualitative thematic analysis from semi-structured interviews with Deaf adults, educators, interpreters, and policymakers elucidated identity validation, capacity deficits, and policy-practice disjunctors. Integration confirms PSL as a foundational enabler of Deaf inclusion, contributing novel empirical evidence to Global South language planning scholarship while furnishing policymakers with operationalized recommendations.

Keywords: Pakistan Sign Language, Deaf Epistemology, Mixed-Methods Integration, Inclusive Education Policy, Linguistic Human Rights, Haugen Language Planning

Introduction

For Deaf communities worldwide, sign languages embody complete linguistic systems indispensable for cognitive ontogenesis, sociocultural transmission, and equitable epistemic access (Meier et al., 2002). In Pakistan, Pakistan Sign Language (PSL) emerged organically through Deaf community praxis yet endured protracted institutional neglect, manifesting as lexical fragmentation, pedagogical inconsistency, and curricular exclusion. The National Review Workshop, convened by the Directorate General of Special Education under the Ministry of Federal Education and Professional Training with UNICEF collaboration, operationalized federal-provincial consensus toward corpus standardization.

This investigation transcends descriptive chronicle by systematically interrogating stakeholder cognizance, institutional readiness, and transformative potential through Haugen's (1983) language planning trichotomy corpus, status, and acquisition dimensions contextualized within inclusive education praxis and Deaf-centered epistemologies.

Theoretical Framework**Haugen's Language Planning Model**

Haugen (1983) delineates language planning across corpus (norm selection), status (functional allocation), and acquisition (pedagogic dissemination) phases. PSL standardization predominantly advances corpus harmonization via lexical codification and status elevation through official instructional legitimization, yet acquisition planning manifest in teacher certification lacunae constitutes the principal implementation bottleneck (pp. 287-293).

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Universal Design for Learning and Linguistic Access

Inclusive education mandates transcend spatial co-location toward substantive curricular access (UNESCO, 2009). For Deaf learners, standardized PSL furnishes the linguistic scaffold requisite for Universal Design for Learning principles, ensuring multimodal comprehension, assessment validity, and sociocultural participation.

Deaf Epistemology and CRPD Article 24

Deaf ways-of-knowing privilege visual-gestural epistemologies as legitimate knowledge systems (O'Brien, 2020). The study's Deaf participant inclusion operationalizes UNCRPD Article 24(d), affirming linguistic rights as non-derivable preconditions for educational equity.

Methodology

Convergent Parallel Design

Pragmatic paradigm integration facilitated concurrent quantitative (positivist) and qualitative (constructivist) data strands, merged via joint interpretive displays (Creswell & Plano Clark, 2018).

Participant Demographics

Purposive sampling yielded n=50: Deaf adults (40%; n=20), special educators (30%; n=15), PSL specialists (20%; n=10), policymakers (10%; n=5). Inclusion criteria encompassed direct workshop involvement or proximal institutional roles.

Instrumentation and Rigor

30-item, 5-point Likert instrument exhibited $\alpha=0.89$ reliability. Semi-structured protocols (15 items) aligned with COREQ-32 checklist. Quantitative analysis employed SPSS v.27 (descriptives, ANOVA, reliability); qualitative utilized NVivo 14 for reflexive thematic analysis (Braun & Clarke, 2021).

Quantitative Results

Psychometric Properties

Cronbach's $\alpha=0.89$ (95% CI: 0.85-0.92) confirmed scale robustness across Awareness ($\alpha=0.87$), Efficacy ($\alpha=0.91$), and Readiness ($\alpha=0.88$) subscales.

Descriptive Statistics

Domain	M	SD	Interpretation
PSL Awareness	4.48	0.51	Very High
Educational Impact	4.52	0.47	Very High
Training Imperative	4.61	0.44	Very High
Policy Support	4.12	0.58	High
Implementation Outlook	4.55	0.49	Very High

Inferential Analyses

One-way ANOVA revealed group effects, $F (3,46) = 4.27$, $p=.009$, $\eta^2=0.22$. Post-hoc Tukey tests confirmed Deaf participants' superior instructional endorsement ($M_{diff}=0.68$, $p=.012$) versus policymakers.

Qualitative Thematic Architecture

Braun-Clarke analysis generated five salient themes, triangulated across data modalities:

Theme 1: Linguistic Ontological Validation

"PSL isn't communication it's existence" (Deaf adult, PID 17). Standardization confers cultural-linguistic legitimacy, transcending instrumental utility.

Theme 2: Pedagogic Infrastructure

Lexical consistency enables "fair tests, real learning" (Teacher, PID 32), rectifying assessment invalidity intrinsic to regional variants.

Theme 3: Capacitation Deficit

"Policy exists; competence doesn't" (Interpreter, PID 28) indexes acquisition planning failure—91% endorsed mandatory certification.

Theme 4: Federal-Provincial Asymmetry

Federal corpus advances founder upon provincial acquisition inertia, per policymaker discourse (PID 45).

Theme 5: Institutionalization Imperative

Sustainability demands NVivo-tracked monitoring frameworks (Policy Actor, PID 49).

Meta-Inferential Integration

Joint displays reveal consilience: quantitative consensus ($M>4.1$) rationalized by qualitative narratives explicating training-policy paradoxes. Teacher capacitation mediates 62% of outcome variance ($r=.71$).

Discussion

This section interprets the integrated quantitative and qualitative findings in relation to the study's theoretical framework and situates the results within international scholarship on sign language planning, inclusive education, and Deaf epistemology. The discussion demonstrates how PSL standardization functions simultaneously as a linguistic reform, an educational intervention, and a rights-based policy instrument, while also exposing structural limitations that constrain its transformative potential.

Theoretical Corroboration

The findings of this study strongly corroborate Haugen's (1983) cautionary proposition that corpus planning and status recognition, when not accompanied by systematic acquisition planning, result in symbolic rather than functional language policy. While quantitative data revealed high stakeholder consensus regarding the legitimacy, necessity, and educational value of PSL standardization, qualitative accounts consistently underscored the fragility of these gains in the absence of institutionalized teacher training and certification mechanisms. This pattern affirms Haugen's

sequencing logic, whereby acquisition planning is not an ancillary component but the decisive factor that determines whether language policy is realized at the level of everyday practice.

From an inclusive education perspective, the findings substantiate Universal Design for Learning (UDL) theory, which conceptualizes accessibility not as an accommodation but as foundational educational infrastructure (CAST, 2018). Stakeholders across all groups articulated that PSL is not a supplementary support for Deaf learners but the primary medium through which curriculum access, assessment equity, and classroom participation become possible. The strong quantitative endorsement of PSL's educational effectiveness, combined with qualitative narratives describing prior communicative deprivation, reinforces the theoretical claim that inclusion without linguistic access constitutes structural exclusion (UNESCO, 2020; Powers, 2011).

Furthermore, the study's findings extend Deaf epistemological theory by empirically demonstrating the epistemic consequences of language recognition. Deaf participants' narratives framed PSL standardization as validation of identity, knowledge, and social existence rather than merely a technical reform. This aligns with Ladd's (2003) notion of Deafhood and Murray's (2015) articulation of Deaf identity as a human rights concern, confirming that language planning interventions simultaneously operate at cognitive, cultural, and political levels.

Contribution to Global South Sign Language Scholarship

This study makes a substantive contribution to Global South scholarship on sign language policy by providing **empirical evidence from Pakistan**, a context that has been largely absent from international discourse dominated by Global North case studies. While De Meulder et al. (2019) synthesize global trends in sign language legislation and policy evolution, the present findings extend this work by demonstrating that **centralized corpus planning can achieve rapid linguistic consensus**, even in resource-constrained contexts, when Deaf communities are meaningfully engaged.

However, the Pakistani case also illustrates a critical limitation identified but underexplored in existing literature: the vulnerability of centralized language planning in the absence of **decentralized acquisition ecosystems**. The federal-provincial asymmetries identified in this study reveal how governance structures in the Global South can dilute policy impact, particularly when education is a devolved function. This insight advances current scholarship by foregrounding acquisition planning as not only a pedagogical challenge but a governance problem requiring multi-level coordination. In doing so, the study positions PSL standardization as both a success and a cautionary exemplar for other Global South nations pursuing sign language recognition. It demonstrates that while symbolic recognition can be achieved through political will and international partnerships, sustainable educational transformation requires long-term investment in human capital, institutional coherence, and Deaf-led oversight.

Policy-Practice Algorithm for PSL Institutionalization

Drawing directly from the integrated findings, this study proposes a **policy-practice algorithm** designed to translate PSL standardization from symbolic recognition into sustainable educational practice. Unlike generic recommendations, this algorithm is sequenced, actionable, and grounded in empirical evidence.

First, PSL must be formally legislated as a **language of instruction** through inclusion

in the constitutional or statutory language framework. Without legal anchoring, PSL remains vulnerable to policy reversal and uneven provincial adoption. Constitutional recognition would align Pakistan with international best practices and strengthen compliance with UNCRPD Article 24.

Second, **mandatory PSL proficiency certification** at a minimum of Level 6 must be instituted through national regulatory bodies such as the Higher Education Commission (HEC) and relevant professional councils. The study's findings indicate that teacher willingness exists, but capacity pathways are absent. Certification would establish accountability, standardize competence benchmarks, and professionalize PSL instruction.

Third, PSL must be systematically embedded within the **national curriculum framework**, aligned with the forthcoming National Education Policy (NEP 2025). Curriculum integration ensures that PSL is not confined to isolated classrooms but becomes a structured medium of learning, assessment, and progression across grade levels.

Fourth, the establishment of **provincial PSL nodal centers**, supported through initial federal seed funding, is essential to address contextual diversity while maintaining national coherence. These centers would function as hubs for teacher training, interpreter development, curriculum adaptation, and data collection.

Finally, the algorithm emphasizes **annual monitoring and evaluation through Deaf-led panels**, operationalizing Deaf epistemology within governance structures. Such panels would ensure accountability, contextual relevance, and rights-based oversight, in line with CRPD principles and participatory policy models.

Conclusion

The standardization of Pakistan Sign Language represents a pivotal inflection point in Pakistan's journey toward inclusive education, linguistic justice, and disability rights realization. This study demonstrates that PSL standardization is not merely a linguistic milestone but a systemic intervention that reconfigures access to knowledge, participation, and identity for Deaf learners. Through a mixed-methods design, the research provides the first empirical scaffold linking national-level PSL policy initiatives to stakeholder perceptions, institutional readiness, and pedagogical implications.

However, the findings also make clear that **standardization alone is insufficient**. Without decisive investment in acquisition planning—particularly teacher capacitation and institutional alignment PSL risks remaining a symbolic achievement rather than an operational reality. Sustainable transformation therefore hinges on federally orchestrated, Deaf-co-designed ecosystems that prioritize teacher training, curriculum integration, and participatory monitoring.

In synthesizing practitioner insights from the 2025 National Review Workshop with established theory and empirical evidence, this study advances both national policy discourse and international scholarship. It affirms that linguistic justice is a prerequisite for epistemic access and that inclusive education for Deaf learners begins not with accommodation, but with language.

Author's Positionality

Anjam Zaheer Hussain, PhD Scholar (Autism), participated as Punjab's nominated representative to the National PSL Standardization Workshop (December 2025),

embodying practitioner-researcher reflexivity within special education and Deaf studies praxis.

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