


Chapter 5

Epistemic Justice and Capabilities Expansion Through UDL and Culturally Sustaining Pedagogy: Learning Analytics for Inclusive School Ecologies

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ABSTRACT

This chapter develops a transdisciplinary architecture for inclusive school ecologies, anchored in epistemic justice and the capabilities approach. It theorises how Universal Design for Learning, culturally sustaining and multilingual pedagogy, accessible educational technologies, and equity-oriented learning analytics can be braided into curriculum, assessment, and governance regimes that engineer belonging by design. Through conceptual cartographies and decision matrices, the chapter reframes learner variability as the normative design baseline, specifies capability expanding outcomes, and operationalises ethical data infrastructures that support participatory improvement. Intended for academics, policymakers, workforce professionals, and digital learning technologists, it offers actionable heuristics for reconfiguring school systems so that material, symbolic, and algorithmic structures widen learners' freedoms to know, to participate, and to imagine just futures.

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1. INTRODUCTION

1.1 Rationale and Scope

Inclusive schooling is increasingly understood as a systemic quality imperative that must permeate curriculum architectures, pedagogical repertoires, assessment ecologies, and digital infrastructures rather than remaining a remedial afterthought (Bindhani & Gopinath, 2024; Migliarini & Elder, 2024; Miller et al., 2025). This chapter foregrounds *epistemic justice* and *capabilities expansion* as the normative anchors for such transformation, and situates *Universal Design for Learning*, *culturally sustaining pedagogy*, *translanguaging*, and equity-minded *learning analytics* as the primary design levers through which inclusive school ecologies can be engineered. Inclusion here is defined in an expansive, intersectional sense that recognises disability, gender, caste, race, indigeneity, language, religion, socio-economic precarity, rural-urban location, migration status, and first-generation trajectories as co-constitutive axes of marginalisation (Ucheagwu-Okoye, 2025; Sebti & Elder, 2024; Mangena & Chidakwa, 2024). The scope extends across compulsory schooling, upper secondary education, and vocational and technical pathways, and focuses on the granular translation of normative commitments into course syllabi, classroom routines, assessment protocols, data practices, and institutional operating procedures that make belonging, participation, and flourishing structurally ordinary rather than exceptional.

1.2 Problem Definition and Systemic Dysfunctions

Despite global discourses of inclusive and equitable education, many systems remain characterised by what can be described as access without transformative redesign, where expanded enrolment or connectivity coexists with pedagogical and technological architectures that still centre the normative learner who is able-bodied, neurotypical, dominant-language speaking, and economically secure. Accommodation practices that rely on case-by-case exception handling often reproduce deficit narratives and bureaucratic gatekeeping, whereas anticipatory, universalist design grounded in the *social model of disability*, *intersectionality*, and *structural injustice* remains underdeveloped (Nawire et al., 2025; Utari et al., 2024; Buabeng & Amo-Darko, 2024). Policy frameworks frequently translate into tokenistic curriculum adjustments, inaccessible learning management systems, linguistically exclusionary classroom talk, and assessment regimes that amplify bias through high-stakes, monomodal examinations and opaque algorithmic sorting. Rural and low-resource schools operate under severe infrastructural and staffing constraints, while hidden curricula of *linguistic imperialism*, casteism, racism, sexism, and ableism devalue

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