

Rethinking Special Needs Education Policies in the Digital Age: Integrating Inclusive ODeL Frameworks for Neurodiverse Learners

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ABSTRACT

The digital transformation of education presents both opportunities and challenges for learners, particularly neurodiverse populations. This chapter examines how inclusive ODeL frameworks can help with systemic inequities that persist in digital education. Drawing on international frameworks such as the UN CRPD and SDG 4, the chapter presents inclusive digital policy as a rights-based obligation rather than an optional accommodation. The chapter highlights UDL as a guiding framework for embedding accessibility and flexibility into ODeL systems from inception, to ensure equitable participation. It also considers global and regional perspec-

tives, case studies and challenges. Recommendations emphasise co-creation with stakeholders, anticipatory design, and institutional capacity-building. The chapter concludes with implications for future research and practice, positioning inclusive ODeL as a cornerstone of equitable education in the digital age.

INTRODUCTION

Digital education has become a well-established mode of instructional delivery across all educational levels in recent years. The onset of the COVID-19 pandemic saw Open and Distance e-Learning (ODeL) expand rapidly, bringing millions of learners into virtual classrooms. This shift demonstrated the adaptability and scalability of online learning, yet it also revealed substantial gaps in inclusion and accessibility, particularly for students with disabilities (Antoninis et al., 2023). Historically, special needs education policies evolved to address demands for integration, and later inclusion, within mainstream classrooms. However, these policies were primarily designed for face-to-face environments and frequently fail to address the structural and technological transformations introduced by digital platforms. Consequently, the needs of neurodiverse learners have been further marginalised within the digital education revolution (Al-Azawei et al., 2016).

The Salamanca Statement and Framework for Action on Special Needs Education (UNESCO, 1994) represented a significant turning point in global education reform. It asserted that schools must adapt to accommodate all learners rather than expecting learners to adjust to pre-existing systems (Ainscow, 2005; Snoddon and Murray, 2019). Grounded in principles of social justice and equity, the statement established inclusive education as a universal right and called for systemic transformation to ensure full participation for children with diverse learning needs (Mena et al., 2022; Motitswe, 2014).

Although decades of reform have advanced inclusion, significant disparities remain in the implementation of inclusive practices (Graham et al., 2023; Meijer and Watkins, 2019). In the twenty-first century, the emergence of artificial intelligence within ODeL environments presents renewed opportunities to realise the vision of Salamanca. AI technologies can personalise learning, enhance accessibility for students with disabilities, and support data-informed decision-making to address persistent gaps in participation (Alves, 2018; Breitenbach et al., 2016).

Research indicates that neurodiverse learners encounter individual challenges in online environments, including sensory overload, absence of visual or auditory accommodations, inflexible assessments, and social isolation (Almusawi and Al-Mahmood, 2022; Ellis, Kent, Locke, Merchant, and Pino, 2023). While digital learning offers personalisation and autonomy, few platforms or instructional models

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