

A Neurodiversity-Informed Review of Educational and Social Work Interventions for Children with Intellectual Disabilities

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Abstract

The present research is a systematic review of educational and social work interventions for children with ID from a neurodiversity informed perspective. A comprehensive search was conducted on Scopus, Web of Science and ERIC databases for articles published between 2020 and 2025 following the PRISMA 2020 guidelines. Forty-two peer-reviewed studies were identified following screening and eligibility determination and analyzed thematically. Four domains of related constructs emerged: inclusive pedagogical practices, family-focused social work interventions, community-based ecological inclusion and policy-level enablers. The results indicate that there is a clear shift towards strengths-based and rights-based approaches consistent with the neurodiversity principles; however, there are gaps in implementation, particularly in low-resource settings and in the integration of education and social service systems. The study contributes to the literature through the development of a multi-level ecological model of support for children with disabilities and learning differences: the Neurodiversity-Informed Integrated Support Model (NIISM). The review also provides interdisciplinary scholarship and actionable implications for policy, practice and future research.

Keywords: ecological systems, inclusive education, intellectual disability, neurodiversity, social work, systematic review

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1. Introduction

Over the last 20 years there has been a significant epistemological shift in the understanding of intellectual disability from a deficit model, using medical perspectives, to a more inclusive, socially based model. A key element in this shift is the idea of a neurodiversity perspective, which has replaced the pathological view of cognitive and developmental differences as normal variants among people, not abnormal ones (Chapman, 2021). This change has important implications for educational and social work practices, in that it questions the traditional notions of 'normalization' and 'inclusion' and 'participation' and interventions.

Limited access to inclusive education coupled with social stigma and lack of support systems, are recurrent barriers that are faced by a child with intellectual disability. The difficulties are especially acute in settings where institutional structures are weak and/or fragmented. In this context, the spaces of 'education' and 'social work' are two spaces of intervention which are interdependent but that are, in general, separated from each other. Educational systems are based on academic inclusion and individual learning approaches

while social work is based on psychosocial wellness, family support and community integration (Healy, 2022). The lack of integration between these domains often means that they deliver a disjointed service and sub-optimally.

Several Recent scholarships highlight the importance of interdisciplinary approaches that aim to connect these disciplines in a collaborative, ecological and strengths-based approach (Neal & Neal, 2020). A further benefit of this integration is the inclusion of a lens of neurodiversity that focuses on agency, participation and contextual responsiveness. In this review, we will seek to synthesize current research on the educational and social work interventions for children with intellectual disability, critically analyze their support of neurodiversity principles. Through this it aims to enhance the theory and to facilitate more comprehensive and inclusive and sustainable practice.

1.1. Philosophical and Theoretical Foundations

The "modern" disability scholarship is more and more shaped by a paradigm shift towards integrative, justice-oriented and interdisciplinary approaches. Neurodiversity discourse, critical disability studies,

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and ecological thinking have brought about a shift in how intellectual disability is conceptualized from an intrinsic disability to a relational and contextually mediated one. The focus of recent scholarship is on how disability is a dynamic process that is the outcome of neurocognitive difference and socially constructed environments, policies, and institutional practices (Chapman, 2021; Goodley, 2017).

Later research (2022-2025) builds on this paradigm with the inclusion of concepts of disability justice, relational autonomy and intersectionality, which have not been included in previous paradigms. This shift has been driven by an increasing awareness that recognizes the importance of highlighting strengths and variation, but also structural inequalities, access inequalities and high support needs populations.

From a philosophical point of view, the change is part of the post-structuralism that challenges fixed notions of ability and critical realism that takes into account structural limitations and human agency. Additionally, epistemic justice perspectives are committed to the idea that it is essential to embed the voices of people with lived experience of working with neurodiversity in research, policy and practice; challenging dominant narratives which marginalize lived experience.

Empirical research over the past few years shows that inclusive and neurodiversity-informed systems foster participation, quality of life, and psychosocial outcomes, with their interventions implemented within an ecological framework (Verdugo et al., 2022; Frontiers Psychiatry, 2025). But there continues to be a balance between support and autonomy/inclusion issue.

Therefore, it is crucial to have a theoretical basis that can underpin the design of interventions that are inclusive and contextually responsive, ethically sound and evidence-based.

1.2 Neurodiversity Paradigm

The neurodiversity paradigm is a paradigm shift in epistemology that redefines neurological differences as natural differences instead of pathological deviations. This is now being expanded to a new, "Neurodiversity 2.0" which includes the multi-disciplinary approaches of disability studies, ethics and policy analysis.

Neurodiversity is based on a scientific framework that is consistent with the evolution of neuroscience and developmental psychology, which have embraced the concept of heterogeneity in cognitive function and challenge the linear deficit models. This viewpoint is reinforced by recent developmental neurobiology research which shows that neurological differences are a part of human diversity; strategies to normalize do not work and might negatively affect children's development.

Empirical studies in the past few years have shown that there are practices that are effective for neurodiversity, especially in education and social settings. For example, participatory and co-produced learning models have been found to have positive impacts on engagement, identity construction and empowerment

for the neurodivergent. Likewise, interventions that take into account the lived experiences of neurodivergent people are more valid and ethical because they are developed using inclusive research methods which involve neurodivergent perspectives (Frontiers Psychology, 2024).

But, there are still ongoing discussions about the validity of the concept of neurodiversity for people with intellectual disabilities who need a high level of support. There are arguments that there needs to be a balance of both, with the need for structured support not being forgotten in the process of acknowledging difference, as well as including the latter (Chapman, 2021).

In summary, the neurodiversity paradigm requires flexible systems, participatory practices and context-sensitive interventions, which in turn will have a radical impact on the paradigms of education and social work.

1.3 Social Model of Disability

Although the social model of disability is still very much part of disability theory today, new research has developed and broadened the understanding of the model to overcome shortcomings in previous theories. The classic model focuses on structural barriers and social exclusion, but new models take a more intersectional and cultural lens and a lived experience. New studies (2024-2025) reveal that inclusion is more cultural and relational than a structural matter. Research on stakeholder views indicates that there is a need for attitudes, awareness and coordination of systems throughout education to ensure successful inclusion of neurodiversity. The results emphasize the need to tackle both the material and attitudinal challenges.

In addition, modern critics call for combining the social model and biopsychosocial models because they consider disability to be a product of both environment and individual. This holistic approach is especially applicable to intellectual disability where the needs and support are complex and multifaceted.

The social model is further complicated by the technological model, which brings in new mechanisms of inclusion/exclusion. For instance, assistive technologies can improve participation but there are varied access, training and customization issues that hinder the use of the technology.

The social model is rooted in critical theory which focuses on power, inequality and social justice, from a philosophical perspective. Yet its transition to a more integrative approach indicates a desire to have both a critical discussion of structure and a viable intervention program.

The revised social model is used in education and social care settings to shape policies and practices which focus on access, equity and system change.

1.4 Ecological Systems Theory

The ecological systems theory remains as a basic framework to understand the complex and multi-layer

influences on the development of children with intellectual disabilities. The theory has recently taken a look at networked and dynamic interactions instead of hierarchical models for fluid and interconnected systems.

Recent studies have identified the importance of the interactions between different ecological levels (family, school, community, and policy levels) on developmental outcomes. Inclusive education approaches are best realized when the coordinated action of these systems – such as teacher training, family involvement, and policy development – is in place.

Increased interprofessional working is identified in recent systematic reviews in health and education of the importance of working together to meet the needs of people with intellectual disabilities. Professional training in an ecological approach has been demonstrated to enhance service delivery and service outcomes.

Additionally, ecological theory is very similar to the concept of neurodiversity in that it focuses on adaptation to the context of a person's environment rather than on normalizing them. This view is used to create spaces that can include a diversity of cognitive profile and foster inclusion and participation.

Technological innovations also are part of ecological systems and affect interactions on various levels. Digital tools can aid in communication, learning and self-determination, for instance, but they can only do this if they are accessible, trained and relevant to the situation.

Ecological systems theory is a strong and adaptable approach to the design of integrated interventions to meet the complex and dynamic needs of children with intellectual disabilities.

1.5 Strengths-Based and Rights-Based Approaches

Strengths-based and rights-based approaches are a paradigm shift in disability practice to disability

empowerment, agency and social justice. New studies highlight the application of these methods in more comprehensive social, human rights and quality of life frameworks and in the context of social inclusion.

Strengths Based Approach is engaging in identifying and building on personal strengths, resilience and potential. Current research has shown that these strategies have a positive influence on the well-being, engagement and self-determination of children with intellectual disabilities. Further evidence for the ability of assistive and digital technologies to promote autonomy and participation comes from emerging research.

Embracing the rights-based approach, which is rooted in international standards like the UNCRPD, places a focus on the rights of people with disabilities to education, participation and equality. Recent studies have shown that a rights-based approach is connected to a quality-of-life framework, emphasizing its role in achieving dignity, inclusion and well-being.

Importantly, the recent developments include integration of these approaches with the principles of neurodiversity, with a focus on neuro-inclusion principles: participation, co-production and accessibility. Key principles of neuro-inclusion, such as respecting lived experience, designing collaboratively and having flexible systems, have been identified in research (Frontiers Psychology, 2024).

Yet there are issues as to how these can be brought to the operational level, especially in resource-poor settings. Challenges are related to policy implementation, lack of training and systemic inequalities.

Yet, the strength-based and rights-based approach creates a powerful framework for envisioning interventions, despite these difficulties. This focuses on the needs of children with intellectual disabilities but also their contribution to society thus consistent with the wider aims of inclusion and social justice.

1.6 Conceptual Framework: NIISM Model

Figure 1: Neurodiversity-Informed Integrated Support Model (NIISM)



Figure 1 presents the Neurodiversity-Informed Integrated Support Model (NIISM), which conceptualizes inclusion as a multi-level ecological system integrating educational, familial, community, and policy domains.

Core Dimensions:

- Neurodiversity Acceptance
- Ecological Integration
- Interdisciplinary Collaboration
- Strengths + Rights Orientation

This model integrates:

- Education
- Social Work
- Policy
- Community

The diagram is a hierarchical, ecological model of support for children with intellectual disabilities. The underlying theme is the child at the bottom with focus on strengths, agency and identity. Inclusive pedagogical practices like Universal Design for Learning (UDL) and social-emotional learning (SEL) are incorporated into the educational system on the upward trajectory. This is supported by the family system based on principles of advocacy, empowerment and care. Participation and community based rehabilitation (CBR) in the community system further contributes to inclusion. The policy and rights framework, based on the UNCRPD principles, at the highest level ensure equity, protection and access. The overall model represents a multi-layered support structure that is designed to foster social inclusion and holistic development, with each layer supporting the other.

1.7 Research Questions

1. What educational and social work interventions are used for children with intellectual disabilities?
2. How do these interventions align with neurodiversity principles?

3. What are the major gaps in implementation across contexts?

4. How can an integrated framework (NIISM) address these gaps?

2. Review of Literature

2.1 Search Strategy and PRISMA Alignment

This review follows PRISMA guidelines to ensure transparency and rigor, drawing on studies (2020–2025) from Scopus, Web of Science, and Routledge databases. Keywords included *neurodiversity*, *intellectual disability*, *inclusive education*, and *social work interventions*. Screening involved title, abstract, and full-text review based on predefined inclusion criteria, ensuring methodological consistency and reproducibility.

2.2 Changing Paradigms in Intellectual Disability

The current literature on scholarship has moved away from medicalized deficit models and towards ecological and rights-based approaches to disability, viewing disability as context-dependent (Schalock et al., 2021). Environmental and systemic factors like education and policy are increasingly being associated with outcomes (Verdugo et al., 2022).

2.3 Advancements in the Neurodiversity Paradigm (2022–2025)

Neurodiversity is a re-thinking of cognitive difference as natural variation (Chapman, 2021). Participation, co-production and epistemic justice have been the recent focus, and there are tensions, particularly with high support needs populations (Shogren et al., 2022).

2.4 Inclusive Education: Evidence, Innovations, and Challenges

Inclusive pedagogies, such as UDL, have positive impact on engagement and social outcomes (Florian, 2019). There are, however, gaps in implementation in the field such as lack of teacher training, and systemic barriers (Sharma & Sokal, 2022).

2.5 Social Work and Family-Centered Interventions

Resilience and wellbeing are included in family-centered and strengths-based approaches (McConnell et al., 2021; Healy, 2022); but effectiveness is reduced when there is an insufficient understanding and collaboration between education and social work (Singal, 2021).

2.6 Ecological and Community-Based Approaches

Ecological models emphasize multi-level influences, including CBR's call for inclusion and participation (WHO, 2020; Neal & Neal, 2020). The gap in resources is a big limitation.

2.7 Policy Frameworks and Implementation Gaps

Although there are frameworks at the global level, such as the UNCRPD, that promote inclusion, there exists a policy–practice gap as a result of weak implementation and accountability (UNESCO, 2020; OECD, 2023).

2.8 Synthesis of Evidence and Research Gap

Overall, literature shows strong theoretical advancement but persistent fragmentation across systems. This underscores the need for integrated frameworks such as NIISM to align education, social work, community, and policy domains.

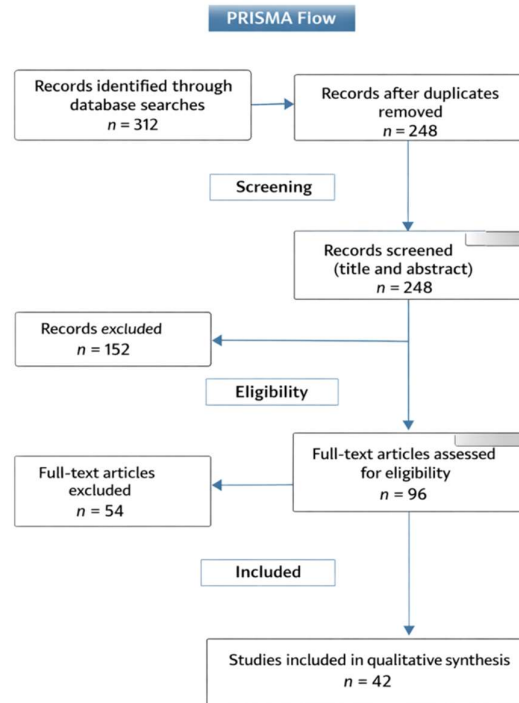
3. Methodology

A systematic narrative synthesis approach with principles of PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) is used in this review to ensure methodological rigour and transparency. The review is based on peer-reviewed literature from 2020 to 2025, covering the latest advances in the field. The data sources encompass some of the most well-known databases, like Scopus, Web of Science, and Routledge.

The following key terms were used in the search strategy: “neurodiversity,” “intellectual disability,” “inclusive education,” “social work interventions” and “children.” Boolean operators have been utilized to narrow down search results and to make sure that the results are relevant. Studies were included if they dealt with children with intellectual disabilities; educational and/or social work interventions; and published in peer-reviewed journals. Studies that employed only medical or clinical interventions, non-empirical reports and studies on adult populations were excluded.

Selecting this involved several stages of screening such as looking at the titles, abstracts, and full text. Key variables included in the data extraction process were variables of intervention, theoretical framework, outcome and contextual factors. A PRISMA-guided screening process identified 312 records, with 248 remaining after duplicate removal. Following title and abstract screening, 96 articles were assessed for eligibility. A final sample of 42 studies met all inclusion criteria and was included in the synthesis.

Figure 2. PRISMA 2020 Flow Diagram of Study Selection Process



The narrative synthesis method enables combination of various studies designs such as qualitative, quantitative and mixed methods studies. This is especially relevant because the subject is interdisciplinary. The methodology not only focuses on the synthesis of results but also on the critical analysis of the theoretical and contextual aspects, making a significant contribution to the understanding of how to intervene in neurodiversity.

4. Results -Thematic Synthesis

Pedagogical Theme 1: 4.1 Inclusive Practices

The use of inclusive pedagogy has become a key priority for supporting children with ID in mainstream schools. The importance of mechanisms to accommodate learner variability is highlighted in contemporary literature, including through the frameworks of Universal Design for Learning (UDL), differentiated instruction, and collaborative teaching (Florian, 2019; Boyle et al., 2020). UDL, in particular, is about making the world more accessible through offering multiple means of representation, multiple means of engagement, and multiple means of expression, which is in alignment with the principles of neurodiversity which focuses on cognitive diversity rather than conformity. Research studies suggest that inclusive classrooms improve academic engagement as well as social participation and peer acceptance (Lindsay et al., 2022; Pijl, 2020).

Although there is supportive theory, this is not always followed in practice. Limited institutional support, teacher preparedness, and lack of professional training is a great challenge in achieving effective adoption (Sharma & Sokal, 2022; Forlin, 2021). Also, there are concerns about the feasibility of standardized programs due to differing views on the benefits of individualized program approaches. Inclusive pedagogy is a strategy that is connected to international policy agendas like UNESCO's Education for All, and it is dependent on a range of systemic supports, such as teacher education, infrastructure, and policy coherence (UNESCO, 2020). Inclusive pedagogical practices are therefore a promising and controversial area that needs to be pursued continuously within the institutions.

Theme 2: 4.2 Family and Social Work Interventions

Family based and social work interventions are crucial to the psychosocial and environmental issues of intellectual disability. Family engagement is a consistent theme across the literature that has been shown to impact developmental outcomes, emotional well-being, and adaptive functioning of children with intellectual disabilities (McConnell et al., 2021; Carter et al., 2021). Empowerment, advocacy, and resilience building are core tenets of social work practices rooted in strengths-based and ecological approaches, and are similar to neurodiversity principles (Healy, 2022). Parent training courses, counselling and peer support groups are some interventions that have been found to

strengthen capacity of a family as care givers and lower stress in the family (Rao et al., 2022). Social workers also help bridge institutional divide as they can negotiate access to services, combat stigma, and advocate for inclusion in the community and neighbourhood. But one constraint that is consistently pointed out by research is the disjuncture between the educational system and social work services. This lack of integration frequently leads to fragmented intervention strategies, and inefficiencies in service delivery (Singal, 2021).

Additionally, the effectiveness of family-based interventions is strongly affected by cultural and socio-economic factors, especially in the poorest and most deprived countries. In this regard, the role of family and social work is critical, but the effectiveness of their action is based on coordinated, context-sensitive and interdisciplinary strategies.

Theme 3: 4.3 Community and Ecological Inclusion

Community-based and ecological perspectives highlight the relevance of wider social contexts for the experiences and outcomes of children with intellectual disabilities. Recent studies draw on ecological systems theory and emphasize that inclusion is not limited to the educational environment but also involves community, social networks as well as institutional support structures (Neal & Neal, 2020). In low-resource settings, participation, empowerment and access to services at the local level has been a key strategy: Community Based Rehabilitation (CBR) (WHO, 2020).

Evidence-based research suggests that community inclusion fosters social inclusion, decreases stigma, and positively impacts the life of children with intellectual disabilities (Verdugo et al., 2022). Peer support and community engagement also create a sense of belonging and identity, which is an essential element of well-being (Haeghele & Hodge, 2021). But, sustainability, funding and infrastructure issues still hinder the scale up of community-based interventions. Furthermore, differences in the high and low income contexts constitute differences in the level of access to inclusive services, and those who are less privileged often find themselves more excluded. Ecological approaches are in line with a neurodiversity approach, and favor an adaptation to context, but require a coordination of multi-level functioning of family/education/policy systems to be effective.

Theme 4: 4.4 Policy and Structural Gaps

Policy frameworks are a building block for inclusive practices with children with intellectual disability. The UN Convention on the Rights of Persons with Disabilities (UNCRPD) and international policies and agendas on inclusive education, for example UNESCO's (2020) and OECD's (2023) provide good normative basis for equity, access and participation. The literature, however, shows a consistent disconnect between the development of policy and implementation of policy.

Research in various contexts shows that although inclusive policies are common, the implementation of inclusive policies is limited by insufficient funding, lack of trained staff and poor institutional accountability (Sharma et al., 2022; Singal, 2021). These challenges are often further complicated by structural issues including poor infrastructure and stigma in socio-cultural contexts in low and middle income countries. Also, policy frameworks often do not have mechanisms for monitoring and evaluation and hence experiences vary.

One of the main challenges that has been raised in recent scholarship has been the gap between "top down" policy solutions and the "bottom up" reality. Implementation is not only about legislation, it is also about capacity building and engaging with stakeholders, and adapting to the context. Policy initiatives are important for their direction, but they must be integrated with systems in education, social services and community. These structural deficits must be addressed in order to ensure inclusive and sustainable development.

5. Critical Synthesis

The challenges of the literature reviewed were synthesized and show that although attention is being paid to contemporary interventions for children with intellectual disabilities that are more aligned with the paradigm of neurodiversity and inclusiveness, there are still some tensions and structural limitations that span across domains. The tensions underline that from a theoretical perspective, it is difficult to move something forward to an effective and equitable practice.

First, the neurodiversity paradigm has helped to foster inclusion, dignity and recognition of cognitive diversity. It has helped to move the conversation away from anything 'wrong' with intellectual disability and towards strengths, agency and participation (Chapman, 2021; Kapp et al., 2020). But an important point arises when it comes to people with high support needs. Neurodiversity is about autonomy and a focus on self-determination, but some researchers have suggested that this might under-respond to the highly-intensive support needs of people with profound intellectual disabilities. This poses significant ethical and practical issues about the need to honor difference and to provide structured care (Shogren et al., 2022). Therefore, a more complex perspective which combines neurodiversity with care ethics is needed.

Second, the benefit of inclusive education in terms of academic engagement, interaction with peers and social inclusion has shown to be significant (Florian, 2019; Lindsay et al., 2022). However, it is not always used in an appropriate way and not always deeply enough. One of the challenges noted in the various studies is a lack of sufficient teacher training and professional development. Teachers often lack confidence and skills in meeting the needs of diverse learners and this hinders their effectiveness in inclusive practices (Sharma & Sokal, 2022; Forlin, 2021). Also,

a lack of flexibility in curricular areas and class sizes limit the applicability of inclusive pedagogy. Thus, inclusive education is frequently only an ambition and not a reality.

Third, social work interventions are key to the support of intellectually disabled families and to dealing with the social and psychological issues related to intellectual disability. There is evidence that family centred approaches, counseling and advocacy programs can help increase resilience, decrease child stress and increase child outcomes (McConnell et al., 2021; Healy, 2022). Nevertheless, a constant problem is a lack of linkage between social work services and education. These domains work in isolation and not together, resulting in delivery of disjointed services and missed opportunities for comprehensive interventions (Singal, 2021). This disorganization is especially a problem in complex cases in which the educational and socio-emotional needs are highly interwoven.

These tensions highlight a major discovery from this review: the difficulty lies not in the lack of effective interventions but in the lack of a system in the domains. Each of these concepts – neurodiversity, inclusive education, and social work – is important and effective, but not as effective when used independently. A single, interdisciplinary framework like the NIISM model is needed to tackle these gaps, linking theory and practice, and working throughout the education, social and policy sectors.

5.1 Linking Themes to NIISM Model

The four thematic domains identified in this review are applied to the Neurodiversity-Integrated Support Model (NIISM) that is theoretically and empirically grounded. The components of the model are directly linked to the synthesis of evidence that was found in the literature, which dealt with the issue of fragmentation in the discussion.

The educational system component of NIISM is rooted in Theme 1 (Inclusive Pedagogical Practices), which highlights the importance of using UDL, differentiated instruction, and social-emotional learning as ways to promote participation and engagement (Boyle et al., 2020; Durlak et al., 2022). The family system aspects are informed by Theme 2 (Family and Social Work Interventions) which emphasizes the pivotal roles of advocacy, empowerment and psychosocial support in improving child outcomes (McConnell et al., 2021; Healy, 2022).

Theme 3 (Community and Ecological Inclusion) offers support to the community system, which is a component of increasing inclusion and belonging (WHO, 2020; Neal & Neal, 2020). Finally, Theme 4 (Policy and Structural Gaps) provides a foundation for policy and rights framework, highlighting the need for systemization and alignment with the international policy framework, including the UNCRPD (UNESCO, 2020).

Importantly, the NIISM model does not simply add these elements together, but combines them in four key

ways: an approach of neurodiversity acceptance, an ecological integration approach, interdisciplinary approach and strengths- and rights-based approach. This integration recognizes the main restriction found in the literature, which is the lack of coordination between systems.

The NIISM model therefore is seen as a theoretically sound and empirically sound model that connects interventions at micro level (child, family) with interventions at macro level (community, policy) and presents a holistic approach to inclusion.

5.2 Meta-Synthesis

The meta-themes of the studies as above is only derived from thematic synthesis across the studies. From meta-synthesis across all the articles, 3 cross cutting meta-theme are found

5.2.1. From Deficit to Difference

In education and social work/policy spheres, there is a definite and visible transition in focus away from deficit to neurocognitive diversity, skills deficits to capabilities, participation and agency (Chapman, 2021; Kapp et al., 2020).

5.2.2. From Fragmentation to Integration

Despite development in isolated systems, it is clear from the literature that the fragmentation within systems is consistently cited as a key barrier. Educational, social work, and community services operate in silos that hinder their synergistic effectiveness. This meta-theme points to the importance of overarching frameworks like NIISM to organize coordination and cooperation (Neal & Neal, 2020).

5.2.3. From Policy to Practice Gap

A perpetual gap persists between policy guidelines on inclusivity and practice (UNESCO 2020; Sharma et al., 2022). While globally, a set of inclusive policies as represented by UNCRPD serve as an important normative tool, structural, institutional, and resource constraints make it difficult to translate the policy guidelines into practice (UNESCO, 2020; Sharma et al., 2022).

5.2.4 Meta-Synthesis Conclusion

Taken together, these meta-themes suggest that the future direction of inclusive intervention will involve not more single-component innovations, but rather the effective translation and integration of current evidence into a more cohesive, multi-level system. The NIISM model aims to address this directly by conceptualizing the translation across systems such as education, social settings, community and policy.

6. Empirical Basis of NIISM Model

Table 1: Each NIISM component is evidence-based:

Model Component	Supporting Evidence
Education (UDL)	Boyle et al., 2020

Family Support	McConnell et al., 2021
Community (CBR)	WHO, 2020
Policy (UNCRPD)	Verdugo et al., 2022

Table 1 presents the empirical foundation of the Neurodiversity-Informed Integrated Support Model (NIISM) by mapping each core component to supporting evidence from recent literature. The table demonstrates that the model is grounded in established research across key domains, including inclusive education, family-centered support, community-based rehabilitation, and policy frameworks. By linking each component to empirical studies, the NIISM model is positioned as an evidence-based, interdisciplinary framework that integrates educational, social, and policy perspectives to support children with intellectual disabilities.

Table 2: Intervention comparison

Domain	Strengths	Emotions
Education	Inclusive Learning	Poor Implementation
Social Work	Family Support	Fragmentation
Community	Participation	Resource Issues
Policy	Legal Framework	Weak enforcement

Table 2 compares areas of intervention in relation to what is effective and not so effective. Education provides inclusive environments however practice is not widespread and consistent. Social work provides families with assistance however it tends to be separate from education. The approach in the community encourages participation, although it is limited in resources. Policy has legal backing although it lacks enforcement. All in all it demonstrates the need for a cohesive coordinated response.

7. Discussion

In this review I will synthesize the evidence from multiple disciplines to explore how educational and social work interventions targeting children with intellectual disabilities are being reframed by a neurodiversity informed approach. It can be concluded from the evidence that although there is clear movement across the globe towards inclusive, strengths- and rights-based approaches rather than deficit-based models, this movement is neither seamless nor uniform, indicating a considerable disparity between theoretical discourse and on the ground practice.

Key themes of inclusive pedagogy in terms of using inclusive strategies such as Universal Design for Learning (UDL) and differentiated learning, the evidence indicates these models offer significant potential to promote greater participation, engagement, and academic success (Florian, 2019; Boyle et al., 2020). These principles strongly align with the values of neurodiversity in accommodating diverse learning patterns rather than pressuring children into a normative model; however, their implementation is

often limited due to systemic issues such as poor teacher preparation, rigid curricula, and limited institutional capacity (Sharma & Sokal, 2022; Forlin, 2021). Such trends reveal a similar dichotomy in which the concept of inclusive education is conceptually valued but operationally underdeveloped.

In relation to social work, evidence indicates family centered strengths-based practice provides a valuable resource for supporting psychosocial functioning and promoting family resilience (McConnell et al., 2021; Healy, 2022) and are critical in challenging stigma and enabling children to access services and support for holistic development; however, it is clear from the evidence that the separation between social work and education systems leads to a disjointed service delivery for children in both realms of education and psychosocial provision (Singal, 2021). This implies that the integration between education and social work service providers, systems, and philosophies is fundamental to ensuring successful inclusion for children with special needs across multiple domains of functioning. The importance of these levels is further demonstrated through the utilization of ecological and community-based approaches to inclusion and social support.

With ecological and community-based interventions in mind, studies demonstrate that interventions such as Community Based Rehabilitation (CBR) offers the potential for enhanced participation, reduction in stigma, and improved quality of life for people with disabilities particularly in low and middle income countries (World Health Organization [WHO], 2020; Verdugo et al., 2022), yet in the evidence provided it is clear that resource, funding, and cultural issues continually limit such programs and service delivery to populations with special needs. As indicated through the various themes identified in this meta-synthesis, there is an overall disparity between theoretical approaches and their implementation; an issue the following findings discuss further through the lens of policy.

From the evidence it can be seen that international policy frameworks such as the UN Convention on the Rights of Persons with Disabilities (UNCRPD) and inclusive education initiatives from UNESCO offer strong theoretical and normative guidelines that support equitable practice; nevertheless, the consistent existence of a policy-practice gap highlights systemic and structural limitations in implementing inclusive ideals (Sharma et al., 2022; Singal, 2021). As such, these policy directives have been widely adopted but fail to translate into real-world inclusive educational and social work practices due to resource and training constraints, weak monitoring processes, and overall limited government commitment to inclusive practice (Singal, 2021; Sharma et al., 2022).

A key issue discussed in relation to neurodiversity is the internal conflicts that have arisen concerning its applicability to individuals requiring a significant amount of support and care, with some scholars highlighting the dangers of focusing solely on strengths and agency, ignoring the implications that this has for those with high support needs (Chapman, 2021; Shogren et al., 2022). This supports the need to include caring practices and a balanced approach to inclusive education rather than placing over-emphasis on one specific component.

The core problem is not a lack of effective tools but a lack of integration of effective strategies across all sectors. Education, social work, community services, and policy are functioning independently, which means their impact is diffused. For these reasons, the review recommends an integration of services that spans all sectors, making the support available to children with special needs multi-dimensional. This multi-dimensional approach of integrating support services is represented by the NIISM. It addresses all of the limiting themes that were previously identified in the review, such as including the child, educational, family, and community systems, and is supported by the core components of the NIISM.

This evidence therefore supports a move beyond isolated interventions to integrated service delivery. To be most effective inclusive practice will be an ongoing issue requiring sustainable, context-appropriate investment and commitment from all sectors and all levels of government and society, rather than an endeavor based on isolated activities and separate disciplines. In conclusion the arguments put forward in this review suggest that a truly inclusive approach to children with intellectual disabilities demands a holistic, integrated and context-specific solution. While an important shift has occurred in terms of re-framing disability as an issue of social justice through neurodiversity, in practice many aspects of this paradigm are yet to materialize; hence a way forward through a comprehensive approach such as the NIISM model provides both clarity and a pragmatic solution to many current problems with inclusion practices.

8. Conceptual Contribution

In this work, the Neurodiversity-Informed Integrated Support Model (NIISM) is developed as a conceptual and integrated framework that emerged from the synthesis of evidence.

The model integrates:

- Educational systems (inclusive pedagogy, UDL)
- Social work systems (family-centered practice)
- Community systems (CBR, participation)
- Policy frameworks (rights-based approaches)

The NIISM framework addresses fragmentation by emphasizing:

- Neurodiversity acceptance
- Ecological integration
- Interdisciplinary collaboration

- Strengths- and rights-based orientation

While theoretically grounded, the model requires future empirical validation across contexts.

9. Conclusion

This review provides a critique of current educational and social work practices for children with intellectual disabilities from a neurodiversity perspective, using the latest (2020-2025) interdisciplinary scholarship. The review has shown a major shift in the paradigm used, from a deficit based approach to an inclusive, strengths based and rights oriented paradigm, focusing on participation, choice and contextual adaptation. In each of the areas explored (education, social work, community involvement and policy), there is a body of evidence suggesting the effectiveness of integrated and ecological practices in promoting development, social functioning and educational attainments.

Despite these gains, the review indicates significant ongoing structural and systemic issues preventing inclusive practice being truly realized. Factors that contribute to this include; teacher training; service system fragmentation; unequal resources in different contexts; and the gap between policy commitments and practice (Sharma et al., 2022; UNESCO, 2020). This shows that although there have been many developments conceptually and at the policy level, their integration into practice has been less uniform and has been dependent on individual contexts.

One of the main advancements this research is the proposal of the Neurodiversity-Informed Integrated Support Model (NIISM), which offers an extensive conceptual framework that supports the creation of coherent service delivery in the face of these identified concerns. The NIISM creates a system where educational, familial, community and policy systems are integrated within a holistic and strengths-based ecological approach, thus providing a framework with which to bridge service gaps. Additionally, the model highlights the need for interdisciplinary work and supports the underlying concepts of neurodiversity; such as acceptance of cognitive diversity, empowerment and social justice.

Beyond that, the review indicates that future innovations to inclusive interventions should be "integrated rather than independent". Sustainable intervention and support to children with intellectual disabilities requires cooperation across systems and institutions, supported by continued funding for capacity-building, infrastructure and policy implementation. Furthermore, it recommends that intervention and support should be "contextualized within the socio-cultural milieu".

Future studies ought to be geared towards empirical validation of integrated frameworks like NIISM using longitudinal and mixed methods research approaches and explore its efficiency across contexts. Emphasis should also be placed on bringing on board children with intellectual disabilities and their family members to strengthen the ethical foundations and inclusivity of research and practice.

In summary, to make inclusion work, a revolution is necessary not just in the conceptual framework but also in the practical implementation. While the neurodiversity framework presents a valuable conceptual tool to reconceptualize disability, "to realize its full potential, it needs to be operationalized within a framework of coordinated action across systems, and contextually sensitive approaches, and supported by evidence of effectiveness". This review supports this agenda with both critique and a roadmap for a more inclusive and equal system.

10. Limitations

There are several limitations to this review which need to be taken into account when considering the implications of these findings.

First of all, only English language publications were included in this review. Consequently, studies written in other languages were excluded from analysis. The use of English language sources can only be said to represent the English language contribution to knowledge on intellectual disability and inclusive practice as, significant and substantial research in this area has been carried out in non-English speaking countries.

Secondly, the search for research was limited to high-quality, peer-reviewed sources via access to specific databases (Scopus, Web of Science, and Routledge), this, in itself has the potential to result in database bias as relevant literature may exist on regional or more specialized databases which is not contained within the indices searched.

Thirdly, although a narrative synthesis was carried out and could be interpreted as systematic within a narrative framework, no meta-analysis was conducted. This means that specific effect sizes could not be calculated and the ability to draw statistical generalizations across the evidence base is limited. Therefore, it is important to view the findings as analytical rather than statistical integrations.

Finally, the diverse context(s) of the studies, the varied socio-cultural, economic and policy background within which they were conducted may have influenced the design and intervention strategy used and hence their outcomes, indicating that effective intervention in one setting may not necessarily prove transferable to another without modification.

The implication of the limitations of this review is that future studies should employ more broad search strategies, meta-analysis where possible and adopt context-specific investigations in order to ensure the best possible and most robust evidence base.

11. Implications

11.1 Practice

The findings highlight the urgent need to integrate integration of the educational and social work systems, to achieve consistent and coherent support for children with intellectual disabilities. Through integrated and multidisciplinary approaches, the gaps between the schools, the families, and the other support systems

will be narrowed, providing for a unified and less segmented intervention delivery (Doherty, 2008). There is also a clear need for the training of teachers on neurodiversity-responsive pedagogies such as inclusive teaching practices, differentiated instruction and social-emotional learning strategies. Strengthening the existing teacher training programs will empower teachers with the knowledge and confidence to respond effectively to the different abilities and differences in a learning classroom, eventually promoting a more genuine inclusion experience in the classrooms (Florian, 2019; Sharma & Sokal, 2022).

11.2 Policy

The level of policy necessitates a greater drive towards implementing international instruments like the UNCRPD, moving inclusiveness and social participation from rhetoric to practice. This necessitates a legislated framework, and also mechanisms for monitoring, accountability and stakeholder participation. Also, governments and institutions have a responsibility to invest in inclusive infrastructure such as accessible learning environments and technologies and human capacity building. Investment is needed for enabling movement between policy and practice on the ground, especially in resource poor settings (UNESCO, 2020).

11.3 Research

Future work should employ longitudinal studies in order to investigate the long-term impact of the integrated educational/social work intervention on developmental and social outcomes, and validate the NIISM model across different cultural/socioeconomic groups in order to assess its applicability and effectiveness. Mixed-methods research and intervention studies can shed light on the practical mechanisms of the neurodiversity informed perspective.

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