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Global Frameworks for Special Education: An Intersectional Review of Diagnostic and Assessment Procedures

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Abstract:

The global landscape of special education reveals a persistent gap between policy intentions and classroom realities. Despite international mandates such as the UN Convention on the Rights of Persons with Disabilities (CRPD), millions of Children with Special Needs (CWSN) continue to experience marginalization, largely due to inadequate diagnostic and assessment systems. This study presents an intersectional review of diagnostic assessment practices, synthesizing evidence from diverse educational contexts to identify systemic barriers, including regional policy gaps, insufficient funding, and the shortage of trained specialized personnel. Focusing on a prototype diagnostic assessment for core subjects—Mathematics, Science, Language, and Social Studies—the study examines how assessments can be adapted to address the unique needs of students with visual and hearing impairments. Findings indicate that tailored diagnostic tools not only enhance the identification of students' learning strengths and challenges but also prevent "learning loss" by informing curriculum adaptation and instructional strategies. Implementing such assessment frameworks is essential to advancing equitable, inclusive education that enables meaningful participation for all learners.

Keywords: diagnostic assessment, inclusive education, children with special needs

Introduction:

Special education refers to a structured and individualized educational approach designed to support students who experience difficulties in learning due to physical, cognitive, emotional, social, or intellectual conditions. Over the past several decades, global education systems have increasingly shifted toward inclusive education, a model that seeks to ensure that children with special needs (CWSN) learn alongside their peers in mainstream classrooms with appropriate accommodations and support services.

This shift is strongly influenced by international rights-based frameworks such as the United Nations Convention on the Rights of Persons with Disabilities and the Salamanca Statement, which emphasize equal access to quality education and non-discrimination for learners with disabilities. Despite these global commitments, many education systems continue to struggle with translating inclusive policies into effective classroom practices.

One of the major barriers to inclusive education is the lack of systematic diagnostic and assessment procedures for identifying students' learning needs. Educational diagnosis plays a critical role in determining appropriate instructional strategies, interventions, and support services for learners with disabilities. Research highlights that early and accurate diagnosis is essential for understanding a student's strengths and limitations and for designing appropriate educational programs (Türkel, 2025; Wolraich et al., 2019).

In addition, multidisciplinary assessment approaches—including speech-language evaluations, behavioral assessments, and academic performance measures—are often necessary to obtain a comprehensive understanding of a learner's educational profile (Shipley & McAfee, 2023; Brady et al., 2016). Without these diagnostic systems, teachers may struggle to adapt instruction effectively, resulting in limited participation and reduced learning outcomes for students with special educational needs.

Despite international advocacy for inclusive schooling, several systemic challenges continue to hinder the successful integration of CWSN into mainstream classrooms. Policy inconsistency remains a significant issue, as many countries adopt national inclusion policies without establishing clear local regulations or implementation mechanisms. Environmental rejection also persists in many school contexts, where students with disabilities experience exclusion, social stigma, or inadequate support from peers and educators.

Furthermore, the global shortage of trained special education professionals limits schools' capacity to adapt curricula and provide accessible learning materials. Studies emphasize that effective inclusive education requires teachers who possess specialized pedagogical skills and who can implement evidence-based instructional strategies (McLeskey et al., 2017). Additionally, accessible learning media—particularly in subjects such as mathematics and science—are essential for enabling meaningful participation among students with disabilities (WitaHarahap & Surya, 2017).

Another critical challenge relates to the lack of reliable diagnostic data within inclusive classrooms. When teachers do not conduct initial assessments, students with special needs may remain unidentified or misunderstood, which can lead to significant learning gaps over time. Advances in assessment practices, including computer-based and formative assessment systems, have the potential to support teachers in identifying student needs and monitoring learning progress (Shute & Rahimi, 2017; Mulvenon, 2021).

Moreover, digital technologies and simulation-based training methods are increasingly used in professional preparation programs to improve educators' assessment competencies and their ability to address diverse learner needs (Elendu et al., 2024). Such innovations highlight the growing importance of integrating assessment literacy and technological tools into inclusive education frameworks.

In response to these challenges, this review examines the development of diagnostic assessment frameworks designed to identify the initial learning potential of students with special needs. Particular attention is given to learners with visual and hearing impairments, as these groups often require specialized assessment procedures that account for sensory differences.

The review explores how diagnostic tools can be adapted across core academic subjects—including mathematics, science, language, and social studies—to ensure equitable access to learning. By synthesizing existing research and assessment practices, the study aims to highlight how well-designed diagnostic systems can support inclusive teaching, promote student self-assessment and learning engagement (Rustamova, 2022), and contribute to more

equitable educational opportunities for students with disabilities in diverse educational contexts (Laamanen et al., 2021).

Literature Review

Diagnostic assessment plays a central role in identifying the learning needs of students with special educational needs and in guiding the development of effective instructional interventions. In the context of inclusive education, assessment is not merely a mechanism for grading student performance but a systematic process used to understand a learner's abilities, limitations, and developmental characteristics. Educational researchers emphasize that assessment must be comprehensive, multidimensional, and sensitive to the diverse needs of learners in order to support equitable educational outcomes. Frameworks for educational measurement highlight that diagnostic assessment helps educators determine both the current level of student competence and the most appropriate strategies for supporting further learning (Frey, 2018).

A diagnostic assessment is generally defined as a specialized evaluation tool used to identify students' competencies, strengths, and weaknesses in specific areas of learning. Unlike summative assessments, which measure achievement after instruction, diagnostic assessments aim to identify the underlying causes of learning difficulties before or during the learning process. By "sharply highlighting" different dimensions of a learner's profile, these assessments help educators determine the specific barriers that prevent students from achieving their academic potential.

According to Türkel (2025), educational diagnosis is particularly important in early education settings because timely identification of learning needs allows educators to design targeted interventions that support student development. The timing of diagnostic assessment is an important consideration in the teaching and learning process. Ideally, diagnostic assessments are conducted before instruction begins to determine the baseline knowledge and abilities of students. They may also be administered during instruction to monitor progress and identify emerging difficulties.

This continuous assessment approach aligns with the principles of formative assessment, which emphasize the use of ongoing feedback to improve learning outcomes (Mulvenon, 2021). Additionally, computer-based assessment tools have expanded opportunities for real-time diagnostic feedback, allowing educators to track student performance and adjust instruction accordingly (Shute & Rahimi, 2017).

Diagnostic assessment can also be categorized into cognitive and non-cognitive domains. Cognitive assessments focus on measuring academic competencies such as reading comprehension, mathematical reasoning, and language skills. Non-cognitive assessments, on the other hand, examine psychological and social-emotional factors that influence learning, including motivation, self-regulation, and communication abilities. Comprehensive diagnostic systems often combine both types of assessments to obtain a holistic understanding of student development. Multidisciplinary assessment models are particularly important for learners with disabilities, as they integrate input from educators, psychologists, speech-language pathologists, and medical professionals (Shipley & McAfee, 2023; Brady et al., 2016).

Recent studies also emphasize the importance of evidence-based practices in the assessment and instruction of students with disabilities. High-leverage practices in special education include systematic assessment, explicit instruction, and continuous progress monitoring to support diverse learners. These practices help educators design individualized interventions that address the unique learning needs of students with disabilities (McLeskey et al., 2017). Moreover, advances in simulation-based training and professional development programs have helped improve educators' competencies in assessment and intervention strategies (Elendu et al., 2024).

Within the field of special education, visual and hearing impairments represent two of the most common categories of sensory disabilities that require specialized assessment and instructional accommodations. Although students with these impairments often possess the same cognitive potential as their peers, they experience barriers in

accessing information due to limitations in sensory processing. Consequently, educational assessments must be adapted to ensure that they measure academic ability rather than sensory limitations. Inclusive learning environments therefore require carefully designed diagnostic tools that consider the sensory characteristics of each learner.

Visual impairment refers to a condition in which an individual's sense of sight is significantly limited or does not function effectively for receiving visual information. Students with visual impairments often rely on alternative modes of accessing information, such as tactile materials, Braille texts, and audio-based instruction. Diagnostic assessments for these learners must therefore incorporate accessible formats that allow them to demonstrate their knowledge without relying heavily on visual input. The development of accessible learning media, particularly in subjects such as mathematics and science, has been identified as a critical factor in improving educational outcomes for visually impaired learners (WitaHarahap & Surya, 2017).

Hearing impairment, commonly referred to as deafness, involves partial or complete loss of hearing that affects an individual's ability to perceive spoken language and auditory information. Students with hearing impairments may communicate through sign language, lip reading, or written communication, depending on the severity of the condition. Effective diagnostic assessment for deaf learners requires clear written instructions, visual supports, and the availability of sign language interpreters where necessary. Communication-focused assessment strategies are particularly important, as language development plays a central role in academic achievement and social participation (Brady et al., 2016).

Comparative research on learners with sensory disabilities highlights the importance of designing assessment systems that accommodate diverse learning profiles. Studies on developmental disabilities, including autism spectrum disorders, demonstrate that early and accurate diagnosis significantly improves educational planning and intervention outcomes (Christensen, 2016; Zhou et al., 2020).

Evidence-based instructional practices for students with autism and other developmental conditions also emphasize the role of systematic assessment in guiding educational interventions (Hume et al., 2021). As inclusive education continues to expand globally, the development of accessible and reliable diagnostic assessment frameworks remains essential for ensuring that all students—regardless of disability—receive equitable opportunities to learn and succeed in school.

Methodology:

This study employed a qualitative meta-aggregation methodology, combining a comprehensive literature review with the development of a diagnostic assessment prototype for students with special educational needs. Meta-aggregation allows for the systematic synthesis of findings from multiple qualitative studies, enabling researchers to identify common themes, patterns, and best practices across diverse educational contexts. This approach is particularly appropriate for exploring the intersection of disability, assessment practices, and inclusive education, as it provides a rigorous framework for analyzing both theoretical and practical insights from existing literature (McInnes et al., 2018; Frey, 2018).

The literature study focused on peer-reviewed research, theses, and authoritative reports that examined diagnostic assessment practices for students with disabilities. Databases such as Scopus, ERIC, and Google Scholar were consulted to identify studies published between 2015 and 2025. Search terms included "diagnostic assessment," "special education," "inclusive classrooms," "visual impairment," "hearing impairment," and "assessment adaptation." Studies were screened for relevance based on inclusion criteria, such as focusing on school-aged learners, using empirically grounded assessment tools, or addressing adaptations for sensory or cognitive disabilities (Türkel, 2025; Shute & Rahimi, 2017).

In addition to reviewing the literature, this study developed a diagnostic assessment prototype tailored to the needs of students with visual and hearing impairments. The prototype was designed to evaluate learners' knowledge and skills across core subjects, including Mathematics, Science, Indonesian (Language), and Social Studies. Each subject-specific assessment incorporated accommodations appropriate for the target population, such as tactile diagrams or Braille for students with visual impairments and simplified written or visual instructions for students with hearing impairments (WitaHarahap & Surya, 2017; Brady et al., 2016).

To enhance the validity and relevance of the prototype, the study incorporated expert consultation. Educational specialists, including special education teachers, speech-language pathologists, and curriculum developers, reviewed the prototype and provided recommendations for adaptation, accessibility, and alignment with learning objectives. Feedback from these professionals ensured that the assessment addressed both academic competencies and developmental considerations, creating a tool capable of accurately identifying strengths, challenges, and potential learning gaps among students with special needs (Shipley & McAfee, 2023; Wolraich et al., 2019).

Finally, the methodology emphasizes the application of intersectional and inclusive principles throughout the diagnostic design process. The assessment model considers how disability intersects with language, cognitive ability, and classroom environment to influence student learning outcomes. By integrating insights from the literature and expert validation, the study provides a comprehensive framework for assessing the "initial potential" of students, ensuring that the diagnostic prototype can support both individualized learning strategies and broader inclusive education practices (Rustamova, 2022; Laamanen et al., 2021).

Findings and Discussion:

The Diagnostic Framework for Children with Special Needs (CWSN)

Effective assessment of children with special needs requires a comprehensive diagnostic framework that goes beyond traditional academic scores. Academic performance alone does not provide a complete picture of a student's abilities, challenges, and learning potential. A holistic diagnostic framework integrates multiple assessment modalities to capture cognitive, behavioral, and physiological factors that influence learning. This approach aligns with evidence-based practices in special education, which emphasize individualized assessment and intervention planning to support inclusive learning outcomes (Mulvenon, 2021; Frey, 2018).

A core component of this framework is cognitive assessment, including standardized IQ tests and subject-specific academic evaluations. IQ tests provide a general measure of cognitive functioning, while academic tests assess mastery of content in core subjects such as mathematics, science, language, and social studies. These assessments help identify areas of strength and potential gaps in learning, informing instructional planning and curriculum adaptation.

Research indicates that combining cognitive and subject-specific measures improves the accuracy of diagnosis and enables teachers to tailor learning interventions for individual students (Grigorenko et al., 2020; McInnes et al., 2018). Medical and physiological evaluations form another essential dimension of the framework. Medical tests, conducted by pediatricians or specialists, assess underlying health conditions, neurological status, and sensory or motor impairments that may affect learning.

For example, conditions such as hypertrophic cardiomyopathy, Duchenne muscular dystrophy, or attention-deficit/hyperactivity disorder require specific medical assessment to ensure that educational accommodations align with students' physical needs (Birnkrant et al., 2018; Maron et al., 2022; Wolraich et al., 2019). Integrating medical insights into educational planning prevents misinterpretation of learning difficulties and promotes safe, supportive classroom environments.

Expert evaluations, including physiotherapy, occupational therapy, speech-language pathology, and psychological assessment, provide a multidisciplinary perspective on student functioning. These assessments identify functional

limitations, communication challenges, and motor coordination difficulties that can influence learning participation. Evidence suggests that multidisciplinary diagnostic teams enhance the quality of individualized education plans (IEPs) and support the implementation of targeted interventions that address both academic and non-academic needs (Brady et al., 2016; Schoen et al., 2019; Blank et al., 2019).

Formative assessment is also a critical component of the framework. Unlike summative evaluations, formative assessments provide ongoing feedback on student learning and allow educators to make real-time adjustments to instruction. Continuous monitoring helps detect early signs of learning difficulties and provides data for adaptive interventions, improving both student outcomes and teacher decision-making (Mulvenon, 2021; Looney et al., 2018). Computer-assisted and simulation-based assessment tools further enhance formative assessment by enabling interactive, individualized testing that can accommodate diverse learner needs (Shute & Rahimi, 2017; Elendu et al., 2024).

Subject-specific adaptations are necessary to ensure equitable access to assessment for students with disabilities. For instance, students with visual impairments may require tactile diagrams or audio descriptions in mathematics and science, while students with hearing impairments may rely on written instructions, visual supports, or sign language interpretation. Tailoring assessments to the sensory and cognitive profiles of learners allows educators to measure knowledge and skills accurately, rather than inadvertently testing sensory capacity (WitaHarahap & Surya, 2017; Kokkalia et al., 2016).

Diagnostic frameworks must also consider developmental and neurodiverse conditions, including autism spectrum disorders and specific learning disabilities. Evidence demonstrates that early and accurate diagnosis of neurodevelopmental conditions supports individualized intervention, improves social and academic outcomes, and reduces the risk of long-term learning gaps (Christensen, 2016; Zhou et al., 2020; Hume et al., 2021). Incorporating these considerations into the framework ensures that all students, regardless of neurodiversity, have access to meaningful, inclusive learning experiences.

The integration of technology and evidence-based assessment practices is critical for modern diagnostic frameworks. Artificial intelligence, adaptive testing, and e-assessment platforms can enhance the efficiency, reliability, and accessibility of assessments for students with diverse needs (Chen et al., 2022; Vogl et al., 2019). By combining cognitive, medical, expert, and formative assessments with technological innovations, educators can develop a robust, intersectional framework that supports equitable learning and fosters the full potential of children with special needs (Mitchell & Sutherland, 2020).

Subject-Specific Assessment Models

Diagnostic assessment in inclusive classrooms must be tailored to the unique reasoning processes and learning modalities required by each academic subject. Children with special educational needs (CWSN) often process information differently from their peers, making it essential to adapt assessment tools to accurately measure their understanding without conflating ability with disability. Subject-specific adaptations ensure that students demonstrate true competence while minimizing the influence of sensory or cognitive barriers (Frey, 2018; Mitchell & Sutherland, 2020).

Mathematics is a discipline centered on patterns, relationships, and abstract reasoning. For students with visual impairments, numerical tables, equations, and graphs must be converted into tactile formats or described narratively to convey the same concepts. Students with hearing impairments may require visual simplification and step-by-step problem breakdowns to support comprehension. Research emphasizes that such adaptations, including manipulatives and interactive media, not only enhance accessibility but also reinforce conceptual understanding among learners with disabilities (WitaHarahap & Surya, 2017; Grigorenko et al., 2020).

Science (Natural Science) requires systematic observation and the application of empirical reasoning to understand natural phenomena. CWSN may face challenges in experimental or observation-based tasks due to sensory

limitations or attention differences. Diagnostic assessments in science should therefore integrate multisensory learning tools, including audio descriptions, tactile models, and visual demonstrations. Evidence suggests that simulation-based learning and computer-assisted experiments can significantly enhance engagement and conceptual mastery among students with disabilities (Elendu et al., 2024; Chen et al., 2022).

Social Studies focuses on human activity across time and space, emphasizing social, historical, and cultural contexts. Assessing CWSN in this subject requires careful adaptation to ensure comprehension of narratives, timelines, and civic concepts. Visual aids, simplified textual materials, and interactive story-based tasks can facilitate understanding, particularly for learners with language or cognitive impairments. Studies indicate that culturally responsive, accessible teaching and assessment practices increase participation and knowledge retention among diverse learners (Paseka & Schwab, 2020; Norbury et al., 2016).

Language serves as both a communication tool and a medium for learning across all subjects. Assessment for CWSN in language requires sensitivity to differences in receptive and expressive abilities, particularly for students with developmental language disorders or autism spectrum conditions. Written, spoken, and symbolic forms of language must be accommodated through multimodal assessment strategies, including visual prompts, sign language, and assistive technology. Evidence shows that individualized approaches to language assessment improve both literacy outcomes and social communication skills (McGregor, 2020; Hume et al., 2021).

The role of technology in subject-specific assessments has grown substantially in recent years. Artificial intelligence (AI) and adaptive learning platforms can provide personalized assessment pathways, automatically adjusting difficulty levels and presentation formats based on individual learner profiles. These tools enable continuous monitoring and formative feedback, supporting teachers in identifying learning gaps and customizing interventions (Chen et al., 2022; González-Calatayud et al., 2021; Chan & Zary, 2019).

Furthermore, the integration of sensory and motor considerations is crucial for practical subjects and hands-on activities. For instance, in science experiments or geography mapping exercises, students with motor or coordination difficulties may require assistive devices or modified materials. International best practices highlight that combining technological aids with expert support, such as occupational therapy or specialized instruction, ensures equitable access to experiential learning opportunities (Blank et al., 2019; Schoen et al., 2019).

A subject-specific diagnostic framework must align with broader evidence-based inclusive education practices. Systematic assessment strategies, when combined with expert evaluation and formative feedback, allow educators to implement individualized education plans that respect each student's cognitive, sensory, and social-emotional profile. By addressing subject-specific learning requirements through tailored diagnostic adaptations, inclusive classrooms can provide equitable, meaningful, and effective educational experiences for all students (Looney et al., 2018; Frey, 2018; Mitchell & Sutherland, 2020).

Universal Rules for Writing Diagnostic Tests

Writing diagnostic tests for children with special educational needs (CWSN) requires careful consideration of both content and accessibility. Tests should measure knowledge and skills without inadvertently creating barriers related to sensory, cognitive, or language differences. Research emphasizes that assessment tools must be designed to reflect the learner's true potential, not the limitations imposed by disability or classroom environment (Mitchell & Sutherland, 2020; Looney et al., 2018).

Language is a fundamental consideration in diagnostic test design. For students who are hearing impaired, test items should use simple, standard language to minimize ambiguity and ensure clarity. For students with visual impairments, descriptions must be explicit, detailed, and formatted in accessible mediums such as Braille or audio. Clear, consistent language allows students to focus on demonstrating competence rather than decoding complex instructions (Grigorenko et al., 2020; Norbury et al., 2016).

Length and complexity of test items should also be adapted to students' needs. Short, focused sentences are recommended for deaf students, emphasizing the substance of the question without overwhelming cognitive load. In contrast, visually impaired students may benefit from narrative-heavy descriptions that provide context for concepts presented in alternative formats. Structuring content appropriately prevents cognitive overload and promotes accurate assessment of learning (McGregor, 2020; Paseka & Schwab, 2020).

Visual elements must be carefully considered. Deaf students benefit from illustrations, diagrams, and clear images that support comprehension and clarify abstract concepts. Blind students, however, do not require pictures; instead, tactile representations or audio descriptions are more effective. Thoughtful design ensures that visual aids support learning rather than inadvertently creating barriers (Raymond & Raymond, 2024; Birnkrant et al., 2018).

Support mechanisms are essential for equitable assessment. Deaf students often require sign language interpreters or captioned media, whereas blind students may need Braille, screen readers, or voice-assisted technologies. Embedding these supports in the assessment process ensures that all students can access the material and demonstrate their abilities (Maron et al., 2022; Lipkin et al., 2020).

Formative and iterative assessment practices complement these universal rules. Diagnostic tests should not only capture a snapshot of student ability but also provide feedback to inform teaching strategies and individualized learning plans. Integrating continuous monitoring, scaffolding, and timely adjustments allows educators to address learning gaps proactively (Looney et al., 2018; Mitchell & Sutherland, 2020).

Technology integration further enhances the accessibility and flexibility of diagnostic assessments. Artificial intelligence and expert systems can adapt item presentation, provide multimodal delivery, and generate real-time analytics to guide instruction. Such tools allow teachers to tailor assessment conditions to individual students' profiles, improving reliability and inclusivity (Chan & Zary, 2019; González-Calatayud et al., 2021; Ana, 2020).

Consideration of developmental and clinical profiles is another critical dimension. Students with autism spectrum disorder, developmental language disorder, or other neurodevelopmental conditions may require additional accommodations in test design, including structured prompts, simplified language, or extended time. Evidence shows that these adaptations increase both engagement and validity of the assessment outcomes (Maenner, 2020; Maiano et al., 2016; Eigenbrodt et al., 2021).

Thus, universal rules for diagnostic test writing must reflect inclusive education principles. By standardizing accessible language, appropriately adjusting length and visuals, providing supportive mechanisms, and leveraging technology, assessments can accurately measure learning while promoting equity. Such practices ensure that CWSN are evaluated fairly, empowering educators to implement evidence-based interventions that enhance educational outcomes (Kozleski, 2017; Lipkin et al., 2020; Appukuttan, 2016).

An Intersectional Perspective

The lack of diagnostic assessments remains one of the most significant contributors to "lost learning" in inclusive classrooms. When teachers fail to conduct initial mapping of students' abilities and needs, children with special educational needs (CWSN) may be physically present but pedagogically excluded. Without accurate identification of learning strengths and challenges, educators cannot provide appropriate instructional modifications, leaving students at risk of regression and disengagement (Yaşar Türkel, 2025; McLeskey et al., 2017).

Diagnostic tools are essential not only for identifying academic gaps but also for assessing cognitive, social-emotional, and behavioral domains. Research indicates that systematic assessment frameworks allow teachers to differentiate instruction effectively, target interventions, and monitor progress over time. The absence of these tools exacerbates inequities, as students with subtle or complex needs often remain unnoticed in mainstream classrooms (Rustamova, 2022; Mulvenon, 2021).

The concept of the "Regulation Gap" further compounds these challenges. While many countries have adopted national policies supporting inclusive education, implementation at regional or district levels is often inconsistent. Without localized affirmative policies, schools frequently lack the funding, trained personnel, or specialized resources needed to accommodate CWSN. This gap results in disparities in educational quality based on geographic location, highlighting the intersection of disability and place in shaping learning outcomes (Paseka & Schwab, 2020; Shute & Rahimi, 2017).

Teacher capacity is another critical factor in intersectional inclusion. Educators must be equipped not only with knowledge of high-leverage instructional practices but also with skills to interpret diagnostic data and apply it in diverse classroom settings. Studies show that professional development, ongoing coaching, and access to assessment tools significantly improve teachers' ability to support students with varied needs (WitaHarahap & Surya, 2017; Shipley & McAfee, 2023).

Technological interventions have emerged as a promising strategy to bridge assessment and instruction gaps. Computer-assisted learning platforms, AI-driven diagnostic tools, and simulation-based training enable teachers to deliver tailored instruction and monitor student progress effectively. Such innovations can support educators in contexts where human resources are limited, ensuring that assessment-driven instruction reaches more students with precision (Elendu et al., 2024; Laamanen et al., 2021; Kokkalia et al., 2016).

The intersectionality of disability with other contextual factors—such as socioeconomic status, language background, and school infrastructure—also shapes educational experiences. Students in underserved regions may face compounding disadvantages, where limited diagnostic capacity intersects with environmental neglect, under-resourced classrooms, or language barriers. Understanding these overlapping vulnerabilities is crucial for designing policies and interventions that are truly inclusive (Christensen, 2016; Frey, 2018).

An intersectional perspective underscores that effective inclusion is more than policy enactment; it requires actionable, context-sensitive assessment practices. Bridging the gaps in diagnostic capacity, teacher preparedness, and regional policy implementation ensures that CWSN are not only present in classrooms but are actively engaged in meaningful learning. By addressing both structural and pedagogical inequities, educational systems can move closer to fulfilling the promise of equitable, high-quality education for all students (McInnes et al., 2018; Wolraich et al., 2019).

Conclusion:

Diagnostic assessments are more than routine tests; they serve as the cornerstone for effective curriculum adaptation and inclusive educational practice. Without systematic assessment, students with special needs may be physically present in classrooms yet remain pedagogically invisible. The implementation of a structured, periodic diagnostic system—ideally beginning in the first week of the academic term—enables educators to identify each student's learning strengths, challenges, and potential gaps. Such early mapping ensures that instruction is tailored to individual needs, reducing the risk of "lost learning" and fostering meaningful engagement for all students (Yaşar Türkel, 2025; McLeskey et al., 2017).

For students with sensory impairments, diagnostic assessments must be carefully adapted to accommodate specific learning requirements. Prototypes that respect the linguistic needs of deaf students through clear, concise language and visual supports, as well as those that provide narrative descriptions, Braille, or audio assistance for blind students, are essential. By integrating these adaptations, schools not only comply with international mandates for inclusion but also ensure that every child can access the curriculum equitably, demonstrating competence without being hindered by inaccessible test design (Shipley & McAfee, 2023; Brady et al., 2016).

Standardization of diagnostic assessments is crucial to maintaining equity across inclusive schools. Establishing national guidelines for test writing ensures consistency in language, format, and evaluation criteria, enabling

students in different regions to receive comparable opportunities to demonstrate their learning. Standardized assessments also support research, policy evaluation, and the refinement of instructional practices (Mulvenon, 2021; WitaHarahap & Surya, 2017).

Capacity building is equally important. General education teachers should receive training in basic diagnostic mapping, allowing them to distinguish between partial understanding and complete comprehension gaps. Such professional development enhances teachers' ability to adjust instruction, implement individualized learning strategies, and monitor student progress effectively (Rustamova, 2022; Shute & Rahimi, 2017).

Policy advocacy is necessary to strengthen inclusive education at the structural level. Regional governments should issue clear regulations that provide legal and financial support for assessment-based interventions, including the hiring of special assistants and the provision of accessible learning materials. By addressing systemic, pedagogical, and regulatory factors simultaneously, educational institutions can create inclusive environments that move beyond mere physical presence to meaningful participation, ensuring that no student is left behind (Laamanen et al., 2021; Wolraich et al., 2019).

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