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1. Understanding Mathematics Intervention Implementation Fidelity In Rural Schools

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Improving mathematics outcomes requires more than identifying effective instructional practices; it requires ensuring that those practices are implemented with fidelity in authentic school contexts. Evidence-based mathematics interventions have demonstrated effectiveness under controlled conditions, yet variability in implementation often limits impact in real-world settings. Research consistently shows that implementation failure, rather than intervention ineffectiveness, frequently explains weak or inconsistent student outcomes (Fixsen et al., 2005; Sanetti & Luh, 2019). These challenges are amplified in rural or resource-constrained settings, where staffing, materials, and professional development access may be limited.

Multi-Tiered Systems of Support (MTSS) provide a structured framework for delivering tiered mathematics interventions (Fuchs et al., 2016). However, successful MTSS implementation depends on alignment among instructional practices, professional learning, monitoring systems, and contextual supports. When these elements are misaligned, fidelity drift may occur, undermining student benefit. Implementation science offers structured approaches to identifying and addressing contextual determinants that influence the uptake and sustainment of evidence-based practices.

The Consolidated Framework for Implementation Research (CFIR; Damschroder et al., 2009) provides a comprehensive taxonomy of determinants influencing implementation across five domains: intervention characteristics, outer setting, inner setting, characteristics of individuals, and process. While CFIR has been widely applied in health research, its systematic use in K–12 mathematics education remains limited (Zhang & Xin, 2024)

Conceptual Framework

CFIR complements MTSS by identifying contextual determinants influencing implementation. The intervention characteristics domain considers perceived quality,

complexity, and adaptability. The outer setting includes policy mandates and resource constraints. The inner setting reflects organizational culture, communication, and infrastructure. The characteristics of the individual domain capture educator beliefs and self-efficacy. The process domain includes planning, engagement, and execution structures. Applying CFIR enables systematic identification of readiness strengths and gaps prior to pilot implementation.

Purpose of the study

The purpose of this study was to examine contextual determinants influencing mathematics intervention implementation at the school through the application of a CFIR-informed survey. Specifically, this study aimed to (a) identify facilitators and barriers across the five CFIR domains, (b) examine patterns of readiness and constraint within the school's mathematics intervention system, and (c) generate contextually grounded insights to inform preparation-stage implementation planning. By focusing on contextual assessment prior to pilot implementation, the study contributes to bridging the research-to-practice gap in mathematics education and provides a structured model for using implementation science frameworks in school-based intervention contexts.

Method

This study employed a cross-sectional survey design within a university–school partnership. A CFIR-informed survey was developed to assess contextual determinants influencing mathematics intervention implementation. Survey development included expert validation from scholars in implementation science and mathematics education, followed by cognitive interviews to evaluate response-process validity and item clarity. Iterative revisions were made to clarify terminology such as "external funding," "contextual factors," and "needs

assessment," ensuring accessibility for practicing educators. Participants included educators involved in mathematics instruction and intervention at a university-affiliated school.

Respondents averaged more than a decade of teaching experience and over thirteen years of rural service. Teachers reported using multiple mathematics intervention programs, including Success Maker (Savvas; Savvas Learning Company, 2025), Do the Math (K–2), Moving with Math (3–5), and IXL Math. Survey items were organized across the five CFIR domains and measured using a four-point Likert scale with an additional "I don't know" option to capture uncertainty. Please see Table 1 for more participant information. Descriptive analyses were conducted to identify patterns across domains.

Table 1

Participant Information

Characteristic	Summary
Sample size	11 participants
Roles	Teachers (36%), Interventionists (27%), Administrators (9%), Others (mixed roles)
Avg. years of teaching	10.4 years (range: 1–22)
Avg. years of rural service	13.5 years (range: 1–30)
Highest education	55% hold a Master's degree, 1 Doctorate, 1 High School diploma

Results

Findings across CFIR domains reveal a consistent pattern: strong educator commitment and trust in structured mathematics interventions coexist with structural and process-level barriers. Within the intervention characteristics domain, educators reported valuing structured and scripted mathematics programs. Trust in these programs emerged as a facilitator, reflecting confidence in their potential to support student learning. However, respondents noted that some intervention kits were incomplete and that differentiation guidance was not always clear. Teachers expressed difficulty adapting materials to meet diverse student needs while maintaining alignment with intended design. These findings suggest that while perceived quality is high, complexity and material limitations pose challenges.

Outer setting findings indicate that state mandates and district-level expectations serve as motivational drivers for implementation. Accountability structures appear to support adoption decisions. Nevertheless, respondents identified limited resources and time as persistent constraints. External expectations alone did not resolve infrastructure challenges, reinforcing the need for internal capacity-building strategies.

The inner setting domain revealed strong relational capacity. Teachers and paraprofessionals demonstrated collaboration and teamwork, and there was evidence of positive school culture supporting intervention efforts. However, scheduling and staffing limitations restricted access to consistent professional development and coaching. Time for collaborative planning was limited, and structured opportunities for implementation reflection were not consistently embedded.

Within the characteristics of individual's domain, educators expressed high motivation and commitment to supporting students requiring mathematics intervention. Teaching experience

and familiarity with rural contexts were notable strengths. At the same time, some respondents indicated limited confidence in adapting interventions or modifying instruction without additional guidance, suggesting a need for structured professional learning to strengthen adaptive expertise.

The process domain revealed strong willingness to engage in collaborative reflection and improvement efforts. Educators participated actively in survey completion and interviews, indicating openness to partnership. However, formalized implementation plans and structured fidelity monitoring systems were not consistently evident. The absence of clearly articulated monitoring routines suggests a preparation-stage opportunity.

Across domains, recurring barriers included insufficient structured training and coaching, incomplete materials, scheduling constraints, and limited formal fidelity monitoring systems. Recurring facilitators included dedicated educators and paraprofessionals; trust in structured programs, collaborative culture, and accountability supports

Discussion

Findings suggest that mathematics intervention implementation at the participant school is characterized by high individual-level readiness but constrained by structural and procedural gaps. Educators demonstrate commitment, belief in intervention value, and collaborative capacity. However, material completeness, differentiation clarity, scheduling constraints, and limited formal monitoring systems restrict implementation consistency.

This pattern aligns with implementation science literature indicating that belief in intervention effectiveness is insufficient without structural supports (Fixsen et al., 2005). The presence of incomplete kits and unclear differentiation procedures underscores the importance of usable materials and explicit guidance in supporting fidelity (Bos et al., 2023). Similarly, the

absence of structured fidelity monitoring reflects broader findings that fidelity systems are often underdeveloped in mathematics intervention contexts (Sanetti & Luh, 2019).

Importantly, facilitators identified in this study provide a strong foundation for preparation-stage planning. Collaborative culture and educator trust in structured programs suggest receptivity to structured training modules, simplified implementation blueprints, and coaching supports embedded within existing workflows. Rather than requiring attitudinal change, the setting appears to require infrastructure refinement and process formalization.

Implications

These findings highlight the importance of contextual readiness assessment prior to scaling or intensifying mathematics intervention efforts. Preparation-stage strategies should prioritize clarifying required versus adaptable components, ensuring material completeness, embedding job-embedded professional development, and developing low-burden fidelity monitoring tools. University–school partnerships can provide technical assistance and structured facilitation, aligning with engaged scholarship principles that emphasize collaborative knowledge generation (Zhang et al., 2026). Applying CFIR in this setting demonstrates its utility for systematically diagnosing implementation determinants in K–12 mathematics contexts. Contextual assessment provides a defensible basis for designing fidelity support systems tailored to school infrastructure.

Limitations

This study focuses on a single university-affiliated school, limiting generalizability. Survey data rely on self-report and do not directly measure enactment fidelity. Future work should triangulate survey findings with observational data and student outcome indicators.

Conclusion

Using CFIR-informed survey data, this study identified both strengths and structural gaps influencing mathematics intervention implementation at The University School. Educator commitment and collaborative culture provide strong foundations for improvement, while material clarity, structured training, and formalized monitoring systems represent critical preparation-stage priorities. Contextually grounded implementation planning may strengthen fidelity and sustainability in mathematics intervention delivery.

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Biographical Information

Dr. Pamela J. Mims is a Professor of Special Education and Associate Dean of Research and Faculty Success at East Tennessee State University (ETSU). Her scholarship focuses on advancing equitable access to the general curriculum for students with intellectual and developmental disabilities through systematic instruction and evidence-based practices. Dr. Mims has served as Principal Investigator, Co-Investigator, or Key Personnel on more than $46 million in externally funded projects and has authored over 60 peer-reviewed publications, book chapters, and instructional curricula. She is a co-author of the nationally disseminated curriculum for students with extensive support needs. A frequent presenter at national and international conferences, Dr. Mims is committed to bridging research and practice to improve educational outcomes for students with extensive support needs.

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2. A Comparative Analysis Of The Grant Based And Fee Based Models Of Skill Training In The Context of Persons with Disabilities

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Skill training as a sector cuts across multiple sectors and requires the involvement of diverse stakeholders. The push for a policy-backed skill development initiative is a significant step towards realizing the potential of the workforce by enhancing its employability. Government of India took up some crucial initiatives like the National Action Plan, National Skill Development Mission and Skill Council for Persons with Disability (SCPwD) to improve the quality of skill training. .

The Ministry of Skill Development and Entrepreneurship was set up in November 2014 to drive the 'Skill India' agenda in a 'Mission Mode' in order to merge existing skill training initiatives and to expedite the scale and quality of skilling efforts**.** ***National Action Plan*** for Skill Training of Persons with Disabilities (PwDs) was launched in March 2015 to enable persons with disabilities to get employment, access markets for their products and learn cutting-edge skills. It seeks to provide a synergistic framework for people with disability, for improving vocational training and employment opportunities for them with the eventual goal of providing them with livelihoods and independence. Subsequently, the ***National Skill Development Mission*** was launched in July 2015 followed by the setting up of ***Skill Council for Persons with Disability (SCPwD)*** in October 2015 to offer Persons with Disability meaningful, industry relevant, skill based training.

Various practices and innovations are no doubt leading to a gradual quantitative and qualitative improvement in the skill training sector. A large number of candidates have been imparted training with the help of various training partners. This study is an attempt to assess the level and quality of skill training specifically in the context of PwDs. Various programmes and schemes have undertaken a number of significant steps to reach out to PwDs. An evaluation of these models and interventions had to be undertaken to assess that up to what extent PwDs could

access their environment both in training and work places. Moreover, if these interventions had the desired effect, they could be lessons for future programmes on skill training.

Objectives of the Study

The objectives of the study were as follows:

- Evaluate and compare outcomes under National Skill Development Corporation (NSDC) grant-based and market-led models of training for persons with disability
- Identify indicators to measure outcomes in the short-term, medium-term and long-term for grant-based and market-led models of training
- Analyze job market outcomes for persons with disability who have undergone training through NSDC training partners

Key Research Questions

The present study endeavored to understand the effectiveness of these training models on the employability of PwD. It attempted to address the following key research questions:

- What was the course wise and category wise PwD enrollment in both the models as per the 21 categories of Rights of Persons with Disabilities (RPwD) Act, 2016?
- What were the various challenges and barriers faced by the PwDs – attitudinal, access (assistive devices, material in the accessible format, technology, etc), participation, etc?
- What were the challenges faced by the Training Partners(TPs) in training PwDs?
- What measures had been taken by the training institutions and employers to provide a barrier free access to PwDs, including accommodations and access audits?
- Did PwDs face any discrimination at workplace in terms of attitude, salary, job roles, promotion, incentives?

- What were the various job roles provided to the PwDs?
- What major steps had been taken by the training institutions and employers to create awareness on the productive potential of PwDs?

For the purpose of this study, a mixed method approach was adopted. Mixed method approach involves both quantitative and qualitative methods of data collection. For the purpose of this study, both secondary and primary source of data were used. For the qualitative part of this study, the data was primarily based on the secondary sources of data as well as closed ended questions in the questionnaire.

A comprehensive questionnaire was developed that comprised questions for the key stakeholders: training institutions, PwDs, employers of PwDs and mobilizing agencies.

Sample Size

For the purpose of this study four groups of respondents were selected:-

- 15 training partners (5 market based and 10 grant based) were picked for interviewing.
- 250 persons with disabilities (125 from market based, 125 from grant based) were selected.
- 5 employers and 25 self-employed PwDs were selected
- 10 mobilizing agencies were interviewed.

Data Collection

Data was collected by conducting telephonic interviews or online mode based on the comfort of the respondents. In some cases of grant based, the TPs called the candidates to their Centres and the research Team went and interviewed them at the Centre to collect the required information.

Data Processing and Data Analysis

The collected data was fed in the quantitative data anaylsis appropriate software. The data collected was segregated and codified based on various variables Frequencies and crosstabs of the dependent and independent variables were taken out using the most appropriate software. The qualitative data was also segregated and analyzed to get the general and specific understanding.

Key Findings of the study

The following are the major findings of the study. The key observations of the secondary data provided are as follows:

- As per the data obtained it was seen that the number of PwDs enrolled under Grant based model were much higher than those under Fee based model: 48392 and 3256 respectively.
- The proportion of girls enrolled in both the models is low (28. 3% under Grant based and 19.8% under Fee based).
- Number of courses covered and types of disabilities among the participants were higher under Grant based model.
- Number of PwD with locomotor disability is highest in both the models followed by PwD who were' hard of hearing
- Employers have employed the PwDs after mapping the requirement of their job roles with their competencies.
- Average monthly salary of PwDs coming from Fee based Institutes is higher than those coming from Grant based institutes.
- All PwDs, both from Grant based model & Fee based model stated that their institute was accessible.

- All PwDs, both from Grant based model & Fee based model stated that their training institute was equipped with ICT facility.
- Placement success rate of PwDs from Grant based model was 72.3%) & 31% in Fee based model
- Discrimination at work place: Except two PwDs from Fee-based model all PwDs said that there was no discrimination at work place.
- Parity in Salary**:** Except one PwD from fee-based model all PwDs said that their salaries were at par with others.
- Participation in decision making: Participation in decision making at work was higher for PwDs from fee-based model (80%) than those in Grant-based model (3%).

Key Recommendations

The study suggests the following recommendations:

- Special incentives should be offered to girls to improve their access, to schools. Transport/ escorts, wherever possible should be made available to girls with disabilities
- Capacities need to be built up on the Rights to Persons with Disabilities Act, so that more and more disabilities recognised under the Act are covered. Disabilities like Dwarfism, blood disorders related disabilities, cerebral palsy etc can be easily covered
- Showcasing of success stories of PwDs who are leading productive lives after skill training and subsequent gainful employment should be madfe part of mobilization strategies. Local media, social media, etc can play a very important role in this
- A hiring policy needs to be place by every organization hiring PwDs.
- Training modules and material needs to be developed for employers on disability and this should be constantly upgraded/ updated

- Although the organizations had taken some measures on the accessibility front, this definitely needs to be strengthened. Access audits should be carried on a regular basis.
- More industry partners should come forward to train PwDs on the basics of working in professional world and specifically on knowledge of industry where they would want to make/ build their careers.
- Exposure visits of PwDs to the world of industry, corporate, etc should be an inherent part of all skill training programmes.
- Role of media and Civil Society Organizations should be for broadening the scope of employment and employability of persons with disability.
- More Research studies should be taken up on skill training on employment of Persons with Disabilities, etc.

This paper provides a birds' eye view of the objective of the study, method adopted for evaluation, major findings of the study and major recommendations. It is hoped that this study will set the stage for the evaluation of many other useful projects on skill training of PwDs.

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Biographical Information

Dr. Anupriya Chadha worked as an Advisor for Inclusive Education for Government of India. She received many National and an International Award for her services to persons with disabilities in 2017. Currently she is working as an independent Consultant in Education and heading Sankalp Society, a nonprofit organization.

3. Do High Leverage Practices Help Teacher Candidates To Create A Stable, Ethical Teaching Environment?

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Introduction

The number of students suffering from mental health issues in the United States is growing at an alarming rate. In the 2024-2025 school year, there was a 55% increase in the number of teachers expressing concerns for their students' mental health and well-being from the previous school year (NCES, 2025). This is particularly concerning when it comes to students with more than one traditionally marginalized identity. For example, students with disabilities and other traditionally marginalized identities face compounded social/emotional barriers in schools, such as ableism along with racism (Forber-Pratt et al., 2021). Students with disabilities who identify as LGBQT+ have been identified as the largest group of adolescents with suicidal ideation (Forber-Pratt et al., 2021). Additionally, Forber-Pratt et al. (2021) found that female students with disabilities from marginalized communities had the lowest levels of school belongingness compared to students with other intersecting identities.

Although teachers are not trained to specifically address mental health concerns, they do have an important role in helping to support their students' social/emotional well-being. One of the most impactful things a teacher can do to support a student's social/emotional well-being is to proactively ensure that their classrooms are a safe and welcoming learning environment for a diverse group of students. The relationships students have at school are some of the most influential relationships students can have outside of their family (Rahiti et al., 2022). Several studies show that a strong sense of belongingness has been linked to improved mental health and can even prevent depression and anxiety in adolescents (Allen et al., 2018; Forber-Pratt et al., 2021 Rahiti et al., 2022; Allen et al, 2024). Helping students to feel accepted, valued, and connected within their classroom community can act as a protective factor for their social and emotional well-being (Rahiti et al., 2022).

Creating a safe, supportive, and welcoming learning environment is an important, yet complex skill and requires intentional effort from teachers. This is why establishing a consistent, organized, and responsive learning environment has been identified as a foundational High Leverage Practice (HLP) that all teachers should know to be effective on their first day in the classroom. In the United States, many special education educator preparation programs (EPPs) use the HLPs for students with disabilities as an instructional framework for their programs.

This pilot study was designed to examine the effectiveness of intentionally embedding opportunities to practice and reflect upon some of the HLPs that were taught throughout candidates' educator preparation program. The focus of this pilot study was on HLP 7: Establish a consistent, organized, and responsive learning environment (McLeskey et al., 2022), which can have a direct impact on a student's sense of belonging and mental health.

Research question:

To what extent do the HLPs prepare teacher candidates to create a stable, ethical teaching environment for all students?

Methodology

This ongoing pilot study uses a mixed-methods design to examine the use of a self-reflection tool, aligned to the Milton Bennett Developmental Model of Intercultural Sensitivity (DMIS; Bennett, M. J., 1986), to help educators identify areas for growth related to creating learning environments that support the social-emotional well-being of students with disabilities and intersecting identities.

Participants

This pilot study was conducted at a university with just over 16,000 students in the Southeastern part of the United States. There were 228 participants, all of whom had a bachelor's degree, in this phase of the study. Participants represented a racially diverse group of teacher candidates. Nearly half of respondents identified as Black or African American (45.6%), with a slightly smaller proportion identifying as White or Caucasian (39.5%). Smaller percentages identified as Hispanic or Latino (3.5%), Asian, Native Hawaiian, or Pacific Islander (1.8%), or as having mixed racial identities (5.3%). Data were collected over the span of two semesters (autumn/spring). The participants were all students enrolled in an online Master of Arts in teaching (MAT) program in special education that also provided initial teacher certification. Students enrolled in the MAT program are career changers with many of them holding a temporary teaching license and serving as the teacher of record in a special education setting or working as a paraprofessional in a general education or special education setting. Data were collected during their final internship course via an anonymous, online survey.

Quantitative Instrument

The researchers used the Cultural Competence Inventory–Preservice Teachers (CCI-PT), a validated Likert-type self-report survey developed by Yang, et al. (2019). The stated goal of the instrument is to examine preservice teachers' ability to be knowledgeable about student diversity, develop healthy emotional responses toward student diversity, and engage in instructional practices that incorporate student diversity (Yang, et al. 2019). Consistent with this goal, the survey assesses three dimensions of cultural competence: Emotional Cultural Competence (ECC), reflecting preservice teachers' dispositions and feelings toward student diversity; Cognitive Cultural Competence (CCC), reflecting awareness and understanding related

to student diversity and instructional considerations; and Behavioral Cultural Competence (BCC), reflecting the extent to which culturally responsive beliefs and knowledge are enacted through instructional practices.

The original survey was not designed to measure developmental stages or explicitly aligned with a developmental model. For the purposes of this pilot study, the researchers developed an interpretive scoring framework that maps aggregated CCI-PT scores across domains onto the developmental orientations described in the DMIS. This framework was designed to provide participants with a meaningful interpretation of their survey results along a developmental continuum rather than standalone numerical scores. The framework was used descriptively to support participant self-reflection and to guide engagement with targeted resources and activities aligned with a developmental orientation. Score ranges were determined through researcher consensus based on conceptual alignment between aggregate CCI-PT score patterns and the developmental orientations described in the DMIS.

Qualitative Reflection Prompt

Qualitative data were collected through an open-ended reflection prompt administered at the end of the semester. The prompt invited participants to reflect on their instructional decision-making, classroom learning environment, and perceived growth related to supporting the social-emotional well-being of students with disabilities and intersecting identities. This qualitative data is currently being analyzed and is not reported here. Future analysis will focus on identifying themes that contextualize and extend the quantitative findings in subsequent phases of the pilot study.

Results

Preliminary quantitative findings are based on descriptive analyses of the pre-administration of the CCI-PT, interpreted using the DMIS-aligned interpretive scoring framework developed for this pilot study. Given the exploratory nature of the ongoing pilot, findings are reported as emerging patterns rather than inferential outcomes.

Across competency domains, participants reported the highest scores in Emotional Cultural Competency, followed by Cognitive Cultural Competency and then Behavioral Cultural Competency. Emotional Cultural Competency scores demonstrated the strongest central tendency and the least variability, suggesting that participants held relatively consistent dispositions toward cultural differences. In contrast, Cognitive Cultural Competency scores were lower and exhibited greater dispersion, indicating more variation in participants' understanding of student diversity and related instructional considerations. Behavioral Cultural Competency scores were the lowest of the three domains, reflecting greater inconsistency in the extent to which beliefs and knowledge were translated into enacted classroom practices.

This descending pattern of self-reported competency, from emotional to cognitive to behavioral domains, suggests that participants were generally more aligned in their expressed beliefs than in their instructional knowledge, and more aligned in their instructional knowledge than in their day-to-day practices. In other words, while many participants endorsed culturally responsive attitudes, there was less uniformity in how those attitudes informed instructional decision-making and classroom implementation. This pattern aligns with prior research suggesting that movement from belief to practice is not linear and often requires sustained reflection and support.

When interpreted through the DMIS-aligned scoring framework, most participants' aggregate scores clustered within the mid-range developmental orientations. Few participants' scores aligned with the earliest or most adaptive ends of the developmental continuum, indicating that most entered the course with a moderate level of readiness for engaging with cultural difference in instructional contexts. These findings suggest that participants were neither uniformly novice nor highly advanced, reinforcing the appropriateness of a developmental, rather than evaluative, approach to interpretation.

Examination of score distributions also revealed notable variability within the cognitive and behavioral domains. Some participants reported substantially higher or lower scores than the majority of the sample, particularly in areas related to instructional decision-making and classroom practices. These patterns highlight that, even within a relatively cohesive cohort, participants differed in how they interpreted and enacted culturally responsive practices. Such variation underscores the importance of tools that support individualized reflection rather than one-size-fits-all professional learning approaches.

These preliminary findings suggest that the DMIS-aligned interpretive scoring framework provides a useful lens for contextualizing CCI-PT results beyond numerical scores. Rather than focusing solely on magnitude of change, the framework allowed for examination of developmental patterns, areas of stability, and areas of potential growth. Early evidence indicates that while culturally responsive beliefs were widely endorsed among participants, translating those beliefs into consistent instructional practice remains uneven, supporting the need for structured reflection and targeted supports aligned to educators' developmental orientations.

Limitations

Several limitations should be considered when interpreting the findings of this study. Participants were drawn from a single state in the southeastern United States and were all enrolled in a MAT program in special education, resulting in a relatively homogeneous preparation context that may limit generalizability to other regions or educator preparation pathways. Most participants were novice educators, including early-career teachers, paraprofessionals, and teacher candidates completing internship placements in special education classrooms, which may have contributed to shared perspectives or instructional beliefs. Additionally, findings are based on self-report data, and a descriptively applied interpretive scoring framework designed to support reflection rather than measurement. Finally, the analysis of the qualitative reflection data (collected at the end of the semester) has not yet been completed and is, therefore, not included in these results.

Next Steps

In this pilot study, the researchers have gained preliminary knowledge of the participants' self-reported understanding of beliefs and practices related to HLP 7: Establish a consistent, organized, and responsive learning environment (McLeskey et al., 2022). The authors are currently looking to expand this research to include a self-reflection tool based on Bennett's DMIS (Bennett, M. J., 1986) for participants completing the survey. Further, qualitative reflection data collected at the end of the semester will be analyzed to examine how participants describe the application of HLP 7, interpret their developmental orientations, and translate reflective insights into classroom actions. The objective is to create not just awareness, but actions that impact students.

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4. Exploring Special Education Professionals' Perceptions Of AI-Powered Tools For Inclusive Education

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Artificial intelligence has evolved from a theoretical concept into an active force in modern education. AI systems analyze large datasets; recognize patterns, and support decision-making, enabling personalized learning and automating administrative tasks (Holmes et al., 2021; Luckin et al., 2016). In special and inclusive education, AI offers particular promise by adapting learning environments, enhancing communication, and supporting students with diverse needs (Al-Azawei et al., 2017; Chen et al., 2020).

International frameworks such as the Salamanca Statement and Sustainable Development Goal 4 emphasize equitable and inclusive education for all learners (UNESCO, 1994; United Nations, 2015). AI can contribute to these goals by tailoring content to individual needs and reducing teachers' workload. However, limited resources, infrastructure challenges, and insufficient training hinder effective implementation (Florian & Black-Hawkins, 2011).

Emerging research highlights the importance of context-sensitive AI integration (Garcia-Sanchez & Lujan-Garcia, 2022; Zawacki-Richter et al., 2019). Adoption depends largely on teachers' perceptions of usefulness and ease of use (Davis, 1989; Venkatesh et al., 2003). Despite its potential, concerns about data privacy, algorithmic bias, and ethical use persist (Holmes et al., 2019; Williamson & Eynon, 2020), underscoring the need for teacher insight to ensure responsible AI integration in inclusive classrooms. This research focused on the perspectives of special education professionals regarding the use of AI-powered tools in inclusive education, their experiences, perceived benefits, and fears.

Literature Review

Artificial Intelligence in Education

Artificial intelligence is transforming education by moving beyond static digital tools to adaptive systems that personalize learning and automate administrative tasks (Holmes et al., 2021;

Chen et al., 2020). AI applications such as intelligent tutoring systems, natural language processing, learning analytics, and chat bots can respond dynamically to student needs (Luckin et al., 2016). However, concerns remain regarding whether AI enhances or undermines teachers' professional expertise (Garcia-Sanchez & Lujan-Garcia, 2022). Educational technology innovations often fail without adequate preparation and training (Bond et al., 2018). The value of AI depends not only on efficiency but also on alignment with pedagogical context and professional judgment.

Inclusive Education: Policy and Practice

Inclusive education is grounded in the principle that all learners have the right to equitable, quality education. The Salamanca Statement (UNESCO, 1994) and Sustainable Development Goal 4 (United Nations, 2015) reinforce this commitment. Despite strong policy consensus, disparities persist between inclusive ideals and classroom realities. Teachers frequently report insufficient training, limited resources, and institutional barriers (Florian & Black-Hawkins, 2011). Meaningful inclusion requires participation, achievement, and belonging rather than mere placement (Ainscow, 2020). Technology alone cannot guarantee inclusion; digital tools must be embedded within pedagogical systems that prioritize diversity and equity (Al-Azawei et al., 2017).

AI and Special Education

AI applications in special education, including text-to-speech systems, voice recognition tools, wearable devices, and adaptive tutoring platforms, support diverse cognitive and sensory needs (Chen et al., 2020; Nouri et al., 2019). Evidence suggests improvements in engagement and communication, particularly through adaptive and wearable technologies (Zawacki-Richter et al., 2019). However, adoption is constrained by cost, infrastructure limitations, and maintenance challenges, especially in low-resource contexts (Garcia-Sanchez & Lujan-Garcia, 2022). Ethical

concerns, including bias, transparency, and contextual sensitivity, remain significant (Williamson & Eynon, 2020).

Teachers' Perceptions and Theoretical Framing

Teachers' perceptions strongly influence AI adoption. The Technology Acceptance Model emphasizes perceived usefulness and ease of use (Davis, 1989), while the Unified Theory of Acceptance and Use of Technology highlights social and contextual influences (Venkatesh et al., 2003). Ethical concerns about data security, algorithmic bias, and professional autonomy shape acceptance (Holmes et al., 2019). In special education, where teaching is relational and empathy-driven, AI must complement rather than replace professional expertise. This study integrates the Technology Acceptance Model and Inclusive Pedagogy Theory to examine AI adoption as both a technical and ethical process shaped by teachers' values and commitment to inclusive practice (Ainscow, 2020; Florian & Black-Hawkins, 2011).

Methodology

This qualitative phenomenological study explored special education professionals' perceptions of AI tools in inclusive education, guided by the Technology Acceptance Model and Inclusive Pedagogy Theory. Purposive sampling selected nine professionals (five male, four female) aged 26–63, including lecturers, teachers, administrators, and support staff with varied experience. Data were collected through semi-structured interviews lasting 40–60 minutes, focusing on experiences with inclusive education, AI use, perceived benefits, challenges, and ethical concerns. Interviews were audio-recorded with consent and supplemented by field notes. Transcripts were analyzed using Braun and Clarke's six-phase thematic analysis with inductive coding supported by NVivo 12. Ethical approval was obtained, and confidentiality, voluntary participation, and the use of pseudonyms were ensured.

Results

The findings revealed that special education professionals expressed cautious optimism regarding AI-powered tools in inclusive education. Participants acknowledged AI's potential to enhance accessibility, engagement, and instructional efficiency for learners with exceptionalities, particularly through tools such as speech-to-text applications and assistive communication technologies. AI was viewed as a supportive resource that could address diverse learning needs, improve classroom participation, and assist teachers with lesson preparation and planning.

Improved learner engagement was frequently highlighted, especially through interactive and multimedia resources that sustained attention and motivation. Participants also noted that AI facilitated communication for learners with sensory impairments and supported progress monitoring.

However, significant challenges were identified. Infrastructural barriers, including unreliable electricity and poor internet connectivity, were seen as major constraints, particularly in resource-limited contexts. Concerns about over-reliance on technology, reduced independent thinking, and diminished human interaction were also raised.

Participants emphasized the need for sustained professional development, ethical guidance, and equitable access to prevent widening disparities. Overall, they supported AI integration when accompanied by adequate infrastructure, training, and context-sensitive implementation strategies.

Discussion

This study explored special education professionals' perceptions of AI-powered tools in inclusive education through the lenses of the Technology Acceptance Model (TAM) and Inclusive Pedagogy Theory. Findings reveal cautious optimism: participants recognized AI's instructional value while expressing concerns about infrastructure, ethics, equity, and professional readiness.

Consistent with prior research, AI was viewed as supporting accessibility, engagement, and instructional efficiency. Tools such as speech-to-text applications, visual supports, and adaptive platforms enabled greater participation for learners with disabilities. From a TAM perspective, this reflects strong perceived usefulness, as participants linked AI to improved personalized learning and reduced instructional barriers (Nouri et al., 2019; Chen et al., 2020).

However, adoption was constrained by structural limitations, including unreliable electricity, poor internet connectivity, and limited device access. These facilitating conditions significantly influenced willingness to integrate AI, aligning with UTAUT and research highlighting risks of widening inequalities in low-resource settings (Garcia-Sanchez & Luján-García, 2022).

Ethical concerns also emerged, particularly fears of over-reliance on technology, diminished independent thinking, and reduced human interaction. These issues resonate with Inclusive Pedagogy Theory, which emphasizes relational teaching and professional judgement. Even when AI was seen as useful, concerns about autonomy and teacher professionalism moderated enthusiasm (Holmes et al., 2019; Williamson & Eynon, 2020).

Professional development was identified as pivotal. Participants stressed that without adequate training, AI tools risk misuse or underutilization. Overall, AI integration in special education is best understood as a socio-pedagogical process that requires alignment among infrastructure, ethical safeguards, and sustained professional engagement.

Limitations

This study has several limitations. The first is that the small purposive sample of nine professionals significantly limits the generalizability beyond the specific context. Findings rely on self-reported perceptions, which may not reflect actual classroom practice or learner outcomes.

The cross-sectional design captures views at a single point in time. Learner and family perspectives were excluded, and contextual resource constraints may affect transferability to other settings.

Conclusion and Recommendations

This study explored special education professionals' perceptions of AI-powered tools in inclusive education and found cautious optimism regarding their use. Participants acknowledged that AI applications—such as speech-to-text tools, adaptive learning platforms, and visual supports—can enhance accessibility, engagement, and instructional efficiency, serving as complements rather than replacements for teachers. However, effective implementation is shaped by infrastructural, professional, and ethical considerations, including unreliable connectivity, limited training, and equity concerns. Participants warned that uncritical adoption may deepen disparities and reduce meaningful human interaction. The study recommends investing in infrastructure, sustained professional development, equity-focused implementation strategies, and collaboration among educators, policymakers, and developers to ensure context-sensitive, ethically grounded integration.

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5. Family-Guided Routines-Based Intervention In Early Childhood: A Rural Tennessee Case

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Early intervention (EI) has long been recognized as a critical support system for young children with developmental delays and disabilities, as well as for their families. Over the past several decades, the field has shifted from provider-directed models of therapy toward family-centered practices that empower caregivers in their natural environments. One such model, the Family-Guided Routines-Based Intervention (FGRBI), emphasizes embedding intervention strategies within everyday routines, thereby enhancing developmental outcomes while promoting family competence and confidence (Bricker & Cripe, 1992).

This paper examines the application of FGRBI within a rural Tennessee agency serving children and families through the Tennessee Early Intervention System (TEIS). Drawing from developmental therapists' experiences, the discussion highlights how coaching families to integrate goal-oriented growth opportunities into daily routines aligns with both historical and contemporary shifts in EI practice. The paper also explores the broader context of EI in the United States and considers implications for practitioners adopting evidence-based, family-centered approaches.

Historical Context of Early Intervention in the United States

The roots of EI in the United States can be traced to the passage of Public Law 94-142 (Education for All Handicapped Children Act, 1975), which mandated services for school-aged children with disabilities. Recognition of the importance of intervening earlier led to the Education of the Handicapped Act Amendments of 1986 (Part H), later reauthorized as Part C of the Individuals with Disabilities Education Act (IDEA). This legislation ensured states would provide coordinated, family-centered services to infants and toddlers with developmental delays or diagnosed conditions (Bruder, 2010).

Historically, EI practices often centered on direct child intervention in clinical or isolated settings. However, research increasingly emphasized the importance of naturalistic, family-guided approaches. By the early 2000s, scholars advocated for a shift from provider-led therapy to capacity-building strategies that positioned families as the primary facilitators of their child's development (Dunst & Espe-Sherwindt, 2016).

The Family-Guided Routines-Based Intervention Model

The FGRBI model, a routines-embedded coaching model inspired by Robin McWilliam's (1992) routines-based interview, integrates principles of family-centered practice, coaching, and routines-based intervention. Rather than focusing on isolated skill acquisition in structured settings, FGRBI emphasizes embedding developmental goals into the child's natural routines—mealtimes, play, caregiving, or community activities and activity-based intervention (Bricker & Cripe, 1992). The therapist's role becomes that of a coach, guiding caregivers in how to create meaningful learning opportunities throughout the day. Central to FGRBI are the following principles:

1. Family Empowerment – Caregivers are viewed as competent partners who can support their child's development when equipped with knowledge and strategies.
2. Contextual Learning – Children learn best in familiar settings where skills are immediately functional and relevant.
3. Collaborative Goal Setting – Families and therapists jointly identify outcomes meaningful to daily life.
4. Capacity-Building Coaching – Therapists focus on modeling, observation, feedback, and problem-solving with families, rather than direct child intervention.

Evidence suggests that FGRBI not only enhances child outcomes but also strengthens family efficacy and engagement (Woods, Wilcox, Friedman, & Murch, 2011).

Implementation in a Rural Tennessee Agency

In rural Tennessee, where access to services may be limited due to geographic and resource constraints, FGRBI provides an adaptable framework for maximizing family involvement. Developmental therapists within the local EI agency have reported several successes using this model:

- *Increased Family Engagement*: Families feel more confident in embedding intervention strategies within their daily lives.
- *Sustainability of Skills*: Because interventions occur in natural contexts, families are more likely to continue strategies beyond therapist visits.
- *Cultural Responsiveness*: Rural families often value practical, relationship-based approaches; FGRBI aligns with these preferences.

Therapists emphasize that coaching is not about directing parents but about partnering with them to identify routines that matter most. For example, a family working on communication goals may practice turn-taking and language expansion during mealtime, while another family may focus on motor skills during outdoor play.

Benefits and Challenges of FGRBI Coaching

Benefits include:

- *Child Outcomes*: Embedding learning in routines increases opportunities for practice and generalization.
- *Family Outcomes*: Parents gain competence, confidence, and a sense of agency in supporting their child's development.

- *System Outcomes*: EI programs maximize efficiency by equipping families to extend intervention beyond limited service hours.

Challenges include:

- *Training and Fidelity*: Therapists must be adequately trained in coaching methods to implement FGRBI with fidelity.
- *Cultural Adaptation*: While adaptable, FGRBI requires sensitivity to family values, routines, and capacities.
- *Rural Barriers*: Families in rural areas may face additional challenges, such as limited access to broadband for telehealth or fewer community resources.

Implications for Practice

The integration of FGRBI into EI practice reflects a larger movement toward evidence-based, family-centered models in the United States. Practitioners adopting this framework should:

1. Engage in ongoing professional development to strengthen coaching competencies.
2. Collaborate with families to set culturally relevant and meaningful goals.
3. Advocate for policies and funding structures that support family-centered service delivery, particularly in rural regions.

As EI continues to evolve, models such as FGRBI demonstrate how developmental therapists can bridge historical policy foundations with contemporary evidence-based practices to optimize outcomes for children and families.

Conclusion

The shift from provider-led interventions to family-guided, routines-based models represents a significant evolution in early intervention. The experiences of a rural Tennessee agency highlight the potential of FGRBI to empower families, embed learning in meaningful contexts, and improve developmental outcomes. Situating FGRBI within the broader history of EI underscores its value as a sustainable, family-centered pathway for practitioners.

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6. Finding Your Feet: Somatic Practices For Liberatory Classrooms

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Classrooms are often imagined as spaces of growth, yet they frequently function as mechanisms of social compliance. Expectations for calm, quiet, and stillness privilege particular bodies and behaviors while marginalizing others. Teachers operate within this tension, balancing a desire to nurture students with pressures to enforce institutional norms and maintain their employment.

Schools can either reproduce social hierarchies or foster new ways of being. Freire (1970/2000) critiques traditional education as a "banking model," in which knowledge is deposited into passive learners, reinforcing hierarchies and oppression. In many classrooms, teachers expect students to sit still, listen quietly, and absorb knowledge without question. However, it is possible for education to prioritize dialogue, reflection, and co-construction of knowledge. Students cannot learn effectively when they are somatically shut down, disengaged, or anxious. Integrating somatic practices operationalizes non-coercive, embodied engagement, supporting both teachers and students while aligning with Universal Design for Learning (UDL) principles (Lambert et al., 2023; Kulick, 2025).

Special education classrooms often make these tensions visible. Neurodivergent or disabled students are frequently disciplined for behaviors reflecting sensory or attentional needs rather than misbehavior, underscoring the importance of pedagogical approaches that honor embodied difference.

Classrooms as Sites of Compliance

Schools structure behaviors around normative expectations for stillness, attention, and quiet, signaling that deviation is undesirable. Movement, vocal expression, or sensory-seeking behaviors are often corrected or disciplined (Clouder et al., 2020; Hegna, 2024).

One example comes from a dance class taught by one of the authors with 25 second graders in a special education program at a low-income Miami school. Students engaged in improvisation emphasizing collaboration, play, and physical exploration. Instead of choreographing for them, the teacher guided the students to develop a structured improvisation, giving them space to invent movement, interact, and make choices together.

When the school administrator came to "check on progress," he was shocked by the apparent chaos. The students were energetic, playful, and fully engaged in relational, generative activity – without being policed for "chaotic" behavior. The administrator returned multiple times, fearing the students would not be prepared to perform at the end of the semester. The teacher, supported by a somatic practitioner, learned to sit with the discomfort of administrators' distrust and stay centered on the children's need for autonomy and play. At the culminating performance in a large theater, the students' dance was cohesive, moving, and deeply authentic. The administrators ultimately praised the class and invited the teacher back to teach and lead professional development. This example shows how prioritizing process over rigid order allows students to embody agency, joy, and presence.

Another example we have observed across multiple classrooms involves students—often male and racialized—rhythmically tapping a pen on their desk as a form of self-regulation. While this behavior supports attention and participation, it is frequently interpreted by teachers as defiance or disruption. Students are then disciplined or removed, illustrating how regulatory behaviors are misread through a compliance-oriented lens. These examples illustrate how administrators struggle with difference, tending to curtail behaviors outside narrow norms of calm and stillness. By emphasizing relational, process-oriented learning, teachers can allow

neurodivergent or marginalized students to engage fully, exercise agency, and bring vitality to their learning experience, challenging compliance-focused models.

Teachers in the Tension

Educators enter classrooms with intentions to care, yet they are constrained by institutional expectations. This creates a double bind: they seek to support students while enforcing policies that emphasize control and conformity (Émond, 2021). Teachers' formative experiences often reinforce the belief that stillness and compliance equate to learning readiness. Recognizing positionality and embodied bias is critical. hooks (1994) and other liberation educators argue that teachers must cultivate critical consciousness to resist reproducing oppressive norms. Students cannot learn effectively when their nervous systems are dysregulated; supporting somatic regulation is essential for attention, engagement, and learning capacity (Hanna, 1988; Bailey and Jones, 2020). Embodied awareness allows teachers to navigate these tensions ethically, supporting relational and inclusive practices while maintaining employment.

Somatic frameworks, such as the Sites of Shaping and Sites of Change (Haines, 2023), offer practical tools for reflection. These frameworks identify spheres influencing beliefs and actions—Family, Community, Institutions, Social Norms, and Spirit/Nature—and recognize that individuals can also shape these sites. Teachers can journal or reflect on their Sites of Shaping, noticing where they have been corrected or controlled and exploring how these patterns influence current classroom reactions. Teachers might engage this reflection through simple prompts: When have I felt the urge to control student behavior? What was happening in my body at that moment? What assumptions was I making about the student? What alternative responses were available? When have I felt controlled by authority figures? What was happening in my

body then? By linking bodily sensations with classroom decisions, teachers can begin to interrupt habitual reactions and cultivate more intentional responses. With this awareness, teachers can develop skills to differently shape classroom dynamics with more deliberate and relational responses that create a dynamic interplay between inner experience and outer reality.

Limitations of Traditional Emotional Management

Social-emotional learning (SEL) programs aim to regulate students' emotions to maintain predictable environments. While valuable in some contexts, SEL often reinforces compliance rather than agency (Faella et al., 2025; Underman, 2025). Without attention to structural and relational context, such approaches can perpetuate correction and marginalization.

Even well-intentioned strategies, like feelings check-ins, strict movement rules, or "calm corners," may unintentionally enforce compliance. Students may censor emotions, suppress impulses, or disengage simply to fit expectations. For example, a student who is visibly upset may be directed to a "calm corner" until they are quiet enough to rejoin the group. While framed as supportive, this can communicate that belonging is only available when emotions are subdued. Rather than engaging the student's experience, the practice can prioritize classroom order, reinforcing compliance over expression or relational understanding. Difference can challenge classrooms, but it is also reality. Shifting perspective allows educators to respond with curiosity and openness rather than control.

Somatics as a Pedagogy of Capacity and Wholeness

Somatics is the study and practice of embodied awareness, exploring how we inhabit, sense, and move through our bodies (Hanna, 1988). Unlike approaches treating the body as a vessel for cognitive learning or behavior modification, somatics emphasizes felt experience, self-regulation, and relational attunement. Its lineage includes Feldenkrais Method, Alexander

Technique, Body-Mind Centering, Continuum Movement, and global Indigenous, African diasporic, and meditative practices emphasizing embodiment as knowledge, healing, and relational attunement. Contemporary somatic educators foreground justice, liberation, and trauma-awareness, highlighting the intersections of embodiment with social structures and systemic oppression (Haines, 2023; Hemphill, 2024; Menakem, 2017).

Somatic practices offer more than relaxation techniques; they provide frameworks for embodied learning that honor difference, cultivate wholeness, and promote accountability. Our bodies carry experiences of socialization, trauma, and systemic oppression, making somatic awareness essential for ethical pedagogy. For teachers, somatics enables holding space for students whose behaviors, learning styles, or sensory needs differ from norms without defaulting to coercion. For students, it provides a language of embodied autonomy, allowing them to recognize sensations and impulses as signals to attend to rather than deviations to be punished.

Within classrooms, somatics operationalizes UDL by fostering attunement to bodily experience, allowing multiple modes of participation—from movement and gesture to vocal expression and relational engagement. This shifts the goal from compliance toward collective wholeness, creating space for teachers and learners to inhabit their full complexity and engage authentically.

For example, in a theater class with eight special education high school students, somatics paired with Theater of the Oppressed techniques allowed collaborative performance creation. Students coordinated breath, energy, and timing while practicing saying no and engaging on their own terms. In another case, high school students from low-income neighborhoods who had experienced gun violence were supported through somatic grounding techniques; these practices allowed teachers to hold space for intense stories while remaining

present and responsive. These practices build relational competencies, reflection, and authentic participation, illustrating how somatic skills support student safety and agency and widen teachers' capacity.

Discussion: Toward Liberatory, Embodied Classrooms

Integrating somatics with UDL and liberation pedagogy supports classrooms that honor agency, dignity, and relational engagement. Embodiment is co-presence, not a prescriptive behavior checklist, aligning with Freire's vision of critical consciousness (Freire, 1970/2000).

UDL encourages classrooms to support diverse learners through multiple means of engagement, representation, and expression (CAST, 2018). However, teacher habits and embodied conditioning—Sites of Shaping—often limit implementation. Somatic awareness helps teachers notice where discomfort or assumptions constrain student engagement, expanding capacity to tolerate dissonance and difference. Grounding (Find Your Feet), relational attunement (Collective Attention / Call and Response), and improvisational responsiveness (Movement Improvisation, Sensory Mapping) cultivate environments where students explore, experiment, and participate authentically.

The following practices are drawn from the authors' teaching, facilitation, and somatic practice across educational and community settings.

Somatic Practices to Support and Sustain Educators

- **Find Your Feet:** Focus on the feet and their contact with the ground to anchor presence and support deliberate responses.
- **Get Your Back / Embodied Listening:** Shift awareness to the back while listening, reducing urgency and supporting steady engagement.

- **Proprioceptive Check-Ins:** Pause to notice posture, breath, and tension, choosing responses rather than reacting automatically.
- **Body Scan / Settling Into Gravity:** Let weight drop and breath deepen to increase tolerance for sensation.
- **Embodied Reflection:** Journal about classroom moments while tracking bodily sensations to notice impulses toward control and relational possibilities.

Somatic Practices in the Classroom

- **Collective Attention / Call and Response:** Use rhythm, song, or coordinated movement to build shared attention relationally.
- **Grounding Before Transition:** Invite students to notice feet, breath, or contact with the chair before shifting tasks.
- **Flexible Spatial Participation:** Allow standing, sitting, pacing, or observing before joining; readiness is not equated with stillness.
- **Sensory Awareness Practices:** Name sounds, light, proximity, or movement to validate sensory experience. Ie. “That bell was loud” or “She was moving fast”
- **Multi-Modal Expression:** Enable students to demonstrate understanding through speaking, writing, drawing, movement, or collaboration.

Engaging with these practices helps teachers expand relational capacities, resilience, and responsiveness, creating inclusive classrooms where all students thrive.

Conclusion

By cultivating embodied awareness and relational capacities, teachers can hold difference, respond ethically, and foster authentic participation. Grounded, attentive educators create classrooms where students feel seen, safe, and empowered to explore, experiment, and

contribute. Somatics translates UDL into living practice, shaping classrooms that are not only inclusive but generative. Through the authors' teaching and work with school districts, we have witnessed how presence, attunement, and openness ripple outward, creating collaborative, respectful learning spaces that nurture future thinkers, makers, and change makers.

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7. Mathematics is Integral To Curriculum Design

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Introduction

Mathematics is a foundational component of education, contributing to academic development as well as everyday functioning. For students in special schools, mathematics instruction must move beyond traditional abstract approaches and focus on meaningful, accessible and functional learning experiences. This paper addresses the need for curriculum integration strategies that make mathematics relevant, practical and achievable within special school settings.

Incorporating mathematics into all subjects for special education, like environment studies, music, and technology, enhances cognitive development, fosters independent living and strengthens critical thinking through contextual, real world application. For special students, embedding mathematics into other subjects moves away from rote memorization, and focuses on practical application and understanding, which could facilitate retention. Integrating mathematics helps students with special needs connect abstract concepts to daily life, improving functional skills, emotional engagement and self-efficacy. Mathematics fosters mental rigor, critical thinking and problem solving skills, which are crucial for students with diverse learning needs to analyze situations and make informed decisions. Integrating mathematics throughout the curriculum ensures that students with special needs develop both academic and functional skills, preparing them for better independence.

Objective

The objectives of this paper are to:

Examine the importance of integrating mathematics into the special school curriculum.

Identify effective strategies for mathematics learning in special education.

Propose a practical framework for curricular integration.

Highlight the role of functional and life-skill based mathematics.

Methods

This paper adopts a practice-based qualitative approach, collecting data from classroom observations, teacher reflections and curriculum implementation experiences in a special school setting. Instructional practices are analysed based on student engagement, skill acquisition and functional application. The first step is the visibility of understanding. This visibility is related to the opportunity given to students to explore and grasp the concepts. The teaching method directs the attention of the student from the visible elements to the invisible elements, (i.e. from concrete to abstract). The understanding of concepts has to be developed in the classrooms for translation. It is important to apply mathematics practically rather than just understand it in theory.

Functional mathematics focuses on using mathematics meaningfully in real-life situations. An effective system ensures that students can apply mathematics skills independently in daily living, especially in inclusive settings. One of the key factors supporting the effective system is the Let's Talk Math program at SPJ Sadhana School in Mumbai, developed by Tamar Apel (1992).

The Let’s Talk Math program specializes in the development of a positive attitude towards mathematics and the improvement of mathematical thinking and skills. Springing from a futuristic paradigm, the Let’s Talk Math program presents an innovative methodology coming from the ‘Teaching of Mathematics with a Humanistic Approach’, developed by Ms Tamar Apel, managing director of CimeH Institute Israel. The methodology inspires teachers and students to deal with mathematical issues through a clear and systematic structure of assessment and activities designed for the needs of the students**.** The Lets Talk Maths program ensures empowerment of didactic skills and learning, based on the following: pedagogical

foundations of the humanistic philosophy, differentiation of activities, giving simple and specific instructions, providing time to think, strengthening respect to learning modalities, and accommodating pace of learning and ways of expression. The Math Lab environment in the school is a concrete approach to enable practical experiences in mathematical issues.

Learning mathematics is a natural activity of the human being. Special students have the capacity to learn, if we plan appropriately the learning scenario that will support their needs and facilitate the requests of their learning characteristics. The Lets Talk Math methodology, with more than thirty years of application, gives a teacher a perfect standing point to develop correct communication, facilitate experiential learning and support mathematical actions of the student. Giving time to think and making observations are embedded in the proposed teaching plan.

The foundation is laid during the formative years where sorting is given primary importance. Sorting is the basic skill needed to learn mathematics. The ability is latent in the student and it requires development. Almost everything we do in daily life has to do with the action of sorting – choosing to drink tea or coffee at the breakfast table, choosing the mode of transport for school or office. Gradually, sorting skills contribute to the development of mathematics. At SPJ Sadhana School, the sorting skill is developed through ‘Sort and Count Learning Book for Special Students: Mathematics Part-1-SORT (Apel, 2015). A structure of work is created such that every student gradually completes the book page by page at his/her own pace. A routine is introduced to build a learning structure that will help the student deal with more complex concepts and skills in the future. The starting point is the connection between the student and the task. This connection must be achieved when introducing the materials with specific instructions.

Sequencing is another important mathematical concept, which is taught using diverse elements of the environment. Visual, Auditory, Kinaesthetic, Tactile (VAKT) learning styles are considered to introduce order and regularities into a situation. The concept of number without mentioning it, is systematically introduced in the Sort and Count Book, when students are asked to place 1 red counter and 1 green counter on the blank circles. When the counters turn into stickers and the stickers turn into colour drawings, an escalation from concrete to abstract thinking is developed.

Multisensory instructions. Students internalize mathematical concepts best by interacting with their environment through the use of realistic manipulatives and activities. For example, hands-on materials like blocks, beads and coins; visual aids such as charts, number lines or pictorial schedules; and movement-based activities such as clapping, hopping or sorting. Manipulatives, like blocks and counters, enhance understanding through hands-on engagement. Place value kits and geo-boards help students visualize problems and build conceptual understanding. Money lookalike used while teaching to count money, help to understand the feel, size and look of real money, making it easier for real world scenario like shopping. Fraction circles, squares and 3D cardboard pizza, used while teaching fractions, help students visualize fractions and enhance understanding.

Cross curricular integration. Mathematics is integrated across the school (The Formative Years, the Intermediate Level and the Vocational Training Courses) as it correlates almost with all the key subjects. Tables 1, 2 and 3 show the assimilation of Mathematics within the school processes.

Table 1

Integration of Mathematics into the different subjects across the school curriculum

School Subject	Mathematics involved
English (language)	Number stories, sequencing
Art	Patterns, shapes, sequence, counting, symmetry
Environment science	Sorting, counting, measuring, reading graphs
Life skills	Money counting, comparing prices, telling time, reading calendars, measurements using rulers and kitchen scales.
Cooking	Measurements using measuring cups and spoons. Adjusting temperature on a gas stove, adjusting the knob of an oven, time management, fractions, doubling or halving in recipes, counting ingredients, setting timers, sequencing, identifying shapes while cutting, understanding units and bulk counting.
Computers	Pattern recognition, sequencing, sorting lists, understanding sets, understanding terms such as vertical and horizontal.
Creative art	Two dimensional (2D) and three dimensional (3D) shapes, symmetry, geometry, sequencing, patterns, ratio and proportion
Banking	Addition, subtraction, multiplication, division, skips counting, Identifying notes/bills, matching, sorting, and writing numerical values and number names.
Wood Art	Sequencing and counting.
Tailoring	Symmetry, linear measurement, addition, subtraction, sequencing.
Packaging	Sorting two or three attributes, counting, sequencing, and spatial organization
Bead work	Matching, sorting, counting, sequencing, identifying patterns.
Fine art	Sequencing, symmetry, counting and proportion
House keeping	Identifying room numbers, counting, sorting, sequencing, managing time, and recognizing shapes.
Baking	Using measuring cups and spoons, weighing on a kitchen scale, fractions, recipe scaling, setting timers, matching oven knobs to recipe temperature.

Table 2

Integration of Mathematics into the different therapeutic interventions in the school

Therapy	Mathematics involved
Yoga	Spatial awareness, lines, angles, counting, sequencing, distance.
Art therapy	Shape recognition, pattern generation, estimation, understanding ratio, sorting three attributes, using a ruler for measurement and comparison.
Department of Eclectic Therapy (DET)	Sorting, counting money, telling time, measurement, practical addition, subtraction.
Dance Movement Therapy (DMT)	Shapes, counting, sequencing, problem solving
Occupation Therapy (OT)	One to one correspondence, identifying numbers, understanding shapes and spatial awareness.
Play therapy	Numbers sense, subitizing, basic addition and subtraction, identifying shapes.
Sports	Number sense, skip counting, spatial awareness, spatial concepts

Table 3

Integration of Mathematics into the extracurricular activities of the school

Activity	Mathematics involved
Educational Enrichment Excursion (EEE)	Sorting, counting, time management, number sense, shapes, grouping, problem solving, counting money, direction.
Annual concert	Sorting, sequencing, identifying patterns, number sense, time management, angles, shapes, grouping, going with the pace, problem solving.
Annual school fete	Sorting, sequencing, number facts, bulk counting, time management, concept of money, addition, subtraction, problem solving, measurement.

Emergency evacuation drill	Sorting, sequencing, time management.
Shopping day in school	Money counting, sorting, sequencing, addition, subtraction, skip counting.
Annual sports day in school	March past -- linear measurement, symmetry, time management and angles Running race – distance, time and speed Relay race – grouping, time, distance and speed

Results and Discussion

The emergence of a mathematics curriculum that emphasizes problem solving, critical thinking, language processing, and comprehension and computation has implications for planning educational programs in mathematics for students with learning disabilities (Bley & Thornton, 2001).

The integration of mathematics into functional and cross-curricular activities resulted in improved student participation and confidence. Many of our students intern in an inclusive and mainstream setup, applying mathematical knowledge and displaying independence with tasks like data entry in an office setup, culinary activities at a restaurant and independent travelling. Students demonstrated better understanding when concepts were linked to real life experiences. Teachers provided increased opportunities for application and participation.

Both formative and summative assessments are conducted by the teachers.

Formative assessment during the student's learning process leads teachers to use alternative strategies. It helps teachers to identify the students' challenges. Monitoring students' learning process improves the ongoing teaching. Summative assessment helps to evaluate students' learning at the end of a teaching plan, by comparing it against some standard benchmark. Information from summative assessments can be used formatively when teachers use it to guide their efforts and activities in subsequent courses.

Table 4

Sample of data collected from the Hospitality and Catering Department showing formative to summative assessment

Name of the student	Reading numbers			Setting oven temperature			Weighing on a scale			Counting money		
Terms	1st	2nd	3rd	1st	2nd	3rd	1st	2nd	3rd	1st	2nd	3rd
Student 1	**A**	**B**	**C**	**A**	**A**	**B**	**A**	**B**	**C**	**A**	**B**	**B**
Student 2	**B**	**C**	**C**	**C**	**C**	**C**	**A**	**B**	**C**	**B**	**C**	**C**
Student 3	**C**	**C**	**C**	**A**	**B**	**C**	**A**	**B**	**C**	**B**	B	**C**

Key to Table 4:

Both formative and summative assessments help teachers track progress and adjust instructions accordingly, as shown in Tables 5 and 6.

Table 5

Sample of observations for a student, made by the teachers at the departure terminal of an airport, while travelling during a school trip, representing a real life situation.

Sequence	**In the Math Lab (mock)**	**At the airport (during departure)**	**At the airport (during arrival)**
Entering with own trolley bag	learnt	Managed independently	Managed independently
Luggage check in	learnt	With verbal prompt	Followed instructions
Handling boarding pass	learnt	Done by teacher	Held carefully
Security check in	learnt	Followed instructions	Managed independently
Towards the gate number	learnt	Walked with the group	Walked with the group
In flight entry	learnt	Entered with the group	Entered with the group

*Key: * with help or prompts; * partially or completely independent*

Table 6

Sample of observations made by the teacher after teaching the students to count money:

Venue	Carrying money	Selecting the item	Reading the cost price	Paying money at the cash counter	Waiting for change	Picking the item
Mathlab 1	Learning	Can do	Can read	Learning	Needs reminder	Needs reminder
Mathlab 2	Can do	Can do	Can read	Prompt	Prompt	Can do
Mall	Can do	Can do	Can read	Can do	Prompt	Can do

*Key: *in school in the math lab (2 times); *Shopping in a real life scenario, in a mall*

Reading numbers	Setting oven temperature	Weighing on a scale	Counting money
A – 1 to 50	A - Reading the given temperature	A - Adjusting to 0	A - Identification
B – 1 to 100	B - Adjusting the knob with prompt	B - Weighing the item	B - Counting 1 denomination
C – 1 to 500	C - Independent	C - Understanding heavy or light	C - Counting 2 denominations

Conclusion

Integrating maths throughout the curriculum for special schools makes mathematics relevant, practical and applicable. It is essential for promoting meaningful learning and independence. A functional, multisensory and inclusive approach enables students with special educational needs to engage with mathematics in ways that are relevant and empowering. Curriculum planners must prioritize adaptability and real life application to ensure access to mathematical learning.

Recommendations

- The curriculum framework should emphasize functional mathematics.
- Teacher training programs must include specialized math pedagogy.
- Further research is recommended using present data and tracking assessments.
- Specific situations can be created in school in order to ensure progress of students' acquisition of mathematical knowledge and skills, according to the students' profile.

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8. Using Evidence-Based Practices To Increase Students' Adult Life Outcomes

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The transition from high school to adulthood is one of the most significant junctures in life and begins with elevated expectations, including legal accountability and sociopolitical responsibility (Arnett, J.J., 2023; United Nations, 2016). Once individuals reach the age of majority, society expects them to move towards independence and to participate as engaged, contributing members of their communities to the greatest extent possible.

For decades, U.S. education law has required schools to use educational practices and programs grounded in research to ensure interventions are effective and improve student outcomes. The 1990 amendment to the Individuals with Disabilities Education Act (IDEA) mandated transition services for all students with disabilities and encouraged researchers to examine practices associated with positive postschool outcomes (Test, 2016). These expectations were reinforced in the 2004 reauthorization of IDEA, which required that special education and related services be based on rigorous, peer-reviewed scientific research. Consistent with these mandates, more recent legislation continues to emphasize the use of evidence-based practices in supporting students with disabilities.

Despite longstanding mandates to use research-based strategies, outcomes for students with disabilities remain uneven. Youth with disabilities continue to lag behind their peers in employment, with students with autism, intellectual disabilities, and multiple disabilities among the least prepared for adult life (Mazzotti & Chang, 2018). Although special education is intended to equip students with the knowledge and skills needed to transition from high school to independent, productive adulthood, transition outcomes for individuals with intellectual and developmental disabilities remain poor. One clear way to address this gap is through the use of evidence-based practices and predictors. When these approaches are integrated into special education and transition services, students are better prepared to obtain and sustain employment,

supporting greater independence and self-sufficiency. Delivering comprehensive, evidence-driven transition programs is essential to improving post-school outcomes.

Introductory Definitions

Several terms are used in the United States that are defined below to clarify the characteristics of students and services provided through special education and how the terminology is defined by current legislation. The paper will also present and define evidence-based practices and predictors identified through high-quality research to enhance the delivery of quality education and transition services to students with disabilities.

Evidence-Based Practice: An evidence-based practice is defined as an intervention that "demonstrates a statistically significant effect on improving student outcomes" or "demonstrates a rationale based on high quality research findings," which may improve student outcomes (section 8101(21)(A of ESSA, 2015).

Evidence-Based Predictor: An evidence-based predictor is defined as a strategy or intervention that predicts improved transition outcomes based on high-quality, correlational research or a sufficient accumulation of methodologically sound studies that reveal significant findings in one or more of three transition outcomes: further education or training, employment, or independent living (National Technical Assistance Center on Transition, 2021).

Individualized Education Program (IEP): An IEP is a legal document mandated by IDEA of 2004 that is developed by the school's special education team with input from general educators, parents, and external partners (e.g., Vocational Rehabilitation counselor), and updated annually. Major components of the IEP include students' present level of performance (e.g., a summary of student progress on previous academic, behavioral, or transition goals), current annual goals and

benchmarks, accommodations, special education and related services (e.g., speech therapy, occupational therapy), and transition services (U.S. Department of Education, 2020).

Post-School Outcomes for Students with Disabilities

The National Longitudinal Transition Study-2 (NLTS2), collected nearly 13,000 surveys from a nationally representative sample of U.S. students, sheds a disparaging light on the adult life outcomes of youth with disabilities (Newman et al., 2023). Primary indicators of positive outcomes are measured by employment statistics, enrollment in college, or both (Izzo & Horne, 2016; Wright, 2019). NLTS2 data indicate that recent graduates with intellectual disability (ID) experience a post-school employment rate of 46% as compared with 68% of graduates with other health impairments and 79% of graduates with learning disabilities (Sanford et al., 2011). Students with ID face many barriers to employment, including a lack of necessary vocational education and social skill acquisition. Researchers suggest that educators incorporate evidence-based practices and predictors into special education programs to improve employment outcomes and address the barriers that youth with ID face as they transition from secondary school to adult life. Facilitating independence, community integration, and civic engagement through career pathways is a quintessential function of a democratic society.

Evidence-Based Practices for Post-School Success

Evidence-based practices are derived from experimental research studies (e.g., group, single-case, and correlational research), which use rigorous designs that adhere to quality indicators, demonstrate a strong record of improving outcomes, and have undergone a systematic review process (Test, 2016). Evidence-based practices that promote positive outcomes in all three transition areas of education, employment, and independent living include: (1) published curricula designed to teach student involvement in the IEP process; (2) the Self-Determined

Learning Model of Instruction to teach goal attainment and enhance student involvement; and, (3) the Self Directed IEP to teach student involvement in the IEP meeting (NTACT, 2020; Raley, Shogren & McDonald, 2018; Test, 2016).

Evidence-based practice categories (see Table 1) offer educators research-supported strategies, instructional methods, and program models for teaching transition-related skills. These practices can be used across settings and support skill development related to employment, daily living, social skills, and academics. Approaches such as community-based instruction provide authentic learning experiences through partnerships with work sites, while computer-assisted instruction uses technology to support individualized learning in school and at home.

Table 1. ***Descriptions of Evidence-Based Practice Categories*** (Ohio Employment First, 2015)

Evidence-Based Practice Category	Description
Chaining Strategies	An approach to teaching that breaks a large task into a series of smaller steps that are taught by teaching each step and then "connecting" or "chaining" the steps together. The teacher guides the student to learn each step until the student can accurately complete the entire task. Four types of "chaining" approaches can be used: 1. Backward chaining: teaching the final step first 2. Forward chaining: teaching the first step in a sequence
Community-Based Instruction	Teaching that takes place in the community, where the skills are expected to be performed such as a grocery store or job site
Computer-Assisted Instruction	Using a computer to teach a skill that offers an interactive format that provides examples and feedback, including graphics, photographs, audio, and video
Mnemonics	Memory devices or aids that help students recall larger pieces of information
Self-Monitoring and Self-Management Interventions	Strategies to enhance a student's ability to manage and assess their own behavior and become less dependent on a teacher's assistance
Video Modeling	Teaching a skill by using a video recording of the targeted behavior
Prompting Strategies	Assistance provided to a student to initiate and provide direction. For example:

	1. Verbal prompts: telling the student what to do 2. Gestural prompts: pointing to the next step 3. Model prompts: performing the skill while the student observes 4. Physical prompts: touching the student to guide their hand to initiate a task 5. Visual prompts: showing pictures or the steps of a skill
Self-Determination	Skills and attitudes that promote students' ability to make their own choices, set goals, and use self-monitoring/regulation strategies to adjust plans to improve the quality of their lives
Self-Advocacy	Skills and attitudes that empower students to ask for what they need to complete a task
Visual Supports	Pictures, lists, or graphics that illustrate task sequences, schedules or directions that assist students' ability to comprehend concepts
Mobile Technology	A variety of devices (e.g., cell phones, tablets) that allow students to access data and information from wherever they are through the Internet/World Wide Web
Simulation	Hands-on activities that provide students with opportunities to practice skills in a safe environment before going to the community. For example, teachers may simulate paying for groceries before going to the store.

Some evidence-based practice categories overlap with evidence-based predictor categories. For example, self-advocacy, self-monitoring, and self-management skills are all components of self-determination, an evidence-based practice and predictor that numerous researchers have found to significantly support transition outcomes across employment, education, and independent living domains (Mazzotti et al., 2016; Test 2016). Notably, evidence-based practices and predictors are only as effective as the integrity with which they are implemented and the match between the interventions and students' unique needs.

Evidence-Based Predictors for Post-School Success

In 2016, Mazzotti et al. conducted a systematic review of secondary analyses published since 2009 that met quality indicators for correlational research and employed data from the National Longitudinal Transition Study-2 (NLTS-2) (Mazzotti & Chang, 2018). The findings added evidence to support nine existing predictors, including: (a) inclusion in general education;

(b) paid employment/work experience; (c) self-care/independent living skills; (d) exit exam/high school diploma status; (e) parent involvement; (f) social skills; (g) career awareness; (h) vocational education; and, (i) work study (Mazzotti et al., 2016). However, the level of evidence (e.g., moderate, potential) did not change for any predictors, and in some cases, previous evidence was not confirmed (Mazzotti et al., 2016). For example, inclusion in general education did not predict independent living outcomes in any of the research studies included in the updated literature review. Overall, evidence-based predictors (see Table 2) are activities, services, and supports implemented by school personnel during high school and are associated with higher rates of post-school success as youth enter employment and independent living situations (Test, 2016; Ohio Employment First, 2015). Eight predictor categories are highlighted below in Table 2 and then discussed in detail. Incorporating these strategies into transition programming is crucial to improving post-school outcomes for all students with disabilities.

Table 2. ***Descriptions of Evidence-Based Predictor Categories*** (Ohio Employment First, 2015)

Evidence-Based Predictor Category	Description
Self-Determination and Self-Advocacy	Teaching students to make choices, set goals, evaluate options, solve problems, and accept consequences of their actions and outcomes. Successful adults engage in self-management to work and live independently.
Supporting Parental Involvement and Expectations	Gaining commitment from parents to ensure that they participate in the planning process to determine the best employment and adult life settings for their child
Inclusive Practices and Programs	Including students in settings with non-disabled students and adults, and assuring their engagement and participation, with the supports needed to benefit from the inclusive program
Individualized Career Development	Instruction, strategies, and supports that assist students in identifying careers that align with their preferences, interests, and skills
Occupational and Vocational Education	Instruction to develop career awareness and work skills needed to enter a career area is delivered through a set of courses
Community Based Work Experiences	Participation in real-life work experiences such as work sampling, job shadowing, internships, apprenticeships, and paid employment

Independent Living and Social-Emotional Skills	Teaching skills to function safely in the community, including daily living skills, financial management skills, and managing decisions about healthcare. Independent living instruction includes social competencies, including skills, behaviors, and attitudes that facilitate communication and cooperation among peers and authority figures within both classroom and community settings (e.g., following directions, responding, requesting help, and problem-solving).
Collaborative Networks for Student Support	Student supports include both formal (e.g., teachers and service providers) and informal (e.g., family and friends) networks that provide instruction and resources that assist the student in preparing for and gaining employment

Educators must identify appropriate evidence-based practices and predictors to improve student outcomes, which necessitates targeted training and professional development. Additional research is needed to explore how these practices and predictors are implemented effectively.

Conclusion

The use of evidence-based practices and predictors offers a practical way to improve post-school outcomes for SWD while maximizing return on time, effort, and resources. Schools must actively engage students in their education and career planning. Because youth autonomy, decision making, and goal-setting are well-established predictors of success, students must be supported in developing self-determination skills. This includes taking an active role in setting post-school goals, exploring career pathways, building employment skills, connecting with service agencies, and making informed decisions that shape their adult lives.

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9. Increasing Students With Disabilities' Adult Life Outcomes Using Evidence-Based Practices and Predictors

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The transition from high school to adulthood is one of the most significant junctures in life and begins with elevated expectations, including legal accountability and sociopolitical responsibility for both students with and without disabilities (Arnett, J.J., 2023; United Nations, 2016). Once individuals reach the age of majority, society expects them to move towards independence and to participate as engaged, contributing members of their communities.

For decades, the United States education laws have required schools to use educational practices grounded in research to ensure interventions are effective and improve outcomes for students with disabilities. The 1990 amendment (Individuals with Disabilities Education Act, 1990) to the Individuals with Disabilities Education Act (IDEA) mandated transition services for all students with disabilities and encouraged researchers to examine practices associated with positive postschool outcomes (IDEA, 1990; Test, 2016). These expectations were reinforced in the 2004 reauthorization of IDEA, (Individuals with Disabilities Act, 2024) which required that special education be based on rigorous, peer-reviewed scientific research.

Despite mandates to use research-based strategies, outcomes for students with disabilities remain uneven. Youth with disabilities continue to lag behind their peers in employment, with students with autism, intellectual and multiple disabilities among the least prepared for adult life (Mazzotti & Chang, 2018). Although special education is intended to equip students with the knowledge and skills needed to transition from high school to productive adulthood, transition outcomes for individuals with disabilities remain poor. One clear way to address this gap is using evidence-based practices and predictors. When these approaches are integrated into special education and transition services, students are better prepared to obtain and sustain employment, supporting greater independence and self-sufficiency. Delivering comprehensive, evidence-driven transition programs is essential to improving post-school outcomes.

Definitions

The two terms that describe research-based strategies that increase achievement and post-school success are evidence-based practices and evidence-based predictors. An evidence-based practice is defined as an intervention that "demonstrates a statistically significant effect on improving student outcomes" or "demonstrates a rationale based on high quality research findings," which may improve student outcomes (section 8101(21)(A) of the Every Student Succeeds Act, 2015). An evidence-based predictor is defined as a strategy or intervention that predicts improved transition outcomes based on high-quality, correlational research or a sufficient accumulation of methodologically sound studies that reveal significant findings in one or more of three transition outcomes: further education or training, employment, or independent living (National Technical Assistance Center on Transition, 2021).

Post-School Outcomes for Students with Disabilities

The National Longitudinal Transition Study-2 (NLTS2), was funded in 2000 by the United States Department of Education to provide a national picture of the high school experiences and post-school outcomes of youth with disabilities who were ages 13-16 in 2000. Data were collected on over 11,000 youth with disabilities from parents, youth, and schools over an eight-year period (https://nlts2.sri.com/studymeth/index.html). Primary indicators of positive outcomes are measured by employment statistics, enrollment in college, or both (Izzo & Horne, 2016; Newman et al., 2024; Wright, 2019). NLTS2 data indicate that recent graduates with intellectual disability (ID) experience a post-school employment rate of 46% as compared with 68% of graduates with other health impairments and 79% of graduates with learning disabilities (Sanford et al., 2011). Students with disabilities face many barriers to employment, including a lack of necessary vocational education and social skill acquisition. Researchers suggest that educators incorporate evidence-based practices and predictors into educational programs to

improve post-school outcomes and address the barriers that youth with disabilities face as they transition from school to adult life. Facilitating independence, community integration, and civic engagement through career pathways is a quintessential function of society.

Evidence-Based Practices for Post-School Success

Evidence-based practices are derived from experimental research studies (e.g., group, single-case, and correlational research), which use rigorous designs that adhere to quality indicators, demonstrate a strong record of improving outcomes, and have undergone a systematic review process (Test, 2016). Evidence-based practices that promote positive outcomes in all three transition areas of education, employment, and independent living include: (1) published curricula designed to teach student involvement in the Individual Education Plan (IEP) process; (2) the Self-Determined Learning Model of Instruction to teach goal attainment and enhance student involvement; and, (3) the Self Directed IEP to teach student involvement in the IEP meeting (NTACT, 2021; Raley, Shogren & McDonald, 2018; Test, 2016).

Evidence-based practice categories (see Table 1) offer educators research-supported strategies, instructional methods, and program models for teaching transition-related skills. These practices can be used across settings and support skill development related to employment, daily living, social skills, and academics. Approaches such as community-based instruction provide authentic learning experiences through partnerships with work sites, while computer-assisted instruction uses technology to support individualized learning in school and at home.

Some evidence-based practice categories overlap with evidence-based predictor categories. For example, self-advocacy, self-monitoring, and self-management skills are all components of self-determination, an evidence-based practice and predictor that numerous researchers have found to significantly support transition outcomes across employment, education, and independent living domains (Mazzotti et al., 2016; Test 2016). Notably, evidence-

based practices and predictors are only as effective as the integrity with which they are implemented and the match between the interventions and students' unique needs.

Table 1. ***Descriptions of Evidence-Based Practice*** (Ohio Employment First, 2015)

Evidence-Based Practice Category	Description
Chaining Strategies	An approach to teaching that breaks a large task into a series of smaller steps that are taught by teaching each step and then "connecting" or "chaining" the steps together. The teacher guides the student to learn each step until the student can accurately complete the entire task. Four types of "chaining" approaches can be used: 1. Backward chaining: teaching the final step first 2. Forward chaining: teaching the first step in a sequence
Community-Based Instruction	Teaching that takes place in the community, where the skills are expected to be performed such as a grocery store or job site
Computer-Assisted Instruction	Using a computer to teach a skill that offers an interactive format that provides examples and feedback, including graphics, photographs, audio, and video
Mnemonics	Memory devices or aids that help students recall larger pieces of information
Self-Monitoring and Self-Management Interventions	Strategies to enhance a student's ability to manage and assess their own behavior and become less dependent on a teacher's assistance

Video Modeling	Teaching a skill by using a video recording of the targeted behavior
Prompting Strategies	Assistance provided to a student to initiate and provide direction. For example: 1. Verbal prompts: telling the student what to do 2. Gestural prompts: pointing to the next step 3. Model prompts: performing the skill while the student observes 4. Physical prompts: touching the student to guide their hand to initiate a task 5. Visual prompts: showing pictures or the steps of a skill
Self-Determination	Skills and attitudes that promote students' ability to make their own choices, set goals, and use self-monitoring/regulation strategies
Self-Advocacy	Skills and attitudes that empower students to ask for what they need to complete a task
Visual Supports	Pictures, lists, or graphics that illustrate task sequences, schedules or directions that assist students' ability to comprehend concepts
Mobile Technology	A variety of devices (e.g., cell phones, tablets) that allow students to access data and information from wherever they are through the Internet/World Wide Web
Simulation	Hands-on activities that provide students with opportunities to practice skills in a safe environment before going to the community. For example, teachers may simulate paying for community. For example, teachers may simulate paying for groceries before going to the store.

Evidence-Based Predictors for Post-School Success

In 2016, Mazzotti et al. conducted a systematic review of secondary analyses published since 2009 that met quality indicators for correlational research and employed data from the NLTS-2 (Mazzotti et al., 2016). Mazzotti updated the study in 2020 (Mazzotti et al., 2020). The findings added evidence to support nine existing predictors, including: (a) inclusion in general education; (b) paid employment/work experience; (c) self-care/independent living skills; (d) exit exam/high school diploma status; (e) parent involvement; (f) social skills; (g) career awareness; (h) vocational education; and, (i) work study (Mazzotti et al., 2020). However, the level of evidence did not change for any predictors, and in some cases, previous evidence was not confirmed (Mazzotti et al., 2020). For example, inclusion in general education did not predict independent living outcomes in any of the research studies included in the updated literature review.

Overall, evidence-based predictors (see Table 2) are activities, services, and supports implemented by school personnel during high school and are associated with higher rates of post-school success as youth enter employment and independent living situations (Test, 2016; Ohio Employment First, 2015). Eight predictor categories are highlighted below in Table 2.

Recommendations

Incorporating evidence-based practices and predictors into school programs is crucial to improving post-school outcomes for all students, including students with disabilities. Career development and self-determination are predictors that are cited by numerous researchers as effective strategies (Izzo & Horne, 2016; Mazzotti et al., 2016; Newman et al., 2023). Teachers can integrate career development and self-determination strategies into their classrooms by assisting students understand their strengths and interests, set goals for daily/weekly assignments, explore careers of high interest, and advocate for themselves.

Table 2. ***Descriptions of Evidence-Based Predictor Categories*** (Ohio Employment First, 2015)

Evidence-Based Predictor Category	Description
Self-Determination and Self-Advocacy	Teaching students to make choices, set goals, evaluate options, solve problems, and accept consequences of their actions and outcomes. Successful adults engage in self-management to work and live independently.
Supporting Parental Involvement and Expectations	Gaining commitment from parents to ensure that they participate in the planning process to determine the best employment and adult life settings for their child.
Inclusive Practices and Programs	Including students in settings with non-disabled students and adults, and assuring their engagement and participation, with the supports needed to benefit from the inclusive program.
Individualized Career Development	Instruction, strategies, and supports that assist students in identifying careers that align with their preferences, interests, and skills
Occupational and Vocational Education	Instruction to develop career awareness and work skills needed to enter a career area is delivered through a set of courses
Community Based Work Experiences	Participation in real-life work experiences such as work sampling, job shadowing, internships, apprenticeships, and paid employment
Independent Living and Social-Emotional Skills	Teaching skills to function safely in the community, including daily living skills, financial management skills, and managing decisions about healthcare. Independent living instruction includes social competencies that facilitate communication and cooperation
Collaborative Networks for Student Support	Student supports that include both formal (e.g., teachers and service providers) and informal (e.g., family and friends) networks that provide instruction and resources.

Some practical strategies include involving students in their own planning meetings to share their goals and accomplishments and requiring students to explore careers. Teachers can incorporate interest assessments into their curriculum and expand partnerships among schools and employers. Some countries have expanded their vocational and skills-training programs, so students gain occupational skills as part of the high school curriculum.

Students who have parents who are involved and have high expectations of their children are more likely to attend college, gain employment and live independently. Some

effective practices include conducting transition workshops and family trainings that outline how parents have an active role in preparing their children for adult life. Gaining the active participation of parents in planning meetings such as the Individualized Education Program can help parents commit to assisting their children prepare for college, employment or independent living.

Finally, including students with disabilities in inclusive settings is a strong predictor of successful post-school outcomes. For students with more significant needs, the inclusive setting is a community where school personnel can provide community-based instruction and prompting strategies. Administrators must assist educators improve student outcomes by integrating appropriate evidence-based practices and predictors to improve student outcomes, which necessitates targeted training and professional development. Additional research is needed to explore how these practices and predictors are implemented effectively.

Conclusion

The use of evidence-based practices and predictors offers a practical way to improve post-school outcomes for students with disabilities while maximizing return on time, effort, and resources. Schools must actively engage students in their education and career planning. Because youth autonomy, decision making, and goal setting are well-established predictors of success, students must be supported in developing self-determination skills. This includes taking an active role in setting post-school goals, exploring career pathways, building employment skills, connecting with service agencies, and making informed decisions that shape their adult lives.

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10. Importance Of Teacher Training For Education On Sexuality' For Children with Special Educational Needs

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Introduction

The concept of sexuality is not an isolated term, but one connected to a variety of concerns. It does not just entail aspects of physiology/biology, development of the body, or procreation. It needs to be seen as an umbrella term, connected to various aspects of living: social, psychological, emotional, behavioural, cultural, ethical or moral, religious, safety and security, and legal. It also covers issues such as sexual identity, gender identity, sexual orientation, relationship, friendships, love and romance (TASHI, 2018). Even in the neurotypical world, everyone does not experience sexuality in a similar manner.

Considering all the above factors, it may seem difficult to reach a clear definition that is both inclusive and well defined. The most broadly accepted definition is provided by the World Health Organisation: ‘Sexuality is a central aspect of being human throughout life and encompasses sex, gender identities and roles, sexual orientation, eroticism, pleasure, intimacy and reproduction. Sexuality is experienced and expressed in thoughts, fantasies, desires, beliefs, attitudes, values, behaviours, practices, roles and relationships. While sexuality can include all of these dimensions, not all of them are always experienced or expressed. Sexuality is influenced by the interaction of biological, psychological, social, economic, political, cultural, ethical, legal, historical, religious and spiritual factors.’ (WHO, 2009).

Figure 1

Education in Sexuality is an interaction of several varied factors

When the area of sexuality and education in sexuality is discussed with reference to children with Special Educational Needs (SEN), it is important to first discredit some of the myths and replace them with logical reasoning, as shown in Table 1.

Table 1

Myths and logical reasoning associated with education in sexuality for children with SEN

Myth	Logical reasoning to debunk the myth
Persons with SEN are asexual and lack sexual needs or desires	All persons have sexual needs, feelings and desires irrespective of their cognitive challenges.
Education in sexuality leads to greater curiosity and to early sexual experimentation.	Sexuality education leads to better awareness about the various aspects of sexuality, greater responsibility and strengthens the issues of safety.
Persons with special needs are oversexed and cannot control their urges or impulses.	All persons need education in sexuality to live within societal and cultural norms.
Education in sexuality should start only during the adolescent stage.	It should start in early childhood and continue throughout one's life. It should be structured, age-appropriate, keeping in mind the abilities and challenges of children with SEN.
Only the parents can impart safe education in sexuality.	All stakeholders including the parents, family, teachers, therapists and caretakers have the responsibility to impart this learning in a safe and non-judgmental manner.
Parents will not approve of sexuality education given to the children with SEN.	If teachers are educated and informed in this aspect of education, and have the trust of the parents, then they will

	be supported. Parents and professionals have an equal role in this education.
Teachers cannot provide education in sexuality as they are uncomfortable in doing so.	Teacher training can help to educate them with the appropriate information and to feel comfortable in imparting this, without any inhibition or embarrassment.
Only certain teachers should be assigned to provide education in sexuality.	All staff who work with children with SEN can be trained, as sexuality issues can be addressed anywhere.

For persons with SEN, understanding sexuality is important for personal as well as social development (Cheetham, 2015). Through personal experience as a psychologist working with children, adolescents and young adults diagnosed with Intellectual Developmental Disorder and Autism, the author has seen that teaching about sexuality is often relegated to the adolescent years, only when various inappropriate behaviours, such as masturbation or indecent exposure in public places, are prominently observed. An education in sexuality at a much younger age would help to ease out these behavioural issues.

It takes a combined cooperative effort of parents, family, teachers, therapists and society to teach a child with SEN. However, on the topic of sexuality, all adults have their own personal history of its understanding, based on their own experiences, attitudes, perspectives and values. Additionally, it is their view point about the sexuality of persons with SEN, which impacts how much sexuality education is imparted to these children (Christian, Stinson, & Dotson, 2001).
Hence it is important to develop a comprehensive teacher training module, to work on attitudes and then on the dissemination of information. This paper will focus on teacher training for sexuality education, for children, below the age of 18 years. It cannot provide a complete detailed curriculum, but will provide a brief framework of practical and applicable ideas, information and methodologies that a teacher can build on, based on their student population.

Literature Review for the Needs Assessment for Teacher Training for Education on Sexuality for Children with Special Educational Needs

Holmes (1998), in a study on staff attitudes found that staff training was a requirement to promote education in sexuality for persons with SEN. Another study on 150 staff members, working in education and health and social services, with students in special schools in Northern Ireland (Ryan & McConkey, 2000) showed that those staff working in schools and social services were more in support of this education than those working in private or voluntary institutions. Also, male staff were more open to the idea that persons with special needs should get education in sexuality, than the female staff members. Additionally, it was reported that staff who had received training, were more confident to impart education in sexuality. In 2009, WHO and UNFPA published a guidance note on promoting sexual and reproductive health for persons with disabilities. This document states that persons diagnosed with disabilities have 'sexual and reproductive health needs throughout their lives and these needs change over a lifetime.' However, there is a paucity in the availability of information and services for them.

In 2010, TARSHI, a non-profit organisation in India reported the urgent need to provide sexuality education as part of the school curriculum, and that there should be better provisions for sexual and reproductive health services for persons with disabilities in India.

A 2022 qualitative literature review of 31 studies on attitudes of support staff and relatives of persons with intellectual disabilities (de Wit, Van Oorsouw et al, 2022) showed two emerging trends, namely attitudes towards sexuality of persons with intellectual disabilities and attitudes towards education in sexuality. The support staff, keeping in mind the needs of the persons with SEN, supported the need to provide such an education for this population. This can only be achieved if a systematic education is provided to the supporting staff, as also to parents.

Saksena, Tirumalai, & Sengupta, (2023), supported by Enfold Proactive Health Trust in India collected responses from parents/caregivers and teachers/trainers with the aim to develop a toolkit to help children with SEN, to learn about sexuality and personal safety. 50% respondents stated that there was insufficient knowledge and tools, to provide such education; 94% felt it is important to teach personal safety to children with SEN; 57% felt that it is the responsibility of both the family and the school staff to provide this education to the children and 53% emphasised the need for correct training to provide this education.

It is therefore sufficiently clear that education is sexuality is an important requirement for children with special needs, and that the staff working with these children should be trained to provide this education and deal with issues of concern. Working on the training as well as the attitudes of staff will help to see this area as an integral part of special education.

Objectives and Goals for the Curriculum for Teacher Training for Education on Sexuality for Children with Special Educational Needs

Training through a structured curriculum helps the staff to understand the different informational and socio-cultural aspects of the training. All information provided by the staff to the children, should be age-appropriate, medically accurate, factual, culturally compliant and ethically sound.

Goals of Education in Sexuality:

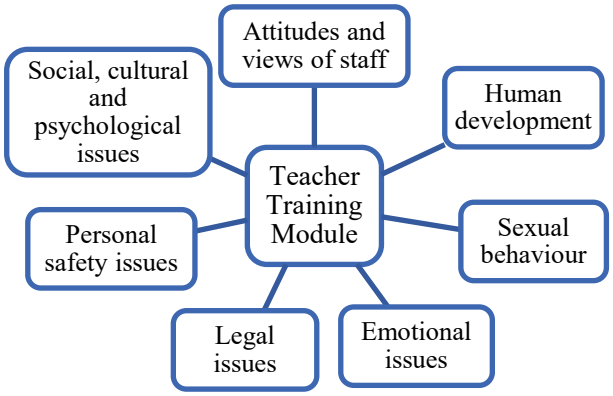
- To provide learning experiences appropriate to the needs of the students.
- To help students to learn about and cope with developmental changes of adolescence.
- To help students build warm and loving relationships within the family and outside.
- To acquaint students with socially appropriate behaviour, especially sexual behaviour.

- To enable them to communicate their feelings about themselves and for other people, in an appropriate and acceptable manner.
- To help students develop awareness about personal safety.

Structure for the Curriculum for Teacher Training for Education in Sexuality for Children with Special Educational Needs

Figure 2

Components of the Module for Teacher Training in Education for Sexuality



I. **Attitudes and beliefs** - The initial step is to work on is the attitude and beliefs of the staff, asking the following questions:

- How comfortable are the staff communicating about sexuality?
- Are they influenced by their sexual beliefs, values, attitudes and decision making?
- Are they aware of their feelings with regard to sexuality and sexuality education?
- Can they adhere to a sensitive approach?
- Do they have a positive attitude towards sexuality education?
- What is their current knowledge about the subject?
- What is their level of ease with the subject?
- Do they understand what is socially acceptable in different cultures?
- Are they prone to shock or panic while addressing issues related to sexuality?

- Do they work within the school policies?
- Are they sensitive to any possible embarrassment and awkwardness between the teacher and student?

Education on sexuality is bound by certain ethical considerations such as maintaining confidentiality and a non-judgemental environment, and abstaining from any body contact, slang terminology or vulgar jokes.

II. **Topics to be addressed** - Considering that sexuality is an umbrella term for a variety of areas, the training has to include diverse topics:

II A. **Human Development**: A thorough scientific understanding of the physical aspects of development is the primary area of learning. This includes knowledge about: Body awareness; learning how to label each body part with the correct name without using any pseudonyms, including the private parts such as penis, breasts, nipples, vulva, and scrotum; physiological changes during puberty and preparation for adulthood; management of menstruation; masturbation; nocturnal emissions; physical hygiene and care; understanding gender differences, i.e. physical differences between and male and the female bodies.

II B. **Sexual behaviour**: This includes curiosity about the body; masturbatory behaviour; knowledge of reproduction; romantic attraction and infatuation; fantasy and daydreaming; and relationship issues like dating and marriage.

II C. **Emotional issues**: This area includes labelling and identifying emotions in self and others; handling of mood swings; stubborn behaviour; defiance, aggression and violence.

II D. **Social and psychological issues**: This is a large area of the training and includes topics such as: acceptable demonstration of affection; acceptable ways of greeting such as shaking the hand, patting on the shoulder, verbal greetings or doing a Namaste; social interaction skills; skills

to begin, continue and end friendships; stereotypical societal expectations from girls and boys; stereotypical beauty standards for body size, shape, skin colour; peer pressure, teasing and bullying; issues with self-esteem, self-image and physical beauty; dating; gender identities like heterosexual, homosexual, bisexual or non-binary; and cultural differences in families and cultures based on their religion, customs and values.

II E. **Personal safety**: Children with SEN are far more vulnerable to exploitation and sexual abuse (Couwenhoven, 2001). They are more physically dependent on others for personal care and basic needs. They trust easily owing to their need for friendship and socialisation. They easily obey authority figures without any judgement as they have learnt to be compliant since childhood. They may lack the required social skills and verbal capacities to deal with social situations. They do not clearly understand the personal physical boundaries and concepts of abuse. They may find it difficult to convey abuse. Thus, this is an extremely significant segment of education in sexuality, and teachers must be trained intensively in this area. Topics included are: concepts of private and public with regard to physical environment (e.g. a playground vs. a washroom), activities (e.g. going shopping vs. bathing) and parts of the body (e.g. the palm vs. the breasts); accurate vocabulary about private parts helps children to report any abuse easily; independence in bathing, dressing, toilet needs and sleeping; physical distancing; safe touch (Touch that feels good or helps, and is never a secret) and unsafe touch (Touch that hurts the body and feelings, and may be asked to keep as a secret); sexual abuse (with touch and with non-touch); the three safety principles of ‘say no, then go away from the place, and report to adult you trust’; internet safety, pornography and screen addiction.

II F. **Legal issues**: Training should include an overview on the laws on sexual behaviour and the laws with regard to sexual abuse. For e.g. the POCSO (Protection of Children against Sexual Offences) Act 2012, in India.

II G. **Resources and teaching materials**: Keeping in mind the needs, abilities and challenges of children with SEN, creative and concrete tools and methods work best in teaching them. These include: concrete teaching aids such as puppets, dolls, pictures, actual objects, flip books, models; interactive exercises such as role play and sociodrama (acting out assigned roles to work on problems and issues); storytelling; social stories (simple and short narratives that teach social behaviour, problem solving and decision making); stories from the newspapers; personal or social circles to understand social connections; modelling and demonstrations.

Training Methods

Teacher training must use active and experiential training methods such as workshops, hands-on learning, developing teaching aids, group discussions, demonstrations, participation in role-plays and activities. Classroom coaching can be conducted to make sure that training is transferred. Additional reading materials and resources can also be provided.

Evaluation and assessment

Regular follow-ups, classroom observation, discussion on real experiences in the class room can help the teachers to work on the education of sexuality and support the students through daily real life experiences.

Conclusion

In conclusion, an intensive teacher training program on sexuality education for children with special needs, can prove to be immensely useful to the teachers, impact the development of children with special needs, and influence the lives of the children's families. Similar programs

can be developed and adapted for parent education, as their contribution is primary to the development of their child.

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11. The Right To Education Of Children With Disabilities Under Vietnamese Law: Case In Bac Lieu Province, Vietnam

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Introduction

Article 1 of the Convention on the Rights of Persons with Disabilities (CRPD) defines persons with disabilities as those who have long-term physical, mental, intellectual, or sensory impairments which, in interaction with various barriers, may hinder their full and effective participation in society on an equal basis with others. According to statistics of the World Health Organization (WHO) (Institute for Studies of Society, Economy and Environment & United Nations Development Programme [UNDP] in Viet Nam, 2017), it is estimated that approximately 15% of the world's population, equivalent to more than one billion people, live with at least one form of disability. In Viet Nam, the results of the 2016 National Survey on Persons with Disabilities indicated that the country had approximately 6.2 million persons with disabilities (accounting for 7.09% of the population), of whom 58% were female and 2.83% were children (General Statistics Office, 2018). The 2023 survey showed that the prevalence rate of disability among children aged 2–17 nationwide was 1.98%, of which the rate among children aged 2–4 was 4.44% (with neurological disabilities accounting for the highest proportion at 3.92%), and the rate among children aged 5–17 was 1.51%. Respecting and ensuring the rights of persons with disabilities is not only of humanitarian significance but also carries economic, social, and legal implications (Institute for Studies of Society, Economy and Environment & United Nations Development Programme [UNDP] in Viet Nam, 2017), particularly with regard to the right to education of children with disabilities.

The Right to education of children with disabilities under current Vietnamese law and achievements in local implementation

In Viet Nam, the 2013 Constitution recognizes that "citizens have the right and obligation to study." In order to realize this right to education, particularly for children with disabilities, relevant statutes have been promulgated, including the Law on Persons with Disabilities 2010, the Law on Education 2019, and the Law on Children 2016. Accordingly, all citizens are equal in educational opportunities, and the State shall implement social equity in education, create a safe educational environment, and ensure inclusive education. Children with disabilities are regarded as one of the groups of children in special circumstances who require special support, care, and education in a safe, healthy, and friendly educational environment, with measures to prevent school violence (National Assembly, 2016, Arts. 10, 35, 44), so as to facilitate rehabilitation, the development of self-reliance, and social integration through policies issued at different stages to promote the implementation of the CRPD and to safeguard their lawful rights and interests (Prime Minister, 2012; Prime Minister, 2020). To guide the implementation of the aforementioned laws, subordinate legislation has been promulgated to concretize the rights of children with disabilities, including the right to education (Government of Vietnam, 2012; Ministry of Education and Training, 2018; Ministry of Education and Training et al., 2013, 2020).

According to statistical data for the 2021–2022 academic year, Bac Lieu Province had 115 primary schools with 2,289 classes, 74,124 pupils, and 3,021 teachers. Specifically, in Bac Lieu City, there are a total of 17 primary schools with 346 classes and 13,047 pupils, and 432 teachers. In Gia Rai Town, there are 14 primary schools with 366 classes, 11,717 pupils, and 497 teachers. In Hong Dan District, the corresponding figures are 19 primary schools, 292 classes, 9,044 pupils, and 386 teachers; in Phuoc Long District, 17 primary schools, 336 classes, 10,893 pupils, and 422 teachers; in Vinh Loi District, 13 primary schools, 257 classes, 8,181 pupils, and 325 teachers; in Dong Hai District, 18 primary schools, 383 classes, 11,731 pupils, and 552 teachers; and in Hoa Binh District, 17 primary schools, 309 classes, 9,511 pupils, and 407 teachers. The research team developed different survey questionnaires for different target groups with distinct objectives and information requirements, including: questionnaires for state management agencies in the field of education for children with disabilities (the Department of Labour, Invalids and Social Affairs of Bac Lieu Province; the Divisions of Education and Training of the city, town, and districts); questionnaires for primary schools in the city, town, and districts enrolling children with disabilities (from 1 to 2 schools per locality, and 3 schools in certain districts); and questionnaires for homeroom teachers of classes enrolling children with disabilities in primary schools in Bac Lieu Province. These questionnaires were designed on the basis of the provisions of the aforementioned laws and guiding legal documents.

The collected data show the following: As of 31 December 2023, Bac Lieu Province had 16,126 persons with disabilities, including 1,033 children with disabilities. In Bac Lieu City, there were 9 pupils with disabilities (7 with neurological or intellectual disabilities, 1 with a speech disability, and 1 with a physical disability); Gia Rai Town had 7 pupils with disabilities (4 with physical or visual disabilities; 1 with neurological or intellectual disability; 2 with hearing and speech disabilities); Vinh Loi District had 5 pupils with physical disabilities; Hoa Binh District had 8 pupils with disabilities (intellectual and physical disabilities); Phuoc Long District had 4 pupils with disabilities (1 intellectual disability; 2 physical disabilities; 1 mental or neurological disability); Hong Dan District had 34 pupils with disabilities (including neurological and mental disabilities; intellectual disabilities; physical disabilities; visual disabilities; and speech disabilities); and Dong Hai District had 13 pupils with disabilities (3 visual disabilities; 4 hearing and speech disabilities; 3 physical disabilities; 1 intellectual disability; and 2 neurological or mental disabilities).

The implementation of relevant legal provisions to ensure the right to education of children with disabilities in Bac Lieu Province is assessed in the following way. Management and organization of the implementation of policies and legal provisions on children with disabilities in Bac Lieu province. In Bac Lieu, the promulgation of legal normative documents and implementation guidelines, as well as the organization and execution of local plans, projects, schemes, and programs assisting persons with disabilities in general and children with disabilities in particular, have been carried out regularly and continuously under the leadership of the Party and the direction of the People's Councils, People's Committees at all levels, and other relevant agencies and sectors.

Implementation of the substantive content of the right to education of children with disabilities

Survey results indicate that the substantive aspects of the right to education of children with disabilities generally comply with legal provisions, including:

(1) The right to priority in school admission and enrolment: Children with disabilities are given priority for school admission at an age up to three years older than the general prescribed age;

(2) Rights in participation in educational programs: They may be exempted from or have reductions in certain subjects, subject components, or educational activities within the curriculum; they are given priority in the assessment of learning outcomes; and they are considered for grade promotion and the awarding of graduation certificates (Government. Decree No. 81/2021/ND-CP, 2023).

(3) The right to tuition exemption or reduction and support for educational expenses: Children with disabilities studying at educational institutions are entitled to tuition exemption or reduction and support for educational expenses in accordance with the law.

(4) The right to scholarships and support for learning equipment and materials.

(5) Inclusive education for children with disabilities: Inclusive education for persons with disabilities refers to the general mode of education whereby persons with disabilities learn together with persons without disabilities in educational institutions.

(6) Assessment of learning outcomes: The assessment of pupils with disabilities differs between those studying under inclusive education and those under specialized education. In Bac Lieu, children with disabilities at the primary level are educated under the inclusive model, as the province currently has no specialized school for them.

Facilities and teaching staff

Schools have renovated and upgraded physical facilities to ensure accessibility for children with various types of disabilities. Regarding teaching staff, the survey was conducted with 15 teachers from nine primary schools. The majority of the respondents had over 20 years of teaching experience, with only three teachers having between five and eight years of professional seniority. Teachers select appropriate, flexible, and non-coercive educational methods, demonstrating patience in guiding and supporting pupils with disabilities. In assessing competencies, teachers rely on each child's individual progress and recognize even the smallest improvements. Schools and teachers provide particular attention, timely support, and assistance to pupils with disabilities in their learning, daily activities, recreation, and social integration with peers.

Other favorable conditions

Coordination among relevant departments and sectors in the protection and care of children, and the integration of protection, care, and education for children with disabilities, has been implemented fully and in accordance with regulations. Bac Lieu Province has established a Provincial Committee on Disability Affairs to direct the implementation of assistance for persons with disabilities.

Communication and advocacy activities aimed at raising social awareness of support for children with disabilities have been strengthened, including dissemination of the Party's and State's policies and the Convention on the Rights of Persons with Disabilities.

Difficulties and limitations in ensuring the right to education of children with disabilities in Bac Lieu province

First, there is currently no specialized school or center for inclusive education development support within the national education system in the locality; therefore, children with disabilities attend regular primary schools. This situation creates certain difficulties for schools and classes enrolling children with disabilities.

Second, most teachers in classes enrolling pupils with disabilities have not specialized in special education and have not received in-depth training or professional development tailored to the needs of children with disabilities. Teachers rely primarily on personal experience, responsibility, and compassion in their teaching and in handling related situations. This situation stems from the absence of provincial programs supporting and guiding inclusive education in primary schools or providing specialized training for teachers.

Third, participating primary schools do not have separate textbooks or learning materials specifically designed for children with disabilities in inclusive education. Some schools also report a lack of funding sources to purchase materials and equipment dedicated to pupils with disabilities. Overall, social support for pupils with disabilities in the locality remains limited.

Finally, difficulties also arise from parents of children with disabilities. In certain cases, although a child's disability may be readily identifiable, families, for various reasons, do not complete the procedures necessary for local authorities to issue a certificate of disability for the child.

Proposed directions and solutions to ensure the right to education of children with disabilities in Vietnam

It is necessary to further strengthen the leadership of the Party and the management and direction of sectors and authorities at all levels in ensuring the right to education of children with disabilities.

The Ministry of Education and Training should promptly finalize and promulgate educational programs for children with disabilities on the basis of pilot materials developed by the Vietnam National Institute of Educational Sciences, thereby providing schools with essential learning resources to serve as a foundation for developing appropriate teaching content, pedagogical methods, and assessment methods for pupils with disabilities participating in inclusive education.

Proposed solutions to ensure the right to education of children with disabilities

(1) Prioritizing the Promotion of Inclusive Education: Localities should prioritize the implementation of inclusive education at the initial level of schooling to ensure that children with disabilities can attend school. Children with disabilities must be duly incorporated into educational planning at all levels (especially at the primary level) to secure budget allocations for their educational support.

(2) Establishing Specialized Schools or Classes for Persons with Disabilities and Centers for Inclusive Education Development Support nationwide to enable children with disabilities to receive rehabilitation, general education, vocational training, and community integration (National Assembly, 2019). The establishment of specialized schools or support centers at the local level would facilitate the mobilization of children with disabilities to attend school and access educational rights and benefits. Moreover, with a team of teachers trained in special education, such institutions would enhance teaching effectiveness and address difficulties encountered in implementing inclusive education in regular schools.

(3) Promulgating Mechanisms and Policies on Specialized and Inclusive Education at the Local Level: Alongside the establishment of specialized schools or inclusive education development support centers, localities should develop mechanisms and policies on special education to achieve short- and long-term educational objectives. This includes developing human resources for specialized and inclusive education through recruitment and selection for training and professional development in teaching skills for pupils with disabilities. Priority should also be given to budget allocation for the renovation and construction of facilities in primary schools implementing inclusive education; and to adopting additional provincial policies and incentives for teachers beyond those provided under general regulations. Furthermore, it is necessary to mobilize social resources, including support and consultancy from experts within and outside the province, domestically and internationally, in formulating plans, programs, and projects on specialized and inclusive education that align with planning requirements, practical needs, and humanitarian principles in educating children with disabilities.

(4) Fully, Strictly, and Effectively Implementing Legal Provisions Related to Ensuring the Right to Education of Children with Disabilities in Primary Schools.

Schools must seriously and fully implement relevant legal provisions, thereby actively building the most favorable inclusive educational environment for children with disabilities and ensuring adequate financial resources and qualified teaching staff (Ministry of Education and Training, 2023). Teachers, in the course of instruction, must develop individualized education plans for pupils with disabilities as a basis for selecting appropriate teaching methods, assessment approaches, learning content, and skill development activities. In addition, localities should regularly organize training sessions and professional development courses for administrators and teachers in primary schools on inclusive education to enhance professional capacity and essential skills (Ministry of Education and Training, No. 3456/QD-BGDDT 2023; Ministry of Education and Training, No. 3457/QD-BGDDT, 2023)

(5) Continuing to Promote the Dissemination of Policies and Laws on Children with Disabilities and Calling for Support from Agencies, Organizations, and Individuals

The dissemination of laws and educational policies for persons with disabilities should be further strengthened to provide comprehensive information to families of children with disabilities and society at large, thereby increasing opportunities for access to appropriate educational forms, especially in rural and remote areas. In schools, raising awareness of these policies and laws is most concretely reflected in the empathy and cooperation between parents of non-disabled children and parents of children with disabilities. When certain behaviors of pupils with disabilities may affect the learning and safety of non-disabled pupils, parents should adopt positive, respectful, and non-discriminatory attitudes and refrain from exclusionary actions.

Besides, it is necessary to continue promoting the socialization of education through mobilizing resources from communities, enterprises, organizations, and individuals to provide additional support for the protection and assistance of children with disabilities. Other social organizations, within the scope of their functions and duties, should undertake this task in appropriate forms; for example, provincial Child Protection Funds are public non-business units established to mobilize voluntary contributions from domestic and foreign agencies, organizations, and individuals, international aid, and state budget support for the protection, care, and education of children (Ministry of Finance, 2008).

Conclusion

Accordingly, this process requires the mobilization of resources from the entire political system and society at large, involving various stakeholders and measures to ensure effectiveness in practice. Ensuring the lawful rights and interests of children with disabilities in daily life, including the right to education, is not merely a matter of compliance with legal provisions but also a shared responsibility grounded in conscience, duty, and compassion.

The right to education of children with disabilities is recognized and affirmed in international law as well as in Vietnamese law in order to protect one of the fundamental human rights and to ensure necessary societal support for vulnerable groups. In Viet Nam, the content of the right to education of children with disabilities is relatively comprehensive and detailed; the implementation of these provisions aims to ensure that children with disabilities have equitable and appropriate access to education.

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12. Challenges for an Inclusive Education in Italy: Insights from Support Teacher Trainees

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The Italian inclusive education model

Since the late 1970s, Italy has positioned itself as a global pioneer in inclusive education through a radical legislative shift known as *integrazione scolastica* (D'Alessio, 2011; Zanazzi, 2018a). By abolishing separate special education classes and mandating the admission of all students into mainstream schools, the Italian model created a systemic obligation for educational institutions to provide equitable access regardless of disability, impairment, or socio-economic circumstance. Central to this framework is the *insegnante di sostegno* (support teacher), a specialized professional assigned to the class to facilitate both didactic success and social integration. While the system distinguishes between various levels of need, ranging from certified disabilities requiring an Individualized Educational Plan (*PEI*) to specific learning disorders (*DSA*) and broader special educational needs (*BES*) managed via Personalized Didactic Plans (*PDP*), the support teacher remains the pivotal figure in fostering a collaborative environment (Canevaro et al., 2009; Canevaro, 2017).

To qualify as an *insegnante di sostegno*, candidates must complete a one-year, limited-enrollment specialization program (known as *TFA Sostegno*) balancing 270 hours of theoretical instruction and 180 hours of laboratory work with a compulsory 175-hour school internship, conducted over at least five months under the guidance of experienced mentors. The curriculum is multidisciplinary, spanning special pedagogy, developmental psychology, and school law, with a specific focus on the development of the Individualized Educational Plan (*PEI*).

Beyond mere didactic assistance, the training aims to cultivate a multifaceted professional profile capable of managing complex relational dynamics with families and health services, while utilizing inclusive ICT tools and innovative assessment methodologies. Crucially, the program emphasizes the support teacher's role as a "co-holder" of the class, shifting the focus from

individual student assistance to a collegial responsibility for the entire classroom's inclusive climate.

However, the question remains whether this institutional idealism consistently translates into effective classroom practice. Despite a robust regulatory framework and a comprehensive set of inclusive laws, the actual implementation of inclusion often faces systemic hurdles.

This paper critically examines the Italian model by analyzing over 100 final internship reports from trainee support teachers during the 2023/2024 and 2024/2025 academic years. By grounding the research in these firsthand accounts, the study highlights critical issues such as the delegation of responsibility and gaps in collaborative practices between subject-matter and support teachers. Ultimately, this analysis aims to offer insights for policy reform and professional training, bridging the gap between legislative intent and the lived reality of the Italian inclusive school.

Methodology

The present study is situated within a constructivist paradigm, adopting a qualitative orientation to explore the complexities of inclusive school practices (Mortari and Ghirotto, 2019). The data set consists of written narratives authored by trainee support teachers and shared within a dedicated virtual classroom environment throughout their training program.

To process this material, the study employed reflexive thematic analysis, as conceptualized by Braun and Clarke (2012). This method is designed to identify, analyze, and interpret recurring patterns of meaning (themes) within qualitative data. This approach acknowledges that themes do not simply emerge from the data in a vacuum; rather, they are co-constructed through an active dialogue between the empirical material and the researcher's interpretative lens. Consequently, the findings represent a reflective synthesis born from the intersection of the participants' narrated experiences and the researcher's analytical engagement.

Results

The Italian model of school inclusion, while internationally renowned for its legislative progressiveness, faces significant implementation gaps when observed through the lens of daily school life (Canevaro and Ianes, 2019). The following points synthesize the primary criticalities identified by trainees, highlighting how traditional pedagogical habits and structural weaknesses continue to hinder the full participation of students with disabilities.

The process of delegation and the erosion of shared responsibility

One of the most pervasive issues is the tendency of curricular teachers to delegate the management of students with disabilities entirely to the support teacher. By abdicating their educational role under the pretext of needing to "deliver the lesson" to the rest of the class, curricular teachers foster a climate of "micro-exclusion" (D'Alessio, 2011). This dynamic not only stigmatizes the student with disability as an external element to the class group but also creates a significant emotional and professional burden for the support teacher, ultimately damaging the relational quality and the overall school climate.

Transmissive pedagogy as a structural barrier

Real inclusion requires a pedagogical shift toward accessibility and the removal of barriers to participation (Booth and Ainscow, 2002; Cottini, 2017). However, trainee reports frequently document the persistence of a transmissive model of teaching, characterized by frontal lectures and passive learning. These traditional methods often prove inadequate or entirely inaccessible for students with disabilities or learning disorders. The resulting lack of engagement frequently leads to a loss of motivation and the emergence of behavioral problems, which are essentially a reaction to an educational environment that fails to recognize diverse cognitive and emotional needs.

The persistence of (spatial) segregation

While clinical and pedagogical experts agree that inclusion does not necessarily mean spending 100% of the time in the classroom, the reports describe alarming situations that compromise the institutional mandate for inclusion. In many cases, students with disabilities are systematically removed from the class and kept in separate classrooms to perform tasks completely unrelated to the class curriculum. This practice effectively recreates the differential classes abolished in 1977, serving as a merely expedient solution for schools to avoid the complexity of adapting the Individualized Education Plan to the common program.

Multifaceted Adolescent Distress and the Competence Gap

School is far more than a place of study; it is a vital arena where adolescents, with or without disabilities, navigate the complex journey of identity formation and social connection. However, when students encounter significant hurdles in their developmental tasks, the bond with the school environment often begins to fray. This strain typically manifests as academic struggle or behavioral changes, which are often silent cries for support.

The heart of the issue frequently lies in a gap in psycho-pedagogical competence. The teaching staff, despite their dedication, may find it challenging to fully understand or manage the emotional distress behind a student's actions without specific training in these areas. This sense of professional helplessness can lead to a cycle of discomfort, ultimately preventing the educational relationship from acting as the essential protective factor these students need.

Non-constructive management of behavioral problems

When emotional or social vulnerabilities are not fully met with the necessary support, they often surface through complex behaviors. These can range from self-harm, substance use, and digital dependency to manifestations of aggression, opposition, and provocation, as well as

bullying. Observers often note that school communities can feel significantly challenged when trying to address these situations through a purely pedagogical perspective.

Without a unified, shared approach, there is a risk that these students may be perceived primarily through the lens of their "problematic" behaviors and inadvertently sidelined. This can limit the opportunity for the kind of inclusive, integrated support that is so essential for healing the classroom environment and restoring a sense of belonging for everyone involved.

Barriers to Inclusive Management

The reports also highlight the persistence of more traditional, directive classroom management styles that rely heavily on formal authority and disciplinary measures. While intended to maintain order, these models often prioritize external compliance over the internalization of positive social values. When students face disabilities or specific vulnerabilities, such a rigid approach can be particularly challenging. It carries the risk of focusing on a student's perceived difficulties rather than their potential, which can lead to feelings of isolation or inadequacy. Ultimately, this dynamic may create an unintended distance between the educator and the genuine developmental needs of the adolescent, making it harder to build a truly inclusive and supportive learning environment.

Discussion: from systemic fractures to inclusive change

To address the identified fractures, systemic reform must prioritize a shift from isolated tasks to a culture of collective responsibility (EASNIE, 2012; Zanazzi, 2018b; Zanazzi, 2019), structured across both internal and external professional dimensions.

Within the school setting, intra-professional collaboration must be institutionalized through the systematic practice of co-teaching and job rotation between support and curricular roles. These practices are essential to demonstrate that the support teacher is a resource for the

entire class, effectively dismantling the delegation model. However, for this to succeed, schools must provide dedicated time for collegial consultation that extends beyond rigid, formal meetings. Currently, professional dialogue is often neglected or relegated to individual initiative, frequently overshadowed by bureaucratic demands and administrative reporting. Establishing informal yet structured spaces for teachers to reflect on specific educational cases (Schön, 2017) would allow genuine pedagogical needs to take precedence. Furthermore, universal training in socio-emotional competencies and inclusive didactics would empower all educators, not just support specialists, to manage adolescent distress and diverse learning needs as a unified team.

Beyond the school walls, reform must also strengthen interprofessional collaboration. This involves building robust networks with local health services, social workers, and specialized institutions to create a multidisciplinary community of practice. By integrating these external perspectives with the internal knowledge of the teaching staff, schools can move toward a more holistic approach to student well-being. Such a model enhances the institution's capacity to identify and remove barriers to learning and participation for all students (Booth and Ainscow, 2002), fostering their social and relational well-being alongside their academic achievement.

Conclusion

In conclusion, the transition toward a truly inclusive school system in Italy remains incomplete (Zanazzi, 2020). The evidence from the field suggests that inclusion cannot be achieved through the mere presence of specialized staff but requires a radical rethinking of the curricular teacher's role, the adoption of flexible pedagogical methods (Ianes, 2022), and a collective commitment to the psychological well-being of the entire student body (Zanazzi, 2023).

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13. Chautauqua Learn and Serve: Working Together

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The world is changing before our eyes. The fundamental right of people with disabilities to participate in all aspects of society is challenged daily. It is crucial that people of all abilities understand that we are stronger together. Inclusive travel and service-learning fosters transformative growth. This case study describes the operations of Chautauqua Learn and Serve School, illustrating how its unique integration of global travel and service-learning empowers students with differing abilities to learn and to become active agents of change. Students, staff, and volunteers learn, instruct, and serve with a mission to advocate for human rights. Through participant narratives, we highlight the power of this educational model to demonstrate the universal value of inclusive, experiential learning.

Chautauqua Learn and Serve Service-learning and Inclusion

Chautauqua Learn and Serve (CHQ) is a free, public charter school, a transition school for young adults with disabilities aged 18-22 years old. The individualized goals for students with special education needs (SEN) cover academics, independent functioning, social and emotional education, health, and communication skills. CHQ's sister program is Chautauqua Adult Program (CAP), a free, self-sustaining AmeriCorps VISTA program for adults with disabilities. CAP volunteers, who have aged out of the public school, participate in purposeful, safe, educational activities.

Founded in 2005, CHQ was created to address the needs of young adults with disabilities. The systemic failures of institutionalization and the lack of funding for community support programs made new holistic and inclusive programming necessary. Today, CHQ is a testament to inclusive service-learning, having served approximately 1,000 students.

The service-learning teaching method used by CHQ is defined by the National Service-Learning Clearinghouse as "a teaching and learning strategy that integrates meaningful

community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities" (Seifer & Connors, 2007). At CHQ, this method is used to build knowledge and skills for daily living, interpersonal growth, self-determination, and employment. CHQ students participate in daily service-learning activities such as preparing meals for the unhoused, assisting in nursing homes, teaching in early childhood classrooms, and cleaning local schools.

Service-learning expands learning beyond the walls of a traditional classroom. As prominent scholar Andrew Furco stated, "service-learning helps students not only apply skills but understand the broader societal issues that underlie their work…It's about engaging with questions of justice, identity, and systemic change—not just completing a project" (Duke Service-Learning, 2025). CHQ demonstrates that people with disabilities are not simply recipients of services. Students learn while serving their community.

To support inclusion for all, CHQ partners with several community and international organizations. The most prominent daily school inclusion partner is a local high school. Secondary students without SEN attend CHQ to enhance inclusive opportunities for all students. Advanced International Certificate of Education program students are mentors. Mentors participate in various daily activities at CHQ for class credit and travel with CHQ. The partnership functions as an additional layer of service-learning.

Inclusion benefits students with and without SEN. Quality inclusion can enhance social skills and achievement for students with SEN and foster permanent inclusion (for reviews see Kefallinou et al., 2020; Oh-Young & Filler, 2015). Additionally, Molina Roldán et al. (2021) found that students without SEN benefit in several ways from participating in interactive learning activities. Students learned how to help and explain information to other people.

Students without SEN reported patience in and satisfaction from assisting peers, and they learned to acknowledge, accept and respect individual differences.

Travel is another layer of the CHQ model. The school combines inclusion and service-learning with travel to produce a unique cooperative, learning experience. CHQ students and secondary education student's together journey around the globe for service-learning. Travel is designed for advocating for diversity and inclusion, which means participating in service projects, presenting at conferences, and connecting with leading figures in disability rights. Staff and volunteers travel with students with and without SEN, and travel is free to participants.

International inclusive service-learning and travel (ISLT) with a purpose offers cultural immersion, independence, and opportunities for perspective shifting. Students, staff, and volunteers share the immersive, hands-on aspects of ISLT. Unlike simple volunteerism with its focus on charity, CHQ's goal is the application of academic knowledge, curriculum integration, critical thinking skills and problem solving in a reciprocal education experience. To our knowledge there are no other programs that combine ISLT like CHQ.

The right of all humanity to exist was exemplified in a recent CHQ trip. Students and staff were enroute to Australia via Frankfurt to help create an autism school when travel plans changed due to war. The travel route was no longer safe and the trip was reconfigured to visit Holocaust memorials. Travelers witnessed the tragic dangers of prejudice, bigotry, and the devaluation of diversity. Ranking people's worth is fundamentally and timelessly wrong. The horrors of the Holocaust reminded us of the importance of cultivating futures. We share CHQ's innovative practice of working together to demonstrate an option for a better future.

Exploring the Chautauqua Approach

As part of a larger documentation process of the CHQ pedagogy and outcomes, 75 students, staff, volunteers, and international collaborators participated in semi-structured interviews from June 2025 to December 2026. Individual interviewees consented to their interviews. Interviews covered experiences and outcomes related to instruction and ISLT.

For this paper we share some of the voices of ISLT participants. CHQ participants' comments were anonymized. A preliminary thematic analysis of interview transcripts was conducted to find themes (Creswell, 2002).

Perspectives of Chautauqua Participants

Themes allow for an overview of CHQ ISLT experiences. Direct interview quotes from participants illustrate themes. Ellipses indicate edited content, though the original meaning remains intact.

Accessibility and Safety related to Anxiety and Adaptation

> **Volunteer:** Travelling can also be challenging when you come up against steps and accessibility ... many places do not have ramps ... to accommodate a wheelchair.
>
> **Staff:** Anytime he gets to a train, whether it's in the States, whether it's anywhere in the world, we ran into more true chaos ... having to lift on trains when the doors were shutting, people getting absolutely irate because we had a person in a wheelchair ... (they) don't have time for that kind of thing.
>
> **Staff:** We quickly learned that some of the trains we had to catch only had a single accessibility car. And so we'd have seconds to get on board before the doors closed. So we'd have to rope in random good-natured ... folk to help hoist him over the stairs that he was never meant to go up in a wheelchair across the gap between the actual platform and

the train itself ... we had a one minute stop at a platform that we carried him down the stairs and sprinted full-bore the entire length of the train. We were in the very last car and the accessibility car was the very first car. We ended up making it with seconds ... the doors tried to close on me.

Student: So yeah, there was no ramp ... we got off and there was no ramp, which we didn't know at the time—they were supposed to schedule it 24 hours ahead to have the ramp, but the guy is like "Where are you going?" And we're trying to explain to him that we know where we're going but there's no ramp and so we don't know how to get there safely and he's trying to explain that to us—where there's like 90 other events happening with the schedule of the train and people trying to load on and off and people with children and it just felt like it was a lot going on ... There's no way for me to get up there without being lifted. And so everyone lifted me on, but even that took like three minutes we didn't have and it felt like we were going to get left.

Skill-Building from Travel

Staff: I think travel plays such a huge part in someone's growth as far as education, because whenever you're experiencing places for the first time, you're learning new skills ... And these are what you would think are small skills, but very big skills for someone that has never done it before. I think whenever you're travelling, you're constantly learning new things about yourself, others, your environment. You're learning new skills. And it's one thing to learn about these things in a book, but when you're actually out in the world and you're doing the things yourself. You're having to figure out these things for yourself. I think it really sticks with you and it builds confidence. Just having the

courage to get out and go and leave your hometown and travel to a different country does wonders for your confidence.

Mentor: I think this trip to Germany was so impactful for the Chautauqua students ... mentors, and even the teachers who went ... It's so much more than just a trip. It's learning lessons and learning how to resolve problems and learning how to enjoy a different culture and overcome any issues, any language barriers, and really be able to talk to other people and share your mission and share why you're an American in another country.

Staff: I believe that the travel and work that I've done with Chautauqua is a lot of the reason why I'm travelling the way that I'm travelling and my career path now. Because had I not gained the knowledge and the experience with Chautauqua, I wouldn't know half of what I do now.

Developing Advocacy Skills

Mentor: On the topic of accessibility, I remember I went to India with Chautauqua and there was lots of different presentations in a conference on accessibility and on inclusion ... And I started thinking about how inaccessible my school is, and I'd really like to make some changes to my school ... has a lot of problems with accessibility for disabled people especially, both in the sense of how classes are taught, but also the buildings and roundabout—people are very segregated in a way, socially, maybe not in a way that you'd immediately notice, but it's definitely a societal issue ... Chautauqua has always made me aware of time and time again, and especially in recent years where I've grown a bit older and I know that I have the possibility to make a change and do some things.

Student: And that was the whole inner plot of the Holocaust. They judged the disabled and the Jews and the Romani to be less viable or to be sort of drags on society, and then they exterminated them. And if we're going to draw lines as to who is human and who is not, that's what we're going to get ... And that's the whole salient message we're going over there to spread is that we don't have to follow the path of deciding who deserves human rights and who doesn't. We can just say, by virtue of being born, we as people have the same rights and freedoms as each other.

Student: I like presenting and telling other people about all our good work at Chautauqua.

Historical Consciousness

Staff: I think it's very important whenever we travel to take the students to different museums and monuments ... because it's important to see that this history wasn't long ago ... One of the monuments was showing how people with disabilities were treated during the Holocaust. And being able to actually see that and be in those spaces, I think gives a better understanding for the history, the awful history that happened. And these are things that we should know. It shouldn't be forgotten.

Staff: These trips consist of service projects ... Chautauqua absolutely is “learn and serve.” We're going to learn by serving. So it could be an aqueduct system for an orphanage at the top of the mountain in Jamaica, which we've done. It can be talking to the Secretary of Education in Argentina about how they do learn and serve ... which blew my mind.

Redefining Possibilities from Experiential Learning

> **Staff:** At Chautauqua we choose to travel all over the world with our students ... each group being unique, each group featuring individuals with any number, any variety of disabilities paired with our high school, high achieving mentors from one of our local programmes and staff members as well. We choose to do that despite all of the challenges and despite the inherent risks and logistical complications involved because we feel that not only is it going to be providing our students with an opportunity that most would never get who are able-bodied, but because travel is such a life-changing experience, it really opens your eyes to the vast diversity of the world in which we live.
>
> **Staff:** I think it's important to get out and show people that you are capable of leaving your hometown, whether you have a disability or not. I think it's important to show people that giving back and volunteering and doing service-learning projects all over the world is possible. There are people that you can help not just in your city, but just all over. I just think it's important to explore the world and learn new experiences ... it's all important just to get out and experience the world.

Discussion

Interview transcripts highlight the significant impact and value of international service-learning travel (ISLT). Participants reported growth through experiential learning, specifically by developing new skills and deepening their understanding of history and culture. Furthermore, facing accessibility and safety challenges fostered quick problem-solving, flexibility, and adaptation, while also boosting advocacy skills.

The core themes of ISLT provide foundation for understanding its overarching goals. While ideal travel implies full accessibility, moving outside our familiar environments often

reveals limitations in physical, cognitive, and social access. In these moments, ISLT shifts into a collaborative problem-solving approach to overcome these barriers.

At an individual level the ISLT can be transformative. Functional, communication, and social skills learned in ISLT apply to academic skills and personal development. Independence, resilience, empathy and career readiness can be impacted. At a broader level, ISLT provides a framework for breaking down stereotypes, fostering empathy, and addressing social and educational inequities. This immersive experience offers a transformative, cross-cultural interaction for students, staff, and volunteers, often shifting participant perceptions and self-conceptions. By acting as collaborative partners in service, participants build confidence and self-efficacy. Furthermore, this shared, collaborative work challenges preconceptions regarding abilities, enacting a tangible form of inclusion.

Conclusion

Each time CHQ engages with a community, it leaves a footprint; this footprint is a testament to the legacy of the school and its impact on the world at large. Additionally, ISLT is meant to project a model for positive, lasting change, cultivating a future where inclusion is a pillar upon which every community relies. The experience of people with disabilities and the adversities that they face is not one to be separated or categorized by artificial lines. The work of Chautauqua goes beyond borders to exemplify the idea that humanity is our greatest strength and equalizer; the plight of those in developing countries is not a disparate one from that of our own.

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Eloise Grabner is a high school senior in Europe. She has been a Chautauqua mentor and friend on several trips.

LeRon Williams is a Chautauqua student and student body president. On a daily basis he shares his magnificent ideas with staff, mentors, and volunteers, working to make the world more equitable for all.

Cynthia McCauley, a special educator for 53 years, founded and directs Chautauqua School, whose model for special education has won several awards and prestigious grants. Her hope is the world will commit to helping each person with a disability have his or her best life.

14. Innovative Approaches To Supporting Learners With Dyslexia In Ghanaian Classrooms

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Introduction

Across many Ghanaian classrooms, children who struggle persistently with reading are often described as slow or unmotivated. Despite repeated instruction, some learners continue to experience difficulty decoding words, retaining spelling patterns, and reading fluently. These struggles are frequently interpreted as a lack of effort rather than indicators of dyslexia, a neurodevelopmental reading difficulty affecting accurate and fluent word recognition.
Where diagnostic services are limited and teacher preparation uneven, dyslexia remains under-recognized. Learners may receive repeated whole-class instruction without targeted support, leading to frustration, low self-esteem, and widening literacy gaps.

This paper draws on qualitative data from teachers and parents in a mainstream Ghanaian school to explore how dyslexia is understood and supported in practice. It highlights instructional strategies feasible in resource-constrained classrooms and examines how shifts in teacher and parent understanding influence learner confidence.

Conceptual Framing

Understanding Dyslexia in Inclusive Classrooms

Dyslexia is widely recognised as a specific learning disability affecting word recognition, spelling, and decoding. It does not reflect intelligence or motivation. However, in many settings, including Ghana, dyslexia is interpreted through observable struggle rather than diagnostic understanding. When reading difficulties are perceived as laziness, instructional responses often emphasise repetition rather than targeted support.

Universal Design for Learning and Access

Universal Design for Learning (UDL) provides a framework for responsive classrooms. It encourages multiple means of representation, engagement, and expression so learners can access

content in varied ways. In the context of dyslexia, this includes multisensory instruction and flexible reading supports.

Assistive Technology as Barrier Reduction

Assistive technology can reduce barriers to learning when integrated thoughtfully into instruction rather than replacing skill development (Edyburn, 2013). In low-resource contexts, this may include text-to-speech applications, audio recordings, or mobile-based supports that enable curriculum access while foundational skills continue to develop.

Together, these perspectives frame dyslexia as a mismatch between learner needs and instructional design rather than as an individual deficit.

Context of the Study

The study was conducted in a private mainstream basic school in Ghana characterized by moderate to large class sizes and limited specialized support services. Although inclusive education policies are referenced nationally, classroom implementation often depends on teacher knowledge and initiative.

Teachers had not received specialized preparation in dyslexia identification. Reading difficulties were typically addressed through repetition of whole-class instruction. Cultural interpretations of academic struggle sometimes attributed persistent challenges to lack of effort.

Parents similarly expressed uncertainty and frustration when children struggled despite practice at home. This context provided an opportunity to examine how dyslexia is interpreted and addressed in everyday classroom practice.

Methodology

Research Design

This study adopted a case study design to explore how dyslexia is understood and supported within a specific school context. A case study approach was appropriate because it allowed for in-depth examination of classroom practices, teacher perceptions, and parent experiences within a bounded educational setting.

Participants

Participants were purposively selected to align with the study's focus. The sample included six primary and junior high literacy teachers (3–15 years of experience; limited formal training in dyslexia support) and five parents of learners demonstrating persistent reading difficulties. Five learners aged 8–13 were observed during classroom literacy instruction but were not interviewed directly. Their experiences were represented through teacher accounts, parental perspectives, and classroom observations within the bounded case study context.

Data Collection

Data were collected through semi-structured teacher interviews, informal parent discussions, classroom observations, and reflective field notes. Teacher interviews explored perceptions of reading difficulty, instructional responses, and professional learning needs. Parent discussions focused on home-based reading experiences and emotional responses to children's struggles. Classroom observations documented instructional practices, learner engagement, and use of multisensory strategies and assistive tools.

Data Analysis

Data were analyzed using Braun and Clarke's (2006) thematic analysis. Transcripts and field notes were read repeatedly to identify recurring patterns across interviews, observations,

and parent accounts. Codes were generated inductively and then grouped into broader themes reflecting shared experiences and instructional practices. Triangulation across multiple data sources strengthened credibility and allowed for comparison between reported perceptions and observed classroom behaviors.

Ethical Considerations

Ethical approval was obtained in accordance with institutional guidelines. Participants provided informed consent, and pseudonyms were used to protect confidentiality.

Findings

Analysis of teacher interviews, parent discussions, classroom observations, and reflective field notes revealed three interconnected themes: (1) misinterpretation and delayed recognition of dyslexia, (2) instructional shifts through multisensory and supportive strategies, and (3) the influence of parental understanding on learner confidence.

Misinterpretation and Delayed Recognition

Across interviews and discussions, dyslexia was rarely named at the early stages of learners' schooling. Instead, persistent reading difficulties were interpreted through observable behaviors such as slow reading, inconsistent spelling, and avoidance of written tasks. These behaviors were often framed as indicators of low effort.

One teacher reflected,

"*At the beginning, I felt the boy was just lazy and not serious with his schoolwork because he was always behind in reading*" (T1).

Parents expressed similar confusion. One parent explained,

"Even sometimes I feel that my son is just lazy. I don't really understand it because he reads the same word many times, but the next day he cannot remember it" (P2).

Classroom observations supported these accounts. Learners experiencing reading difficulty were frequently seen hesitating before reading aloud or avoiding participation during literacy activities. Instructional responses initially emphasized repetition rather than differentiated support.

However, as patterns of difficulty persisted despite increased practice, teachers began to reconsider their interpretations. One teacher noted,

"Now, I see that it is not that the child is not trying. The problem stays even when we help" (T5).

This shift marked a critical turning point. Recognition of dyslexia did not emerge from formal diagnosis but from sustained observation and reflective dialogue. Nonetheless, early misinterpretation contributed to delayed instructional adjustment.

Instructional Shifts: Multisensory and Supportive Strategies

When teachers introduced multisensory strategies, such as letter tracing, oral blending, movement-based phonics, and guided sound segmentation, noticeable changes in learner engagement were observed.

One teacher shared,

"When I allowed them to touch the letters and say the sounds together, they became more willing to try" (T2).

Observation notes confirmed increased participation during interactive phonics activities. Learners who previously avoided reading were observed volunteering responses and persisting longer with tasks.

Low-cost assistive tools were also used to support access. Text-to-speech applications and audio recordings allowed learners to engage with content before attempting independent reading. A teacher explained,

"When the child listens first, the reading task does not look so difficult again" (T4).

Importantly, teachers emphasized that these tools complemented rather than replaced literacy instruction. Assistive supports reduced frustration while foundational skills continued to be developed.

These instructional shifts demonstrate that practical, context-sensitive adjustments can significantly improve learner participation in resource-constrained settings.

Parental Understanding and Learner Confidence

Parent perspectives revealed the emotional dimensions of dyslexia. Early frustration often shaped home interactions. One parent admitted,

"At first, I was angry because I thought he was not serious, but now I get that this issue goes beyond seriousness" (P1).

Teachers observed that negative reactions at home affected classroom confidence. Learners who were frequently corrected or disciplined for reading mistakes appeared hesitant and anxious during literacy lessons.

As parents gained greater understanding of dyslexia and received guidance on supportive strategies, notable changes occurred. One parent reflected,

"Now I encourage him instead of shouting, and he is trying more" (P5).

Classroom observations documented corresponding increases in persistence and willingness to attempt reading tasks. Improved parent–teacher communication reinforced instructional efforts and reduced stigma.

These findings highlight that dyslexia support extends beyond instructional technique. Shifts in adult understanding, both at school and at home, directly influence learner confidence and engagement.

Discussion

This study illustrates how dyslexia in Ghanaian mainstream classrooms is often initially interpreted through observable struggle rather than as a specific learning disability. Early assumptions of laziness or lack of effort shaped instructional responses, resulting in repetition rather than targeted intervention. These findings reflect broader challenges in inclusive education contexts where specific learning disabilities remain less visible than sensory or physical disabilities.

The gradual shift in teacher understanding demonstrates the importance of reflective practice. When persistent reading difficulty was recognized as consistent and patterned rather than motivational, instructional approaches changed. This aligns with inclusive education principles that emphasize responsiveness to learner diversity rather than uniform delivery of content.

Multisensory instruction emerged as a practical and feasible strategy within large classrooms. Consistent with Universal Design for Learning, offering multiple means of engagement and representation reduced anxiety and increased participation. The findings suggest that inclusive practice does not necessarily require extensive resources but requires informed instructional flexibility.

Similarly, assistive technology functioned as a scaffold for access rather than a replacement for instruction. When used strategically, low-cost digital tools reduced cognitive load and supported learner confidence while foundational skills continued to develop. This reinforces the understanding of assistive technology as a barrier-reduction mechanism rather than a shortcut to learning.

Finally, the study highlights the ecological dimension of dyslexia. Parent understanding significantly influenced learner confidence. As parental interpretations shifted from frustration to encouragement, classroom engagement improved. Inclusive literacy support therefore requires alignment between school practices and home understanding.

Implications for Practice and Leadership

Several practical implications emerge from this study.

First, teacher preparation programs should explicitly address dyslexia and other specific learning disabilities. General discussions of inclusive education are insufficient without focused attention on identification patterns and instructional strategies.

Second, schools can prioritize low-cost, multisensory literacy approaches that are feasible within large classrooms. These strategies are adaptable and sustainable in resource-constrained contexts.

Third, structured communication between teachers and parents is essential. Providing families with accessible explanations of dyslexia and practical home-based strategies can reduce stigma and strengthen learner confidence.

Finally, policy frameworks for inclusive education should explicitly recognize dyslexia within national implementation strategies. Without such recognition, learners with reading disabilities risk remaining overlooked within broader inclusion agendas.

Conclusion

Dyslexia in Ghanaian classrooms is frequently misinterpreted before it is understood. This study demonstrates that shifts in teacher perception, instructional design, and parental engagement can significantly improve learner participation and confidence. Multisensory approaches and

accessible assistive tools offer practical pathways for supporting learners within mainstream settings.

Advancing inclusive literacy in low-resource contexts requires more than policy statements. It requires informed practice, reflective educators, and collaborative partnerships between schools and families. By grounding inclusive principles in everyday classroom realities, this study contributes context-sensitive insights for strengthening equitable literacy education.

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15. Parents' Risk Of Burnout

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Introduction

Parental burnout is a unique and context-specific syndrome resulting from enduring exposure to chronic parenting stress (Mikolajczak & Roskam, 2018; Roskam et al., 2018). Mikolajczak and Roskam (2018), analyzing parental burnout, describes it as a specific functioning of parents in three important aspects, “The first and main symptom is an overwhelming exhaustion related to one's parental role: parents feel tired when getting up in the morning and having to face another day with their children; they feel emotionally drained by the parental role to the extent that thinking about their role as parents makes them feel they have reached the end of their tether. A second symptom is an emotional distancing from their children: exhausted parents become less and less involved in parenting and the relationship with their children; interactions are limited to functional/instrumental aspects at the expense of emotional aspects. A third symptom is a loss of accomplishment in one's parental role: parents feel fed up with parenting, they cannot stand their role as father/mother anymore, and they no longer enjoy being with their children. Importantly, all these symptoms and states contrast with both how the parent felt before about parenting” (Roskam et al., 2018, p.2).

The approach by Roskam and colleagues (Mikolajczak & Roskam, 2018; Roskam et al., 2018) provides a theoretical framework for the study. The approach presented by the authors raises several questions, as the stress and difficulties in parental coping, especially mothers of children with disabilities, have a much stronger basis than among parents of neurotypical children. According to Karnas (2023) parents of children with Autism Spectrum Disorder (ASD) have higher levels of stress compared to parents of children with other disabilities and parents of typically developing children. Research indicates that higher levels of parental stress is associated with challenging characteristics of ASD (Karnas, 2023; Ekas et al., 2009; Silva &

Schalock, 2012). It should not be forgotten that factors related to the functioning of parents, especially such as a negative attitude towards disability (e.g., grief, anger and/or disappointment) and a strong sense of grief and mourning after the loss of a properly functioning child, have a huge impact on the risk of parental burnout overall. Raising a child with autism is associated with an increased risk for both mental health difficulties and reduced wellbeing. Parents of children with autism are a group particularly vulnerable to burnout due to their children's developmental difficulties.

After Pisula and Porebowicz-Dorsmann (2017), "one of the key variables of parental adjustment is family functioning, counted among the resources facilitating adjustment". Factors like "family commitment, challenge, cohesion, expression and marital support, are recognized as the predictors of family quality of life" (p. 15). Research on parental burnout, especially in children with developmental disorders, is still insufficient, but previous studies have shown that it can be reliably measured in both mothers and fathers, and depending on the characteristics of the parents studied, it has been shown to occur in 8% to 36% of parents (Lindström et al., 2011).

The risk of parental burnout is also related to the functioning of the family system. In the concept of family as an interactional system, family adaptability is the degree to which the family is flexible and can regain equilibrium in stressful and challenging situations or environments (Ketelaar et al., 2017). Based on the Ecological Systems Theory (EST), attention was paid to "that microsystem-individual factors such as gender, educational level, income, parental personality, internalization of maternal parental motivation, unmitigated communion, self-compassion and concern for others, alexithymia, anxiety and depressive symptoms, parental perfectionism, resilience, low self-esteem and high need for control, mother's attachment style were identified as being associated with parenting burnout" (Ren et al., 2024, p. 2).

Considering the results of research on stress and the risk of burnout in parents, as well as the complexity of this phenomenon, it can be concluded that parents of children with complex needs report lower quality of life in all areas (Barratt et al., 2025). Systematic reviews of the quality of life of parents of children with autism (Vasilopoulou & Nisbet, 2016) corroborate this finding. It is worth emphasizing that various internal factors may play an important role in reducing stress and parental burnout (incl. personality predispositions) (García-Grau et al., 2018, 2019; Sekułowicz et al., 2022). A study conducted by Aybike Merve Cici and Funda Kardaş Özdemir (2024) on a group of 207 parents of chronically ill children showed that parental burnout decreases with the increase in parents' mental resilience. Furthermore, research by Sekułowicz et al. (2020) indicates that mindfulness plays an important role in reducing stress in parents of children with autism spectrum disorders.

Aims of the Study

The study's two-fold goals examined (1) the *relationships* between family quality of life (FEIQoL), parental burnout (measured by PBM-12), self-compassion (SC), and ego-resiliency (ER) among parents of children with and without autism spectrum disorder. It aims to determine whether self-compassion and ego-resiliency function as protective resources associated with higher family quality of life and lower parental burnout.

Additionally, the study explores (2) *differences* in these variables across selected sociodemographic factors (family structure, educational level, and place of residence). The findings will inform family-centered early intervention practice by identifying key psychological and contextual determinants of parental well-being and providing practical implications.

Method

Study Design & Procedures

The study employed quantitative cross-sectional design. Data were collected in therapeutic preschools within the Słoneczna Kraina (transl. "Sunny Land") network in Poland providing early intervention services. Parents and legal guardians of children receiving early-intervention (EI) participated voluntarily and anonymously after providing informed consent. Questionnaires were completed on-site or online and took approximately 20–30 minutes.

Participants

The sample consisted of 92 parents and legal guardians of children (N=92) receiving early intervention services. The vast majority of participants were mothers (93.5%). Over half of the children had a diagnosis of autism spectrum disorder (59.3%). The remaining children had other developmental disorders, including other disabilities, e.g., intellectual or sensory. Detailed sociodemographic characteristics of the sample are presented in Table 1.

Table 1

Participant characteristics (N = 92)

Variable	n	%
Gender		
Female	86	93.5
Male	6	6.5
Education		
Primary	2	2.2
Vocational	14	15.2
Secondary	26	28.3
Higher	50	54.3
Place of residence		
Rural	31	33.7
Urban	61	66.3
Family structure		
Two-parent	85	92.4
Single-parent	5	5.4
Reconstituted	2	2.2

Variable	n	%
Child ASD diagnosis		
Yes	54	59.3
No	37	40.7
Participation in psychological support		
Yes	18	19.6
No	74	80.4

Instruments

The combined questionnaire assessment package included measures of family quality of life (FEIQoL) (FEIQoL; García-Grau et al., 2018, 2019), parental burnout (PBM-12) (Sekułowicz et al., 2020), self-compassion scale (SCS) (Kocur et al., 2022), ego-resiliency (ER) (Kołodziej-Zaleska & Przybyła-Basista, 2018), and a sociodemographic survey. Internal consistency was assessed using Cronbach's alpha and McDonald's omega. Descriptive statistics, bivariate analyses, and subgroup comparisons (family structure, education level, place of residence) were conducted. Non-parametric tests (Mann–Whitney U) were applied when assumptions of normality were not met, with rank-biserial correlations reported as effect sizes. The significance level was set at $\alpha = .05$.

Results

Addressing the question about associations between all variables (scores of FEIQoL, PBM-12, SCS, ER), Pearson *r* correlation analyses indicated a strong positive association between exhaustion and helplessness ($r = .82$, $p < .05$). Exhaustion was negatively correlated with optimal regulation ($r = -.64$), self-compassion ($r = -.58$), and quality of life ($r = -.74$). Helplessness was negatively correlated with optimal regulation ($r = -.62$), self-compassion ($r = -.61$), and quality of life ($r = -.65$). Optimal regulation was positively associated with openness ($r = .46$), self-compassion ($r = .54$), and quality of life ($r = .67$). Openness was positively

correlated with self-compassion (r = .23) and quality of life (r = .39). Self-compassion was positively associated with quality of life (r = .51). All correlations were significant at $p < .05$.

In pursuit of the second research question, no significant differences were found between urban and rural parents in Family Relations, Access to Information, Overall Situation, or overall FEIQoL scores (all $p > .05$). A significant difference emerged in Child Functioning in Mann-Whitney U test analysis, with higher ratings among urban parents (U = 1775, p = .03, r_{rb} = .25). Participation in psychological support was not associated with differences in family quality of life, parental burnout, ego-resiliency, or self-compassion (all $p > .05$). Comparisons between parents of children with and without autism spectrum disorder revealed no significant differences in overall family quality of life, parental burnout, ego-resiliency, or self-compassion (all $p > .05$). Across FEIQoL subscales, no group differences were observed except for Access to Information, where parents of children with ASD reported lower scores (U = 1849.5, p = .01, r_{rb} = .28).

Discussion

The present study examined parental burnout, family quality of life, and selected psychological resources among parents of children receiving early intervention services. The findings can be interpreted within the balance-between-risks-and-resources (BR^2) theoretical framework proposed by Mikolajczak and Roskam (2018), which conceptualizes parental burnout as the result of a chronic imbalance between parenting demands and available resources.

Consistent with this model, the most robust findings concerned associations between burnout symptoms and psychological resources. Specifically, exhaustion and helplessness were strongly negatively correlated with self-compassion, optimal emotional regulation, and family quality of life. Conversely, self-compassion and regulation capacities were positively associated

with higher quality of life and lower burnout. These results provide empirical support for the resource-based conceptualization of parental burnout and align with prior evidence demonstrating the protective role of resilience (Cici & Kardaş Özdemir, 2024) and mindfulness-related capacities (Feng et al., 2025) among parents of children with developmental conditions.

Taken together, the findings suggest that internal regulatory mechanisms may buffer the psychological costs of sustained caregiving stress. In contrast to literature documenting elevated stress and mental health risk among parents of children with autism spectrum disorder (Ekas et al., 2009; Karnas, 2023; Silva & Schalock, 2012) the present study did not reveal broad group differences in overall family quality of life, self-compassion, or ego-resiliency. Although parental burnout levels were descriptively higher in the ASD group, differences were modest. The findings suggest that diagnostic status alone may not fully determine parental well-being, particularly within structured early intervention contexts where organized services may mitigate chronic stressors.

However, one domain clearly differentiated groups – *Access to Information*. Parents of children with ASD reported significantly poorer access to information. This result is consistent with systematic reviews identifying informational and systemic barriers as critical determinants of parental quality of life (Barratt et al., 2025; Vasilopoulou & Nisbet, 2016). Within an ecological systems perspective (Ren et al., 2024), access to information may function as a mesosystem-level resource that shapes adaptation processes. Even when individual psychological resources are present, fragmented or unclear service pathways may undermine perceived family functioning.

Place of residence demonstrated minimal influence on family quality of life, with the exception of child functioning ratings, which were higher among urban parents. This small-to-

moderate effect may reflect differences in perceived service availability, professional feedback, or local resource density. Nevertheless, the absence of broader urban–rural disparities suggests that coordinated early intervention networks may attenuate structural inequalities, supporting the systemic perspective emphasizing adaptability and balance within family systems (Ketelaar et al., 2017).

Participation in formal psychological support was not associated with statistically significant differences in our data. While descriptive trends indicated slightly more favorable profiles among participants, these differences did not reach significance. This finding raises an important concern - participation in support does not automatically translate into enhanced psychological resources. This suggests that interventions may be most effective when they explicitly target mechanisms such as self-compassion, emotional regulation, and adaptive coping rather than solely providing informational or procedural assistance.

Overall, the findings indicate that parental well-being in early intervention contexts appears to be shaped less by categorical variables such as diagnosis or residence and more by the dynamic interplay between chronic caregiving demands, individual psychological resources, and systemic informational factors. In line with the BR^2 model, self-compassion and optimal emotional regulation emerge as central protective mechanisms.

Practical Implications

The results have direct implications for family-centered early intervention practice. First, early intervention programs should extend beyond child-focused therapeutic goals and systematically incorporate parental resource-building components. Structured interventions aimed at strengthening self-compassion, emotional regulation, and adaptive coping may reduce vulnerability to parental burnout and indirectly support child outcomes through improved

relational functioning. Second, the consistent finding regarding access to information emphasizes the need for clear, coordinated, and accessible informational systems. Early intervention services should ensure transparent communication pathways, structured psychoeducation, and individualized guidance to reduce systemic ambiguity. Improving informational coherence may represent a relatively modifiable contextual factor with substantial impact on perceived family quality of life. Third, the limited effect of formal support participation suggests that program content and mechanisms (incl. their quality) may matter more than mere availability. Support models that explicitly target psychological resources may be more effective than broadly structured or nonspecific support programs.

To conclude, these findings reinforce the importance of integrated, resource-based, and ecologically informed early intervention models that prioritize both parental well-being and systemic clarity.

Limitations and Future Directions

Several limitations should be acknowledged. The study's relatively small sample size and the predominance of mothers limit the generalizability of the findings, particularly to fathers and more diverse family constellations. The cross-sectional design precludes causal inferences regarding the directionality of associations between burnout and psychological resources. Data were collected within a single early intervention network, which may restrict applicability to other service systems or cultural contexts. Additionally, reliance on self-report measures introduces the possibility of shared method variance or social-desirability bias in responses.

Future research should employ larger and more gender-balanced samples, longitudinal designs to examine causal pathways, and multi-informant assessments to better capture dynamic processes underlying parental adaptation. Further investigation of how specific components of

early intervention programs influence psychological resources and informational access would provide valuable insight into mechanisms of change overall.

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16. Education For Gross National Happiness Pedagogy

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Introduction

Florence Nightingale, in her book Notes on Nursing: What it Is, and What it Is Not, stated, “Nursing is an art: and if it is to be made an art, it requires an absolute devotion as hard a preparation as any painter’s work” (Nightingale, 1859, p. 8). Her statement situates nursing within the discipline of both science and art, which demands technical proficiency and humanism rooted in compassionate care, empathy, and social responsibility. Consistent with her views, nursing education in the 1980s rendered a strong focus on humanistic aspects (Yeh, 2023). However, Ehrhart and Furlong (1998) predicted that nursing care will evolve with technological and economic advancement, and this will demand the ability to integrate the humanities with clinical competencies. Additionally, they argued that nursing becoming more technical and an economic enterprise will erode the artistic and humanistic spirits of nursing. This has become evident with the emergence of modern technologies and a changing healthcare environment, potentially dehumanizing the healthcare industry (Yeh, 2023).

Modern nursing education seems to prioritize developing students’ technical competencies over cultivating humanistic values in nursing students. As argued by Yeh (2023), modern nursing education places importance on acquiring technical knowledge and skills. This emphasis on technical proficiency overlooks the art of nursing (Castellano, 2025). Additionally, the competency-based approach in nursing education that focuses on the measurable clinical or technical skills and standardized outcomes (Castellano, 2025) fails to account for the artistic and humanistic aspects of nursing practice (Saud and Chen, 2018). Saud and Chen (2018) argued that training nursing professionals in meeting the minimum competency standards could result in producing nurses who are ill-equipped to deal with multi-faceted and complex real-world

situations. Thus, there is a need to move beyond the technical competencies in nursing education to foster the development of technical competencies and their holistic development. This shift requires attention to not only what nursing students are expected to know and do but also who they become and learning to become as health care practitioners (Castellano, 2025; Sandvik, 2015). To this end, it is paramount to ensure that nursing curricula equip students with technical and clinical proficiencies and their humanistic development.

The future of nursing education demands shifts beyond technical competencies. It calls for education that can produce nurses who are compassionate and empathetic (Castellano, 2025; Tetley et al., 2016) and think beyond the checklist or procedural dimensions (Fawcett and Rhynas, 2014). This shift is imperative as instilling humanistic values with technical competencies in students will result in competent nurses who embody empathy and compassionate care for the patients. Integrating humanistic education in nursing entails seeing patients as human beings imbued with dignity and voice rather than as things or objects subjected to medical procedures (Létourneau et al., 2021; Yeh, 2023). Thus, cultivating humanistic values in nursing students will produce nurses who are not only technically and clinically skilled but also respectful, empathetic, caring, and culturally sensitive.

This study explores the integration of GNH values and principles and the four immeasurable qualities into nursing education at the Royal Thimphu College. The GNH values and immeasurable qualities embedded into teaching were carried out based on Bigg's Constructive Alignment framework. Doing so, it aims to shed light on how GNH and immeasurable qualities can contribute to the students' development of humanistic values, preparing nurses to deliver compassionate, ethical, and culturally sensitive care.

Method

This study employed a qualitative method to investigate how GNH values and principles can be integrated into nursing education using Biggs' Constructive Alignment framework. It examined how GNH values can be embedded into pedagogy and their impact on students' development of humanistic values. The study was conducted among the first-year nursing students at Royal Thimphu College. A total of 140 nursing students participated in the research for a semester.

The data were collected from multiple sources, such as the lesson plan records, viva, lecturer reflections, and students' logbooks. The GNH values and four immeasurable qualities-compassion, loving-kindness, sympathetic joy, and equanimity were embedded into teaching, lesson plans, and assessments to cultivate the humanistic values such as respect, ethical conduct, empathy, honesty, and integrity, among many other values. Additionally, the logbook reviews and the lecturer's reflections documented the students' behavior changes over time in relation to the GNH values. The data were analyzed using Clarke and Braun's (2017) thematic analysis method.

Finding and Discussion

The analysis of data was based on the pre-clinical and post-clinical assessments and teaching. The integration of GNH values into the teaching and learning were guided by the Constructive Alignment approach, where teaching and learning activities directly address the intended learning outcomes (Tang and Biggs, 2007). The findings revealed that integrating GNH values into teaching and learning can contribute to cultivation of artistic and humanistic aspects

of nursing. It showed that using GNH as a pedagogical tool can help student nurses become fully human, developing ethical, moral and compassionate individuals.

The first pre-clinical viva showed a strong emphasis on technical and theoretical knowledge, with less demonstration of humanistic values such as respect, compassion and care. Many students, for example, failed to greet their lecturers. Moreover, they relied on the text answers, suggesting their emphasis on mastering the knowledge and clinical procedures. This suggests the influence of a hidden curriculum, where students unintentionally learn to focus more on completing tasks and less on empathy and human connection. Humanistic values largely fall under the hidden curriculum (Nadelson et al, 2016). The findings thus revealed that educators need to engage students beyond standard curriculum and that they need to take an active role in cultivating the humanistic value in the students. This is consistent with the study conducted by Hoeur et al (2025), where they postulate that educators exemplifying humanistic values in their conduct and teaching bring out and reinforce values and attitudes in students.

After GNH values such as mindfulness, kindness, compassion, and calmness were intentionally infused in teaching, clear changes were observed in students during the second viva and clinical practice. More students greeted lecturers and patients respectfully, showed empathy in their responses, and considered patients' social and economic situations when giving health education. These changes reflect the idea of Educating for GNH philosophy, the greater awareness of empathy as observed in later assessments shows a more holistic and balanced approach to learning.

The CA framework played an important role in putting GNH values within teaching, learning, and assessment. By aligning intended learning outcomes with teaching, learning, and

assessment, values such as respect, greeting, integrity, honesty, empathy, and professionalism became observable and measurable. For example, viva questions, clinical supervision, and logbook evaluations were not only focused on memorized facts but required students to demonstrate respectful communication, ethical judgment, and understanding of the context. For example, one of the students reflected *"I actively listened and ensured a safe, private environment as the patient disclosed her Sexually Transmitted Infections (STI) diagnosis. She shared openly and with trust, underlining the critical role of compassion and respectful communication in such sensitive encounters."* This reflection showed that infusing GNH values into teaching fosters the well-rounded students equipped with humanistic qualities.

Using informal formative assessment such as observation, questioning, immediate feedback, and reflective discussions proved particularly effective in reinforcing GNH values. Incidents such as cheating in the class test, followed by reflection, apology, and reassessment, demonstrated how integrity and accountability can be cultivated through compassionate yet firm pedagogical responses. For example, when a cheating incident occurred during a class test, it was handled through reflection, apology, and a reassessment opportunity. This showed that values like integrity and accountability can be developed when teachers respond with both compassion and firmness, rather than punishment alone. Similarly, clinical observations and post-clinical reflections allowed lecturers to respond mindfully to students' needs, slowing down teaching, re-teaching concepts, and emphasizing patient-centered care.

Although only a few students consistently demonstrated compassion and follow-up care, their behavior highlights the strong potential of this approach. They demonstrated care, calmness, and holistic engagement with patients and families, embodying the four immeasurable

qualities emphasized in GNH education. However, some students still focus mainly on completing tasks. This means GNH and CA need to be integrated more consistently and continuously to create lasting change.

The findings show that when GNH values are deliberately included in lesson planning, teaching, assessment, and reflection, students move from memorizing information to mindfulness, compassion, and understanding of context. This approach combines modern Western teaching methods with Bhutanese holistic values, creating a practical and meaningful way to strengthen nursing education.

Conclusion

The findings show that first-year nursing students at first focused mostly on technical skills and showed little use of human values like compassion, empathy, and respect. With guidance and the careful inclusion of GNH values in teaching, assessments, and clinical practice, students gradually improved in caring for patients, communicating effectively, and giving health education thoughtfully. This suggests that intentionally teaching values in nursing helps students become more mindful, empathetic, and professional while still learning technical skills. Developing these qualities takes time and needs ongoing practice, reflection, and support in both classroom and clinical settings.

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17. A Study on Attitudes of College Teachers Towards Inclusive Education, Arunachal Pradesh

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Education is widely recognised as a fundamental human right and a powerful instrument for social transformation. In recent decades, the concept of inclusive education has gained global attention as an approach that ensures equal learning opportunities for all students, regardless of their physical, intellectual, social, emotional, linguistic, or other conditions. International organisations such as UNESCO have strongly advocated for inclusive education as a means to promote equity, participation, and quality in education systems worldwide.

Inclusive education emphasises the integration of students with disabilities and diverse learning needs into mainstream educational institutions. While considerable progress has been made at the school level, the implementation of inclusive practices in higher education is still developing. In countries like India, legislative frameworks such as the Rights of Persons with Disabilities Act mandate equal access to higher education and reasonable accommodations for students with disabilities. However, the success of such policies largely depends on the attitudes, preparedness, and commitment of college teachers.

Teachers play a pivotal role in shaping classroom environments and determining the effectiveness of inclusive education. Their beliefs, perceptions, and attitudes influence instructional strategies, classroom management, assessment practices, and interactions with students. A positive attitude towards inclusion fosters acceptance, collaboration, and support for diverse learners, whereas negative or indifferent attitudes may create barriers to meaningful participation and academic success.

At the college level, inclusive education presents unique challenges. Higher education institutions often emphasise academic rigour, standardised evaluation, and subject specialisation, which may require additional pedagogical flexibility to accommodate diverse learners. College teachers may encounter students with physical disabilities, learning disabilities, mental health

conditions, or socio-cultural disadvantages, necessitating adaptive teaching methods and institutional support systems.

Review of related literature

Tesfaye (2005) found that many participants in an inclusive program held strong negative feelings about integration. The factors responsible for this attitude included inadequate training, lack of resources, shortage of proper techniques, and the absence of an adapted curriculum.

Horne and Timmons (2009) found that most teachers were supportive of inclusion and reported receiving adequate support from their principals. However, they also indicated several challenges. Teachers felt they lacked sufficient training to implement inclusion effectively, were not provided with enough time to prepare, and required additional support in the form of smaller class sizes and assistance with curriculum modification.

Madan and Sharma (2013) evaluated the policy and legislation of inclusive education in India. Their study outlined general guidelines for schools to ensure the smooth implementation of inclusive education programs. They emphasised that successful execution is possible only when schools are adequately prepared and able to draw support from teachers, parents, peers, and administrative staff. The authors further highlighted that all stakeholders must be engaged and that schools require essential resources to make inclusion effective.

Kalita (2017). According to this study, most of the teachers have moderate attitude towards inclusive education, male teachers' attitude towards inclusive education is higher than the female teachers, there is no significant difference between the attitude of male and female teachers of primary school towards inclusive education, experience teachers' attitude towards inclusive education is slightly higher than the less experience teachers and there is no significant difference

between the attitude of experienced and less experienced primary school teachers towards inclusive education.

Singh et al. (2020) found that teachers' attitudes toward inclusive education ranged from moderate to favourable. The study further revealed that pre-service and urban teachers had more positive attitudes toward inclusive education compared to in-service and rural teachers, respectively. However, no significant difference was found between the attitudes of male and female teachers toward inclusive education.

Singh and Shiba (2020) revealed that teachers demonstrated a moderate attitude toward inclusive education. However, pre-service teachers showed more favourable attitudes toward inclusive education than in-service teachers, while gender had no significant effect on teachers' attitudes toward inclusive education.

Geeta and Yadav (2021) found that teachers' preparation and experience have a significant role in shaping educators' perspectives on inclusive education. It is also revealed that there is a correlation between teachers' views and the amount of training they have received in inclusive practices. Teachers who get this kind of education are better able to meet the demands of their varied student populations.

Dey and Bika (2023) results of this study revealed that the majority of teachers possess moderate-to-above-average favourable attitudes toward inclusive education. The study also found that pre-service and in-service teachers' attitudes toward inclusive education differed significantly; however, pre-service teachers held more positive attitudes than in-service teachers. Furthermore, the study indicates that male and female teachers' attitudes toward inclusive education did not differ significantly. The attitude of rural and urban teachers toward inclusive education did not differ significantly.

Yadav (2024) highlighted the recommendations of the National Education Policy (NEP) 2020 in India. As NEP 2020 emphasises inclusive education by ensuring equitable access, support for marginalised groups, and barrier-free learning environments across all levels of education and the Rights of Persons with Disabilities (RPWD) Act, 2016, aims to uphold the dignity of people with disabilities and prevent discrimination, replacing the 1995 Persons with Disabilities Act.

Significance of the study

Nowadays, inclusive education is a widely recognised 21st-century strategy because it helps students reach their full potential, guarantees everyone's right without discrimination, and creates an environment that is inclusive for all children to grow to their full potential.

Inclusive education fosters acceptance and promotes wider social acceptance, peace, and cooperation. As a result, inclusive education widely pushed by global organisations such as UNESCO and based on frameworks such as the Rights of Persons with Disabilities Act, stresses equitable educational opportunities for all learners, including those with disabilities and various learning requirements.

Despite the growing emphasis on inclusive education, limited research has focused specifically on the attitudes of college teachers toward inclusion. Most studies concentrate on primary and secondary school teachers, leaving a gap in understanding how higher education faculty perceive and respond to inclusive practices. Exploring teachers' attitudes at the tertiary level is essential for identifying strengths, challenges, and areas requiring professional development.

Therefore, the present study seeks to examine the attitudes of college teachers towards inclusive education. It aims to understand their perceptions, identify influencing factors such as training and experience, and assess their readiness to implement inclusive strategies in higher

education settings. By doing so, the study intends to contribute to the development of more inclusive policies and practices within colleges and universities.

Operational Definition of the Key Terms

Inclusive Education: Inclusive education refers to an education system which accommodates all children regardless of their differences in terms of physical, intellectual, social, emotional, linguistic or other conditions.

College Teacher: A college is a postsecondary educator who teaches undergraduate of graduate students in a specific discipline.

Attitude: Attitude refers to a settled way of thinking, feeling, or acting towards people, objects or situations, reflecting a person's mental state, disposition, and evaluations.

Objective of the Study

1. To study the awareness of college teachers towards inclusive education.
2. To study the attitude of college teachers towards inclusive education.
3. To study the infrastructural support and attitude of the authority towards inclusive education
4. To study the attitude of college teachers towards inclusive education concerning:
    - Gender
    - Teaching experiences

Research Questions: Based on the 1st and 2nd objectives, the following research questions are formulated:

1. Are college teachers aware of the concept of inclusive education?
2. What is the attitude of college teachers towards inclusive education?

3. Is there a significant difference between the attitudes of male and female primary school teachers towards inclusive education?
4. Is there a significant difference between the attitudes of experienced and less experienced primary school teachers towards inclusive education?

Methodology

Selection of Research Method: The Descriptive Survey Method was adopted for the present study. This method is designed to obtain relevant and accurate information concerning the existing status of a phenomenon and to draw valid general conclusions from the facts discovered.

Population: All teachers of Government College Doimukh, Dera Natung Government College, and Binni Yanga Government Women's College were considered as the population for the study.

Sample: A total sample of 33 teachers was randomly selected for the study, comprising 11 teachers each from Government College Doimukh, Dera Natung Government College, and Binni Yanga Government Women's College.

Tool Used: The researcher used a self-developed Teacher Attitude Scale toward Inclusive Education for the collection of the necessary data. The scale consisted of three response categories: "Agree," "Undecided," and "Disagree."

Statistical Support: The collected data were mainly analysed in terms of percentages**.**

Delimitation of the Study: Keeping in view the limitations of time and resources, the study was delimited to Government College Doimukh, Dera Natung Government College, and Binni Yanga Government Women's College, Poma.

Findings and discussion

Objective 1: Findings Related to Awareness of Inclusive Education

The findings of the study revealed that a majority (84.8%) of college teachers were aware of inclusive education, irrespective of their gender and teaching experience. This indicates a generally high level of conceptual awareness regarding inclusive education among the respondents.

However, despite this high level of awareness, a substantial proportion (81.8%) of teachers reported not having received any formal training in inclusive education. This finding highlights a significant gap between awareness and professional preparedness among college teachers.

The results suggest that although teachers possess basic knowledge and understanding of inclusive education, the lack of structured training may hinder the effective implementation of inclusive practices in higher educational institutions. Therefore, the study emphasizes the need for systematic training programs, professional development initiatives, and capacity-building workshops to strengthen teachers' competencies and preparedness for inclusive education.

Objective 2: Findings Related to the Attitude of College Teachers toward Inclusive Education

The findings of the study revealed that the majority of college teachers demonstrated a moderate attitude toward inclusive education. This indicates that teachers possess a reasonable level of acceptance and awareness regarding inclusive practices; however, their attitudes were neither highly favorable nor strongly resistant.

Furthermore, the study found that none of the respondents fell under the category of having an "extremely favorable" attitude toward inclusive education. This suggests that although inclusive education is recognized and accepted to some extent, it has not yet been fully embraced with a high degree of enthusiasm among college teachers.

The predominance of a moderate attitude highlights the need for targeted interventions such as professional development programs, awareness workshops, and policy-level support to strengthen positive perceptions and promote a more favorable orientation toward inclusive education in higher educational institutions.

Objective 3: Findings Related to Institutional and Infrastructural Support for Inclusive Education

The findings related to institutional and infrastructural support for inclusive education revealed that 39.4% of the respondents remained neutral, while 36.4% disagreed that adequate infrastructural and administrative support was available for the effective implementation of inclusive education.

These findings reflect a considerable level of dissatisfaction among the respondents regarding the existing institutional framework and physical infrastructure required for inclusive educational practices. The results further suggest that challenges related to policy implementation, resource allocation, infrastructural facilities, and administrative commitment may act as significant barriers to the effective practice of inclusive education in higher educational institutions.

Overall, the study highlights the need for stronger institutional commitment, improved infrastructural facilities, and enhanced administrative support to ensure the successful implementation and sustainability of inclusive education programs.

Objective 4: Gender and Teaching Experience in Relation to Inclusive Education

The study further examined whether gender and teaching experience significantly influenced perceptions toward inclusive education. The results indicated that there was no statistically significant difference based on gender or years of teaching experience. This suggests

that attitudes toward inclusive education are relatively consistent among male and female teachers, as well as among teachers with varying levels of professional experience.

These findings imply that demographic variables such as gender and teaching experience do not play a determining role in shaping educators' perspectives toward inclusive education within the context of the present study.

Overall, the study reveals that there is no significant difference in attitudes toward inclusive education with respect to gender and teaching experience.

Conclusion

The study concludes that college teachers possess a considerable level of awareness regarding inclusive education; however, this awareness is not adequately supported by formal training or institutional preparedness. Although most teachers demonstrated a moderate attitude toward inclusive education, none exhibited an extremely favorable attitude, indicating that inclusive practices are acknowledged but not yet fully embraced within higher education institutions.

The findings further reveal that institutional and infrastructural support for inclusive education remains insufficient, as many respondents expressed neutrality or dissatisfaction regarding the availability of administrative support, resources, and infrastructure. This suggests that challenges in policy implementation, resource allocation, and institutional commitment continue to affect the effective practice of inclusive education. Moreover, the study found no significant difference in teachers' attitudes toward inclusive education based on gender or teaching experience. This indicates that perceptions of inclusive education are relatively similar across male and female teachers as well as among teachers with varying years of professional experience.

Therefore, demographic factors such as gender and teaching experience do not appear to significantly influence educators' perspectives toward inclusive education in the present study.

The successful implementation of inclusive education largely depends on teachers, who serve as the primary agents of change within educational institutions. However, inclusion cannot be effectively achieved without adequate professional preparation. Teachers must be equipped not only with pedagogical knowledge and practical skills but also with positive attitudes toward diversity and learners with special educational needs.

Therefore, professional development programs should prioritise both competency-building and attitudinal transformation to ensure meaningful and effective classroom inclusion. Ultimately, nurturing well-prepared, competent, and supportive teachers is essential for achieving the broader goals of inclusive education and creating an equitable learning environment for all learners.

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Biographical Information

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18. Beyond The Classroom: A Practical Ecological Model For Nurturing "Inclusion From the Inside Out" In Special Education In Vietnam

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Introduction

Over the past two decades, inclusive education has become a vital strategic direction in the educational policies of many nations, including Vietnam. However, translating policy directives into effective practice remains a significant challenge, particularly in the field of special education. Many children with special needs are merely "placed" within learning environments without achieving true inclusion in its full sense—namely, a sense of belonging, the capacity for active participation, and the opportunity for development aligned with their individual potential.

Throughout 15 years of operation, our center has supported approximately 100 children at any given time, addressing a wide spectrum of special educational and therapeutic needs—from neurodevelopmental and physical disabilities to complex, multiple, or yet-to-be-defined conditions. Through our work, we have observed that the majority of children arriving at the center share common challenges: limited functional communication, difficulties in behavioral regulation, a lack of social connection, low self-esteem, and families who are often in a state of anxiety and lacking a long-term support orientation.

These observations raise a fundamental question: Can inclusion be achieved simply by changing a child's educational placement? Or does inclusion need to begin with a deeper process—starting from the child's own inner world and the supporting ecosystem surrounding them?

This article presents a practical model formed and developed through 15 years of field experience at our center. This model was not built upon a pre-determined theoretical framework; rather, it emerged from the process of responding to the actual needs of children and their families within the specific context of Vietnam. Following its implementation and subsequent

reflection, we have found that this model resonates deeply with contemporary theoretical frameworks in special education, particularly **Self-Determination Theory (SDT)** (Deci & Ryan, 2000; Ryan & Deci, 2017) and the **Social Ecological Model (SEM)** (Bronfenbrenner, 1979).

Context of Practice

While Vietnam's special education system is developing, genuine inclusion remains limited. Children entering our Center typically present with limited functional communication (both verbal and AAC), challenging behaviors (e.g., self-injury, aggression), poor self-care, and social isolation. Families often lack specialized knowledge and systemic support. These challenges reflect the absence of a synchronized support ecosystem, often resulting in a history of educational failure and diminished motivation for the child.

Through 15 years of experience, we realized that sustainable change cannot be achieved by merely "fixing" behaviors or providing fragmented training. Instead, we developed a systematic roadmap prioritizing self-esteem, belonging, and intrinsic capacity over mere skill acquisition. This roadmap operates simultaneously across two levels: (1) direct classroom-based intervention and (2) supportive ecosystem development at the school and community levels.

The Emergence of the "Inclusion from the Inside Out" Practical Model

Our practice model emerged inductively from listening to children and refining our approach based on empirical data rather than pre-selected theories. This progression was built upon three clinical observations: first, that sustainable change begins when children have the means to express themselves through **AAC and visual supports**, which significantly reduces challenging behaviors ; second, that fostering **trusting relationships** between the child, teacher, and family increases natural cooperation ; and third, that utilizing **IEPs** to break down goals into measurable steps allows children to experience repeated success, reinforcing their self-efficacy.

Consequently, our core principle defines inclusion as a continuous process present in every moment from the beginning, rather than a final "expected outcome".

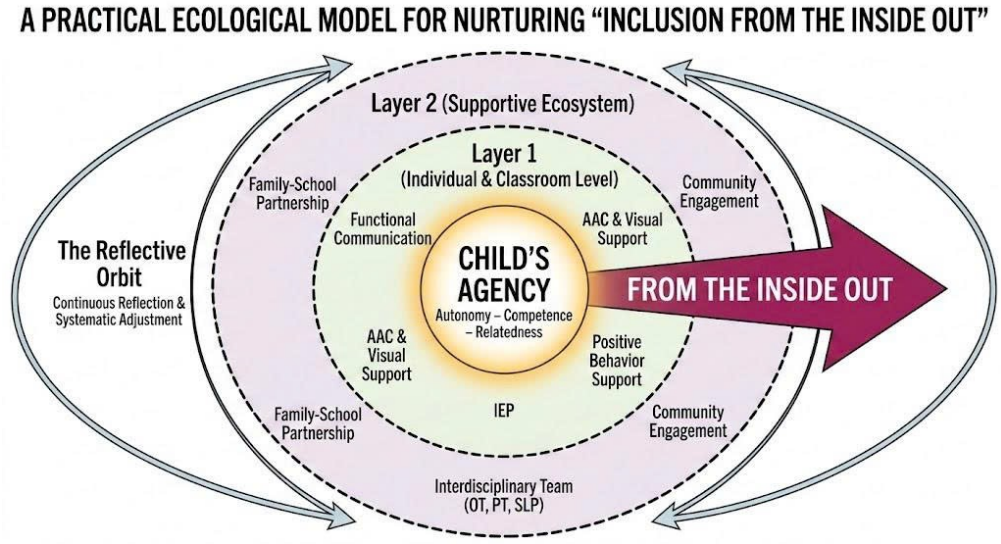
Reflective practice shows this model aligns remarkably with Self-Determination Theory (SDT) (Deci & Ryan, 2000; Ryan & Deci, 2017) by satisfying three fundamental psychological needs: **Autonomy** (expanding expression through AAC), **Competence** (validating progress through IEPs), and **Relatedness** (fostering trusting school-family bonds). Simultaneously, it is compatible with the Social Ecological Model (SEM) (Bronfenbrenner, 1979), where a child's progress stems from synchronized adjustments within the surrounding ecosystem—from direct intervention to environmental modifications and social bonds—rather than isolated effort. This convergence confirms that indigenous local practices can indeed find a solid scientific foundation within international academic discourse.

Description of the "Inclusion from the Inside Out" Practice Model

This practice model is developed as a holistic and child-centered approach, implemented simultaneously across two levels: (1) direct intervention at the individual and classroom levels and (2) the cultivation of a supportive ecosystem at the school and community levels. Rather than being separate entities, these two levels operate in parallel, mutually reinforcing and refining one another.

Figure 1

A Practical Ecological Model for Nurturing "Inclusion from the Inside Out"



Note. This diagram represents the model's dynamic structure, where inclusion is a continuous process emerging from the child's agency and supported by a permeable, synchronized ecosystem.

Individual and Classroom Level: Child-Centered Intervention

The support process for each child begins with a **comprehensive intake assessment**. This evaluation includes naturalistic observation, purposeful interaction, parent interviews, family context analysis, and the collection of background data. The objective of this phase is not only to determine the child's functional level but also to establish foundational trust between the family and the school.

Based on this assessment, a multidisciplinary team develops an Individualized Education Plan (IEP) with SMART goals tailored to the child's current capabilities. The plan prioritizes functional communication, behavioral regulation, and self-care, while integrating other developmental domains to ensure holistic growth.

A distinguishing feature of the model is the widespread implementation of Augmentative and Alternative Communication (AAC), combined with a visual support system across all contexts (classroom, home, and community activities). Another hallmark is its behavioral approach: understanding that every challenging behavior serves a specific function or communicative intent. Rather than merely extinguishing actions, teachers identify underlying causes and prioritize teaching functionally equivalent replacement behaviors, enabling children to communicate more appropriately.

Flexible prompting strategies are employed to maximize independence, while systematic observation and data recording ensure timely, evidence-based adjustments to the intervention plan. This structured approach fosters a continuous chain of successful experiences, reinforcing the child's sense of competence and systematically fading out external support.

In addition to classroom-based intervention, the model places particular emphasis on family coordination. This collaborative approach includes periodic meetings, home visits, and direct coaching, providing parents with the necessary strategies and materials for home implementation. Consistency between the school and home environments is considered an essential condition for sustaining the child's progress.

School and Community Level: Building a Supportive Ecosystem

In parallel with individual interventions, the Center develops a structure to ensure connectivity among all stakeholders: the child, family, teachers, and the community.

At the school level, key responsibilities include coordinating community needs, fostering interdisciplinary collaboration (special education, therapy, and social work), and maintaining transparent communication regarding progress. The model also facilitates participation in diverse

social activities and vocational opportunities, aiming to expand the child's social scope rather than just developing isolated skills.

Documentation, archives, and parental feedback serve as evidence of observable change. These records not only support internal goals but also contribute to shifting social perceptions regarding the true potential of children with special needs.

Evidence of Observable Outcomes

Over 15 years of operation, supporting approximately 100 children at any given time, the "Inclusion from the Inside Out" model has demonstrated observable changes across multiple functional domains, with a goal success rate consistently exceeding 90% across all reporting periods.

In the domain of communication: Many children have progressed from non-verbal states to multimodal communication, integrating verbal speech, AAC, and diverse gestures. This approach ensures the child's intent is understandable to various communication partners, leading to a significant reduction in challenging behaviors as functional communication improves.

In the domain of behavior and emotional regulation: Children have progressively replaced harmful behaviors with functional alternatives, such as requesting assistance, waiting, or making choices. By teaching replacement behaviors and fostering a safe environment, the model promotes voluntary compliance based on trust rather than compliance driven by external pressure.

In the domain of self-care: A significant number of children have increased their level of independence in Activities of Daily Living (ADLs), including eating, dressing, personal hygiene, and participating in household chores. This progress is documented through periodic observations and refined through continuous IEP adjustments.

In the domain of social participation: Children demonstrate a tendency to expand their interaction circles beyond teachers and family to include peers, strangers, and various community settings. This increased level of engagement is regarded as a critical indicator of substantive inclusion.

While the rate of progress varies among individuals, the general trend indicates that when children receive simultaneous support at both the individual and ecosystemic levels, change extends beyond specific skills. It manifests as a more positive attitude, increased self-confidence, and greater proactivity in social interactions.

Discussion

Inclusion: A Continuous Process or a Defined Destination?

Current universal perspectives often view inclusion as a "status" achieved once a child meets predefined standards. However, based on the "Inclusion from the Inside Out" model, we hypothesize that meaningful inclusion is a continuous process occurring in every moment of daily life.

We look forward to the conference's expertise in further exploring this perspective to better address the roots of isolation for children with special needs and to recognize inclusion in a much broader way.

Adaptability and Proactive Implementation across Diverse Contexts

Our experience suggests that the "Inclusion from the Inside Out" model can be initiated even in resource-constrained settings. By prioritizing the child’s inner world over high-cost infrastructure, sustainable change can be activated through systematic micro-adjustments and continuous reflection, rather than waiting for macro-level reforms. We humbly seek professional

insights and empirical perspectives from colleagues to help us further refine this roadmap, ensuring it can effectively build autonomous inclusive systems across various practical realities.

Practical Reflections and Moving Forward

From our 15 years of daily practice, we would like to offer a few reflections that might support our community's shared journey:

- **Prioritizing the Child's Agency:** We observed that when a child's intrinsic motivation is nurtured, it creates a more sustainable foundation for development than focusing on isolated skills alone.
- **The Value of Family Harmony:** We found that progress is most meaningful when there is a gentle, consistent connection between the school and the family.
- **The Power of Small Observations:** Keeping track of subtle changes through daily data has helped us learn and gradually shift local perceptions about the potential of children with special needs.

The flexibility of these reflections is rooted in the model's replacement of rigid intervention structures with a focus on the child's agency. By utilizing individual desires as "access points" for designing interactions, a supportive environment is dynamically created to respond to and expand each child's unique capacities, rather than imposing uniform templates. We believe that adhering to these universal humanistic principles allows the model to be adapted across diverse cultural and social contexts.

Our Next Steps and Limitations We are aware that these reflections come from a single specialized setting with tightly controlled personnel and procedures. To better understand this path, we hope to see this approach explored in larger, more diverse environments. We sincerely

look forward to learning from the experiences of other colleagues to continue refining these humble steps.

Conclusion

The practice model presented in this paper demonstrates that sustainable inclusion begins with nurturing the child's inner world and is reinforced by a well-aligned supportive ecosystem. When children possess the means to express themselves, experience repeated success, and feel a sense of belonging, their intrinsic motivation is activated, paving the way for broader social participation.

We believe that the harmony between our humble practical experience and contemporary theoretical frameworks suggests that solutions rooted in local practice can contribute a meaningful voice to the international discourse on inclusive education. Looking ahead, we hope this model might serve as an encouraging reference for other educational communities. Systematizing "access points" based on the child's agency is not merely about refining a specialized procedure; it is a heartfelt effort to foster an educational ecosystem where individual differences are valued as a vital resource for co-constructing an inclusive future together.

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Biographical Information

The Kianh Centre is a specialized school with 15 years of experience in child-centred approaches and inclusive programme development in Vietnam. Its work focuses on designing and implementing a comprehensive, synchronized nurturing ecosystem to support children with diverse developmental and therapeutic needs.

19. Inclusive Practices at Elementary Stage in Arunachal Pradesh

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Introduction

India, being a democratic republic, envisages securing to all its citizens equality of status and opportunity. Moreover, as a member of the United Nations, it has consistently made efforts to fulfill Sustainable Development Goal (SDG) 4, which emphasizes ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all. The National Education Policy (NEP) 2020 emphasizes that "Education is the single greatest tool for achieving social justice and equality," which has significant implications for the development of an inclusive community and society at large. For the policy to translate into practice, educational barriers, facilities, and services for children from diverse socio-economic and cultural backgrounds, as well as those with varying abilities, must be adequately addressed. Every stage of formal education plays a significant role in the transformation and career building of children; however, the elementary stage - which includes the foundational stage (from nursery to Class III), the preparatory stage (Class III to Class V), and the middle stage (Class VI to Class VIII) - holds particular significance. The entire future education of children rests on the foundation laid during elementary education. Therefore, utmost care is especially needed from teachers while dealing with children at the elementary stage. The values, skills, and knowledge instilled during this stage shape the kind of citizens we aim to develop in the future, which in turn determines the kind of society we will have.

The diverse nature of Indian society is another major reason that makes inclusive education a crucial focus in today's educational landscape. Inclusive practices in the classroom mean that all children, regardless of their socio-economic status, racial, religious, or ethnic background, gender, learning style, or ability, have equal opportunities to learn and succeed. Thus, in the present paper,

the author attempts to study the inclusive practices employed by teachers at the elementary stage of education in Arunachal Pradesh.

Inclusive practices practiced by teachers at the elementary stage of education in Arunachal Pradesh

Formal education was largely absent in Arunachal Pradesh. Among the Monpas of Kameng, only a few lamas at Tawang Monastery could read Tibetan, using mythological teachings mainly to preach Buddhist principles (Tamuk, 2014). Formal education started in the state with the establishment of the first primary school in 1918 at Pasighat, followed by secondary education in 1952-23, and higher education in 1964 with the establishment of Jawaharlal Nehru College Pasighat. Presently, the state has a total of over 2850 schools (including primary to higher secondary).

Figure 1

Shows the interviewed teachers of Government Primary School Borum, Papum Pare District, Arunachal Pradesh.

Note. People in the photo, from left to right: Chipak Dabi, Kenbi Kamki, Prof. Anga Padu, Yapi Kodak, and Kompi Taso. Photo taken during field visit conducted on 16.02.2026.

To fulfil the objective of the present study, the author personally interviewed five purposively selected teachers teaching at the elementary level in government schools in the Papum Pare, Lower Siang, and Changlang districts of Arunachal Pradesh. The information collected was analysed using the content analysis technique. Based on the responses of the interviewees, the following conclusions have been drawn:

1. **Morning Assembly:** As informed by the interviewees**,** in primary schools, the morning assembly usually includes three key components: the thought of the day, the command for the national anthem and pledge, and news reading. These activities promote discipline, moral values, academic growth, and equality among students.

   Students are divided into houses or classes, and each group is given turns to present different components of the assembly. If one student presents the thought of the day, students from other houses or classes lead the anthem or read the news. Selection is based on house or class rotation, not on gender, race, religion, economic status, ability, intelligence, or other personal characteristics.

2. **Classroom sitting arrangement:** Previously, classroom seating arrangements were determined by gender, which reinforced stereotypes among both students and teachers. Under this system, girls were expected to sit with girls and boys with boys. This traditional practice is no longer followed; students are now encouraged to adopt mixed seating arrangements. According to the respondent teachers, such an approach not only challenges

the notion that girls and boys should be segregated but also fosters an inclusive classroom culture.

3. **Class captain:** According to the respondent teachers, the appointment of a class captain to lead a class is a common practice in primary schools. They stated that the selection is based on qualities such as leadership skills, a students' referendum, attendance regularity, academic sincerity and obedience to the teacher, rather than on gender, socio-economic background, or differences in ability.
4. **Classroom questioning:** Classroom questioning, whether during or at the end of the lesson, is important to keep students attentive and to assess whether they have understood the content delivered by the teacher. According to the interviewed teachers, it also helps build confidence among slow learners, as questions are asked openly, giving every student an equal opportunity to respond. They further stated that students who lack confidence, are shy or struggle academically often prefer to sit at the back. Therefore, they frequently direct questions to backbenchers to ensure that there is no discrimination in the classroom based on gender, socio-economic background, personality or differences in ability.
5. **Traditional attire** : As responded by the interviewees, India is a multicultural country, and this diversity is reflected in every classroom. Without knowledge of the cultures of different communities in India, students may struggle to appreciate and respect students from other cultural backgrounds. To promote understanding and acceptance, students are encouraged to wear traditional attire during national festivals such as Republic Day (26th January), Independence Day (15th August), and Gandhi Jayanti (2nd October). Teachers also participate by wearing traditional attire, even though it is not mandatory. Additionally,

the state government has directed schools to have students wear traditional attire on the 15th of every month. This practice helps foster the spirit of "unity in diversity."

6. **Literary Competition and Cultural Programme:** To create a classroom environment that is accommodating to students from all walks of life, literary competitions such as essays, debates, and quizzes are organized during every national festival on topics related to the cultural themes of various communities within the state and the country. Additionally, cultural programmes held during national festivals include performances such as songs and dances representing different communities of the state and the country. According to the interviewed teachers, these practices help teach students to appreciate, accommodate, and respect peers from all walks of life.
7. **Remedial classes and peer tutoring:** As stated by the sample teachers, more than remedial classes by teachers, students learn more effectively when they are taught by their peers. This suggests that peer tutoring is an effective strategy for keeping fast learners engaged while also improving the performance of slow learners. The teachers further reported that, in addition to peer tutoring, slow learners are provided with remedial teaching, simplified notes, and repeated explanations to support their understanding.

On the other hand, fast learners, besides being engaged as peer tutors, are given additional assignments and leadership roles, such as serving as house captains or deputy/assistant captains during School Week and Sports Week. However, peer tutoring remains the most widely practiced strategy for ensuring equal opportunities for growth for both fast and slow learners. Another benefit of peer tutoring is that interaction among peers from different backgrounds, perspectives, and ethnicities fosters an environment of mutual

respect, appreciation, and growth. In other words, peer tutoring supports diversity by promoting culturally responsive teaching practices.

8. **Kitchen Garden:** Under the Mid-Day Meal Scheme of the Central Government, which was launched in 1995, khichdi (a savoury porridge) is provided to students in primary schools. Kitchen gardening is an innovative social service and group activity practiced in schools in Arunachal Pradesh. All students, irrespective of their socio-economic backgrounds, participate equally in kitchen gardening activities. The produce from these gardens is used in the preparation of the khichdi served under the scheme.

   This collaborative practice helps eliminate feelings of superiority among students from affluent and elite families, broadens their horizons of interaction, and thereby contributes to creating an inclusive classroom environment.

9. Counselling: The sampled teachers reported that, at regular intervals, they also counsel students on cleanliness, good manners, civic sense, study habits, environmental issues, discipline, and other personal as well as academic matters to keep them motivated, confident, and regular in their studies.

Conclusion

Against the backdrop of inclusive practices adopted by teachers at the elementary level of education in the state, it can be concluded that these inclusive practices are multidimensional and effectively address the needs of the hour. They encompass academic, social, and cultural dimensions, ensuring that students from diverse background and abilities are equally engaged and

supported. Overall, such initiatives not only boost student learning outcomes but also promote social cohesion and a sense of belonging among all learners.

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20. Advanced Assistive Technology in Inclusive Education

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Advanced Assistive Technology in Inclusive Education

This paper aims to (1) review literatures of advanced technology use, (i.e., robotics and artificial intelligence [AI]) in inclusive education settings in multiple countries to support participation of individuals with disabilities, (2) briefly introduce a few examples of robotics applications used in school settings in Japan, and (3) discuss and synthesize the current knowledge and future directions in research.

It is more than forty years since Kimbler (1984) forecasted the use of robots as an extension of the self within special education contexts, meaning robots to be operated physically and cognitively as extensions of the users (i.e., the students), suggesting several research agendas regarding the use of robots to promote education for students with disabilities. Technology has advanced exponentially since then, and it would have been interesting to hear whether Dr. Kimbler was satisfied with the current special education as he had envisioned.

Literature Review

A literature review was conducted by first searching for studies and articles in the Education Source Ultimate and PsycINFO databases, focusing on publications since 2018 with the keywords “technology, special education, inclusion, robotics, AI, and disability.” The published studies and articles selected were organized by the following themes: (1) defining the problem, (2) AI in special education, (3) robotics in special education, (4) attitudes and perceptions toward advanced technologies by educators and stakeholders, and (5) societal perspectives toward advanced technologies and inclusion.

Extant research related to advanced technology in education has been considered participation infrastructures, which intend to facilitate access to instruction and increase inclusion rather than replace students themselves. Avatar robots, developed in multiple countries,

have been considered promising for promoting the inclusion of individuals with disabilities across settings, such as schools and employment. Spoden and Ema (2024) conducted a qualitative case study by interviewing individuals who have used AV1, avatar robots developed in Germany, and OriHime, those developed in Japan. Both avatar robot technologies offered the benefit of enabling students with physical and developmental disabilities, and other health impairments access to schools. However, the study also discusses some structural challenges to fully benefiting from these advanced technologies (i.e., funding, training, and privacy safeguards). The researchers also raise the issue of equal access to these technologies and frame the problem, as they are currently not available to all learning environments.

Chalkiadakis, et al. (2024) conducted a systematic review of emerging research in AI and virtual reality (VR) technologies to assess the impact of AI and VR on enhancing educational accessibility, personalization, and social inclusion in education. The systematic review included ten studies, mostly from European countries. The researchers highlighted the benefits of these technologies as: AI-driven tools to tailor learning experiences to individual student needs, and VR to offer immersive, multisensory environments that promote experiential learning. One of the benefits of AI technologies systematically reported was accessibility and usability, which even allowed students with disabilities to achieve higher academic performance. The researchers also pointed out that personalized instruction allowed by these technologies aligns with the Universal Design for Learning (UDL) principles. They also reported that some studies emphasized students' initiative and autonomy, leading to improvements in their mental health and social skills. The researchers also highlighted the advantages of VR technologies, including improved physical exercise and well-being. Simultaneously, the researchers reported disadvantages,

including costs, overreliance on technology, inadequate teacher training, and some technical problems.

Using robotics in educational fields is still in its early stages. Saadatzi et al. (2018) investigated the effects of a "robot-peer" triadic tutoring system with young adults with Autism in a transition program, along with a virtual teacher for sight-word instruction. The results indicated that participants acquired, generalized, and maintained the target words with 100% accuracy. Additionally, the participants acquired most words taught exclusively to the robot peer through observational learning. This social robot effectively facilitated students' learning although the setting was limited and could not be scaled up for further evidence.

Taylor and Glavey (2024) also explored the use of advanced technologies to assist students with Autism by creating vignettes to harness robotics and coding to foster social-emotional learning (SEL). While students with Autism often have needs in SEL areas, the article suggests potential benefits of robotics in supporting students' social interaction.

Hughes-Robers et al. (2019) investigated students' engagement and achievement through robotic-based teaching sessions, using the ABAB design. The results indicated that students with intellectual disabilities (ID) showed no significant difference in outcomes between their robot-based and control sessions, suggesting that robots are as effective as traditional teaching methods. The researchers reported individual variability, indicating some students did better with the robot. They suggest a fit for each student rather than assuming uniform benefits.

Along with the study by Spoden and Ema (2024) of avatar robots, Fischer et al. (2019) explored problem-solving consultation through telepresence robots. The researchers used robots for teleconsultation by school psychologists. The results indicated increased compliance with teachers' instruction in special education classrooms. The findings also demonstrated the

additional acceptability of videoconferencing procedures and are considered beneficial for remote and underserved schools, while some technical issues, (e.g., training demands, costs, and privacy and ethical constraints) may need to be addressed.

Mandic et al. (2024) conducted a study to investigate prospective teachers' perceptions in Serbia of robots and their pedagogical implications. Studies found that participants perceive robots as educational and assistive, implying a view of robots as tools rather than replacements, which suggests robot-supported pedagogy, leaving teachers to lead instruction and define roles while promoting inclusion and equity in classrooms.

Szeto et al. (2020) conducted a cross-school professional learning community (PLC) of special schools in Hong Kong. They positioned a robot-based pedagogy as a differentiated approach aligned with various student needs' profiles, supported by leadership resourcing and cross-school knowledge exchange. PLC participants viewed robot use as sustainable and a form of social justice in special education. Simultaneously, participating teachers viewed challenges in programming over teaching, which can be time-consuming and require leadership.

Tilli et al. (2020) conducted a systematic review of 30 published studies for various types of robots in special education contexts, using Activity Theory. They found that robots were used in learner-programmed characters or learning companions to target academic performance and engagement. The researchers also identified gaps, such as a lack of family involvement, specific guidelines for use, and the use of robots as assessment tools.

Kipnis et al. (2022) pose a crucial question in the fields of education and service provision: how can advanced technologies promote a person-centered approach? Apart from the education context, the researchers conducted a focus group study with individuals with disabilities in the UK. They concluded that participants perceive robots as a supporting resource

to help human-provided care and extend self-care ability, which is similar to the perception of robot use in educational settings, to promote an inclusive environment.

Advanced Technologies Used in Educational Settings in Japan

The author observed and interviewed educators about technology use, focusing on robotics, in special education contexts by visiting three special schools in Japan. The robots used were OriHime, avatar robots stated above, Kubi, telepresence robots, and Double, also telepresence robots with mobility. These robots were mainly used to promote an inclusive learning experience for students with significant disabilities, often those requiring isolation due to their health impairments. Educators reported an observed increase in engagement and motivation among the students who operated these robots. Educators also noted the benefits of Double's virtual mobility and the physical environment users experience. One of the users of OriHime, who graduated from high school, became interested in technology after their experience, hoping to use it in their career. Educators also discussed substantial benefits of inclusion from the perspective of students without disabilities, reporting increased awareness of disabilities and social integration.

Current Knowledge and Future Directions

The current literature review and observations indicate that advanced technologies can support various outcomes, such as access, engagement, academic performance, and social interaction. The issues reported were mainly organizational rather than technical, such as cost, privacy, and teacher training. Current knowledge also struggles to demonstrate generalization over time rather than short-term access and engagement, due to the need to scale up and conduct longitudinal studies. It is also crucial to develop specific protocols to support advanced technologies in educational contexts and to protect privacy, especially for telepresence and

avatar robots. Additionally, further investigation of teachers' actions and behaviors in the presence of the technologies should be conducted. Finally, as some studies have pointed out, the question is who has access and how to ensure equity, given the high cost of these technologies.

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21. Scaffolding Social Justice: Co Teaching and Critical Pedagogies For Disability-Inclusive Social Work Education

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Introduction

We introduce a disability-inclusive, ADEI-grounded co-teaching model implemented within a hybrid Bachelor of Social Work (BSW) program. The design positions classrooms as dialogic learning communities that extend across modalities: most coursework occurs asynchronously online, while periodic in-person learning labs anchor relational practice and experiential skill-building. Guided by critical pedagogy and reflective practice, the model treats students' lived experience and community knowledge as legitimate sources for professional formation (Freire, 2000; hooks, 1994; Schön, 1983).

Our purpose is twofold: to describe how hybrid co-teaching intentionally integrates disability justice, ADEI, and Universal Design for Learning (UDL) into core coursework; and to offer a replicable learning-lab structure that scaffolds competencies across terms while maintaining instructional continuity and social presence (CAST, 2024; Garrison et al., 2000).

Context and Problem Statement

Hybrid delivery is now a durable feature of social work education; yet programs often struggle to preserve relational depth and hands-on practice in flexible formats. When disability inclusion is framed primarily as individual accommodation rather than structural justice and ADEI, students miss opportunities to critique ableist norms in assessment, care planning, and policy work. We organized each term so that online coursework is braided with in-person labs that serve as the program's relational anchor and a site for embodied practice that complements the online environment (Garrison et al., 2000).

Project Goals

We articulated four goals: (a) scaffold inclusive practice skills across a coordinated sequence of hybrid courses; (b) model co-teaching as critical pedagogy that shares authority and

centers dialogue; (c) embed accessibility, disability justice, and ADEI values throughout design and assessment; and (d) increase learner confidence applying justice frameworks in child and youth mental health contexts.

Theoretical Foundations

Critical pedagogy anchors this work. Freire's problem-posing education frames teaching as dialogic inquiry and praxis, cycles of reflection and action that transform how learners understand and intervene in the world; hooks' engaged pedagogy names the affective, communal, and ethical labor of teaching and learning (Freire, 2000; hooks, 1994).

Schön's reflective practice offers a practical method for professional reasoning: noticing surprises, reframing problems, trying new moves, and learning through reflection-in-action and reflection-on-action (Schön, 1983). Relational–cultural theory emphasizes mutual empathy and connection as conditions of growth; we draw on this to cultivate identity-affirming climates in hybrid spaces (Jordan, 2017).

To support hybrid coherence, labs are designed to strengthen social, teaching, and cognitive presence across modalities, consistent with the Community of Inquiry framework. Kolb's experiential learning cycle structures lab activities, concrete experience, reflective observation, abstract conceptualization, and active experimentation, so that learners move purposefully between theory and practice (Garrison et al., 2000; Kolb, 1984; Kolb & Kolb, 2017).

Co-Teaching In A Hybrid BSW Program

Co-teaching is the backbone of this model. Faculty jointly plan and facilitate in-person learning labs, make reasoning moves visible, and model collaborative problem-posing. In labs, we use team and parallel teaching to stage skill practice and station teaching to provide small-

group coaching. Planning sessions map dialogic prompts, anticipate access needs, and pre-commit to facilitation strategies that distribute voice, agency, and decision-making (Chanmugam & Gerlach, 2013; Steele et al., 2021).

After each session, debriefs and memos capture observations about participation patterns, pacing across modalities, and access checkpoints. These artifacts support reflection-in-action and guide adjustments to lab scaffolds and online activities in subsequent weeks (Schön, 1983).

Hybrid Learning Labs: Structure and Scaffolding

Learning labs are co-designed each term by faculty teaching the concurrent courses and follow a consistent arc that can be adapted to cohort needs: (a) community-building and student questions; (b) two to three experiential activities aligned to current course concepts; (c) structured debriefs connecting practice, policy, and research; and (d) closing synthesis with explicit bridges to upcoming online work. Across a term, lab activities are sequenced to scaffold difficulty and independence, from foundational relational skills (e.g., active listening, collaborative goal setting) to advanced case analysis, documentation, advocacy briefs, and cross-system collaboration (Garrison et al., 2000).

Anonymous feedback informs continuous improvement of the next lab cycle, strengthening responsiveness to student needs and hybrid coherence.

Pedagogical Tools and Access Practices

We integrate UDL Guidelines (v3.0) to design multiple pathways for participation and demonstration of learning. Examples include flexible modalities for discourse (spoken, captioned audio/video, visual notes), access check-ins, plain-language materials, and co-designed rubrics. UDL checkpoints normalize variability, support executive function (goal-setting templates,

progress monitors), and emphasize collaboration and community as routine practices (CAST, 2024).

Disability justice praxis and ADEI values are operationalized as everyday habits: communication access (including familiarity with augmentative and alternative communication), sensory-regulation choices, and examining how policy rules (eligibility criteria, documentation) can reproduce inequity. Students link micro-skills to macro analysis by tracing access barriers to structural recommendations (Mladenov, 2016; Mingus, 2011; Sins Invalid, 2019; Young et al., 2023).

Disability Justice and ADEI in Practice Skills

Lab activities ask students to generate anti-ableist case formulations, co-create goals with families, and rehearse cross-system teamwork attentive to power and history. We invite critique of ableist and racist assumptions embedded in forms, timelines, and caseload expectations, and we practice strategies for mitigating harm while advocating for policy change. Engagement is framed as interdependent rather than individualistic: learners practice "relational access" by anticipating and meeting one another's access needs as a normal part of professional collaboration (Mingus, 2011; Sins Invalid, 2019).

Direct Practice Skills for Children and Youth: Mental Health Case Management

To ensure the learning labs directly advance practice with children and youth, we teach a sequenced set of case-management skills that spiral in complexity across the term. Skills include: engagement and rapport-building with young clients and caregivers using developmentally responsive strategies; collaborative assessment that integrates strengths, safety, risk, culture, language, and disability-related access needs; shared goal setting and care planning with measurable objectives and universal-design options; care coordination across schools, clinics,

community agencies, and child-welfare/justice systems; interprofessional communication routines (structured huddles, warm handoffs, and SBAR Situation Background Assessment Recommendation notes); documentation aligned with policy and ethics (minors' confidentiality, consent/assent, privacy considerations); crisis triage and safety planning; measurement-based care and progress monitoring; and transition/relapse-prevention planning with family-centered supports (Hoffler & Clark, 2012; CAST, 2024; Garrison et al., 2000).

Each skill strand maps to an experiential cycle (observe → analyze → rehearse → apply) and is reinforced through online modules (captioned micro-lectures, annotated exemplars, self-checks). Students explicitly practice policy-to-practice moves, such as navigating Medicaid/managed-care requirements and aligning school-based plans with clinical goals, ensuring micro/mezzo work remains linked to macro advocacy (Hoffler & Clark, 2012; Young et al., 2023).

Observed Outcomes and Future Evaluation

Across terms, students reported increased confidence applying justice frameworks, deeper reflective capacity, and heightened awareness of disability justice and ADEI in clinical and policy contexts. Reflective journals, advocacy briefs, and case plans demonstrated growing integration of disability justice, UDL, ADEI, and experiential practice. Future evaluation will employ mixed methods to examine longitudinal outcomes, including field performance, skill transfer, and sustained accessibility and equity practices (CAST, 2024; Garrison et al., 2000).

Alignment with IASE Mission

By centering collaboration, equity, and access within a hybrid format, this model advances IASE's mission to strengthen special-needs education globally. It prepares practitioners

to build accessible, culturally sustaining environments and to challenge institutional practices that constrain participation.

Conclusion

Co-teaching in a hybrid BSW program, grounded in critical pedagogy, reflective practice, disability justice, ADEI, UDL, and experiential learning, offers a scalable approach to embedding accessibility and equity across social work education. Longitudinal sequencing, instructor reflection routines, and explicit attention to relational access support coherence across modalities and meaningful, justice-aligned learning (Freire, 2000; hooks, 1994; Schön, 1983; CAST, 2024; Garrison et al., 2000; Kolb, 1984; Kolb & Kolb, 2017).

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22. From School To Work: Transition Practices That Build Self-Advocacy, Well Being, and Employment Readiness

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Introduction

Across K–12, postsecondary, and workforce systems, students with disabilities are frequently evaluated through academic benchmarks that do not map cleanly onto the realities of employment. In practice, the skills that often determine job retention self-advocacy, communication, emotional regulation, problem solving, and routines for managing tasks, are treated as "soft" add-ons rather than essential learning outcomes. At the same time, mental health needs can disrupt learning, participation, and persistence, especially during transition periods when expectations change and supports shift. School-based personnel have been called to address youth mental health needs in ways that extend beyond academic performance, emphasizing prevention and strength-based approaches (Koller & Bertel, 2006). In adult contexts, recovery-oriented perspectives emphasize the capacity to live a meaningful life with and beyond mental ill health, supporting a shift from deficit models toward agency, rights, and participation (Ramon, 2009).

This paper offers a practical synthesis designed for educators, service providers, and workforce practitioners. It connects three settings that are often discussed separately: (a) school-based wellness supports and mental health preparation, (b) inclusive postsecondary workforce education that contextualizes soft skills in authentic tasks, and (c) employer-facing inclusive hiring and retention practices. The goal is to translate research and program evidence into actionable tools that strengthen transition pathways.

Conceptual Foundations

Two complementary perspectives inform this work: Universal Design for Learning (UDL) and Socially Just Disability Resource (SJDR) approaches. UDL guides instruction toward flexible pathways for engagement, representation, and action and expression so learners can

access the same goals through different supports. SJDR emphasizes that disability-related barriers are often produced by systems, policies, and environments, not by the person. Together, these perspectives shift the focus from "fixing" learners to redesigning learning and work contexts.

Mental health and well-being intersect with both frameworks. Koller and Bertel (2006) argue that school-based professionals often lack evidence-based preparation to identify and respond to student mental health needs and that policy and practice should extend beyond academic performance. In adult mental health contexts, Ramon (2009) describes a move toward recovery meanings that emphasize meaningful life, participation, and strengths rather than chronicity and medicalized deficit frames. In transition planning, these ideas translate into designing supports that (a) normalize help-seeking, (b) build coping and self-regulation routines, and (c) embed wellness into daily learning and work tasks.

Study Context and Methods

To ground this synthesis in program evidence, the paper draws on a quantitative, correlational study conducted in an inclusive postsecondary workforce preparation program (College-to-Career; C2C) serving adults with intellectual and developmental disabilities. Secondary, de-identified institutional data were analyzed to examine whether structured engagement in UDL-aligned supports predicted workforce-related outcomes. Engagement was operationalized through two program participation indicators: lab attendance (hours/term) and disability-support counseling participation. Outcomes included certificate attainment and employment retention (tracked through program follow-up). The primary analytic approach was binomial logistic regression, appropriate for predicting dichotomous outcomes and commonly used in postsecondary disability employment research (Stanojkovic, 2026; Hosmer &

Lemeshow, 2000).

Because the dataset reflected real-world program participation, the analyses were designed to be interpretable by practitioners: models estimated the likelihood of outcomes associated with increased engagement, while also examining model diagnostics and assumptions. Results are summarized below as program-relevant findings rather than as methodological novelty.

Key Findings

Across models, engagement in structured supports mattered. Consistent participation in UDL-aligned program supports significantly predicted certificate attainment (Stanojkovic, 2026). For employment retention, engagement showed a positive trend, though statistical significance was not consistently reached—an outcome that may reflect the multi-determined nature of job retention, including employer context, transportation, health and wellness factors, and support continuity.

From a transition practice standpoint, these results reinforce two pragmatic conclusions. First, persistence is not only an individual trait; it is shaped by access to predictable routines, coaching, and barrier-reducing supports. Second, outcomes like retention may require supports that extend beyond coursework, including mental health and well-being strategies and employer-facing accommodations and coaching.

A Continuum of Supports for Soft Skills and Well-Being

To align with cross-setting transition needs, Table 1 presents a continuum of supports that integrates soft skills, self-advocacy, and wellness practices from school to postsecondary to employment. The goal is to make supports portable: skills and routines practiced in one context should transfer to the next, with increasing independence and choice.

Setting	Soft skill focus	Well-being / mental health supports	Example practices (adaptable tools)
K–12 and transition planning	Self-advocacy language; boundaries; help-seeking; peer and adult communication	Prevention and strengths-based mental health practices; staff training; partnerships that extend beyond academics (Koller & Bertel, 2006)	Role-play scripts for requesting help; "who to ask" maps; routines for checking in and de-escalation; explicit teaching of coping tools
Postsecondary workforce education	Executive functioning (time, task steps, organization); workplace communication; feedback and repair	Normalize support use; embed regulation strategies in routines; connect learners to counseling and coaching; reduce stigma (Ramon, 2009)	UDL-aligned lab coaching; checklists and visual schedules; reflection prompts; self-advocacy templates for accommodations
Employment and retention supports	Professional communication; problem solving; navigating expectations; advocacy with supervisors	Recovery-oriented, strengths-based supports; reasonable accommodations; ongoing coaching; supportive supervision	Job coach "fade plan"; accommodation request scripts; meeting agendas; performance feedback tracker; coping plan for stressful moments

Table 1. Continuum of supports for contextualized soft skills and well-being across the transition continuum.

Discussion and Implications

The combined evidence suggests that transition success depends on designing for inclusion across environments, not treating inclusion as a downstream accommodation. In school settings, this includes preparing staff and systems to proactively address mental health needs and to develop policies that value readiness for life beyond test scores (Koller & Bertel, 2006). In adult and workforce settings, it includes adopting recovery-oriented and strengths-based approaches that support meaningful participation and dignity (Ramon, 2009).

For practitioners, three implications are especially actionable:

1) Teach soft skills in context, not in isolation. Soft skills become usable when practiced within real tasks: asking a supervisor for clarification, responding to feedback, or negotiating schedule changes.

2) Make support use visible and normal. Learners who are expected to "self-advocate" need repeated, structured practice with scripts, role-play, and opportunities to generalize skills.

3) Treat wellness as a learning condition. Emotional regulation strategies, coping routines, and access to counseling and mental health supports are not separate from workforce readiness; they are part of it.

Applied Outcome: Practitioner Toolkit Elements

Building from the dissertation's applied Toolkit for Inclusive Workforce Education (Stanojkovic, 2026), the following tool elements can be embedded across settings:

• Self-advocacy templates: "I need…" statements, accommodation requests, and a personal support plan.

• Executive functioning scaffolds: step-by-step task cards, time-blocking templates, and "plan–do–review" routines.

• Communication supports: sentence starters for workplace communication, feedback response scripts, and repair strategies after misunderstandings.

• Wellness integration: brief check-in prompts, coping strategy menus, and referral pathways to school or community mental health resources.

In practice, these tools are most effective when they are co-taught and revisited over time, with gradual release of responsibility and opportunities for learners to personalize supports.

Conclusion

Transition practices that build self-advocacy, well-being, and employment readiness are most successful when systems design for inclusion from the start. Quantitative program evidence from an inclusive workforce education context suggests that sustained engagement in structured, UDL-aligned supports predicts certificate attainment and may support employment persistence. When combined with school-based mental health literature and recovery-oriented adult mental health perspectives, the implication is clear: soft skills and wellness supports are not optional. They are core components of equitable transition pathways.

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Bayli Tucker, LCSW is a school-based mental health clinician whose work focuses on providing comprehensive behavioral health services to diverse student populations. Her expertise includes clinical assessment, individual and group therapy, crisis intervention, case management, and collaborative consultation with educators and families. Through a trauma-informed and student-centered approach, she supports students' social-emotional well-being while fostering equitable access to mental health services and community resources.

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BHUTAN