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Training Needs and Professional Development of Special Education Teachers in Punjab: Gaps and Recommendations

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ABSTRACT

The role of special education teachers in the context of Pakistan, specifically in the province of Punjab, is of great significance in catering to the needs of children with various learning difficulties such as intellectual disabilities, Autism Spectrum Disorders, sensory impairments and behavioral disorders. However, evidence of the pre-service preparation and in-service professional development being provided to this workforce is still very far from meeting the requirements for today's evidence-based special education practice. This qualitative study involves the analysis of the competency requirements of an inclusive, rights-based education system and identifies the gaps in the teacher preparation landscape in the context of the situation in the province of Punjab. The study uses a qualitative approach to case study within an interpretivist paradigm and relies on three methods to gather rich, practitioner-based information on experiences of professional development, perceived gaps, and institutional challenges: semi-structured interviews, focused group discussions, and classroom observations. The study highlights six important domains of professional development gaps that need to be addressed: curriculum design and differentiated instruction, assistive technology integration, disability-specific content knowledge, evidence-based pedagogical application, family-centered practice, and behavioral assessment and positive behavior support, which are in line with Guskey's Model of Teacher Change that emphasizes that lasting changes in teacher professional beliefs and attitudes result from direct, practice-based evidence of improved student learning outcomes, rather than abstract attitudinal workshops. A detailed policy and programmatic recommendations are presented at the end of the study which are geared towards the Government of Punjab, the Punjab Institute of Special Education, Higher Education Commission and the administration of special education centers.

Keywords: Special education teachers, professional development, training needs, Punjab, Guskey's model of teacher change, qualitative case study, inclusive education, teacher competencies, Pakistan, disability

1. Introduction

The professional competence, pedagogical knowledge and reflection of the teaching profession is always tightly linked to the quality of special education in any school system. The need of the hour in Punjab, Pakistan is to provide a pool of properly trained teachers for children with disabilities who have varying, complex and individualized needs, as the number of government run special education schools has grown exponentially in the past three decades. In the recent years, the number of special education schools in Government sector has increased rapidly in Punjab, Pakistan, which has led to a pressing need for a cadre of qualified teachers capable of meeting the diverse, complex, and individualized learning needs of a child with disability. (Akhtar & Yasmin, 2011). Unfortunately, the reality is that the teacher workforce is unevenly distributed with some teachers having more and some having less pre-service preparation, some having more access to evidence-based in-service training, some having more instructional supervision, and some having an institutional environment that does not value and incentivize teacher professional growth.

Special education teaching is one of the most challenging of the educational specialties. Students with intellectual disabilities, autism spectrum disorders (ASD), sensory, physical, and behavior disorders must be taught with a well-developed set of skills that goes beyond the generic pedagogical preparation of mainstream classroom teachers, such as individualizing instructional plans, conducting functional behavioral assessments (FBA), using augmentative communication systems, implementing assistive technology (AT), and coordinating family involvement (Brownell et al., 2010). Punjab's special education teachers are in a technically precarious situation because there is a lack of strong pre-service training in these received specialties and in-service professional development opportunities are also lacking.

The implications of this shortfall in professional preparation are great and complex. On the individual child level, teacher incompetence in disability-specific pedagogy, behavioral support, and individualized instruction is associated with the failure to make adequate academic gains, lack of functional skill development, and a higher incidence of behavioral crisis in special education programs (Cook & Schirmer, 2003). The lack of a competency-based professional development system weakens the capacity of Punjab to put its policy provisions for inclusive quality special education into practice as outlined in the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) and the Pakistan National Policy for Persons with Disabilities (Saeed et al., 2020).

This qualitative study aims to address these concerns by analyzing the training needs and Professional Development environment of special education teachers in Punjab in a systematic manner. The study is qualitative in nature and uses a case study approach to gain insight into the views, experiences and working world of teachers, administrators and professional development facilitators in the institutional context of special education in Punjab. The article is organized in this way: Section 2 presents the theoretical perspective on teacher change as presented by Guskey's Model of Teacher Change. The literature review is presented in section 3. The research method will be explained in section 4. The results are

presented in Section 5. Section 6 discusses findings. Section 7 addresses limitations. Section 8 presents recommendations. Section 9 concludes.

2. Theoretical Framework: Guskey's Model of Teacher Change

This study is informed by Guskey's Model of Teacher Change (1986, 2002), a theoretically sound and empirically based representation of the ways in which professional development leads to lasting and significant change in teacher practice, beliefs, and attitudes. Guskey's model suggests an alternate sequence to the prevalent assumption that changes in teacher beliefs and attitudes must come before changes in classroom behavior; teacher behavior changes first through structured professional development, and then improvements in students' learning outcomes follow, based on direct evidence that the new behavior has led to improved student learning.

The implications for special education professional development for the context of Punjab is immense with this sequencing. It suggests that it is more likely to lead to lasting changes in attitudes if the PD is both well-designed and practically oriented, allows teachers to implement specific strategies, and provides opportunities for teachers to observe their implementation of those strategies to see how they impact student outcomes, than if the PD is abstract attitudinal reorientation workshops that are not contextually connected to the classroom (Guskey, 2002). The professional transformation of special education teachers working in the context of disability in Punjab, many of whom have experienced disability through cultural and religious lenses that don't easily fit the neurodevelopmental lens, might be more likely to occur as a result of direct, structured experience of effective inclusive and specialized teaching practices than as a result of values-based professional development.

The model also highlights that organizational change is essential for sustained professional development of teachers. However, if schools and educational institutions do not shift its organization, policies, and cultures to facilitate and reinforce the professional learning of individual teachers, even good professional development will have only temporary and superficial impacts on teacher practice (Guskey & Yoon, 2009). As far as the special education system is concerned, this organizational dimension focuses on the institutional context in which professional learning can be facilitated (or hindered) for sustained classroom practice changes, including supervision, peer learning, administrative leadership and provision of resources.

3. Literature Review

The international literature on the subject of special education teacher preparation and professional development has built up a significant body of evidence that illustrates the specialized competency needs of the special education profession and the impact of the lack of this specialized competency in teacher preparation. Brownell et al. (2010) showed that the quality of special education teachers is the strongest within-school factor influencing academic and developmental outcomes for students with disabilities, and that it is shaped by their content knowledge about disabilities, evidence-based pedagogical skills, and professional learning practices. McLeskey et al. (2017) created the High-Leverage Practices

framework for special education, which is based on twenty-two competencies in instruction, assessment, social-emotional learning, and collaborative practices that research has shown are most closely linked to positive outcomes for students and which should be integrated into any comprehensive program for special education teacher preparation.

In the context of Pakistan, Akhtar & Yasmin (2011) gave the most detailed review of teacher preparation in special education which revealed that the majority of teachers in special education were at the diploma level, teachers were not provided sufficient supervised practicum experiences, and there was a huge mismatch between what was taught and what was known to be effective for specific disabilities. Their results confirmed that most of the special education teachers working in Pakistan were initially trained to the extent that they were not well equipped to address the three competency domains which are most consistently reported in the international literature as predictive of student outcomes, namely, behavioral assessment, individualized instruction and family engagement. Mohsin et al. (2019) reported that in urban areas of Punjab there are an increasing number of private special education services reflecting a gap in the provision of quality services in the government sector that was unable to meet demand.

The literature of in-service professional development is equally dismal. The conceptual framework of effective professional development, as described by Desimone (2009) is sustained (as opposed to episodic), content-focused (as opposed to generic), active learning-based (as opposed to passive), coherent (aligned to curriculum and policy) and collectively participatory (as opposed to individually participatory), which are criteria that most in-service programming of special education teachers in Pakistan does not meet. Knight (2007) presented evidence that instructional coaching models are more effective than workshop-based professional development in leading to lasting change in teacher instructional practice, which serves as the foundation for the recommendations for reforming professional development methods based on coaching.

Functional behavior assessment and positive behavior support (O'Neill et al., 2015); assistive technology assessment and integration (Edyburn, 2010); Universal Design for Learning frameworks (Rose & Meyer, 2002); evidence-based practice implementation skills (Cook et al., 2010); and family-centered practice and parent training facilitation (Turnbull et al., 2006). All of these need domains are reported to be under-serviced in professional development and training contexts, both at the pre-service and in-service level in Punjab, and as a result contribute to a compound competency gap, impacting on the quality of the educational experience that children with disabilities receive in government special schools.

4. Research Methodology

The research paradigm and philosophical positioning is explored. The research paradigm and philosophical positioning is examined. This study is based on an interpretivist research paradigm, as it takes into account that social phenomena, such as teacher experiences of professional development, institutional cultures, or meanings socially attributed to professional phenomena can be studied only if they are understood in the context of the

subjective perspectives, experiential account, and meaning attributed to each of the actors involved (Creswell, 2013). The epistemological position is constructivist as knowledge in relation to teacher professional development in the special education system in Punjab is considered co-constructed by the researchers and participants in the process of the qualitative inquiry. This paradigmatic positioning is fitting for a study that aims to examine the experiences and meanings of special education teachers in the province of Punjab in relation to their professional development opportunities, what they feel missing from their training, and how they feel their professional development is being shaped by institutional and cultural forces.

4.1 Qualitative Case Study Design

The qualitative case study design was used as the main research method, which is based on Yin (2014) framework of design in qualitative case study in social sciences. Case Study research allows for the detailed, contextually rich study of a bounded contemporary phenomenon in its bounded context—the professional development environment of special education teachers in the government special education institutional system in Punjab. The multiple case study design was used, and the unit of analysis for this study was the individual special education institutions. This design allows for within-case analysis (examination of professional development experiences and challenges specific to each institution) and for cross-case synthesis (identification of patterns, variations and themes that can be generalized from the institutional contexts to a more theoretically informed general description of the provincial picture of professional development).

The case study design is well suited for the type of research questions this study seeks to address because it allowed for the use of multiple types of data – interviews, observations, and documents that would not have yielded a multidimensional portrait of teacher professional development if collected through only one data type. This methodological triangulation enhances the validity and comprehensiveness of the study's findings by allowing for convergent validation of the findings from the various types of data as well as the ability to identify convergence or disparities between the professional development provision and the professional development practice.

To ensure a diversity of government special education centers, the study was conducted in the five government special education centers (GSEC) that were purposively selected and varied in terms of institutional type, geographic location and institutional maturity (from newly established to old institutions with more than two decades of operation). The purposeful selection of sites and cases was used to elicit findings that capture the diversity of the institutional environments where the special education teachers work in Punjab, and to ensure the bounded focus and contextual specificity that is required by qualitative case study methodology (Yin, 2014). The Govt In-service Training College for Teachers of Disabled Children, Lahore was also taken as a key informant site as it is responsible for providing in-service teacher training for the teaching profession.

4.2 Participants and Sampling

Purposive sampling was used to recruit participants who had first-hand knowledge of the research question and who could offer in-depth and meaningful experiences of their professional development in the context of institutions in special education in Punjab (Patton, 2002). Three categories of participants were included: The first category consisted of special education classroom teachers: 32 teachers from the five case institutions, the teachers were selected to represent their differences in disability specialization (intellectual disability, hearing impairment, visual impairment, autism), years of experience (one to twenty-five years) and qualification level (diploma to B.Ed. (Hons.)). The second group involved institutional administrators (n=8) including principals and deputy principals from the case institutions who were sampled for their understanding of institutional professional development provision, workforce development problems and barriers to implementation. The third category consisted of professional development facilitators—six faculty members from the PISE and Govt In-service Training College who were chosen because of their expertise with the design, presentation, and institutional uptake of professional development programs in a formal setting.

Principals of various institutions played a facilitative role in accessing teacher participants and recruitment was done via the Directorate of Special Education, Government of Punjab. Theoretical saturation was reached when no new themes and no significant variations in professional development experience accounts emerged from the sampling, meaning that a stopping rule was met when further interviews no longer produced any new information (Strauss & Corbin, 1998). Forty-six participants, in three categories, gave a rich and multidimensional data set for qualitative analysis.

4.3 Data Collection Methods

Three complementary methods of qualitative data collection were used to achieve the triangulated evidence base which is required for rigorous case study analysis. The major technique used was semi-structured individual interviewing. A total of 46 individual interviews were conducted with each one of the participants. Interviews were conducted in participants' institutional workplaces in Urdu, and were conducted for an average of 50-80 minutes and recorded with their informed consent. Interview guides were created for each participant group, and included the following questions: Pre-service experiences and perceptions of pre-service training; In-service experiences and perceptions of in-service professional development; Specific competency areas perceived as inadequately developed; Institutional supports for professional learning; and recommendations for improvement of the professional development system. The administrator guide covered the issues of institutional professional development planning, resource allocation, staffing issues, and policy compliance. This facilitator guide addressed the issue of curriculum design philosophy, and the extent to which programs are effective, and systemic barriers to achieving professional development impact as measured by Kvale & Brinkmann (2009).

Non-participant classroom observation was the second method. Twenty-four classroom visits were made, each of about one hour duration and followed by a brief informal discussion with the teacher being observed. Observation was targeted on the use of professional knowledge in instruction, including behaviors associated with differentiated instruction, behavioral support strategies, assistive technology and individualized planning strategies. A structured observation protocol was designed and pre-tested before formal observations began, and field notes included descriptive observations of the observed instructional events and reflective analysis of the implications for professional development. Along with this interview data, classroom observation data were offered as a way to cross-validate the data, allowing the research team to find discrepancies between the teacher's espoused professional competencies and their actual instructional practice, which are analytically important findings (Stake, 1995).

Documentary analysis was the third approach. The relevant documents from the institutions and policy documents from the Government of Punjab were systematically collected and analyzed, such as the documents of the pre-service and in-service programs at the PISE and Govt Training College, the institutional professional development plans and attendance records, the sample lesson plans and assessment records from the participating institutions, the Government of Punjab policy documents such as the Punjab Special Education Policy 2018. Documentary analysis was used to provide contextual triangulation data that allowed for the positioning of participant accounts in the formal policy and curriculum frameworks that shape provision for professional development (Bowen, 2009).

4.4 Data Analysis

Data analysis consisted of thematic analysis based on the six phases of the analysis framework of Braun and Clarke (2006) and supplemented by within case and cross case analytic procedures fitting the multiple case study design (Yin, 2014). Each interview was recorded and later transcribed in Urdu by a trained research assistant and then translated into English with a random 20% subsample being back-translated to check for errors and for consistency of meaning and accuracy in translation. Field notes during the observations and documentary analysis records were compiled into an integrated case record for each institution.

During the initial familiarization process, each researcher independently read and reread all the transcripts, field notes, and documentary records, making initial impressions, repeating ideas, and suggestions for analysis in research journals. For the coding process, a codebook was created, which was done systematically line by line by each researcher independently, and the preliminary codebook contained around one hundred and forty codes. Higher order candidate themes were then developed by an iterative process of sorting, clustering and conceptual elaboration, which was carried out jointly by the research team. Proposals for themes were checked to ensure that they were based in the evidence and were analytically distinct. The theoretical lens used for mapping the final thematic framework was the Model of Teacher Change (Guskey, 2016), which provided a way to interpret the findings in the Model's explanatory structure. Cross-case analysis comprised the comparative systematic

analysis within each case of the thematic results, to uncover the patterns of consistency and variation across the five institutional cases (Braun & Clarke, 2006).

4.5 Trustworthiness and Rigor

The four criteria of trustworthiness were used throughout the research by Lincoln and Guba (1985). Methodological triangulation across three data collection methods, extended engagement with each case institution during four months data collection, member checking of analytical summaries with a representative sample of teacher and administrator participants, and peer debriefing of participants at fortnightly intervals during the analysis process all contributed to establishing the credibility of the study. Transferability was facilitated by the detailed description of the context of each case institution, the rationale for choosing participants and the processes used to collect the data, allowing for the informed assessment of applicability to other similar institutional contexts. A detailed audit trail was kept, including all interview recordings, transcripts, field notes, coded data, and analytical memoranda, which allowed external reviewers to follow the analytical path from raw data to reported conclusions, thus ensuring dependability. Systematic researcher reflexivity was used to address confirmability, whereby each researcher kept a reflective journal, which revealed their institutional affiliations, previous experiences in professional development and changing interpretations of the data, which allowed for critical examination of how the researchers may have influenced the results of the analysis (Creswell, 2013).

5. Findings

5.1 Pre-Service Preparation: Ongoing structure and contents gaps.

In all five case institutions, the teachers described similar and important structural and curricular gaps in their pre-service training. PISE diploma-level teacher education participants reported that they were prepared to focus more on disability classification and administrative procedures than individualized instructional design, evidence-based intervention selection, and data-driven decision making. So, a teacher who had eight years experience in Lahore SEC, commented: 'Everything that we learnt during our diploma was about the types of disabilities, what autism is, what intellectual disability is. No one ever told us how to teach a child who can't talk and can't control his frustration if he throws furniture.' This account was typical of the trend: theoretical learning of disability knowledge but not applied learning of the instruction and behavior that is necessary for successful classroom practice.

These accounts from interviews were confirmed through classroom observations. In 19 of the 24 observed lessons, the class was taught as a whole with no effective differentiation for the students' individual learning modes, communication needs, and/or support requirements. In three of the five case institutions, IEP documents were found, but were not used much during lessons, and not always used as a teaching tool for supporting students' individual needs. The findings here are in line with the interview finding that pre-service preparation has not promoted the individual instructional planning abilities needed for teaching with IEP (Ryndak et al., 2014).

5.2 In-Service Professional Development: Fragmented and Inadequate

Participants from all the case institutions reported that in-service experiences were infrequent, general in content, and passive in delivery. Most teacher respondents said they had attended 1 to 3 government organised in-service trainings in the last three years, which were termed as one or two day workshops at the provincial headquarters in Lahore. Participants of secondary city and district level institutions mentioned further constraints related to traveling to Lahore, some stating that they had to arrange their own transportation and housing with little support from institutions. The administrator participants confirmed that there is no systematic process of Training Needs Assessment which is used in the design of in service programs, one Principal said 'We get a circular saying, send your teachers to a training programme in Lahore'. We don't know what they will be learning till they come back. It's not what our teachers need.

Most participants reported that in-service training was too vague in terms of addressing the specific instructional and behavioral support issues in their classrooms. Competency domains that were identified by International evidence as essential for effective Special Education practice, such as functional behavioral assessment, positive behavior support, assistive technology and bilingual communication approaches were not available in all in-service courses, and were rarely included in a single session without follow up enabling transfer to practice. These gaps were identified by professional development facilitators at PISE and Govt Training College, and they cite budget limitations, faculty expertise limits, and designing specific professional development for a wide range of faculty from multiple disability specializations (Desimone, 2009).

5.3 The critical gap domains of professional development

Six professional development gap domains emerged as being consistently experienced across the teacher participant group and most significantly across the cases, through cross-case thematic analysis. Thirty of 32 teacher participants marked differentiated instruction as a significant gap and classroom observations showed that differentiated instruction was almost universally absent. The second domain was behavioral assessment and positive behavior support, in which teachers reported a lack of instruction on functional behavioral assessment and function-based intervention planning, and a high prevalence of punitive behavioral management approaches (O'Neill et al., 2015). The third domain, assistive technology integration, was not found in either pre-service or in-service preparation, and most teachers reported having received no training in how to assess, select, or integrate assistive technology into their instruction with students.

Collaborative IEP writing, parent training facilitation and culturally responsive parent communication were noted as areas of limited competency by teachers in the fourth domain: family-centered practice. For the fifth domain, disability-specific content knowledge, teachers reported receiving general disability awareness content that failed to capture the current evidence-based base for neurodevelopment of the particular disability they were teaching (Heward, 2013). The domain where teachers reported the greatest gap, "evidence-based

pedagogical application,” was the most fundamental gap, with teachers saying they did not have a framework for choosing teaching methods based on research evidence, a systematic system of collecting data to evaluate their teaching, or a way to modify their teaching in response to evidence of student outcomes (Cook et al., 2010).

5.4 Structural and Contextual Barriers

Participants noted a number of structural and contextual challenges that exacerbated the curricular-level PD gap. Lack of professional development resources within institutional budgets, lack of specialist faculty and lack of professional learning resources in Urdu language were found to be the most common barriers. Access inequities arose due to geographic disparity, with fewer professional development opportunities reported by teachers at district-level institutions than at metropolitan institutions. Participants pointed to the lower status of special education teachers within the larger educational community in Pakistan as an important barrier to continued professional investment: 'Why should I invest my time and money in education, when our salaries are lower than a mainstream teacher, and there is no recognition for our expertise in this field? Case institutions did not have ongoing collegial structures—such as peer learning communities or mentoring—to support teachers' professional learning, even though these teachers were eager to learn (Knight, 2007).

6. Discussion

This qualitative case study affirms the findings that the essential elements of effective teacher change (as identified by Guskey's Model of Teacher Change) are systematically missing in this PD landscape. That the episodic, passive, and generalist in-service workshops reported in the findings have been unsuccessful in changing the instructional practice of special education teachers in Punjab, is evidence of the failure of these workshops to change sustained professional beliefs due to the absence of direct, classroom-based evidence of improved student learning outcomes, which is the most relevant point in the Guskey change sequence (Guskey, 2002).

The findings also support the organizational aspect of Guskey's model. Lack of coaching infrastructure and professional learning communities, as well as the lack of support from administration for the professional development, and time for teachers to reflect collegially from the new professional practice that any good professional development might stimulate, leaves teachers feeling at odds with their institutional environments when they return. If, then, professional development in special education in the Province of Punjab is to be reform, it should take place at the same time as individual teacher competency development, and this two-fold reform of the system and the individual teacher should be considered at the same time, as the single-intervention, centrally organized workshop model now being provided by the system structurally forecloses this (Guskey & Yoon, 2009).

7. The present study has its limitations.

There are a number of limitations to the methodology used in this study that need to be noted. Given the number of government special education institutions in Punjab (more than three hundred), the purposive selection of five case institutions limits the findings to a

contextually rich, but not necessarily representative, snapshot of what goes on in the province. Institutions were chosen to be representative of diversity across selected contextual dimensions, but the sample also excludes the more geographically remote and institutionally isolated contexts which may have more distinctively different and more severe professional development deficits. The research team may have prompted social desirability influences on participants' responses about their professional competencies and institutional support, as teachers might have exaggerated their experiences with professional development or minimized problems with competencies to demonstrate institutional competence. These effects have been reduced with the use of reflexive strategies such as prolonged engagement times, rapport building and triangulation across strategies, but there is no guarantee that these can be completely eliminated. The study design is a cross section of professional development experiences that takes a snapshot of these experiences at one moment in the history of an institution, which does not allow for the study of the evolution of professional development experiences over teachers' careers or how they react to those changes.

8. Recommendations

The results of this research suggest that the pre-service teacher education and continuous professional development of special education teachers in Pakistan, particularly in Punjab should be strengthened systemically. Punjab Institute of Special Education (PISE), affiliated universities, and Special Education Department of the government of Punjab should redesign the pre-service teacher education curriculum in a comprehensive way, incorporating internationally accepted competency-based approaches, specifically the High-Leverage Practices (HLPs) suggested by McLeskey et al. (2017). The course content should include credit-bearing units for the following topics: Functional Behavioral Assessment (FBA), Positive Behavior Support (PBS), Assistive Technology Assessment and Classroom Integration, Family Centered Practices and Parent Collaboration, Evidence-based Instructional Strategies for Autism Spectrum Disorder (ASD) and Intellectual Disabilities (ID), Differentiated Instruction, Universal Design for Learning (UDL), Individualized Education Program (IEP) Development and Implementation, Transition Planning, and Systematic Progress Monitoring. Moreover, supervised teaching practicum needs to be longer and competency-based so that trainee teachers can demonstrate competency in the use of inclusive instructional practices prior to certification (Darling-Hammond, 2000).

Given that the Punjab Special Education Department already holds regular Training Needs Assessments (TNAs), future work should focus on enhancing the effectiveness and use of these assessments to ensure their greater utility, instead of new mechanisms. TNAs need to use an agreed upon competency based assessment system that recognizes the needs of teachers by disability type, experience, school environment, geographic area, and new learning issues. More importantly, the results of the TNA should inform in the planning, budgeting, implementation and evaluation of PD programmes so that the priorities for the programmes are aligned to the actual needs of teachers in the classroom.

Professional development cannot just be a one-shot workshop, but should be inclusive and continuous, and should be school-based. The Department shall implement a framework for instructional coaching in which credentialed instructional coaches are identified as high-quality special education teachers who coach, support, and help develop the skills of other special education teachers by conducting ongoing classroom observations, mentoring, demonstrating, providing feedback, and individual professional development support. Follow-up coaching after the formal training would improve the transfer of what was learned, into classroom practice.

To promote collaborative learning by teachers, the Professional Learning Communities (PLCs) in special education institutions should be institutionalized across the Punjab. Time should be set aside for peer observation, collaborative lesson planning, discussion about student progress, sharing of evidence of practices and collective problem-solving about instructional and behavioural issues. These collaborative arrangements can enhance teachers' reflective practice and mitigate teacher professional isolation.

Punjab Institute of Special Education (PISE) must make its contribution to the province as a hub of professional development by creating need-based, Urdu and English high quality evidence based training materials. These should contain online self-paced learning units, video demonstration units, classroom case studies, units on practical tools, assessment units, and mobile learning units to ensure that teachers in remote districts are able to access them. This study also emphasizes the importance of enhancing teachers' digital skills and assistive technology skills. PD should incorporate hands-on experiences related to the selection, implementation and use of assistive technologies, digital learning platforms, augmentative and alternative communication (AAC) systems and technology-based instructional strategies for students with a variety of disabilities in the classroom.

Last but not least, the Government of Punjab should revise the Special Education Teachers' Service Structure by introducing a competency-based career progression roadmap for the SED teachers where they can be rewarded for further education, specialization in the field, innovation in classrooms, mentoring, and commitment to professional development programs that are recognized. Provision of career progression and professional recognition, based on the demonstrated competency of teachers, and not just years of service, would foster professional learning throughout the lifespan of a teacher and enhance the quality of special education services across the province..

9. Conclusion

This is a qualitative case study that has provided a systematic, theoretically-informed, and empirically rich analysis of the training needs and landscape of professional development for special education teachers in Punjab, Pakistan. The findings from the five government special education institutions in the study reveal the depth and breadth of professional learning gaps in pre-service curriculum, in-service provision, and structural and cultural conditions of professional practice that impede the transfer of professional learning into sustained change in classroom practice.

The results of the study show that there is a need to transform the professional learning system in the context of special education in Punjab and this transformation should not be an incremental change in the current professional learning system rather it should be a change in the system of professional learning itself which includes transformation in the content and structure of pre-service training, in the design and delivery of in-service professional learning and in the institutional conditions that facilitate or hinder the implementation of professional knowledge in the classroom. This shift cannot be postponed till the children with disabilities in government special schools in Punjab are able to access their right to education and their developmental opportunities because of the quality of their teacher. The recommendations in Section 8 provide a rights-based, institutionally feasible, evidence-based blueprint for the development of the very best special education teaching workforce that the children of Punjab deserve.

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