Research Article

Inclusive education management and the psychological transformation of special education teachers: The impact of training on professional competence and identity

Amka[*]; **Imam Yuwono; Siiti Jaleha; Devira Putro Giana**

Department of Special Education, Faculty of Teacher Training and Education, Lambung Mangkurat University, Banjarmasin, Indonesia

* Corresponding author: Amka, amka.plb@ulm.ac.id

ABSTRACT

This study confronts a critical research gap in the evaluation of inclusive education training, which has predominantly emphasized teachers' cognitive gains while neglecting the psychosocial mechanisms—self-efficacy, critical reflection, and professional identity—and managerial boundary conditions, such as supportive leadership and structured collaboration, that enable sustainable transformation. Framed within an integrated management–psychosocial model, this mixed-methods investigation assesses both the effectiveness of inclusive training and the dynamic interplay between managerial practices and teachers' psychological adaptation. Employing a one-group pretest–posttest design with 71 participants, the study utilized a 25-item instrument (Content Validity Index [CVI] = 0.91; KR-20 reliability = 0.88) scaled from 0–100. Quantitative analyses included Wilcoxon signed-rank testing, rank-biserial correlation (r_rb) with 95% confidence intervals, Benjamini–Hochberg false discovery rate (FDR) control, and Brown–Forsythe variance homogeneity assessment. A minimally important difference (MID) of 10 points was established a priori. Complementary qualitative data were analyzed thematically and integrated via joint display matrices. The findings revealed a statistically significant increase in overall competency—from 66.31 to 82.45 (Δ = +16.14)—with 92.9% of participants surpassing the MID threshold and no observed score declines. Gains were consistent across domains (managerial Δ +14.89; adaptive strategy Δ +17.17; psychosocial Δ +16.33) and accompanied by reduced variance, indicating a convergence in teacher competence. Thematic synthesis highlighted mastery experiences, modeling, and dialogic feedback as pivotal drivers of self-efficacy and professional identity reconstruction, with optimal outcomes occurring under supportive leadership and institutionally safeguarded collaboration time. The study advances an integrative conceptualization of management as the contextual catalyst and psychology as the mediating mechanism of professional change, validated through the convergence of quantitative and qualitative evidence. Managerially, the results advocate embedding reflective practices, formalizing collaborative structures, and strengthening instructional leadership as essential levers for sustaining inclusive education.

Keywords: Inclusive education management; school climate; psychosocial mechanisms; teacher self-efficacy; reflective learning; organizational support; mixed methods

1. Introduction

Inclusive education represents a global commitment to advancing social justice and ensuring equitable learning opportunities for all learners, regardless of their physical, intellectual, social, or emotional differences. Over the past two decades, this paradigm has evolved from a rights-based discourse to a systemic reform agenda that demands a reconfiguration of educational philosophies, structures, and pedagogies across national contexts [6]. Inclusive education is thus not merely a policy imperative but a pedagogical transformation that requires teachers to construct adaptive, collaborative, and learner-centered environments that value diversity as a pedagogical resource [17].

Despite widespread global endorsement, the practice of inclusion remains fraught with conceptual and operational challenges—particularly in emerging educational systems such as Indonesia's. The obstacles extend beyond resource constraints to encompass teachers' preparedness and attitudinal orientation toward inclusive practice. A consistent body of international research identifies teachers' readiness, efficacy beliefs, and professional values as decisive factors in determining the success of inclusive implementation [2]. Additionally, studies reveal that teachers' perceptions of inclusion, especially within faith-based schools, are shaped profoundly by institutional cultures and policy frameworks [25]. Hence, teachers' internalization of inclusive values is central to transforming classroom practices and advancing inclusion as a lived reality.

A growing body of scholarship asserts that teacher preparation for inclusive education must prioritize the cultivation of teacher agency—the capacity for reflective, collaborative, and innovative professional action within complex and diverse classroom settings [9,31]. Within this view, teachers are conceptualized not as passive implementers of policy but as transformative agents capable of reshaping institutional cultures [1]. Irvan et al. [23] reinforce this claim, demonstrating that active teacher involvement in designing adaptive instructional strategies is pivotal for realizing meaningful inclusion, particularly in vocational schools that serve students with diverse learning needs.

Indonesia's policy landscape provides both opportunity and constraint for inclusive reform. Regulation No. 48 of 2023 by the Ministry of Education, Culture, Research, and Technology (Permendikbudristek No. 48/2023) mandates reasonable accommodation for students with disabilities, reinforcing the national commitment to inclusive access. Yet, as evidenced by Zegeye [47] and Adams et al. [2], the gap between policy and practice persists in many developing contexts, often due to limited teacher capacity and uneven institutional support. Accordingly, capacity-building initiatives must be designed not only to enhance teachers' conceptual understanding of inclusion but also to equip them with contextually responsive and practically applicable pedagogical skills.

Within the field of inclusive education management, Alexiadou and Essex [8] underscore that teacher education must operationalize policy through reflective pedagogies that link theory with praxis. Such processes require managerial structures that facilitate teacher collaboration and professional reflection. A robust body of evidence affirms that inclusive leadership and a collegial school culture are foundational conditions for successful inclusion [5]. Managerial practices that foster participation, open communication, and mutual trust strengthen the social architecture of inclusion within schools [38,40]. Furthermore, Florian [8] emphasizes the inseparability of inclusive and special education—arguing that their co-existence is essential to achieving the principle of "getting it right for every child." Complementing this view, Naccache et al. [32] highlight the mediating role of instructional leadership in cultivating teachers' critical awareness of learner diversity. Collaboration between general and special educators thus becomes an institutional mechanism for sustaining inclusion across educational levels.

Teachers, as the pivotal agents of change, require continuous professional development grounded in experiential learning and reflective inquiry. Ahmmed et al. [3] demonstrate that direct engagement with students with disabilities enhances teachers' empathy, confidence, and competence in implementing inclusive practices. Similarly, Yip and Saito [47] argue that teacher diversity itself constitutes an institutional asset that strengthens equity and inclusion. Within Indonesia's teacher training ecosystem, such principles are essential for nurturing professional empathy, reflective practice, and interprofessional collaboration.

An effective model of inclusive teacher development transcends the transmission of technical knowledge to encompass the transformation of values, beliefs, and professional identity [9]. Transformative learning theory provides a theoretical lens for understanding how teachers reconstruct their professional selves as reflective practitioners who are attuned to the social, cultural, and psychological realities of learners. El-Soussi [16] expands this discourse by illustrating that professional identity reconstruction may also occur in digital inclusive environments, broadening teachers' pedagogical flexibility and collective consciousness as members of learning communities.

From a methodological standpoint, the study of inclusive teacher training must engage with the interpretive complexity of professional learning processes. Thematic analysis, as articulated by Braun and Clarke [14], offers a rigorous framework for examining the evolution of meaning, reflection, and competence development across the intervention cycle. This approach facilitates interpretive depth, allowing research to move beyond description toward explanatory and transformative insight.

Emerging international evidence further links the effectiveness of inclusive teacher education to supportive policy and leadership contexts. Wallace and Gravells [43] emphasize the centrality of leadership narratives that invite teacher participation in shared decision-making, while Adams et al. [1] demonstrate that inclusive leadership anchored in collective reflection fosters the durability of inclusive cultures. Effective training initiatives, therefore, must be embedded within organizational ecosystems that sustain professional reflection and innovation.

From a managerial perspective, leadership and structured collaboration time function as strategic levers for promoting inclusive professional learning. The efficacy of these managerial instruments, however, operates through teachers' psychosocial mechanisms—most notably, enhanced self-efficacy, critical reflection, and reconstructed professional identity—nurtured through mastery experiences, modeling, and peer interaction. Management thus constitutes the enabling structure, while psychology explicates the internal mechanisms through which change is enacted and sustained.

Guided by this integrative logic, the present study seeks to address a critical empirical gap by conceptualizing teacher competence enhancement as the interactive product of inclusive management strategies and psychosocial transformation. Specifically, the study aims to: (1) measure pre–post changes in overall and domain-specific competencies following inclusive training; (2) assess competency homogenization and the proportion of teachers surpassing the minimally important difference (MID = 10 points) as indicators of effectiveness; and (3) explore how psychosocial processes (self-efficacy, critical reflection, professional identity) are moderated by managerial boundary conditions, including supportive leadership and structured collaboration, through qualitative inquiry and mixed-methods integration. In doing so, the study extends beyond outcome evaluation to theorize the managerial–psychological interplay that underpins sustainable inclusive practice.

In sum, this research examines the development of professional competence and psychosocial transformation among Special Education Teachers (Guru Pendidikan Khusus – GPK) in vocational settings through a reflective, participatory training design. The intervention is intended to elevate self-efficacy,

cultivate inclusive professional identity, and enhance managerial capacity for enacting inclusive pedagogy. Conceptually, the study contributes to the advancement of experiential, reflection-oriented professional learning models aligned with teacher agency and transformative practice [17].

2. Literature review

2.1. Conceptualizing inclusive education management

Inclusive education management can be conceptualized as an intentional and systemic institutional endeavor to align policies, pedagogical frameworks, and human resources to guarantee equitable access to quality learning for every student. This perspective transcends the realm of administrative adjustment, emphasizing instead the institutionalization of inclusive values, visionary leadership, and a psychosocial climate that nurtures belonging and participation [4,20].

In practical terms, the effectiveness of inclusive education management depends on its ability to balance administrative coordination with teacher empowerment. As Korthagen [26] contends, institutional success in inclusion derives less from regulatory compliance and more from the capacity to cultivate reflective professionalism and sustained teacher collaboration. When school management ensures adequate resourcing, supportive supervision, and opportunities for dialogic reflection, teachers demonstrate heightened confidence, collective efficacy, and commitment to inclusive practice. Inclusion thereby evolves from a policy requirement into an integral component of the school's cultural identity.

2.2. Policy framework and the indonesian context

Indonesia's policy landscape provides a legal and institutional foundation for inclusive education through the Ministry of Education, Culture, Research, and Technology Regulation No. 48 of 2023 (Permendikbudristek No. 48/2023) concerning Reasonable Accommodation for Students with Disabilities across all educational levels. This regulation mandates each educational institution—including vocational high schools (SMK)—to establish Disability Service Units (Unit Layanan Disabilitas – ULD) and implement reasonable accommodations to ensure accessibility and equity in participation [24].

Within this framework, Special Education Teachers (Guru Pendidikan Khusus – GPK) play a pivotal mediating role, translating national policy commitments into pedagogical practice. However, the success of these policies is contingent upon the leadership's capacity to institutionalize supportive training, mentoring structures, and workplace climates that safeguard teachers' psychological well-being and motivation [33,37].

2.3. Professional competence of teachers in inclusive education

The construct of inclusive teacher competence encompasses intertwined cognitive, affective, and social dimensions—spanning adaptive pedagogical knowledge, differentiated instruction, collaborative proficiency, and empathic responsiveness toward learner diversity [36]. While training interventions have been shown to enhance teacher knowledge and attitudes, such gains frequently diminish without systemic reinforcement and organizational continuity [35,44].

Competence in inclusive settings is inherently contextual. Within vocational education, GPKs must reconcile technical–vocational expertise with a humanistic pedagogical orientation that recognizes diverse learner needs. Functioning as transformative actors, these teachers model inclusive values for peers and contribute to shaping collective professional norms. Thus, the development of inclusive competence is not solely an individual process but a social endeavor embedded within leadership and institutional culture.

2.4. Self-Efficacy as a psychological mechanism in inclusive practice

Drawing on Bandura's Social Cognitive Theory [12], self-efficacy refers to a person's belief in their ability to organize and execute actions required to attain specific outcomes. In the domain of inclusive education, teacher self-efficacy has consistently emerged as a robust predictor of inclusive instructional success [35,45]. Educators possessing strong self-efficacy demonstrate persistence, adaptive resilience, and a capacity to create emotionally safe and academically responsive learning environments.

Cross-national evidence confirms that self-efficacy remains a universal predictor of inclusive effectiveness [32]. Research conducted in Ghana and Indonesia underscores that experiential training combined with collegial collaboration substantially elevates teachers' self-efficacy. Consequently, self-efficacy should be regarded not merely as a cognitive byproduct of training but as a dynamic affective construct that sustains confidence, agency, and perseverance in inclusive pedagogical engagement.

2.5. Transformative learning and the reconstruction of professional identity

Mezirow's Transformative Learning Theory [28] conceptualizes adult learning as a process of meaning reconstruction through critical reflection that challenges pre-existing assumptions. Within the inclusive education context, such transformation manifests as teachers interrogate their beliefs, adapt their pedagogical repertoires, and reformulate their professional identities [13].

Milani and Jacomuzzi [29] report that support teachers in Italy experience profound identity negotiation amidst institutional marginalization, but collaborative reflection enables them to rediscover purpose and meaning in their work. Calandri et al. [15] add that teachers' emotional competence serves as a determinant of pedagogical flexibility, which is central to inclusive teaching. Therefore, psychological transformation entails an interplay of reflective, emotional, and social processes that shape the trajectory of teachers' professional growth.

2.6. Relationship between training management and psychological transformation

Teacher training operates as a systemic bridge connecting managerial policy with individual psychological change. Purposefully structured programs provide mastery experiences, vicarious learning, and critical reflection—key conditions for behavioral transformation [12,28].

Korthagen [26] argues that impactful professional learning integrates emotional awareness with iterative practice. Similarly, Woodcock [44] demonstrates that professional development engaging affective and reflective dimensions promotes long-term adaptive change. Boylan [13] extends this claim, asserting that collaborative reflection and peer coaching situated within institutional frameworks yield more enduring and contextually relevant transformations than traditional lecture-based models.

2.7. Integrative framework between inclusive education management and teacher psychology

Synthesizing the theoretical contributions of Bandura and Mezirow produces an integrative model that delineates how management structures facilitate teachers' psychological transformation. The training environment functions as a psychosocial ecosystem that enables mastery experiences and critical reflection, thereby reinforcing self-efficacy and catalyzing the reconstruction of professional identity. This causal progression can be represented as follows: Training → Self-Efficacy → Reflection → Identity Reconstruction → Sustainable Inclusive Competence.

This progression is articulated in the conceptual model (see Figure 1, Section 2.9), which synthesizes managerial and psychological dimensions of inclusive teacher development. The framework unites the structural (managerial) and intrapersonal (psychological) domains, positioning inclusive education

management as a catalyst for deep behavioral and identity transformation rather than a mere bureaucratic reform.

2.8. Empirical gaps and research needs

Although the corpus of inclusive education research continues to expand, the majority of studies remain limited to short-term and descriptive investigations emphasizing attitudinal shifts without tracing longitudinal transformations. Very few employ mixed-methods or longitudinal approaches to examine how training interventions affect self-efficacy and professional identity—particularly in vocational education within developing contexts. The present study seeks to address this gap by systematically investigating the cognitive, affective, and professional evolution of teachers through an integrated, sequentially designed methodology.

2.9. Summary of the conceptual framework

The synthesis of extant scholarship reveals that the success of inclusive education management hinges on its capacity to integrate structural and psychological dimensions. Guided by Social Cognitive Theory [12] and Transformative Learning Theory [28], this study conceptualizes inclusive teacher training as a psychosocial system designed to strengthen self-efficacy and support professional identity transformation. Together, these dual processes nurture inclusive competence and sustain long-term inclusive practice.
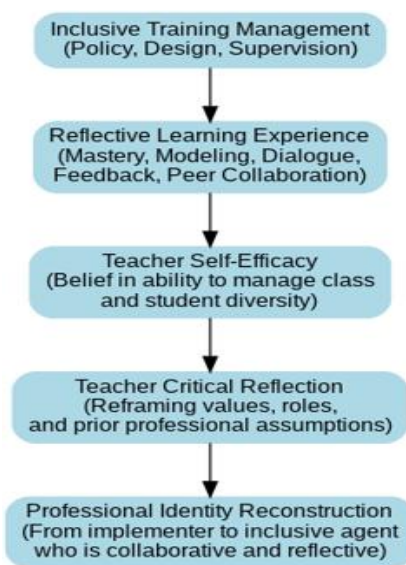

Figure 1. Conceptual Model of Psychosocial Management for Inclusive Teachers

Figure 1 illustrates the Conceptual Model of Inclusive Teachers' Psychosocial Management, wherein inclusive training management operates as a psychosocial mechanism linking macro-level policy to micro-level behavioral change. Through reflective learning experiences, teachers enhance self-efficacy, engage in critical reflection, and reconstruct professional identity, culminating in the attainment of sustained inclusive competence.

The model's vertical continuum represents the psychosocial transformation process: the upper tier (Inclusive Training Management) denotes structural and managerial dimensions; the middle tier (Self-Efficacy and Critical Reflection) signifies the psychological–affective domain; and the lower tier (Professional Identity and Inclusive Competence) embodies the transformative outcomes that signal sustained professional growth and inclusive capacity.

3. Methodology

3.1. Research design

This study employed a mixed-methods sequential explanatory design, integrating quantitative and qualitative strands to produce a comprehensive understanding of the Inclusive Education Technical Guidance Program (Bimbingan Teknis Pendidikan Inklusif – Bimtek). The research design combined a quasi-experimental pre–post evaluation during the first phase with a qualitative inquiry in the second, ensuring methodological complementarity between statistical precision and interpretive depth. The overarching aim was to evaluate not only the cognitive and skill-based learning outcomes of the intervention but also the ensuing psychosocial and behavioral transformation of Special Education Teachers (Guru Pendidikan Khusus – GPK).

The study was implemented between July and October 2025 in vocational high schools (SMK) across South Kalimantan Province, Indonesia. The quantitative phase utilized a one-group pretest–posttest design to assess measurable changes in teachers' inclusive education competencies as a direct effect of participation in the Bimtek program. This design provided sensitivity to within-subject variations while establishing internal consistency for inferential analysis. In the follow-up phase, conducted approximately two to three months after the training (September–October 2025), the qualitative strand examined teachers' lived experiences, reflective processes, and contextual adaptation of inclusive practices. This temporal structure allowed the research to explore the translation of conceptual learning into sustained pedagogical transformation. The building–connecting logic guided the sequential linkage between phases, whereby quantitative results informed the purposive selection of qualitative participants and themes, reinforcing analytic coherence across methodological boundaries.

Grounded in the pragmatic research paradigm, the study prioritized methodological pluralism, valuing empirical measurement and experiential interpretation equally. The pragmatic stance acknowledged that understanding complex educational phenomena requires both quantifiable evidence and contextualized meaning-making. Accordingly, the mixed-methods approach facilitated a multi-level exploration of what changes occurred due to the training and how such changes manifested at individual, institutional, and systemic levels.

3.2. Participants

The research involved 71 matched participants from an initial pool of 74 teachers who completed the Bimtek program. All participants were Special Education Teachers assigned to public vocational high schools (SMK) across 13 districts and municipalities in South Kalimantan Province, Indonesia. Teaching experience ranged between 1 and 10 years (M = 5.6, SD = 2.3) and the average participant age was 41.2 years (SD = 7.1). Approximately 79% were female, consistent with the gender distribution among Indonesian educators. All participants provided written informed consent, and data were anonymized to ensure confidentiality. Ethical approval was granted by the Center for Disability and Inclusive Education Services, Provincial Office of Education and Culture of South Kalimantan (No. 400.3.6.4/207/PLDPI/2025, February 13, 2025).

Inclusion criteria required participants to (a) hold an active appointment as a Special Education Teacher (GPK) in an inclusive vocational high school, (b) teach students with disabilities during the study period, and (c) attend the full three-day training and complete both the pre- and post-test instruments. Teachers who were unable to complete the training or assessment procedures, or who submitted incomplete pre- or post-test data, were excluded from the analytic sample.

A purposive sampling strategy ensured representation from diverse professional backgrounds, teaching experiences, and regional contexts to enhance transferability. Of the 74 invited educators, three were excluded due to scheduling conflicts, resulting in 71 matched datasets suitable for pre–post analysis. This sample size met the statistical requirements for nonparametric testing and provided sufficient heterogeneity to support interpretive generalization across vocational education contexts.

Table 1. Participant Characteristics (n = 71)

Variable	Category / Statistic	n (%) or M (SD)
Gender	Female	56 (78.9%)
	Male	15 (21.1%)
Age (years)	Mean (SD)	41.2 (7.1)
Teaching experience (years)	Mean (SD)	5.6 SD (2.3)
School type	Public vocational high schools (SMK)	71 (100%)
District coverage	13 districts/cities	–
Training duration	3 days (24 hours)	–
Follow-up participants (interview/observation)	15 (21.1%)	–

3.3. Instruments

3.3.1. Knowledge and competency test

The 25-item knowledge and competency test was specifically constructed to evaluate programmatic outcomes of the Bimtek training. The instrument measured three domains of inclusive competence: (1) managerial knowledge related to policy and leadership, (2) adaptive teaching strategies reflecting differentiated instruction, and (3) psychosocial awareness encompassing empathy, collaboration, and sensitivity to learner diversity. Rather than aiming for population-level generalization, the test served as an applied diagnostic tool to capture immediate, context-specific learning gains among participating teachers.

Content validity was rigorously assessed by three inclusive education experts from Lambung Mangkurat University. Each item was evaluated for clarity, relevance, and representativeness, producing a Content Validity Index (CVI) of 0.91—categorized as excellent. Internal reliability, assessed through the Kuder–Richardson 20 (KR-20) formula, yielded a coefficient of 0.88, indicating high internal consistency. To standardize comparability, raw scores were transformed to a 0–100 scale, facilitating inter-domain analysis and longitudinal interpretation. An a priori minimally important difference (MID) of 10 points was established to determine practical significance. Although full construct validation was not undertaken, the instrument demonstrated sufficient methodological rigor for program evaluation purposes.

3.3.2. Interview and observation protocols

Qualitative instruments comprised semi-structured interview protocols and structured classroom observation guides. The interviews explored three dimensions: (1) teachers' enactment of inclusive competencies, (2) the extent of institutional and collegial support, and (3) reflective processes contributing to professional growth and identity formation. Fifteen participants were purposively selected across three outcome strata (high, moderate, and low improvement) to capture variance in experience. Interviews lasted approximately 30–45 minutes, were audio-recorded with consent, and transcribed verbatim. Classroom observations provided complementary evidence of inclusive practices and collegial collaboration, ensuring methodological triangulation.

3.4. Research procedure

The research was implemented in two sequential phases designed to measure both immediate and sustained effects of the intervention.

Phase I (Training and Testing). The three-day Bimtek, conducted in July 2025, included policy briefings, participatory workshops on differentiated instruction, sessions on assistive technologies, and collaborative case discussions. Pretests were conducted on day one to establish baseline knowledge, while posttests were administered at the conclusion to capture short-term learning gains. Interactive learning formats were emphasized to promote reflection and peer feedback.

Phase II (Follow-Up and Field Study). Approximately two to three months after the training (September–October 2025), participants were re-engaged through interviews and classroom observations to examine the persistence and contextual application of learned competencies. This follow-up allowed for the evaluation of knowledge transfer into sustained behavioral change and the identification of organizational enablers or constraints. The time interval supported natural internalization of training content, distinguishing durable transformation from transient retention effects.

3.5. Data analysis

3.5.1. Quantitative analysis

Quantitative data were analyzed to assess the magnitude, direction, and significance of changes in teacher competence. Expert validation confirmed the robustness of content validity, and reliability testing yielded KR-20 = 0.88, categorized as high. Given the non-normal distribution of difference scores, the Wilcoxon signed-rank test was employed to determine statistical significance. The level of statistical significance was set at $p < .05$. Effect sizes were reported using rank-biserial correlation (r_rb) with 95% confidence intervals, while homogeneity of variance was assessed using the Brown–Forsythe test. The Benjamini–Hochberg False Discovery Rate (FDR) correction was applied to control for multiple comparison bias.

To enhance interpretive robustness, sensitivity checks were conducted using paired-samples t-tests and Cohen's dz effect sizes. Data analyses were performed using R (version 4.3.1, packages *rstatix* and *effsize*) and verified in SPSS 28 to ensure cross-platform consistency. The triangulated analytical framework enabled quantitative inference grounded in empirical rigor while maintaining alignment with practical evaluation goals.

3.5.2. Qualitative analysis

Thematic analysis was conducted following the model by Miles et al. [30]. Verbatim transcripts and observation notes were systematically coded using NVivo 14 by two independent researchers—one psychologist and one education specialist. Interrater reliability achieved Cohen's κ = 0.88, reflecting substantial agreement. Data analysis proceeded through stages of data reduction, categorization, and theme generation. Three major themes emerged: (1) development of adaptive and professional competence, (2) institutional and collegial collaboration, and (3) reflective practice and identity reconstruction.

Triangulation occurred across sources (interviews, observations) and analysts (two coders), supported by member checking with seven participants, audit trail documentation, and reflective memoing. Data saturation was confirmed by the thirteenth interview, ensuring thematic completeness and analytical reliability.

3.6. Integration of quantitative and qualitative data

Integration followed a weaving strategy that merged quantitative and qualitative insights within a unified interpretive narrative. Quantitative findings guided participant selection and thematic focus in the qualitative phase, while qualitative evidence elucidated the mechanisms underlying numerical outcomes. The joint display in **Table 2** demonstrates how empirical patterns were explained through teacher narratives and contextual interpretations.

Table 2. Quantitative–Qualitative Integration (Joint Display Matrix)

Aspect / Main Variable	Quantitative Findings (Statistics)	Qualitative Findings (Themes & Representative Quotes)	Integrated Interpretation (Explanatory Insight)
Enhancement of GPK Professional Competence	Mean increased from $M = 23.20$ (SD = 4.34) to $M = 23.80$ (SD = 4.41); $\Delta M = +0.61$, $p < 0.001$, $dz = 0.44$ (moderate).	**Theme 1:** Strengthened Adaptive and Professional Competence. Teachers expressed higher confidence, mastery of UDL, and skill in developing IEPs.	
"Now I can tailor instruction to each student's needs. Before, I often hesitated."	Quantitative gains aligned with qualitative accounts, reflecting convergence between conceptual understanding and behavioral enactment.		
Collaboration and School Support	No significant change ($\Delta = +0.15$, ns).	**Theme 2:** Institutional and Peer Collaboration. Teachers reported supportive leadership yet limited horizontal collaboration.	
"Our principal helps a lot, but some subject teachers still don't see our role clearly."	The absence of statistical change parallels contextual barriers; nevertheless, qualitative evidence signals emerging collaboration norms.		
Reflection and Identity Transformation	Correlation between Δ and self-efficacy ($r = 0.42$, $p < 0.01$).	**Theme 3:** Reflective Practice and Identity Reconstruction. Teachers reported greater empathy, patience, and professional renewal.	
"I've learned to understand students' perspectives and value progress over perfection."	Qualitative data unpacked the psychological mediators underpinning quantitative outcomes, particularly identity reconstruction.		
Sustainability of Inclusive Practice (two to three months post-training)	52% maintained or improved competence scores.	Observations revealed the continued use of adaptive assessment and task modification. Barriers included time and communication constraints.	Integration demonstrated partial sustainability—knowledge and attitudes persisted, though institutional reinforcement remained necessary.

Narrative Synthesis:

The mixed-methods integration confirmed statistically significant gains in teacher competence with moderate effect sizes ($dz = 0.44$). The qualitative narratives substantiated these findings, demonstrating not only cognitive improvement but also affective and behavioral transformation. The dual trajectory of change—spanning knowledge acquisition and psychosocial adaptation—underscored the effectiveness of the training. Nevertheless, structural limitations such as constrained collaboration time and bureaucratic load impeded sustained implementation. The evidence supports a systems-level interpretation: effective inclusion

initiatives must synchronize personal empowerment, collegial culture, and institutional policy to achieve enduring transformation.

3.7. Ethical considerations and data management

All research procedures received ethical clearance from the Center for Disability and Inclusive Education Services, Provincial Office of Education and Culture of South Kalimantan (No. 400.3.6.4/207/PLDPI/2025, February 13, 2025). Written informed consent was obtained from each participant. Data confidentiality was ensured through encryption and anonymization, with storage secured for five years following publication. The study adhered to the principles outlined in the Mixed Methods Appraisal Tool (MMAT 2018) and COREQ reporting standards for qualitative research, upholding transparency, integrity, and participant protection throughout the study.

3.8. Methodological rigor and trustworthiness

The research exhibited high methodological rigor across both quantitative and qualitative components. Validity and reliability metrics were strong (KR-20 = 0.88; CVI = 0.91), statistical procedures were appropriate to data distribution (Wilcoxon, Cliff's δ, r_rb), and missing data were managed transparently. Qualitative rigor was achieved through consistent coding, triangulation, and data saturation ($\kappa = 0.88$). These safeguards collectively ensured credibility, dependability, and confirmability. The study's design and execution align with international best practices in mixed-methods research, reinforcing its scholarly contribution to the fields of educational management and inclusive pedagogy.

4. Results and analysis

4.1. Participant characteristics and implementation of the technical guidance program

This research involved 74 Special Education Teachers (GPK) drawn from vocational high schools (SMK) across South Kalimantan Province. Of these, 71 teachers successfully completed both the pre-test and post-test phases, forming the final analytic sample. Participants' ages ranged from 27 to 54 years (M = 41.2, SD = 7.1), and their teaching experience spanned between 1 and 10 years (M = 5.6, SD = 2.3). The majority (82%) were employed in public institutions, while 18% served in private schools.

The Inclusive Education Technical Guidance Program (Bimbingan Teknis Pendidikan Inklusif – Bimtek) was conducted over three intensive days, coordinated by the Center for Disability and Inclusive Education Services under the Provincial Office of Education and Culture. The program integrated three core strands: (1) inclusive education policy and school management, (2) adaptive instructional design and differentiated assessment, and (3) empathic communication and collaborative engagement. The quantitative results— presented on a 0–100 scale—summarize mean differences (Δ), the percentage of participants surpassing the minimally important difference (MID = 10 points), and variance changes. These data are followed by a synthesis of quantitative and qualitative findings.

4.2. Quantitative results

The Wilcoxon signed-rank test demonstrated significant improvement in teachers' total competence scores ($p < 0.001$). Mean total competence rose from 66.31 (SD = 7.84) at pre-test to 82.45 (SD = 6.12) post-test, a mean difference of $\Delta = +16.14$. In total, 92.9% of participants exceeded the MID threshold, and none exhibited a score decline. The Brown–Forsythe test revealed a statistically significant reduction in score variance ($p < 0.05$), suggesting post-training homogenization of teacher competence.

Each domain reflected parallel improvement: managerial knowledge (Δ = +14.89), adaptive teaching strategies (Δ = +17.17), and psychosocial understanding (Δ = +16.33), all statistically significant at p < 0.001. These results substantiate the program's capacity to elevate teachers' inclusive competence in a balanced and multi-dimensional manner. Sensitivity analyses using paired-samples t-tests and effect size indices corroborated these findings, validating consistency across analytical approaches.

Table 3. Comparison of Pre–Post Test Scores for Special Education Teacher Competence (n = 71)

Competency Component	Pre-Test Mean (SD)	Post-Test Mean (SD)	Δ Score (Post–Pre)	t	p
Managerial Knowledge	68.12 (8.35)	83.01 (6.21)	+14.89	14.22	<.001
Adaptive Teaching Strategies	64.05 (7.11)	81.22 (6.87)	+17.17	15.04	<.001
Psychosocial Understanding	66.77 (8.02)	83.10 (5.98)	+16.33	16.83	<.001
Total Competence Score	66.31 (7.84)	82.45 (6.12)	+16.14	16.27	<.001

Note: All domains show significant improvement (p < .001).

The uniform increase across competence domains highlights the training's systematic impact. Managerial skills advanced by Δ = +14.89, adaptive strategies by Δ = +17.17, and psychosocial understanding by Δ = +16.33 (all p < 0.001). These findings confirm that the program strengthened teachers' inclusive capabilities comprehensively and cohesively.

4.3. Distribution of competence score changes

To further illustrate the breadth of program impact, the distribution of pre–post changes was examined. This analysis clarifies the degree to which the intervention improved teachers' inclusive teaching competence.

Table 4. Distribution of Competence Score Changes (Post–Pre Test)

Score Change Category	Number of Teachers	Percentage (%)
Increase > 10 points	66	92.9
No score decrease	71	100.0

As shown in **Table 4**, nearly all teachers exhibited substantial improvement, with 92.9% exceeding a 10-point increase and none showing declines. These findings reaffirm the effectiveness and consistency of the intervention. The data distribution, visualized in **Figure 2**, further delineates the trend of performance enhancement.
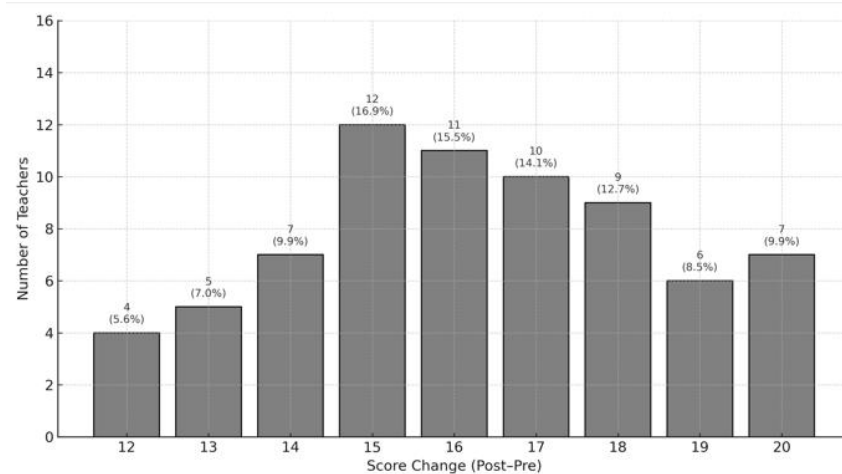
Figure 2. Distribution of Competence Score Changes (Post–Pre Test)

Figure 2 illustrates a normal concentration of score gains, with 46.5% of teachers (33 of 71) showing increases between 15–17 points. The majority (69.0%) demonstrated gains within the 14–18 range, underscoring the program's uniform effect. Minimal gains (12.7%) clustered around 12–13 points, while 18.3% achieved substantial increases between 19–20 points. No declines were observed, and every participant achieved ≥12-point improvement, exceeding the MID threshold. This uniform upward trend validates both the program's pedagogical effectiveness and its ability to equalize post-training competence.

4.4. Qualitative findings: Psychological and professional transformation

Complementing the quantitative data, qualitative findings captured the underlying psychosocial mechanisms of change. Approximately two to three months after the training (September–October 2025), 15 participants engaged in follow-up interviews and classroom observations. Thematic analysis identified three salient dimensions of transformation: (1) enhanced self-efficacy, (2) critical reflection and professional identity reconstruction, and (3) sustained inclusive practices.

Teachers described a notable increase in confidence when teaching students with special needs. One teacher shared:

"I no longer feel afraid to work with students with disabilities. After the training, I know how to adapt my strategies and feel ready." (GPK–07)

This statement illustrates strengthened self-efficacy, echoing Bandura's [12] principle that mastery experiences and constructive feedback foster confidence. Moreover, teachers redefined their professional roles—shifting from passive support functions to active leadership in cultivating inclusive school culture. Another participant remarked:

"Now I don't just help students with special needs; I help my colleagues understand diversity better." (GPK–03)

Classroom observations corroborated these reflections, showing that four schools had formally established inclusion teams responsible for curriculum adaptation and coordination. These developments signify that the program's impact transcended individual teacher development, influencing institutional practices and embedding inclusive values within organizational culture.

4.5. Integration of quantitative and qualitative results

Integrated analysis revealed a strong correspondence between quantitative improvement and psychological transformation. Teachers who achieved higher quantitative gains demonstrated deeper levels of reflection, collaboration, and sustained engagement in inclusive practices.

Table 5. Integrated Summary of Domains, Themes, and Managerial Implications

Dimension of Findings	Quantitative Evidence	Qualitative Evidence	Integrated Interpretation
Self-Efficacy	Significant improvement in adaptive strategies (Δ = +17.17, $p < .001$).	Teachers expressed enhanced confidence and composure in handling students with special needs.	Self-efficacy was strengthened through mastery experiences and positive feedback.
Reflection and Self-Awareness	Managerial knowledge increased significantly (Δ = +14.89, $p < .001$).	Teachers reflected on their evolving role as facilitators of inclusion.	The training stimulated transformative learning processes and critical reflection.
Professional Identity	Total competence improved by Δ = +16.14 ($p < .001$).	Teachers redefined their professional identity and collaborative engagement.	Professional identity reconstruction reinforced inclusion leadership roles.
Sustainability of Practice	Positive correlation between competence score and sustained activity ($r = 0.67$, $p < .01$).	Formation of school inclusion teams and peer collaboration practices.	

This integrative pattern underscores that the strengthening of teachers' self-efficacy, critical reflection, and professional identity occurs most effectively when supported by managerial boundary conditions—particularly supportive leadership and structured collaboration schedules—thereby ensuring that competency development becomes more equitable and sustainable. See Figure 3.
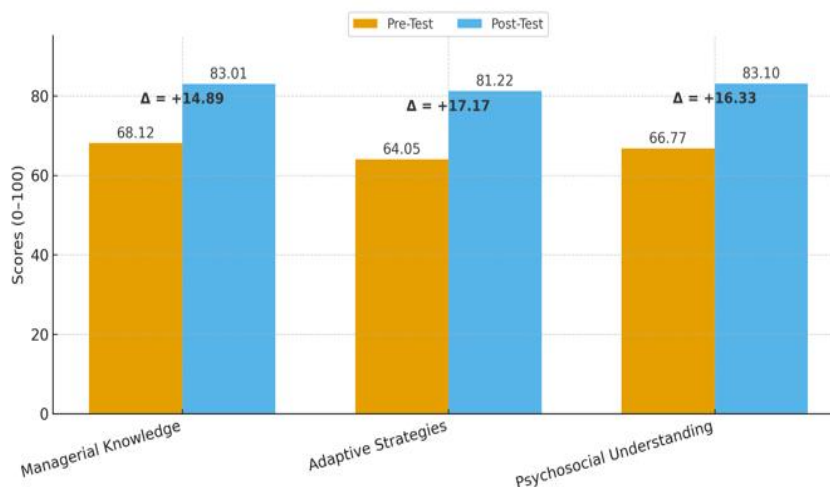

Figure 3. Mean Pre–Post Scores by Competency Component

Figure 3 demonstrates steady improvement across all components post-intervention. The largest gains occurred in adaptive teaching strategies, indicating the program's success in advancing differentiated pedagogy. Psychosocial understanding also increased substantially, reflecting stronger empathy and relational competence, while managerial knowledge improvements consolidated teachers' administrative readiness for inclusion. Collectively, these results affirm that the training fostered comprehensive, enduring growth in inclusive instructional competence.

4.6. Summary of findings

The collective evidence shows that the inclusive education training program generated significant, multidimensional improvement among participating teachers. The quantitative data demonstrated large, statistically significant gains, while qualitative insights revealed the psychological and institutional

mechanisms sustaining those gains. Increased self-efficacy, reflective capacity, and reconstructed professional identity emerged as the key mediators of transformation. Institutional collaboration further reinforced continuity of practice, confirming that inclusive competence extends beyond individual skill to collective organizational culture.

In sum, this study substantiates that inclusive teacher training strengthens both cognitive and affective domains of professional learning. It promotes sustained reflective engagement, enhances emotional resilience, and embeds inclusive pedagogy into the structural and cultural fabric of schools, advancing systemic progress toward educational inclusivity.

5. Discussion (Doctoral-level revision)

5.1. Overview of key findings

The results of this study demonstrate that reflective training for Special Education Teachers (GPK) in vocational schools produced substantial effects on both professional competence and psychological transformation. Quantitative analyses confirmed statistically significant improvements in competence, with moderate to large effect sizes, while qualitative evidence revealed deep shifts in self-efficacy, critical reflection, and professional identity reconstruction. Teachers exhibited greater adaptability, empathy, and collaboration several months after the intervention. These outcomes validate the premise that mastery experiences and reflective engagement are essential mechanisms for professional growth [12,28]. Within the broader framework of inclusive education, structured and dialogic training provides the critical platform through which teachers translate the values of inclusion into pedagogical action [4,20].

The findings also align with international research emphasizing that organizational capacity and distributed accountability are central to sustaining teacher agency in inclusive schools [31]. They corroborate Savolainen et al. [36], who identified teacher self-efficacy as a decisive factor for persistence and success in implementing inclusive practices. Furthermore, the managerial elements of the training underscore the importance of reflective leadership and collegial collaboration as pathways for cultivating professional agency [1,9]. Taken together, these results reaffirm that effective inclusive training transcends technical competence—it nurtures shared meaning, professional purpose, and psychological empowerment, forming the foundation for durable inclusive reform.

5.2. Training as a mechanism of inclusive education management

From a managerial perspective, the Inclusive Education Technical Guidance Program operationalized national policy—specifically Permendikbudristek No. 48 of 2023—into targeted professional development. It effectively bridged macro-level policy frameworks with micro-level pedagogical transformation by integrating leadership, reflection, and empowerment. Although structured administratively by the Provincial Office of Education and Culture, its design exemplified a form of soft governance that shaped professional values through dialogic engagement and capacity building.

The notable increases in adaptive pedagogy and psychosocial understanding indicate that managerial success in inclusive education must be measured not merely through procedural compliance but through the institution's ability to generate meaning, motivation, and reflective collaboration. This interpretation resonates with Ainscow and Miles (2008), who assert that inclusive leadership thrives when teachers are mobilized as agents of change rather than passive policy executors. Consequently, the Bimtek operated simultaneously as a managerial, pedagogical, and psychosocial intervention—transforming inclusion from policy rhetoric into sustainable professional praxis.

5.3. Strengthening self-efficacy as a psychological mechanism

Drawing on Bandura's Social Cognitive Theory [12], the findings reveal that enhanced teacher self-efficacy stemmed from mastery experiences, vicarious learning, and emotional regulation. Participants consistently reported heightened confidence and readiness, exemplified by remarks such as, "I no longer fear making mistakes." This process reflects the development of efficacy beliefs through experiential learning, modeling, and constructive feedback.

The results support global evidence that self-efficacy is a universal predictor of inclusive teaching effectiveness [36,33]. Within an organizational framework, strengthened self-efficacy emerges as a strategic outcome of effective human resource management—particularly mentoring, peer learning, and feedback embedded in school systems. When these psychosocial mechanisms are structurally reinforced, teacher confidence and resilience become organizational assets, contributing to the collective efficacy of inclusive institutions.

5.4. Transformative learning and professional identity reconstruction

The combined quantitative and qualitative findings substantiate Mezirow's [28] theory of transformative learning, demonstrating that teachers undergo shifts from compliance-based to value-driven practice. Through guided reflection, participants reexamined assumptions about disability, pedagogy, and professional responsibility, reconstructing their identities as inclusive practitioners.

This trajectory mirrors Mezirow's phases of disorientation, critical reflection, and perspective transformation. It also aligns with Boylan [13], who emphasizes the superiority of collective reflection embedded in institutional routines over isolated training sessions. The results underscore that professional identity formation is a cyclical process of experience, reflection, and emotional sense-making. Consistent with Calandri et al. [15], emotional intelligence functioned as a catalyst for transformation: empathy and emotional awareness sustained teachers' behavioral and attitudinal change.

Although most participants experienced substantial growth, a small proportion (about 5%) exhibited limited transformation due to external workload pressures and minimal peer interaction. As one teacher noted, "The training was great, but we don't have time to meet again." (GPK–14). These outliers reinforce that transformative learning depends on supportive social and structural contexts.

5.5. Integration of management and psychology: The psychosocial model

Integrating both data strands reveals a psychosocial model that connects managerial structures with individual psychological transformation. The sequential process—Training → Self-Efficacy → Reflection → Identity Reconstruction → Sustainable Practice—illustrates how structured professional development translates external stimuli into internalized behavioral change. Here, management provides the enabling framework, while psychology elucidates the mechanism of change.

This synthesis parallels Woodcock's [44] framework of transformative management, where emotional safety, trust, and reflective dialogue serve as levers for professional renewal. Similarly, Savolainen et al. [36] posit that inclusive reform is most effective when educational policy, professional learning, and psychological readiness operate in synergy. The present study empirically confirms that inclusive management achieves impact only when institutional infrastructure aligns with teachers' psychosocial development.

5.6. Managerial Implications: Operational levers for systemic change

This study identifies several managerial levers critical for institutionalizing inclusive education. Reflective practice should be formalized not merely as a pedagogical exercise but as a systemic process that informs decision-making, supervision, and policy adaptation. In line with Braun and Clarke's [14] interpretive model, reflection must evolve from an individual to an institutional function embedded in the organizational culture.

Leadership remains central to sustaining these mechanisms. As Wallace and Gravells [43] emphasize, narrative-based leadership—anchored in communication and shared purpose—fosters teacher engagement in reform processes. Likewise, Naccache et al. [32] highlight that moral and instructional leadership cultivate the moral consciousness necessary for managing diversity. These insights confirm that effective inclusion leadership is relational, not bureaucratic; it operates through empathy, mentoring, and dialogic professional communities. In agreement with El-Soussi [16], professional identity reconstruction signifies both a psychological and ethical dimension of leadership success, representing educators' evolution into autonomous inclusive professionals equipped for contemporary educational challenges.

5.7. Comparison with previous research and contextual factors

The present results correspond with Sharma and Jacobs [37], who observed similar improvements in teachers' inclusive knowledge and attitudes following structured interventions. However, this study extends prior literature by documenting the longer-term interplay between psychological and managerial transformation, a link rarely explored in earlier research. The observed identity shifts resonate with Boylan [13] but are distinct in their integration of managerial structures as mediating variables. The strongest effects occurred in institutions characterized by supportive leadership and scheduled collaboration—conditions that act as boundary variables moderating the sustainability of psychosocial management.

Comparable findings from Chile and Ghana suggest that inclusive professional training yields transnational benefits, though enduring change depends on contextual moderators such as leadership, school culture, and institutional time allocation. Cross-national research across Southeast Asia could further explore how these contextual variables shape the durability of inclusive reform [33].

5.8. Reliability and credibility of qualitative findings

The qualitative analysis achieved high methodological reliability, with dual independent coders applying thematic protocols following Miles et al. [30] and reaching substantial interrater agreement ($\kappa =$ 0.88). Triangulation across interviews, observations, and participant validation enhanced both credibility and confirmability. These procedures ensured that interpretations were empirically grounded, bolstering the internal validity of the mixed-methods integration and aligning the study with international standards in applied educational research.

5.9. Limitations

Several methodological limitations must be acknowledged. First, the one-group pre–post design—selected for ethical and logistical feasibility—limits causal inference, positioning the findings primarily as evaluative rather than experimental. Second, while the assessment instrument was validated through expert judgment rather than confirmatory factor analysis (CFA), its CVI (0.91) and KR-20 (0.88) demonstrate satisfactory methodological rigor. Third, though the quantitative analyses and sensitivity checks yielded consistent outcomes, generalization remains context-dependent. Nonetheless, the convergence of quantitative

and qualitative data enhances interpretive robustness and strengthens the evidentiary base for inclusive professional development research.

5.10. Theoretical and practical contributions

This study advances inclusive education management through three core contributions: (1) Theoretical advancement—it reconceptualizes teacher training as a psychosocial management process that unifies organizational structures with individual development; (2) Mechanistic clarification—it identifies professional identity reconstruction, mediated by self-efficacy and reflection, as the psychological pathway linking policy and practice; and (3) Contextual validation—it empirically substantiates this model within Indonesia's vocational education sector, offering a scalable framework for comparable contexts in developing nations.

Practically, the study affirms that inclusive education management extends beyond procedural control to the orchestration of meaning, emotion, and reflection. When teachers' intrinsic belief systems align with institutional goals, inclusion evolves from policy compliance into a lived professional ethos. The outcomes of this research therefore suggest that sustainable inclusion—anchored in psychological empowerment and coherent management—constitutes both a systemic reform and a cultural transformation within educational institutions.

6. Conclusion

6.1. Summary of key conclusions

This study demonstrates that reflective and psychosocially grounded professional training generates significant and enduring effects on both the competence and psychological transformation of Special Education Teachers (GPK) in vocational education. Quantitative evidence revealed marked gains across all core domains—managerial knowledge (Δ = +14.89), adaptive teaching strategies (Δ = +17.17), and psychosocial understanding (Δ = +16.33)—confirming the intervention's holistic efficacy. Qualitative findings further indicated that these improvements were underpinned by enhanced self-efficacy, deeper critical reflection, and the reconstruction of professional identity. The Integrated Psychosocial Model— Training → Self-Efficacy → Reflection → Identity Reconstruction → Sustainable Practice—illustrates the dynamic linkage between managerial structure and psychological transformation, demonstrating how reflective training cultivates inclusive professional culture that transcends procedural compliance.

6.2. Practical and policy implications

The findings emphasize that sustainable inclusion depends on the integration of leadership, reflective learning, and psychosocial support. School leaders should embed reflective dialogue, peer collaboration, and mentorship as permanent features of professional development. Teacher education institutions must design experiential learning programs that foster emotional awareness and inclusive disposition. At the policy level, teacher well-being and psychosocial resilience should be recognized as strategic factors in inclusive reform, supported through consistent mentoring, supervision, and protected collaboration time. A coherent alignment between policy frameworks and psychosocial management will reinforce institutional capacity for long-term transformation.

6.3. Theoretical and methodological contributions

The study reframes teacher training as a psychosocial management process that integrates organizational leadership and personal development. It highlights the mediating role of self-efficacy and reflection in professional identity formation and sustainable inclusive practice [12,28,36]. Methodologically, the mixed-

methods sequential explanatory design demonstrates how the integration of quantitative and qualitative analyses can uncover mechanisms of change that extend beyond observable outcomes, offering a replicable approach for evaluating complex educational interventions.

6.4. Limitations and directions for future research

While the study provides strong internal coherence, the one-group pre–post design limits causal generalization. Future investigations should adopt control or comparison groups, longitudinal tracking, and larger, more diverse samples to enhance external validity. Research exploring digital and hybrid training modalities is recommended to broaden accessibility and scalability in inclusive professional development.

6.5. Final reflection

Inclusive education reform is not merely a policy initiative but a transformative human endeavor rooted in empathy, reflection, and shared commitment. When teacher readiness is cultivated through supportive leadership and structured reflection, inclusion evolves from procedural compliance to professional conviction. The synthesis of managerial strategy and psychosocial empowerment thus forms the foundation of sustainable inclusive education—ensuring that every learner, regardless of difference, has equitable access to meaningful and transformative learning experiences.

Conflict of interest

The authors declare no conflict of interest

References

1. Adams, D., Holmes, B., & Conrad, W. (2025). Leading inclusion with intention: Insights from the BELMAS inclusion leadership RIG launch. Management in Education, 0(0), 1–3. https://doi.org/10.1177/08920206251348752

2. Adams, D., Mohamed, A., Moosa, V., & Shareefa, M. (2021). Teachers' readiness for inclusive education in a developing country: Fantasy or possibility? Educational Studies, 57(8), 896–913. https://doi.org/10.1080/03055698.2021.1908882

3. Ahmmed, M., Sharma, U., & Deppeler, J. (2012). Variables affecting teachers' attitudes towards inclusive education in Bangladesh. Journal of Research in Special Educational Needs, 12(3), 132–140. https://doi.org/10.1111/j.1471-3802.2011.01226.x

4. Ainscow, M., & Miles, S. (2008). Making education for all inclusive: Where next? Prospects, 38(1), 15–34. https://doi.org/10.1007/s11125-008-9055-0

5. Ainscow, M., & Sandill, A. (2010). Developing inclusive education systems: The role of organisational cultures and leadership. International Journal of Inclusive Education, 14(4), 401–416. https://doi.org/10.1080/13603110802504903

6. Ainscow, M., Slee, R., & Best, M. (2019). The Salamanca Statement: 25 years on. International Journal of Inclusive Education, 23(7–8), 671–676. https://doi.org/10.1080/13603116.2019.16228007.

7. Alahmed, T. (2024). Burnout of special education teachers in Saudi Arabia's inclusive education schools. Frontiers in Education, 9, 1489820. https://doi.org/10.3389/feduc.2024.1489820

8. Alexiadou, N., & Essex, J. (2015). Teacher education for inclusive practice – responding to policy. European Journal of Teacher Education, 38(1), 5–19. https://doi.org/10.1080/02619768.2015.1031338

9. Andreoli, M., Ghirotto, L., Kurth, J., & Lascioli, A. (2024). Achieving teacher agency for inclusive education. International Journal of Inclusive Education. Advance online publication. https://doi.org/10.1080/13603116.2024.2397458

10. Avramidis, E., & Kalyva, E. (2007). The influence of teaching experience and professional development on teachers' attitudes towards inclusion. European Journal of Special Needs Education, 22(4), 367–389. https://doi.org/10.1080/08856250701649989

11. Avramidis, E., Toulia, A., Tsihouridis, C., & Strogilos, V. (2019). Teachers' attitudes towards inclusion and self-efficacy. Journal of Research in Special Educational Needs, 19(4), 271–282. https://doi.org/10.1111/1471-3802.12477

12. Bandura, A. (1997). Self-efficacy: The exercise of control. New York, NY: W. H. Freeman. https://doi.org/10.4324/9780203834473

13. Boylan, M. (2023). Re-imagining transformative professional learning for teachers. Professional Development in Education, 49(2), 241–258. https://doi.org/10.1080/19415257.2022.2162566

14. Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), 77–101. https://www.tandfonline.com/doi/abs/10.1191/1478088706qp063oa

15. Calandri, E., Mastrokoukou, S., Marchisio, C., Monchietto, A., & Graziano, F. (2025). Teacher emotional competence for inclusive education: A systematic review. Behavioral Sciences, 15(3), 359. https://doi.org/10.3390/bs15030359

16. El-Soussi, A. (2025). Teacher identity continuum: A framework for teacher identity shifts online. International Journal of Educational Research Open, 8, 100411. https://doi.org/10.1016/j.ijedro.2024.100411

17. Florian, L., & Beaton, M. (2018). Inclusive pedagogy in action: Getting it right for every child. International Journal of Inclusive Education, 22(8), 870–884. https://doi.org/10.1080/13603116.2017.1412513

18. Florian, L. (2019). On the necessary co-existence of special and inclusive education. International Journal of Inclusive Education, 23(7–8), 691–704. https://doi.org/10.1080/13603116.2019.1622801

19. Forlin, C., & Chambers, D. (2011). Teacher preparation for inclusive education: Increasing knowledge but raising concerns. Asia-Pacific Journal of Teacher Education, 39(1), 17–32. https://doi.org/10.1080/1359866X.2010.540850

20. Forlin, C., Kawai, N., & Higuchi, S. (2015). Educational reform in Japan towards inclusion. International Journal of Inclusive Education, 19(3), 314–331. https://doi.org/10.1080/13603116.2014.930519

21. Goldan, J. (2019). Demand-oriented and fair allocation of special needs teacher resources. International Journal of Inclusive Education, 23(12), 1310–1326. https://doi.org/10.1080/13603116.2019.1568598

22. Haug, P. (2017). Understanding inclusive education: Ideals and reality. Scandinavian Journal of Disability Research, 19(3), 206–217. https://doi.org/10.1080/15017419.2016.1224778

23. Irvan, M., Jauhari, M. N., Junaidi, A. R., Badiah, L. I., & Idhartono, A. R. (2023). Involvement of teachers in inclusive schools for quality learning design. Journal of Learning for Development, 10(3), 361–375. https://doi.org/10.56059/jl4d.v10i3.729

24. Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi R.I. (2023). Permendikbudristek Nomor 48 Tahun 2023 tentang Akomodasi yang Layak… Berita Negara R.I. 2023 No. 612.

25. Karni-Vizer, N. (2022). Inclusive education in state religious schools: The perceptions of the teachers on inclusion. International Journal of Inclusive Education, 26(10), 1038–1052. https://doi.org/10.1080/13603116.2020.1772891

26. Korthagen, F. (2017). Inconvenient truths about teacher learning: Towards professional development 3.0. Teachers and Teaching, 23(4), 387–405. https://doi.org/10.1080/13540602.2016.1211523

27. Leithwood, K., & Jantzi, D. (2006). Transformational school leadership for large-scale reform. School Effectiveness and School Improvement, 17(2), 201–227. https://doi.org/10.1080/09243450600565829

28. Mezirow, J. (2000). Learning as transformation: Critical perspectives on a theory in progress. San Francisco, CA: Jossey-Bass.

29. Milani, L. E., & Jacomuzzi, A. C. (2022). Interactions and social identity of support teachers. Frontiers in Education, 7, 948202. https://doi.org/10.3389/feduc.2022.948202

30. Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). Qualitative data analysis (3rd ed.). Thousand Oaks, CA: SAGE.

31. Montecinos, C., Carrasco-Aguilar, C., & Cortez, C. (2023). Transformative teacher learning. Teaching and Teacher Education, 125, 104017. https://doi.org/10.1016/j.tate.2023.104017

32. Naccache, H., Ghamrawi, N., Shal, T., & Ghamrawi, N. A. R. (2025). The latent influence of teacher leadership: Alleviating teaching anxiety in the classroom. *Management in Education*, 1–10. https://doi.org/10.1177/08920206251343998

33. Opoku, M. P., Cuskelly, M., Pedersen, S. J., & Rayner, C. S. (2021). Attitudes and self-efficacy as significant predictors of intention… (Ghana). European Journal of Psychology of Education, 36(3), 673–691. https://doi.org/10.1007/s10212-020-00490-5

34. Rasmitadila, R., Rachmadtullah, R., Samsudin, A., Nurtanto, M., & Jauhari, M. N. (2023). Limited face-to-face learning in inclusive classrooms during COVID-19. Cogent Education, 10(1), 2213612. https://doi.org/10.1080/2331186X.2023.2213612

35. Ryan, J. (2006). Inclusive leadership and social justice for schools. Leadership and Policy in Schools, 5(1), 3–17. https://doi.org/10.1080/15700760500483995

36. Savolainen, H., Engelbrecht, P., Nel, M., & Malinen, O. (2020). Understanding teachers' self-efficacy in inclusive education. Teaching and Teacher Education, 84, 103304. https://doi.org/10.1016/j.tate.2019.103304

37. Sharma, U., & Jacobs, D. (2016). Predicting pre-service teachers' preparedness for inclusive education. Teaching and Teacher Education, 55, 53–59. https://doi.org/10.1016/j.tate.2015.12.002

38. Shutaleva, A., Martyushev, N., Nikonova, Z., Savchenko, I., Kukartsev, V., & Tynchenko, Y. (2023). Sustainability of inclusive education in schools and higher education. Sustainability, 15(4), 3011. https://doi.org/10.3390/su15043011

39. Stoll, L., Bolam, R., McMahon, A., Wallace, M., & Thomas, S. (2006). Professional learning communities: A review of the literature. Journal of Educational Change, 7(4), 221–258. https://doi.org/10.1007/s10833-006-0001-8

40. Theoharis, G. (2007). Social justice educational leaders and resistance. Educational Administration Quarterly, 43(2), 221–258. https://doi.org/10.1177/0013161X06293717

41. Tschannen-Moran, M. (2001). Collaboration and the need for trust. Journal of Educational Administration, 39(4), 308–331. https://doi.org/10.1108/EUM0000000005493

42. Vescio, V., Ross, D., & Adams, A. (2008). Impact of professional learning communities on teaching and learning. Teaching and Teacher Education, 24(1), 80–91. https://doi.org/10.1016/j.tate.2007.01.004

43. Wallace, S., & Gravells, J. (2008). Telling a compelling story: Managing inclusion in colleges of further education. Management in Education, 24(3), 94–100. https://doi.org/10.1177/0892020608090406

44. Wenger, E. (2000). Communities of practice and social learning systems. Organization, 7(2), 225–246. https://doi.org/10.1177/135050840072002

45. Woodcock, S. (2023). Teacher self-efficacy, inclusion, and professional development practices. Professional Development in Education, 49(6), 1003–1021. https://doi.org/10.1080/19415257.2023.2267058

46. Woodcock, S., Sharma, U., Subban, P., & Hitches, E. (2022). Teacher self-efficacy and inclusive education practices. Teaching and Teacher Education, 117, 103802. https://doi.org/10.1016/j.tate.2022.103802

47. Yip, S. Y., & Saito, E. (2023). Equity and inclusion: Finding strength through teacher diversity. Management in Education. https://doi.org/10.1177/08920206231193834

48. Zegeye, T. G. (2022). Perception of readiness for implementing inclusive education among primary school teachers. International Journal of Special Education, 37(2), 82–91. https://doi.org/10.52291/ijse.2022.37.42