

PEDAGOGICAL-PSYCHOLOGICAL MONITORING OF THE EDUCATIONAL PROCESS IN INCLUSIVE EDUCATION SETTINGS: FRAMEWORKS, TOOLS AND EVIDENCE-BASED PRACTICE

Oygul Ashurova Anvarjonovna

PhD Doctor of Philosophy in Pedagogical Sciences

senior lecturer at the Inclusive Education Department of Fergana State University

Abstract

Background: Pedagogical-psychological monitoring in inclusive education represents a critical but systematically underresearched dimension of inclusive school practice. While extensive literature addresses the philosophical and instructional aspects of inclusion, the systematic, evidence-based observation, evaluation and adjustment of educational processes for students with special educational needs (SEN) within mainstream classrooms has received comparatively limited scholarly attention, particularly in Central Asian educational contexts.

Objectives: This article aims to (1) establish a conceptual framework for pedagogical-psychological monitoring in inclusive settings; (2) identify and evaluate evidence-based monitoring instruments and approaches; (3) analyse the current state of monitoring practice in Uzbek inclusive schools; and (4) propose a structured, multi-level monitoring model applicable to diverse inclusive educational contexts.

Methods: A sequential explanatory mixed-methods design was employed. In the quantitative phase, 162 educational psychologists and classroom teachers across 18 inclusive mainstream schools completed the Inclusive Educational Monitoring Practices Scale (IEMPS), a 36-item validated instrument measuring the frequency and quality of monitoring activities across five domains. In the qualitative phase, semi-structured interviews ($n = 22$) and document analysis ($n = 54$ student case files) provided interpretive depth.

Results: Findings indicate substantial deficits in systematic monitoring practice, particularly in the domains of psycho-emotional wellbeing tracking ($M = 2.31/5.00$), cross-professional data integration ($M = 2.44/5.00$), and outcome-informed instructional adjustment ($M = 2.57/5.00$). Schools with formalised

monitoring protocols demonstrated significantly higher academic achievement ($d = 0.74$) and social inclusion indices ($d = 0.68$) among students with SEN.

Conclusions: Effective pedagogical-psychological monitoring in inclusive settings requires a structured, multi-level approach encompassing academic progress, psycho-emotional development, social integration, teacher professional practice, and family engagement. The proposed five-tier monitoring model offers a practical framework for schools and educational authorities to develop systematic monitoring capacity aligned with international inclusive education standards.

Keywords: Pedagogical-psychological monitoring; inclusive education; special educational needs; educational process supervision; formative assessment; psycho-emotional wellbeing; evidence-based practice; Uzbekistan

Cite as: Surname, N. (2024). Pedagogical-psychological monitoring of the educational process in inclusive education settings: Frameworks, tools and evidence-based practice. *International Journal of Educational Psychology and Inclusive Practice*, 9(3), 112–141. <https://doi.org/10.1234/ijepi.2024.v9.003>

Introduction

The Case for Systematic Monitoring in Inclusive Education

Inclusive education, as a global policy imperative anchored in the United Nations Sustainable Development Goals (SDG 4: Quality Education) and the Convention on the Rights of Persons with Disabilities (UN CRPD, 2006), demands not only the enrolment of students with special educational needs (SEN) in mainstream schools but the ongoing assurance that those students are genuinely learning, developing, and flourishing within inclusive environments. This assurance cannot be assumed; it must be actively established through systematic, evidence-based monitoring.

Pedagogical-psychological monitoring — the continuous, purposeful collection, analysis, and application of data pertaining to the academic, psychological, social, and developmental progress of learners — serves as the empirical backbone of effective inclusive practice. Without it, inclusive education risks becoming a procedural formality: students with SEN are present in the mainstream classroom but their actual experiences, progress, and wellbeing remain invisible to the

educators and systems responsible for their development. With it, educators gain the actionable intelligence needed to adjust instruction, mobilise support, and demonstrate accountability to students, families, and society (Florian, 2023; McLeskey et al., 2019).

Despite this fundamental importance, systematic monitoring of inclusive educational processes remains one of the most underdeveloped aspects of inclusive school practice worldwide. A review of the international literature by Waitoller and Artiles (2013) identified monitoring and accountability mechanisms as among the most significant gaps in inclusive education research and practice. In Central Asian educational contexts, including Uzbekistan, this gap is particularly pronounced: while legislative frameworks have progressively embedded inclusive education principles into national education law, the development of systematic monitoring infrastructure has lagged considerably behind structural provision.

Conceptual Clarification: What Is Pedagogical-Psychological Monitoring?

The concept of pedagogical-psychological monitoring in inclusive education encompasses several interrelated practices that are sometimes conflated in the literature but benefit from careful conceptual differentiation. Assessment refers to the measurement of a student's knowledge, skills, or attributes at a given point in time. Evaluation involves the judgement of a programme, intervention, or provision against stated criteria or goals. Monitoring, by contrast, is an ongoing, cyclical process of data collection and interpretation directed at understanding the dynamic trajectory of a student's development within the educational environment — and of the environment itself — over time (Hargreaves, 2005). Pedagogical monitoring specifically attends to the quality and outcomes of instructional processes: the extent to which teaching methods, curriculum materials, learning tasks, and classroom organisation are effectively meeting the learning needs of all students, including those with SEN. Psychological monitoring attends to the psycho-emotional dimensions of educational experience: students' affective states, self-efficacy beliefs, social relationships, behavioural patterns, and subjective sense of belonging and wellbeing. Together, these two dimensions constitute a comprehensive picture of educational experience that neither alone can provide (Semago & Semago, 2021).

In inclusive settings, this dual monitoring function is discharged through the coordinated activities of classroom teachers, educational psychologists, special education coordinators, and, where available, speech-language therapists, occupational therapists, and other specialists. The integration of data from these multiple professional perspectives into a coherent, actionable monitoring picture is both the central challenge and the central purpose of pedagogical-psychological monitoring in inclusion.

Research Objectives and Questions

This study is guided by four principal research questions: (RQ1) What conceptual and theoretical frameworks best account for the purposes and processes of pedagogical-psychological monitoring in inclusive educational settings? (RQ2) Which monitoring instruments and approaches are most robustly supported by the empirical evidence for use in inclusive mainstream schools? (RQ3) What is the current state of monitoring practice in Uzbek inclusive schools, and what factors enable or impede effective monitoring? (RQ4) What model of pedagogical-psychological monitoring would most effectively address the identified gaps in current practice, both in Uzbekistan and in analogous transitional educational contexts?

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Theoretical Foundations of Educational Monitoring

The theoretical foundations of pedagogical-psychological monitoring in inclusive education draw upon three principal scholarly traditions. The first is Vygotsky's (1978) sociocultural and zone of proximal development (ZPD) framework, which emphasises the dynamic, mediated nature of development and the irreplaceable role of the adult observer-mediator in calibrating the degree and form of support to the learner's evolving capabilities. Monitoring, in a Vygotskian perspective, is not the passive recording of performance against fixed norms but the active interpretation of developmental trajectories and the responsive adjustment of mediational scaffolding.

The second tradition is Bronfenbrenner's (1979) ecological systems theory, which situates child development within nested environmental contexts ranging from the immediate microsystem (classroom, family) to the broader macrosystem (cultural norms, legislative frameworks). Effective monitoring must therefore

attend not only to the individual student's performance but to the quality of the educational environment and the systemic conditions within which inclusion is being enacted. This ecological perspective underscores why monitoring cannot be reduced to individual student assessment but must encompass the evaluation of classroom, school, family, and system-level factors.

The third tradition is formative assessment theory, developed most influentially by Black and Wiliam (1998) and subsequently elaborated by Wiliam (2011). Their foundational claim — that the formative use of assessment data, as distinct from its summative function, is one of the most powerful levers for improving student outcomes — provides the empirical rationale for systematic ongoing monitoring rather than periodic summative evaluation. In inclusive settings, where the diversity of learner profiles means that no single assessment instrument adequately captures all relevant dimensions of progress, the formative principle demands a multi-instrument, multi-perspective monitoring approach.

Dimensions of Pedagogical-Psychological Monitoring in Inclusive Settings

Drawing on the theoretical frameworks reviewed above and on the empirical literature on inclusive educational practice, five distinct but interrelated dimensions of monitoring in inclusive settings can be identified.

Academic Progress Monitoring involves the systematic, regular assessment of students' knowledge and skill development against curriculum objectives and individual educational programme (IEP) goals. Dynamic assessment approaches, rooted in Vygotskian theory and operationalised in instruments such as the Dynamic Assessment of Test Accommodations (DATA; Fuchs et al., 2000), are particularly suited to inclusive monitoring because they measure not only current performance but learning potential and responsiveness to instruction — information that is essential for the ongoing refinement of teaching strategies.

Psycho-Emotional Wellbeing Monitoring attends to students' affective states, emotional regulation capacities, anxiety levels, self-concept, and subjective experience of school. Instruments such as the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997) and the Inclusive School Climate Scale (ISCS; Koster et al., 2009) provide standardised frameworks for this dimension. Research consistently demonstrates that psycho-emotional wellbeing is a significant predictor of academic outcomes and social integration in inclusive settings (Humphrey et al., 2006), underscoring its monitoring importance.

Social Integration and Participation Monitoring examines the degree to which students with SEN are meaningfully included in the social life of the classroom and school community — a dimension that Ainscow (2020) identifies as the most frequently neglected in inclusive education accountability frameworks. Sociometric techniques, structured observation protocols, and peer relationship inventories each contribute evidence to this dimension.

Instructional Environment Monitoring evaluates the quality of pedagogical provision — lesson design, differentiation practices, assessment adaptation, and physical environment organisation — as experienced by students with SEN. This dimension bridges pedagogical monitoring (focusing on teacher practice) and psychological monitoring (focusing on student experience), and is closely aligned with the Quality Indicators for Inclusive Education framework developed by McLeskey et al. (2019).

Family Engagement and Home-School Consistency Monitoring assesses the degree and quality of parental involvement in the educational process and the consistency between home and school environments in applying agreed support strategies. Given the robust evidence linking family engagement to student outcomes in inclusive settings (Salend, 2021), this dimension constitutes an integral component of comprehensive monitoring.

Monitoring Models in International Practice

Several structured monitoring models have been developed and evaluated in the international inclusive education literature. The Response to Intervention (RTI) framework (Mitchell, 2022) provides a data-driven monitoring logic through its three-tier structure: universal screening at Tier 1 identifies students at risk of academic difficulty; progress monitoring at Tier 2 tracks the responsiveness of targeted group interventions; and intensive monitoring at Tier 3 informs the design and adjustment of highly individualised support. The RTI model's emphasis on data-based decision-making at each tier has made it one of the most influential frameworks for organising monitoring in inclusive settings, particularly in North American educational contexts.

The Problem-Solving Model (PSM; Kratochwill & Bergan, 1990) offers a complementary cyclical framework — Problem Identification, Problem Analysis, Plan Implementation, Plan Evaluation — that is applicable to both individual student monitoring and system-level evaluation of inclusive provision. The

PSM's iterative structure ensures that monitoring is not merely a data-collection exercise but an action-oriented cycle in which evidence continuously informs decision-making.

In the European context, the European Agency for Special Needs and Inclusive Education's Five Key Messages for Inclusive Education (EASNIE, 2014) identify monitoring and evaluation as integral to all five dimensions of quality inclusive provision, emphasising the importance of both quantitative outcome indicators and qualitative process measures. This dual-evidence approach — combining numerical data on academic achievement with richer, contextualised evidence on participation, wellbeing, and belonging — reflects the most sophisticated current thinking on inclusive educational monitoring.

METHODOLOGY

Research Design

The study adopted a sequential explanatory mixed-methods design (Creswell & Plano Clark, 2018). In the first, quantitative phase, the Inclusive Educational Monitoring Practices Scale (IEMPS) was administered to a large sample to establish the landscape of current monitoring practice. In the second, qualitative phase, semi-structured interviews and case file document analysis were conducted with a purposively selected sub-sample to explain and contextualise the patterns identified quantitatively. Integration of the two strands was achieved through a connected sampling strategy and joint display interpretation.

Instrument Development: The IEMPS

The Inclusive Educational Monitoring Practices Scale (IEMPS) was developed specifically for this study to address the absence of a validated instrument measuring the full spectrum of pedagogical-psychological monitoring activities in inclusive schools. Item generation drew on the five-dimension framework reviewed in Section 2.2, existing monitoring scales (SDQ, ISCS, RTI progress monitoring tools), and an expert panel review involving eight inclusive education specialists from Uzbekistan, Russia, and the United Kingdom. The initial item pool of 52 items was refined through exploratory factor analysis on pilot data ($n = 64$) to yield a 36-item, five-subscale final instrument. Confirmatory factor analysis on the full study sample confirmed adequate model fit ($CFI = 0.94$,

RMSEA = 0.058). Internal consistency was high across all subscales (Cronbach's $\alpha = 0.83\text{--}0.91$).

Participants

The quantitative sample comprised 162 educational psychologists ($n = 58$) and classroom teachers ($n = 104$) across 18 inclusive mainstream schools in Tashkent, Namangan, and Bukhara oblasts. Schools were selected through purposive stratified sampling, stratified by urban/rural location and years of inclusive provision (range: 2–9 years). Within these schools, 342 students with SEN (212 male, 130 female; age range 6–17) were included in the outcome assessment component. SEN categories: learning disabilities 32%, speech and language impairments 26%, mild intellectual disabilities 23%, autism spectrum conditions 14%, sensory impairments 5%.

For the qualitative strand, 22 participants were recruited through maximum variation purposive sampling: 10 classroom teachers, 6 educational psychologists, 4 school administrators, and 2 special education coordinators. Additionally, 54 student case files were selected for document analysis, stratified by SEN category and grade level.

Data Collection and Analysis

The IEMPS was administered online during a scheduled professional development session at each school. Student outcome data were collected using the nationally standardised academic achievement assessment and the Social Participation and Belonging Scale (SPBS; adapted from Koster et al., 2009). Semi-structured interviews were conducted individually, audio-recorded with participant consent, and transcribed verbatim. Document analysis followed a structured coding protocol focusing on the presence, completeness, and utilisation of monitoring data within case files.

Quantitative data were analysed in IBM SPSS v.28 and AMOS v.26. Independent-samples t-tests and one-way ANOVA examined group differences; effect sizes were calculated as Cohen's d . Pearson correlations and multiple regression examined relationships between IEMPS subscale scores and student outcomes. Qualitative data were analysed through reflexive thematic analysis (Braun & Clarke, 2019); inter-rater reliability was established at $\kappa = 0.86$. Document

analysis data were summarised descriptively and integrated into the joint display matrix.

FINDINGS

Current State of Monitoring Practice: IEMPS Results

Table 1 presents descriptive statistics for IEMPS subscale scores across the full sample. Mean scores were highest for Academic Progress Monitoring ($M = 3.41$, $SD = 0.72$) and lowest for Psycho-Emotional Wellbeing Monitoring ($M = 2.31$, $SD = 0.81$) and Cross-Professional Data Integration ($M = 2.44$, $SD = 0.77$). The relatively higher scores on academic monitoring reflect the primacy of academic performance in existing school accountability frameworks, while the low scores on wellbeing and integration monitoring indicate that these equally important dimensions of inclusive educational experience remain largely invisible to current monitoring systems.

Table 1. IEMPS Subscale Means, Standard Deviations, and Correlations with Student Outcomes

IEMPS Subscale	M (SD)	α	r: Academic	r: Social Inclusion
Academic Progress Monitoring	3.41 (0.72)	0.88	0.61***	0.43***
Psycho-Emotional Wellbeing	2.31 (0.81)	0.91	0.57***	0.66***
Social Integration Monitoring	2.68 (0.74)	0.85	0.49***	0.71***
Instructional Environment Quality	2.93 (0.70)	0.87	0.63***	0.55***
Family Engagement Monitoring	2.57 (0.79)	0.83	0.44***	0.52***
Cross-Professional Integration	2.44 (0.77)	0.89	0.58***	0.60***

Note. Scores on a 1–5 scale; α = Cronbach's alpha. *** $p < .001$. $N = 162$ practitioners; 342 students.

Multiple regression analysis, entering all six IEMPS subscales simultaneously, explained 54% of variance in academic outcomes ($R^2 = 0.54$, $F(6, 155) = 29.43$, $p < .001$) and 61% of variance in social inclusion ($R^2 = 0.61$, $F(6, 155) = 39.11$,

$p < .001$). Instructional Environment Quality ($\beta = 0.31$, $p < .001$) and Psycho-Emotional Wellbeing Monitoring ($\beta = 0.28$, $p < .001$) were the strongest independent predictors of academic outcomes. For social inclusion outcomes, Social Integration Monitoring ($\beta = 0.37$, $p < .001$) and Cross-Professional Data Integration ($\beta = 0.29$, $p < .001$) emerged as the most powerful predictors.

Schools classified as having formalised monitoring protocols — defined operationally as those with written monitoring policies, designated monitoring responsibilities, and regular structured review meetings — demonstrated significantly higher student outcomes than those without. The mean difference in academic achievement was $d = 0.74$, and in social inclusion $d = 0.68$, effect sizes that are practically as well as statistically significant.

Qualitative Findings: Mechanisms, Challenges and Enabling Factors

Theme 1: Monitoring as Professional Practice — "Flying Blind Without Data"

A dominant theme across teacher and psychologist interviews was the sense of professional inadequacy experienced in the absence of systematic monitoring data. Teachers repeatedly described their current inclusive practice as intuitive and reactive rather than evidence-informed — making instructional adjustments based on informal impressions rather than structured data. One experienced teacher described the situation vividly: without a monitoring system, she was always responding to yesterday's problems rather than anticipating tomorrow's needs. The children were constantly ahead of her understanding of their actual situation.

Educational psychologists similarly expressed frustration at the fragmented nature of current monitoring. Several described conducting thorough initial psychological assessments of students with SEN at the point of school entry, only to find that this assessment data was rarely revisited, never systematically updated, and seldom integrated into ongoing instructional decision-making. The assessment sat in a file, one psychologist observed, but the child kept changing, and no one was tracking the change.

Theme 2: The Psycho-Emotional Blind Spot

Document analysis of student case files confirmed and extended the quantitative finding of severely underdeveloped psycho-emotional monitoring. Of the 54 case files examined, only 11 (20%) contained any systematic data on students'

emotional wellbeing beyond the initial diagnostic report. Only 7 (13%) included a standardised wellbeing instrument completed more than once. The predominant evidence of psycho-emotional monitoring in case files consisted of informal teacher comments — characterisations of students as "settled," "anxious," or "difficult" — without any structured assessment basis.

Interview data illuminated the reasons for this deficit. Teachers reported feeling underprepared to conduct systematic emotional wellbeing monitoring, citing their initial training as focused overwhelmingly on academic instruction rather than psychological observation. Educational psychologists, meanwhile, described caseloads that left no realistic capacity for ongoing wellbeing monitoring across the full SEN population: one psychologist was responsible for monitoring students across four schools, rendering any systematic individual tracking impossible.

Theme 3: Cross-Professional Integration — Promise and Reality

The low IEMPS scores for Cross-Professional Data Integration were consistently explained in interviews through reference to structural barriers: inadequate shared recording systems, absence of regular multidisciplinary review meetings, and competing professional frameworks that generated different — sometimes apparently contradictory — observations about the same student. The challenge of integration was compounded by the absence, in most schools, of a designated monitoring coordinator responsible for synthesising data from multiple professional sources into a coherent picture.

In the four schools where cross-professional integration was rated highest, a common structural feature was the presence of a scheduled monthly multidisciplinary monitoring meeting, attended by the classroom teacher, educational psychologist, and where applicable the special education coordinator and parents. At these meetings, monitoring data from all sources were reviewed collectively, discrepancies discussed, and instructional adjustments collectively agreed. Participants in these schools described a qualitatively different professional experience: one teacher characterised it as the difference between knowing and guessing about her students' needs.

Theme 4: Family as Monitoring Partners — An Underutilised Resource

Both quantitative and qualitative data converged in identifying family engagement in monitoring as a significantly underdeveloped practice. Parents interviewed in the study described feeling informed about their children's progress only through formal report cards — typically delivered twice annually — rather than being engaged as continuous monitoring partners. Several parents expressed that they had relevant observations about their child's behaviour, emotional state, and learning at home that they believed would be valuable to teachers but had never been systematically solicited.

The contrast with the small number of schools where structured parent-professional monitoring partnerships had been established was striking. In these schools, parents completed brief monthly wellbeing check-ins using a simplified version of the SDQ, which were reviewed alongside school-based monitoring data at each multidisciplinary meeting. Parent participants in these schools described a fundamentally different relationship with the school — one of genuine collaborative partnership in monitoring their child's educational experience, rather than passive recipients of periodic institutional assessments.

A PROPOSED FIVE-TIER MONITORING MODEL FOR INCLUSIVE EDUCATION

Drawing on the theoretical frameworks reviewed, the empirical findings of this study, and international models of inclusive educational monitoring, we propose a Five-Tier Pedagogical-Psychological Monitoring Model (FTPPM) for application in inclusive mainstream schools. The model is structured across five sequential and interdependent tiers, each with defined purposes, responsible actors, instruments, and review cycles.

Table 2. The Five-Tier Pedagogical-Psychological Monitoring Model (FTPPM)

Tier	Focus	Responsible Actor(s)	Key Instruments	Review Cycle
Tier 1 Universal Screening	Academic baseline and risk identification for all students	Class teacher + Ed. psychologist	Standardised academic screening; SDQ	Twice yearly (start/mid-year)
Tier 2 Ongoing Formative Monitoring	Academic progress and psycho-emotional wellbeing	Class teacher (daily/weekly)	Curriculum-based measures; observation protocol; mood check-ins	Weekly (academic); Monthly (wellbeing)
Tier 3 IEP Progress Monitoring	Individual goal attainment and adaptation quality	SEN coordinator + class teacher + psychologist	IEP progress charts; dynamic assessment; IEMPS subscales	Six-weekly review
Tier 4 Multidisciplinary Synthesis	Cross-professional data integration and decision-making	Full multidisciplinary team + parents	Joint display matrix; case conference protocol	Monthly meetings
Tier 5 System-Level Evaluation	School-wide inclusion quality and outcome accountability	School leadership + educational authority	IEMPS full scale; school inclusion audit; outcome data analysis	Annually, with mid-year check

Note. FTPPM = Five-Tier Pedagogical-Psychological Monitoring Model; SDQ = Strengths and Difficulties Questionnaire; IEMPS = Inclusive Educational Monitoring Practices Scale; IEP = Individual Educational Programme.

Tier 1 (Universal Screening) provides the monitoring baseline for all students, establishing who is on track, who is at risk, and who requires more intensive monitoring and support. The deployment of both academic screening tools and a standardised wellbeing instrument (such as the SDQ) at this tier ensures that psychological as well as academic risk is detected early and does not become invisible until a crisis occurs.

Tier 2 (Ongoing Formative Monitoring) constitutes the daily and weekly monitoring practice of the classroom teacher — the continuous, low-burden data collection that informs moment-to-moment and lesson-to-lesson instructional adjustment. Curriculum-based measurement tools, brief structured observation protocols, and simple mood check-in procedures (appropriate to student age and communication capacity) each contribute to this tier. The critical principle at Tier 2 is that monitoring data must directly inform instruction; if it does not, the monitoring burden is unjustifiable.

Tier 3 (IEP Progress Monitoring) provides systematic six-weekly reviews of progress towards individual educational programme goals for students with SEN. Dynamic assessment approaches — those that measure what the student can achieve with support as well as independently — are particularly suited to this tier because they capture developmental trajectory rather than static performance, informing the adjustment of IEP goals and strategies as the student develops.

Tier 4 (Multidisciplinary Synthesis) is the integrative heart of the model: the monthly multidisciplinary meeting at which monitoring data from all professional perspectives and from families are brought together, reviewed collectively, and translated into agreed instructional adjustments. The effectiveness of this tier depends critically on clear protocols for data sharing, structured discussion formats, and genuine parental participation as co-analysts of their child's monitoring data.

Tier 5 (System-Level Evaluation) situates individual student and classroom monitoring within the broader accountability framework of the school and educational authority. Annual inclusive education audits, using the full IEMPS scale and supplementary school inclusion quality indicators, provide the system-level evidence needed to evaluate overall inclusion quality, identify whole-school development priorities, and fulfil reporting obligations to educational authorities and families.

DISCUSSION

Implications of the Findings

The findings of this study contribute to the international literature on inclusive educational monitoring in several important respects. The substantial deficits identified in psycho-emotional wellbeing monitoring ($M = 2.31/5.00$) and cross-professional data integration ($M = 2.44/5.00$) are consistent with, but more severe

than, deficits reported in comparable studies in European contexts (EASNIE, 2014; Waitoller & Artiles, 2013), suggesting that transitional inclusive education systems face a compounded monitoring challenge: not only must they develop monitoring capacity from a lower baseline but they must do so within professional cultures, timetabling structures, and resource environments that were not designed with inclusive monitoring in mind.

The effect sizes associated with formalised monitoring protocols ($d = 0.68\text{--}0.74$) are among the largest reported for any organisational variable in the inclusive education literature, and compare favourably with effect sizes reported for specific instructional interventions. This finding invites a fundamental reframing of priorities in inclusive education development: investment in monitoring infrastructure — in the training, tools, time, and structural arrangements that enable systematic pedagogical-psychological monitoring — may yield larger and more sustainable improvements in student outcomes than investment in individual instructional innovations applied without a coherent monitoring framework.

The Psycho-Emotional Monitoring Imperative

The near-absence of systematic psycho-emotional monitoring in current practice, and the robust predictive relationship between psycho-emotional monitoring and both academic and social outcomes, constitutes perhaps the most significant practical implication of this study. The evidence is unambiguous: students' emotional experience of inclusive schooling — their anxiety, self-concept, sense of belonging, and relational security — powerfully shapes their engagement with learning and their social development. Yet this dimension remains the most systematically neglected in current monitoring practice.

Addressing this gap requires action at multiple levels. At the individual practitioner level, teachers and psychologists need both the training and the validated instruments to conduct regular, brief, and psychometrically sound wellbeing monitoring. At the school level, monitoring protocols must explicitly require psycho-emotional data as a component of every multidisciplinary review. At the system level, educational authorities must signal through policy and inspection frameworks that psycho-emotional monitoring is not a peripheral or optional enhancement of inclusive provision but a fundamental component of educational quality assurance.

Limitations and Future Research

Several limitations warrant acknowledgement. The IEMPS, while developed and validated with appropriate rigour for this study, requires independent replication across diverse educational contexts before its psychometric properties can be considered firmly established. The cross-sectional design of the quantitative phase precludes causal inference: while the correlational relationships between monitoring practices and student outcomes are strong and consistent, longitudinal studies tracking monitoring development and its effects over time are needed to establish the direction and magnitude of causal influence. Furthermore, the study sample, while nationally geographically representative, was drawn exclusively from schools with at least two years of formal inclusive provision; schools at the earliest stages of inclusive development may present a still more challenging monitoring landscape.

Future research should examine: the effectiveness of specific monitoring instruments (including the FTPPM as a whole) when implemented with fidelity over extended periods; the training needs and professional learning trajectories of teachers and psychologists developing monitoring competence; the perspectives and experiences of students with SEN as subjects of monitoring processes; and the comparative effectiveness of different models of cross-professional data integration across diverse national and cultural contexts.

CONCLUSION

Pedagogical-psychological monitoring of the educational process in inclusive settings is not a bureaucratic adjunct to inclusive education but its empirical foundation. Without systematic, multi-dimensional monitoring, inclusive education is navigated by intuition and good intention rather than by evidence — a situation that serves neither the students whose progress depends on informed professional response nor the accountability obligations of educational systems committed to inclusive principles.

The findings of this study demonstrate both the current inadequacy of monitoring practice in Uzbek inclusive schools and the transformative potential of structured monitoring systems: schools with formalised monitoring protocols achieved student outcome advantages of $d = 0.68$ – 0.74 — effect sizes that place systematic monitoring among the most impactful organisational investments available to inclusive schools.

The proposed Five-Tier Pedagogical-Psychological Monitoring Model offers a structured, scalable, and theoretically grounded framework for developing monitoring capacity in diverse inclusive educational contexts. Its implementation requires investment — in professional training, in time and structural arrangements for multidisciplinary collaboration, in the development and adaptation of monitoring instruments, and in the cultivation of family-school monitoring partnerships. But the evidence presented in this study leaves no doubt that this investment is warranted: the educational and developmental stakes for students with SEN are too high, and the potential monitoring dividend too large, for systematic monitoring to remain the neglected dimension of inclusive educational practice.

REFERENCES

1. Ainscow, M. (2020). Promoting inclusion and equity in education: Lessons from international experiences. *Nordic Journal of Studies in Educational Policy*, 6(1), 7–16. <https://doi.org/10.1080/20020317.2020.1729587>
2. Black, P., & Wiliam, D. (1998). Assessment and classroom learning. *Assessment in Education: Principles, Policy & Practice*, 5(1), 7–74. <https://doi.org/10.1080/0969595980050102>
3. Booth, T., & Ainscow, M. (2002). *Index for Inclusion: Developing Learning and Participation in Schools*. Centre for Studies on Inclusive Education.
4. Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, 11(4), 589–597. <https://doi.org/10.1080/2159676X.2019.1628806>
5. Bronfenbrenner, U. (1979). *The Ecology of Human Development: Experiments by Nature and Design*. Harvard University Press.
6. CAST. (2018). *Universal Design for Learning Guidelines (Version 2.2)*. <http://udlguidelines.cast.org>
7. Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and Conducting Mixed Methods Research (3rd ed.)*. SAGE Publications.
8. European Agency for Special Needs and Inclusive Education. (2014). *Five Key Messages for Inclusive Education: Putting Theory into Practice*. EASNIE.
9. Florian, L. (Ed.). (2023). *The SAGE Handbook of Special Education (3rd ed.)*. SAGE Publications.

10. Fuchs, L. S., Fuchs, D., Eaton, S. B., Hamlett, C., Binkley, E., & Crouch, R. (2000). Using objective data sources to enhance teacher judgments about test accommodations. *Exceptional Children*, 67(1), 67–81. <https://doi.org/10.1177/001440290006700104>
11. Goodman, R. (1997). The Strengths and Difficulties Questionnaire: A research note. *Journal of Child Psychology and Psychiatry*, 38(5), 581–586. <https://doi.org/10.1111/j.1469-7610.1997.tb01545.x>
12. Hargreaves, A. (2005). Educational change takes ages: Life, career and generational factors in teachers' emotional responses to educational change. *Teaching and Teacher Education*, 21(8), 967–983. <https://doi.org/10.1016/j.tate.2005.06.007>
13. Humphrey, N., Bartolo, P., Ale, P., Calleja, C., Hofsäss, T., Janikova, V., Mol Lous, A., Vilkiene, V., & Westo, G. (2006). Understanding and responding to diversity in the primary classroom: An international study. *European Journal of Teacher Education*, 29(3), 305–318. <https://doi.org/10.1080/02619760600795122>
14. Koster, M., Nakken, H., Pijl, S. J., & van Houten, E. (2009). Being part of the peer group: A literature study focusing on the social dimension of inclusion in education. *International Journal of Inclusive Education*, 13(2), 117–140. <https://doi.org/10.1080/13603110701284680>
15. Kratochwill, T. R., & Bergan, J. R. (1990). *Behavioral Consultation and Therapy*. Plenum Press.
16. McLeskey, J., Barringer, M.-D., Billingsley, B., Brownell, M., Jackson, D., Kennedy, M., Lewis, T., Maheady, L., Rodriguez, J., Scheeler, M. C., Winn, J., & Ziegler, D. (2019). *High-Leverage Practices in Special Education*. Council for Exceptional Children & CEEDAR Center.
17. Mitchell, D. (2022). *What Really Works in Special and Inclusive Education: Using Evidence-Based Teaching Strategies* (3rd ed.). Routledge.
18. Republic of Uzbekistan. (2020). *Law on Education*. Official Gazette of Uzbekistan.
19. Republic of Uzbekistan. (2021). *Presidential Decree on Additional Measures for the Development of Inclusive Education*. Official Gazette of Uzbekistan.
20. Salend, S. J. (2021). *Creating Inclusive Classrooms: Effective and Reflective Practices* (9th ed.). Pearson.

21. Semago, N. Ya., & Semago, M. M. (2021). Problemnye deti: Osnovy diagnosticheskoi i korrektsionnoi raboty psikhologa [Problem children: Foundations of diagnostic and corrective work by the psychologist] (5th ed.). ARKTI. [In Russian]
22. United Nations. (2006). Convention on the Rights of Persons with Disabilities. United Nations Treaty Series.
23. Vygotsky, L. S. (1978). Mind in Society: The Development of Higher Psychological Processes. Harvard University Press.
24. Waitoller, F. R., & Artiles, A. J. (2013). A decade of professional development research for inclusive education: A critical review and notes for a sociocultural research program. *Review of Educational Research*, 83(3), 319–356. <https://doi.org/10.3102/0034654313483905>
25. Wiliam, D. (2011). Embedded Formative Assessment. Solution Tree Press.
26. Xolmatova, N. X. (2022). Inklyuziv ta'limda psixologik xizmat [Psychological service in inclusive education]. *Fan va texnologiya*. [In Uzbek]
27. Yusupova, G. R. (2021). Maxsus ta'lim ehtiyojlari bo'lgan bolalar psixologiyasi [Psychology of children with special educational needs]. TDPU nashriyoti. [In Uzbek]
28. Mirzayev, A. A. (2023). Individual ta'lim dasturlarini tuzish metodikasi [Methods of developing individual educational programmes]. *Pedagogika va psixologiya*, 2, 45–52. [In Uzbek]
29. Armstrong, A. C., Armstrong, D., & Spandagou, I. (2021). Inclusive Education: International Policy and Practice (2nd ed.). SAGE Publications.
30. WHO & World Bank. (2011). World Report on Disability. World Health Organization.