Person-Centered Approach As An Important Factor In Developing Prospective Teachers' Pedagogical Intelligence

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Abstract: Conventional teacher education approaches frequently fail to cultivate what is termed pedagogical intelligence—the cohesive ability to merge robust content knowledge with technology proficiency, emotional insight, and relational skills. This controlled mixed-methods study, involving 124 pre-service teachers at a university in Uzbekistan, investigated whether a 15-week person-centered module based on Carl Rogers' fundamental conditions might surpass the regular curriculum. The intervention comprised encounter groups, collaboratively developed learning plans, and reflective portfolios. Quantitative findings indicated that the person-centred group achieved substantial improvements (Cohen's d = 2.8–3.7) in pedagogical content knowledge, TPACK, emotional intelligence, and relational competence, far surpassing the comparison group. Qualitative studies of interviews and portfolios revealed a significant transformation in professional identity, characterized by numerous participants as a transition from "teaching the subject" to "teaching the individual." The findings indicate that a person-centred approach can catalyze swift, synergistic advancement of pedagogical intelligence and offers a robust, evidence-based alternative to traditional teacher training, with significant implications for the preparation of inclusive and effective educators globally.

Introduction: The training of future educators is increasingly regarded as a crucial factor for attaining sustained quality and equity in education. Contemporary educational institutions have numerous obstacles, including increasing learner diversity, emotional and behavioral issues, swift technological advancements, and the necessity for authentic inclusive practices. In this setting, educators necessitate not only robust subject-matter expertise but also a sophisticated professional acumen that enables them to respond adaptively, sensitively, and ethically to the requirements of individual students (Korthagen, 2016; Shulman, 1987). This intricate professional capability is frequently analyzed via the lenses of pedagogical content knowledge (PCK) (Shulman, 1987; Mishra & Koehler, 2006), technology pedagogical content knowledge (TPACK) (Schmidt et al., 2009), and educators' social-emotional competence

(Jennings & Greenberg, 2008). At its essence, it is inherently connected.

A significant amount of research indicates that the quality of teacher-student relationships, both in the early stages of education and over time, is one of the most robust predictors of children's academic achievement and the socio-emotional development of adolescents and young adults (Hamre & Pianta, 2001). Educators who cultivate warm, trusting, and person-centered interactions typically establish "prosocial classrooms," wherein students experience safety, respect, motivation, and the capacity for significant learning (Jennings & Greenberg, 2008). Conversely, when educators lack the relational and emotional resources to address diverse learner profiles—such as students on the autism spectrum (Deacy et al., 2015), individuals with acquired brain injuries (Bennett et al., 2022), or those with other special educational needs

(Tissot, 2013)—both educational outcomes and student wellbeing are jeopardized.

Nevertheless, despite this evidence, numerous pre-service teacher education programs continue to prioritize content and techniques, allocating comparatively less focus on relational, reflective, and person-centered competencies (Korthagen, 2016; Dragnić-Cindrić & Anderson, 2025). Recent literature reviews reveal that person-centred practices—approaches that intentionally prioritize the learner's experience, agency, and individuality in educational decision-making—are inconsistently implemented and inadequately scrutinized within mainstream teacher education (Gray & Woods, 2022; Motschnig-Pitrik & Santos, 2006; Yang et al., 2025).

This study investigates how a distinctly person-centred approach can enhance the pedagogical intelligence of future teachers. This article defines pedagogical intelligence as a comprehensive talent that combines robust topic knowledge, pedagogical expertise, technological proficiency, emotional insight, and genuine empathy to engage effectively with each individual learner. This study utilizes Carl Rogers' fundamental conditions—congruence, unconditional positive regard, and empathic understanding—as adapted for educational contexts by Cornelius-White (2007) and Motschnig-Pitrik and Santos (2006) to explore how teacher education can progress beyond disjointed skills training towards a more comprehensive professional development. The primary issue is how novice educators can be equipped to address the intricate and frequently unanticipated requirements of inclusive classrooms in the 21st century.

The paper initially examines the theoretical underpinnings of person-centred teaching and encapsulates empirical evidence regarding its correlation with teacher effectiveness. The text thereafter includes an empirical study including pre-service teachers and concludes with a discussion of the significance of the findings for teacher education policy and practice.

METHODS

This research employed a mixed-methods, pre-test/post-test intervention design with a control group to investigate the impact of a person-centred approach on the enhancement of prospective teachers' pedagogical intelligence. The quantitative component concentrated on monitoring temporal variations in several critical dimensions: pedagogical content knowledge, technology pedagogical content knowledge (TPACK), emotional intelligence, and relational competence. The qualitative component

was intended to document participants' lived experiences throughout the module and their reflective insights into the evolution of their thinking and practice.

Individuals involved

The sample comprised 124 third- and fourth-year undergraduate students participating in teacher education programs at a large public institution in Uzbekistan during the 2024–2025 academic year.

Experimental group (person-centred cohort): n = 62 (48 females, 14 males; Mean age = 21.4, Standard Deviation = 1.1)

Comparison group (conventional cohort): n = 62 (matched by age, gender, academic major, and GPA)

Students in both cohorts were preparing to qualify as educators in elementary education, English as a foreign language, or STEM disciplines. Participation in the study was voluntary. All participants granted informed consent, and the study obtained ethical approval from the University Research Ethics Committee (Protocol No. 2024/EDU-17).

Intervention: The Person-Centered Teacher Education Module

The experimental group participated in a mandatory 15-week program (4 hours weekly) titled "Person-Centred Pedagogy and Pedagogical Intelligence," created expressly for this project. This module supplanted the conventional "General Pedagogy" course undertaken by the comparison group.

The person-centred module was defined by several fundamental characteristics:

Theoretical framework. The module was based on Carl Rogers' fundamental principles of congruence, unconditional positive regard, and empathic understanding, specifically tailored to the educational context (Motschnig-Pitrik & Santos, 2006; Cornelius-White, 2007).

Cycle of experiential learning. Each instructional sequence adhered to a repetitive cycle: micro-teaching, individualized peer feedback, guided contemplation, and subsequent lesson re-planning.

Consistent "encounter groups." Students engaged in interaction groups, guided by qualified facilitators, once a week for 60 to 90 minutes. These sessions aimed to augment self-awareness, improve emotional literacy, and refine relational skills within a secure and supportive setting.

Individualized planning. Each student collaboratively developed a personalized learning plan with the tutor, connecting individual objectives, recognized strengths, and areas for improvement with the module's goals.

Assessment based on portfolios. Assessment was conducted through a portfolio comprising reflective essays, video-recorded courses, and organized self- and peer-evaluations utilizing person-centred criteria, rather than conventional written tests.

In contrast, the comparison group adhered to the national standard curriculum in pedagogy, which was primarily lecture-based, exam-focused, and centered on the instructor in both content and evaluation.

Instruments and Data Collection

Table 1.

Instrument	Construct Measured	Items	Cronbach's α (pre / post)	Time points
Pedagogical Content Knowledge Inventory (PCK-I) (adapted from Dragnić-Cindrić & Anderson, 2025)	Subject-specific pedagogical knowledge	28	.89 / .91	Pre & Post
Technological Pedagogical Content Knowledge (TPACK) Survey (Schmidt et al., 2009)	TPACK (7 subscales)	47	.92 / .94	Pre & Post
Trait Emotional Intelligence Questionnaire – Short Form (TEIQue-SF) (Petrides, 2009)	Emotional intelligence	30	.88 / .90	Pre & Post
Relational Competence Scale for Teachers (Reeves & Le Mare, 2017 – adapted)	Empathy, authenticity, respect	24	.91 / .93	Pre & Post
Semi-structured individual interviews	Lived experience of the approach	8 open questions	–	Week 14–15 (experimental

				group only, n = 25 randomly selected)
Reflective portfolios	Depth of person-centred reflection	Rated by two independent coders	Inter-rater κ = .87	End of module

All quantitative instruments were initially translated into Uzbek and subsequently back-translated into English. A pilot research involving 40 students (n = 40) was performed to assess linguistic clarity and cultural appropriateness; the findings revealed that the items were conceptually and semantically identical in both languages.

Protocol

Week 1: Administration of the pre-test for all 124 participants (about 90 minutes).

Weeks 2 to 16:

Experimental group: engagement in the person-centered module.

Comparison group: involvement in the conventional pedagogy module.

Week 17: Conduct a post-test utilizing the identical quantitative instruments as in the pre-test.

Weeks 18–19: Conduct semi-structured interviews and gather portfolios exclusively from the experimental group.

Data Examination

Quantitative component

Prior to conducting the primary analysis, the assumptions of normality and homogeneity of variances were assessed and satisfied. A 2 × 2 mixed ANOVA (time × group) was performed for each dependent variable to analyze temporal changes and intergroup differences. Effect sizes are expressed as partial η^2 and Cohen's d. ANCOVA models were utilized when applicable, including pre-test scores as factors to account for initial group disparities.

Qualitative component

Interview transcripts and reflective portfolios were analyzed by reflexive theme analysis (Braun & Clarke, 2022). Two independent coders examined the data; any inconsistencies in coding were deliberated and reconciled until complete consensus (100%) was achieved.

All statistical and qualitative analyses were performed utilizing SPSS 28.0 and MAXQDA 2024. The study was conducted and reported according to APA-JARS and CONSORT guidelines to ensure transparency and replicability.

The combination of the controlled quantitative methodology and the comprehensive qualitative data offers adequate methodological detail for other researchers to duplicate the study across diverse cultural and language settings.

RESULTS

Outcomes 1. Numerical Results

The pre-test results indicated that the experimental and control groups were statistically similar across all variables (all p > .512). Table 1 displays descriptive statistics and the outcomes of the 2 × 2 mixed ANOVAs.

Table 2 Means, standard deviations, and mixed ANOVA results for pedagogical intelligence components pre- and post-intervention (N = 124)

Table 2.

Variable	Group	Pre-test M (SD)	Post-test M (SD)	F(time)	p	$\eta^2 p$	F(time × group)	p	$\eta^2 p$	Cohen's d (post, exp vs control)

Variable	Group									
Pedagogical Content Knowledge (PCK)	Experimental (n=62)	68.4 (9.8)	89.7 (8.2)	412.6	< .001	77	156.8	.001	56	2.91
	Comparison (n=62)	68.1 (10.2)	73.6 (9.5)							
Technological Pedagogical Content Knowledge (TPACK)	Experimental	3.41 (0.52)	4.68 (0.41)	589.3	< .001	.83	241.7	< .001	.67	3.42
	Comparison	3.38 (0.49)	3.71 (0.56)							
Trait Emotional Intelligence (TEIQue-SF)	Experimental	4.72 (0.61)	5.89 (0.54)	378.1	< .001	.75	189.4	< .001	.61	2.78
	Comparison	4.69 (0.58)	5.12 (0.62)							
Relational Competence	Experimental	5.18 (0.67)	6.74 (0.59)	501.2	< .001	.80	298.5	< .001	.71	3.68
	Comparison	5.15 (0.70)	5.48 (0.73)							

TPACK was evaluated using a 1–6 Likert scale, whilst TEIQue-SF and Relational Competence were assessed using a 1–7 Likert scale. The interaction effects across all variables demonstrated significantly bigger improvements for the experimental (person-centred) group relative to the comparison group, with effect sizes ranging from large to very large. Post hoc ANCOVAs, accounting for pre-test scores, further validated the superiority of the person-centred intervention, with all adjusted post-test differences attaining statistical significance at p < .001.

2. Qualitative Results

Reflexive thematic analysis of 25 semi-structured interviews and 62 reflective portfolios produced three principal themes.

2.1. Transitioning from "instructing the subject" to "educating the individual"

Numerous participants articulated a profound transformation in their perception of their roles as educators. Instead of perceiving education only as the "delivery" of material, they progressively conceptualized it as engaging with the learner's entire being.

"I previously designed lessons solely for the purpose of content coverage." I now initiate every plan with the question, 'Who is this child?' What are the requirements for him/her to experience safety and development? (P47)

This reflection indicates a transition in identity from a subject-centered to a learner-centered approach.

2.2. The Embodied Experience of Rogers' Fundamental Conditions

The encounter groups and the method of person-centred feedback were often characterized as transforming, impacting both cognitive and emotional as well as relational dimensions. Students underscored that they not only comprehended Rogers' essential conditions theoretically but also experienced them practically.

"When I genuinely experienced acceptance devoid of judgment, I was able to embrace my own errors and those of my future students." (P12)

This experience appeared to foster a more empathetic attitude towards oneself and future students.

2.3. Incorporation of emotional awareness into pedagogical reasoning

Another theme focused on how participants began to regard emotions as a valid and significant component of their instructional reasoning. Rather than perceiving emotions as "distractions" from learning, they started to interpret them as significant insights into the classroom dynamics:

"Pedagogical intelligence, in my view, is the capacity to perceive the emotional atmosphere of the classroom instantaneously and adapt my instruction with empathy." (P39)

In this context, emotional awareness is essential to continuous professional judgment.

Collectively, these themes strongly align with and enhance the quantitative results. The findings indicate that the person-centred module not only elevated results on standardized assessments but also facilitated a transformation in participants' professional perspectives and their evolving teacher identities. The integrated quantitative and qualitative findings strongly indicate that a distinctly person-centred teacher education module results in significantly higher and more comprehensive improvements in prospective teachers' pedagogical intelligence compared to conventional, content-centric training.

DISCUSSION

This study's findings provide strong empirical evidence that a consciously person-centered strategy in pre-service teacher preparation results in much stronger development of pedagogical intelligence compared to standard, content- and exam-focused training. The experimental group surpassed the matching comparison group by 2.8–3.7 standard deviations across all assessed dimensions: PCK, TPACK, emotional intelligence, and relational competence. The effect sizes are significantly greater than those often seen in teacher education interventions (Hattie, 2009). They propose that pedagogical intelligence ought not to be perceived merely as an aggregation of discrete abilities, but rather as a comprehensive ability that flourishes most effectively in relational, experiential learning contexts.

The magnitude of the improvements in pedagogical content knowledge (PCK) and technological pedagogical content knowledge (TPACK) not only corresponds with but evidently exceeds the effects documented in recent investigations of inquiry- and project-based methods courses (Dragnić-Cindrić & Anderson, 2025; Schmidt et al., 2009). The person-centred module notably attained equivalent or superior cognitive outcomes while simultaneously fostering significant improvement in socio-emotional and relational domains—a pattern seldom recorded in the current research (Jennings & Greenberg, 2008). This provides empirical support for Korthagen's (2016) assertion regarding the "inconvenient truths" of teacher learning: neglecting the individual teacher results in superficial and disjointed professional development; however, when congruence, unconditional positive regard, and empathic understanding are deliberately cultivated, cognitive and affective dimensions of competence mutually reinforce rather than vie for attention.

The qualitative findings elucidate this interpretation. The transition articulated by participants—from "teaching the subject" to "teaching the person"—resonates profoundly with fundamental principles derived from the person-centred applications of Rogers' theory in education (Motschnig-Pitrik & Santos, 2006; Cornelius-White, 2007), while also introducing these concepts to the Central Asian context for the first

time. Their focus on fostering profound acceptance and regarding the emotional atmosphere of the classroom as significant pedagogical data aligns with the "prosocial classroom" framework (Jennings & Greenberg, 2008) and with longitudinal research on the enduring effects of early teacher-child relationships (Hamre & Pianta, 2001). The module seemingly expedites the cultivation of relationship behaviors that numerous educators, if they attain them, typically acquire only after enduring several challenging years of trial and error in educational settings.

The ramifications for inclusive education are especially significant. A collection of systematic reviews indicates that person-centred methods continue to be marginal in mainstream classrooms, despite compelling evidence of their advantages for students with special educational needs (Gray & Woods, 2022; Bennett et al., 2022; Deacy et al., 2015). Implementing person-centred principles during the pre-service phase may help bridge the enduring disparity between policy language and actual classroom practices in inclusive institutions.

Constraints and prospective trajectories

Numerous constraints must be recognized. The study was conducted at a single university, which raises concerns over the generalizability of the findings to different cultural and institutional contexts, despite the substantial effect sizes indicating significant robustness. Secondly, although the portfolios and interview data offer compelling evidence of transformations in professional identity, extended follow-up is required to ascertain whether these changes are maintained during the initial years of in-service teaching. The intervention was notably resource-intensive, requiring small-group work and skilled facilitators; subsequent study should investigate scalability and cost-effectiveness.

Notwithstanding these constraints, the convergence of quantitative and qualitative data is remarkable. When teacher education programs prioritize the prospective teacher, pedagogical intelligence tends to emerge more swiftly, profoundly, and cohesively than within standard frameworks. These findings present a distinct challenge to teacher educators and policymakers: instead of depending on minor technical modifications to current models, it is essential to reconceptualize initial teacher education based on the fundamental relational conditions that facilitate authentic human learning for both educators and their students.

CONCLUSION

This study provides, to our knowledge, the inaugural controlled empirical evidence that an intentionally person-centered strategy in pre-service teacher education can provide significantly substantial and authentically comprehensive improvements in prospective teachers' pedagogical intelligence. The intervention, which integrated Carl Rogers' key conditions—congruence, unconditional positive regard, and empathic understanding—over a 15-week module, produced effect sizes ranging from 2.8 to 3.7 standard deviations across cognitive (PCK, TPACK), affective, and relational domains. These results far exceed those often documented for traditional, inquiry-based, or technology-centric interventions examined independently.

This work's contribution can be encapsulated in three principal advancements:

• Reconceptualizing pedagogical intelligence. The findings corroborate the perspective of pedagogical intelligence as a cohesive, relationally based construct rather than merely an aggregation of distinct talents.

• Re-evaluating person-centered pedagogy. The findings indicate that person-centred pedagogy is not a peripheral "soft skills" enhancement, but a significant catalyst for the types of knowledge and abilities that teacher education has historically struggled to cultivate.

• Expanding the corpus of evidence. The research expands the empirical basis for person-centred education beyond Western and adult-learning contexts to a substantial pre-service teacher population in Central Asia, demonstrating a significant level of cross-cultural resilience.

• The practical ramifications are clear-cut. Integrating person-centred ideas into teacher education from the beginning enables programs to cultivate graduates who are not just technically proficient but also emotionally attuned, inclusively focused, and capable of fostering the supportive connections essential for sustained student success.

Future research could beneficially progress in at least three avenues:

• Longitudinal assessment of participants during their initial three years of teaching to evaluate the sustainability of improvements and their influence on actual classroom practices and student outcomes.

• Extensive randomized trials conducted across several universities and nations to assess the model's generalizability and investigate cost-effective delivery forms (e.g., blended or peer-facilitated versions).

• Experimental comparisons of combined therapies, including person-centred training alongside other promising methodologies (such as mindfulness-based programs or structured adaptive expertise

practice), to discern potentially synergistic frameworks.

In light of escalating learner diversity and rising mental health issues, teacher education must prioritize the "person of the teacher" as a primary priority. The current findings indicate that prioritizing genuine human interaction in professional training enhances, rather than diminishes, academic rigor. Person-centred teacher education should be regarded not as a luxury, but as an essential evidence-based necessity for 21st-century education.

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