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Cross-Disciplinary Elective Courses in Initial Teacher Education: Developing Socio-Emotional and Pedagogical Competencies among Pre-Service Teachers

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Abstract

Nowadays, teachers' socio-emotional competencies are recognized as fundamental for effective teaching and for creating a stimulating and supportive learning environment. The present study examines the impact of three cross-disciplinary elective courses —Effective communication and teamwork, Critical thinking and reflexivity, and Failure management and professional well-being— on the development of pre-service teachers' socio-emotional and pedagogical competencies. Adopting a convergent parallel mixed-methods design, the research integrates quantitative and qualitative approaches to capture both measurable trends and the experiential dimensions of the training process. The sample comprised 31 female students enrolled in initial teacher education programs at the West University of Timișoara, with each participant engaged in one of the three targeted disciplines. Data were collected through a structured questionnaire complemented by open-ended items aimed to explore students' subjective perceptions. Multiple linear regression analysis was employed as the primary analytical strategy to evaluate the collective predictive capacity of these disciplines. The exploratory regression model captured a substantial proportion of variance ($R^2 = 0.85$) in students' perceptions of their professional growth, though this high value is interpreted cautiously given the context-specific sample size. Quantitative findings underscore the prominent role of reflective thinking in perceived professional development, while qualitative evidence highlights the importance of collaborative learning tasks, applied exercises, and a psychologically safe learning environment. Overall, the study supports the deliberate integration of socio-emotional training into initial teacher education curricula, offering insights into pathways that support the holistic development of future educators.

Keywords: teacher education, cross-disciplinary elective courses, socio-emotional competencies, critical thinking, reflexivity, communication

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1. Introduction

In the contemporary educational landscape, the professional identity and effectiveness of educators are undergoing a significant paradigm shift. While traditional teacher training models have historically prioritized academic subject matter knowledge and pedagogical techniques, modern classrooms demand a more holistic approach to teacher education. Classrooms are inherently dynamic social and emotional ecosystems where instructional success is deeply intertwined with the psychological climate and the quality of interpersonal relationships. Consequently, initial teacher education must expand its scope beyond cognitive and methodological boundaries to integrate social, emotional, and transversal competencies as core pillars of professional readiness. Developing these competencies during the formative stages of initial training equips pre-service teachers with the intra- and interpersonal tools necessary to navigate complex educational realities, sustain long-term professional well-being, and mitigate the early onset of occupational burnout.

At the West University of Timișoara, undergraduate students are required to complete three cross-disciplinary elective courses outside their field of specialization to support the development of transversal competencies. As part of the project *Reflective and Collaborative Professionals: An Integrated Framework of Work-Based and Complementary Learning Activities Based on the Integration of Theory and Practice and the Use of Evidence in Decision-Making*, three elective courses were designed and implemented to strengthen the socio-emotional competencies of pre-service teachers preparing for careers in preschool and primary education.

Within this context, cross-curricular courses function as intentional pedagogical frameworks designed to cultivate skills that span across traditional domain boundaries. Rather than treating socio-emotional learning as a generic or secondary topic, integrating specific socio-emotional training modules allows for a structured exploration of foundational professional behaviors. This study focuses on three targeted cross-disciplinary elective courses: *Effective Communication and Teamwork*, *Critical Thinking and Reflexivity*, and *Failure Management and Professional Well-Being*. Each of these disciplines addresses a critical facet of the modern teacher's profile. Communication and teamwork provide the relational infrastructure required for classroom discourse and institutional collaboration; critical thinking and reflexivity foster the cognitive agility needed for adaptive instruction and evaluative judgment; and well-being and failure management establishes the emotional resilience necessary to cope with the inherent stressors of the teaching profession.

To provide a comprehensive exploration of these dynamics: we, firstly, examine the theoretical foundations of social-emotional teaching competencies and their broader impact on educational outcomes, secondly, we delineate the specific contributions of the three targeted cross-disciplinary elective courses to teacher education, and, finally, we conclude by contextualizing the empirical gaps in the current literature, which directly

articulate the central aim, research question, and operational hypotheses of this investigation.

Social – emotional teaching competencies

Since social-emotional learning is becoming a genuine component of quality education, the process must start in initial teacher education, through the systematic development of teachers' own socio-emotional competencies. Contemporary research increasingly demonstrates that effective teaching requires far more than subject knowledge and methodological skills; it also depends on teachers' ability to communicate empathically, think critically, regulate emotions, and maintain professional well-being. A growing body of research (Jennings & Greenberg, 2009; Reyes et al., 2012; Durlak et al., 2022; Gebre et al., 2025) supports the premise that teachers with well-developed socio-emotional competencies are more effective at fostering healthier, more resilient developmental outcomes among students.

In 2009, Jennings and Greenberg introduced the prosocial classroom model, arguing that teachers' social and emotional competencies, as well as their well-being, play a crucial role in shaping a prosocial classroom climate and influencing student outcomes. According to the authors, these competencies support more effective classroom management and facilitate the successful implementation of social and emotional learning within the curriculum. Teachers who possess strong socio-emotional skills are more likely to adopt a proactive approach, skilfully using their emotional expressions and verbal encouragement to foster students' enthusiasm and enjoyment of learning, while also guiding and regulating student behaviour. Teachers' emotional states influence students' motivation, interest, and academic engagement. Interest, in turn, stimulates curiosity and supports intrinsic motivation, fostering a genuine desire to learn (Ortega, 2022). Recent research shows that interventions designed to develop teachers' socio-emotional competencies significantly improve students' social skills, prosocial behaviour, and academic performance, while reducing emotional distress (Durlak et al., 2022). In contemporary teacher education, the development of socio-emotional competencies is increasingly recognised as central to professional effectiveness. Beyond content knowledge and pedagogical techniques, teachers must be able to understand their own emotions, manage stress, communicate effectively, collaborate with others, and engage in critical reflection (Jennings & Greenberg, 2009; OECD, 2021).

Classrooms are fundamentally social and emotional environments, and the quality of teacher–student interactions, instructional decisions, and classroom climate is largely shaped by teachers' socio-emotional competencies. Consequently, preparing future educators to manage emotions, collaborate effectively, engage in reflective judgment, and cope constructively with failure becomes a central task of teacher education programs. Within this context, cross-disciplinary elective courses focused on effective communication and teamwork, critical thinking, and failure management and well-being represent meaningful pedagogical spaces where such competencies can be intentionally

cultivated and connected to the demands of the teaching profession. Effective communication and teamwork are foundational socio-emotional skills that support classroom interaction, conflict resolution, and collaboration with colleagues and parents. Communication competence enables teachers to convey expectations clearly, listen empathetically, and respond to learners' emotional cues, thereby creating an environment conducive to engagement and academic progress. Studies have found that communication skills are strongly linked to teacher effectiveness, particularly in establishing rapport and maintaining a positive classroom climate (Garcia-Rodriguez et al., 2026).

Research (Reyes et al., 2012) indicates that teachers' effectiveness increasingly depends on their ability to collaborate with parents, which requires well-developed communication and teamwork skills. Teachers' abilities to communicate effectively and collaborate with others are key factors in establishing a positive social and emotional classroom climate and in supporting desirable student outcomes. Educators who demonstrate well-developed socio-emotional competencies tend to foster constructive and supportive relationships with their students and to design instructional activities that acknowledge students' individual strengths and capabilities (Jennings & Greenberg, 2009).

Critical thinking, another key socio-emotional dimension, empowers prospective teachers to analyse complex classroom situations, question assumptions, and make reasoned pedagogical decisions. The capacity for reflective judgment and perspective-taking is tied to adaptive instruction and differentiated teaching, allowing educators to respond flexibly to student needs and diverse learning contexts. Research (Brookfield, 2017) suggests that dispositions toward critical thinking support better instructional reasoning and professional decision-making, thereby enhancing overall instructional readiness.

Moreover, resilience and well-being are increasingly acknowledged as vital for sustaining teachers' professional performance. Teaching is emotionally demanding, and the ability to manage setbacks, regulate intense emotions, and maintain psychological well-being has been identified as a strong predictor of long-term job satisfaction and classroom effectiveness. Studies highlight that interventions aimed at strengthening resilience not only improve teachers' well-being but also positively impact their professional interactions and their capacity to support student achievement. To support teachers' well-being, schools must strike a balance between fostering a collaborative institutional culture and respecting teachers' need for individual autonomy, both of which are essential to professional satisfaction (Reyes et al., 2012). Given that, in Romania, this remains largely an aspirational goal, in the absence of clear regulations that directly impact teachers' well-being, it becomes particularly important for teachers to develop the competence to sustain their own well-being and to effectively manage professional setbacks.

Underpinning these discipline-specific constructs is the broader framework of socio-emotional learning, which identifies core competencies such as self-awareness, self-management, social awareness, relationship skills, and responsible decision-making as critical for both personal development and professional functioning. These socio-emotional learning competencies form the foundation of effective teaching practice by enabling educators to create supportive, engaging, and adaptive learning environments. Despite the recognised importance of socio-emotional competencies in education, research on how specific socio-emotional training domains contribute to the development of teaching competencies remains limited. Most existing studies examine general socio-emotional skills or emotional intelligence broadly, without differentiating between the distinct contributions of communication, critical thinking, or resilience-focused training. The present study investigates how three distinct socio-emotional disciplines contribute to the development of teaching competencies in initial teacher education. Rather than approaching socio-emotional learning as a unitary construct, the research examines three complementary pathways: Effective Communication and Teamwork, Critical Thinking Development, and Failure Management and Professional Well-Being. Each discipline targets specific dimensions of socio-emotional growth that are directly relevant to the teaching profession.

The central aim of this investigation is to evaluate the extent to which participation in these cross-disciplinary elective courses is associated with pre-service teachers' self-reported growth across key professional dimensions. To guide the empirical inquiry, the study addresses the following overarching research question: *To what extent and through what perceived mechanisms do the three cross-disciplinary elective courses relate to the development of professional teaching competencies?*

Based on the theoretical framework, the study evaluates the following research hypotheses:

H1: Participation in cross-disciplinary elective courses is significantly and positively associated with students perceived professional teaching development.

H2: Participation in cross-disciplinary elective courses is significantly and positively associated with the perceived enhancement of students' reflective and critical thinking competencies.

H3: Participation in cross-disciplinary elective courses is positively associated with the perceived development of students' cooperation skills.

H4: Participation in cross-disciplinary elective courses is significantly and positively associated with the perceived improvement of students' communication and emotional regulation competencies.

H5: There are significant positive correlations among the perceived dimensions of cross-disciplinary elective courses (reflection, cooperation, and communication), as well as between each of these dimensions and students' overall perceived professional development.

2. Research methodology

The present study is structured as a convergent parallel mixed-methods investigation, designed to examine the multidimensional impact of cross-disciplinary elective courses on the professional profile of pre-service teachers.

2.1. Research Design and Procedure

The research architecture integrates quantitative analysis—focused on identifying relationships and interdependencies among targeted competencies—with qualitative analysis, intended to capture the depth and complexity of students' learning experiences at cognitive, social, and emotional levels. Rather than evaluating a single intervention, the research integrated three pedagogical approaches to socio-emotional development, each represented by one discipline. Data were collected at the end of the semester, after students had completed one of the three cross-disciplinary elective courses. Participation was completely voluntary and anonymous, and formal informed consent was obtained from all respondents prior to data collection. In accordance with this convergent parallel framework, quantitative trends and qualitative experiential insights were collected concurrently at the end of the semester and integrated during the data synthesis phase to provide a more comprehensive interpretation of competence development.

2.2. Participants and Context

The sample comprised 31 female students preparing to work in the educational system, enrolled in initial teacher education programs offered by the West University of Timișoara. Regarding their Bachelor specialties, 20 students were enrolled in the Pedagogy of Primary and Preschool Education, 9 in Special Psychopedagogy, and 2 in Pedagogy.

In terms of academic progression, 12 students were in their second year of study, and 19 were in their third year. The demographic distribution included 17 students from rural areas and 14 from urban environments. Each student participated in only one of the three targeted cross-disciplinary elective courses, distributed as follows: *Effective Communication and Teamwork* (n = 8), *Critical Thinking and Reflexivity* (n = 12), and *Failure Management and Professional Well-Being* (n = 11).

Table 1. Socio-Demographic and Academic Profile of the Sample (N = 31)

Characteristic	Category	Frequency (n)	Percentage (%)
Gender	Female	31	100%
	Pedagogy of Primary and Preschool Education (PIPP)	20	64.5%
Specialization	Special Education	9	29.0%
	Pedagogy	2	6.5%
Environment	Urban	14	45,16%
	Rural	17	54,84%
Enrolled Discipline	Effective Communication and Teamwork	8	25,8%
	Critical Thinking and Reflexivity	12	38,7%
	Failure Management and Well-being	11	35,5%

2.3. Instruments and Measures

A structured, self-report questionnaire was developed based on foundational literature regarding teacher socio-emotional competencies and reflective practice. The instrument consisted of 30 Likert-type items rated on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The items were theoretically grouped into four distinct dimensions designed to evaluate the students' perceived competence development:

1. Professional teaching development (8 items).
2. Reflective and critical thinking (10 items).
3. Cooperation skills (4 items).
4. Communication and emotional regulation (8 items).

To capture the experiential depth of the training process, the Likert-scale items were complemented by a set of open-ended qualitative questions. These questions explored students' self-perceptions, the specific pedagogical challenges encountered during the semester, and suggestions for improving the curriculum of the transversal disciplines.

To establish the internal consistency of the instrument, a reliability analysis was conducted using Cronbach's alpha coefficients for each dimension. The scales demonstrated excellent internal reliability: professional teaching development ($\alpha = 0.946$), reflective and critical thinking ($\alpha = 0.947$), cooperation skills ($\alpha = 0.898$), and communication and emotional regulation ($\alpha = 0.928$). All coefficients significantly exceeded the standard threshold of 0.70, validating the psychometric robustness of the measure.

2.4. Data Analysis Strategy

Quantitative data processing was conducted using Microsoft Excel with the Data Analysis Tool Pak add-in. The strength and direction of the linear relationships between the targeted dimensions were evaluated using Pearson correlation coefficients (r).

Furthermore, multiple linear regression analysis was utilized as the primary predictive tool to assess the extent to which the independent transversal dimensions explain the variance in students' perceived professional development. The overall fit, validity, and statistical significance of the regression model were evaluated through the coefficient of determination (R^2) and the ANOVA F-test. Qualitative data from the open-ended items were analyzed using thematic analysis, where responses were systematically coded, categorized into prominent themes, and subsequently integrated with the quantitative findings to contextualize the statistical relationships.

3. Results

3.1. Quantitative Analysis: Correlations and Regression Model

To evaluate the relationships among the perceived competence dimensions and test the operational hypotheses, quantitative analyses were systematically conducted. In alignment with the study's exploratory scope, quantitative data processing focused on examining the linear relationships and predictive value among the targeted dimensions.

First, the evaluation of H5 targeted the linear interdependencies between the dimensions. The statistical output from the correlation matrix (Pearson's r) revealed strong, positive, and statistically significant relationships among the constructs. The complete correlation structure is presented in Table 2:

Table 2. Pearson Correlation Matrix Among the Perceived Competence Dimensions

Perceived Dimensions	Professional development	Reflective capacity	Cooperation skills	Communication skills
Professional development	1			
Reflective capacity	0.92	1		
Cooperation skills	0.51	0.49	1	
Communication skills	0.88	0.93	0.50	1

Note: $N = 31$; all coefficients are statistically significant ($p < .01$).

The correlation analysis details a very high linear association between the capacity for communication and reflective thinking ($r = 0.93$, $p < .01$), as well as between reflective practice and overall professional teaching development ($r = 0.92$, $p < .01$). Additionally, a robust correlation is observed between communication and professional development ($r = 0.88$, $p < .01$). Moderate correlations characterize the links between cooperation and the other targeted dimensions ($r \approx 0.50$), indicating that while teamwork skills are

positively integrated into the training process, they present a distinct developmental variance. Consequently, H5 is fully supported.

To test the collective predictive capacity of the cross-disciplinary elective courses on professional development (H1, H2, H3, and H4), a multiple linear regression analysis was executed. The dimensions of reflective and critical thinking, cooperation skills, and communication and emotional regulation were entered as independent predictors, with professional teaching development serving as the dependent variable.

The regression model demonstrated an exceptionally high overall fit, capturing a substantial proportion of variance, with $R^2 = 0.85$ and an Adjusted $R^2 = 0.84$. This indicates that the selected cross-disciplinary dimensions account for 85% of the variance in students' perceived professional development. The validity of the overall model is strongly supported by the ANOVA F-test ($F(3, 27) = 51.94, p < .001$), with a Significance F value of $p < .001$, ruling out the possibility that these findings occurred by chance. Therefore, H1 is supported. Table 3 summarizes the detailed regression coefficients and significance tests:

Table 3. Multiple Linear Regression Model Results (Dependent Variable: Professional Teaching Development)

Predictors	Coefficients (B)	Standard Error	t Stat	P-value	Tolerance	VIF
Intercept (Constant)	-0.17	0.40	-0.44	0.666	—	—
Reflective and critical thinking	0.81	0.21	3.77	0.001	0.13	7.69
Cooperation skills	0.06	0.08	0.77	0.445	0.75	1.33
Communication and emotional regulation	0.15	0.22	0.68	0.504	0.13	7.69

Note: Model $R^2 = 0.85$; Adjusted $R^2 = 0.84$; Model $F = 51.94$ ($p < .001$).

Multicollinearity diagnostics indicate acceptable thresholds ($VIF < 10.0$), though the high VIF for reflection and communication highlights their strong empirical interdependence ($r = 0.93$). However, in line with the methodological limitations of the sample size ($N = 31$), the exceptionally high correlation coefficients ($r > 0.90$) and the large R^2 value require a cautious, exploratory interpretation. These indicators suggest potential conceptual overlap or shared self-report variance among the subscales, rather than perfectly distinct predictive pathways.

Among the individual predictors, Reflective and critical thinking emerged as the primary statistically significant driver of perceived professional development ($B = 0.81, t = 3.77, p = .001$), fully supporting H2. Conversely, within this unified linear framework, Cooperation skills ($B = 0.06, p = 0.445$) and Communication and emotional regulation ($B = 0.15, p = 0.504$) did not reflect independent statistical significance ($p > .05$). This suggests that their positive contributions (associated with H3 and H4) function

interdependently and are highly mediated by the students' overarching reflective capacities.

3.2. *Qualitative Analysis: Pre-Service Teachers' Experiential Perceptions*

To enrich the quantitative findings and address the underlying developmental mechanisms, the qualitative data obtained from the open-ended questions were systematically analyzed. The thematic analysis revealed that students perceived the cross-disciplinary elective courses not merely as theoretical coursework, but as dynamic, transformative learning environments that directly shaped their emerging professional identity.

The responses were structured around three core themes that illustrate how these disciplines support teacher training:

1. **The role of reflexivity and critical thinking:** students consistently highlighted that the exercises focused on self-reflection allowed them to evaluate their own learning styles and emotional responses. This dimension was perceived as a crucial bridge toward future classroom practice, helping them understand how to adapt their teaching strategies to diverse student needs.

2. **Collaborative learning and communication infrastructure:** participants emphasized that teamwork activities and applied communication exercises helped reduce the feeling of "academic isolation". Learning how to collaborate effectively with peers was perceived as essential competency for their future integration into school faculties.

3. **Psychological safety and failure management:** A major finding from the qualitative strand was the value students placed in creating a "safe space" where errors were treated as learning opportunities. Learning to manage professional stress and reframe pedagogical failure was reported as a key factor in boosting their teaching confidence.

4. Discussions

The empirical results demonstrate a strong convergence between pre-service teachers' self-reported experiences and the statistical outputs, validating the premise that cross-curricular elective courses developing socio-emotional competencies facilitate a comprehensive transformation across cognitive, social, and emotional domains. The primary quantitative benchmark established in this study is the high explanatory power of the predictive model ($R^2 = 0.85$), which confirms that the collective cluster of transversal competencies accounts for 85% of the variance in students perceived professional teaching development. This statistically robust relationship explicitly supports H 1. It aligns with the foundational theoretical frameworks of Jennings and Greenberg (2009), as well as Brackett et al. (2019), which argue that social and emotional competencies are not peripheral traits, but form the core structural infrastructure required for instructional efficacy and professional readiness.

4.1. Development of Reflectivity and Critical Thinking (H2)

A key contribution of the study lies in identifying reflective and critical thinking as the central dimension of competence development. Within the unified multiple linear regression model, this dimension emerged as the primary independent predictor with a strong direct association ($B = 0.81$, $t = 3.77$, $p = .001$), fully supporting H 2. This statistical dominance indicates that the structured cultivation of critical thinking induces a profound cognitive reconfiguration in future educators, moving them beyond the passive accumulation of pedagogical techniques toward an active paradigm of adaptive instruction.

The qualitative narratives strongly substantiate this mechanism. Students described the development of critical thinking not merely as a theoretical acquisition, but as a personal paradigm shift, reporting an increased ability to analyze their own cognitive processes and adjust their reasoning through argumentation. This experiential evolution is heavily documented in recent teacher preparation literature. For instance, Loaiza et al. (2025) and Nair (2025) demonstrate that systematic interventions focusing on reflective reasoning and contextual argumentation dramatically improve instructional decision-making. Furthermore, explicitly addressing unexamined biases prevents them from negatively shaping classroom evaluative judgments, a critical need highlighted by Yuan et al. (2023) and Pedraja-Rejas et al. (2025).

4.2. Collaborative Dimension and Social Interaction (H3)

Although regression analysis indicated a lower independent predictive impact of cooperation ($B = 0.06$, $p = 0.445$) compared to reflective thinking, qualitative data suggests that collaboration represents a highly salient dimension at the experiential level. The statistical output from the correlation matrix documents a solid bivariate association between cooperation and professional development ($r = 0.51$, $p < .01$). This dual dynamic indicates that while cooperation creates a supportive learning context, it functions more as an enabling environment than as an isolated linear pathway.

The qualitative data reinforces this by revealing that collaborative activities significantly reduced academic isolation among participants, shifting their mindset toward shared responsibility and mutual trust rather than centralized control over group processes. This process mirrors the social interdependence theories of Johnson and Johnson (2009), as well as the peer-learning models of Boud et al. (2014), establishing that collaborative architectures promote balanced participation and help pre-service teachers gradually overcome initial communication barriers while building confidence in group settings (Oakley et al., 2004).

4.3. Communication and Emotional Regulation (H4)

In line with the cooperation subscale, communication and emotional regulation ($B = 0.15$, $p = 0.504$) did not display independent significance within the regression analysis. As requested by the peer-review process to examine potential overlaps among dimensions, a rigorous multicollinearity audit was conducted. The diagnostics reported in Table 3

reveal a low Tolerance of 0.13 and a Variance Inflation Factor (VIF) of 7.69 for both communication and reflective thinking. While these parameters reside within acceptable statistical thresholds (< 10.0), they mathematically expose a massive conceptual and empirical overlap between the two domains, supported by their intense mutual correlation ($r = 0.93, p < .01$).

Consequently, H 3 and H 4 are supported through an interdependent rather than isolated framework. Communication techniques and emotional regulation act as the essential infrastructure that activates reflective practice. Experientially, students reported a clear progression in self-confidence, driven by the reframing of failure as a learning opportunity and the presence of a psychologically safe learning environment. As synthesized by CASEL (2020) and Deci and Ryan (2000), teaching is an inherently relational profession. Providing future teachers with intrapersonal self-regulation strategies and stress management tools directly enhances their emotional resilience, allowing them to navigate complex school environments safely.

4.4. Strengths, Limitations, and Future Directions

This study possesses distinct methodological strengths, including a parallel mixed method design across multiple socio-emotional training modules implemented within an authentic higher education ecosystem at the West University of Timișoara.

However, multiple prominent boundaries must be cautiously acknowledged. The sample size is relatively small ($N = 31$) and composed entirely of female participants within a single institution. Given this cross-sectional approach, all statistical claims must be interpreted strictly in associative, exploratory terms rather than causal relationships. The extremely high variance explained ($R^2 = 0.85$) and the high VIF parameters (7.69) reflect a shared self-report variance among subscales rather than completely distinct predictive pathways.

To address these empirical boundaries, future research must implement longitudinal designs tracking these pre-service teachers into their professional induction years. Expanding the scope to larger, multi-institutional, and randomized samples will allow for advanced structural equation modeling to disentangle the mediated pathways between communication, cooperation, and cognitive reflexivity.

5. Conclusions

The integration of quantitative matrices and qualitative feedback in this study confirms the structural validity of the "reflective-collaborative professional" model within initial teacher education. Cross-disciplinary elective courses focusing on socio-emotional skills do not represent peripheral educational components; rather, they serve as foundational instruments that explain 85% of the variance in pre-service teachers perceived professional readiness.

Reflective and critical thinking represents the main cognitive pillar of this developmental process, directly driving students' ability to break down educational contexts, minimize personal biases, and make informed instructional choices.

Simultaneously, communication techniques and cooperation skills provide the necessary interpersonal framework, reducing professional anxiety, eliminating academic isolation, and cultivating emotional regulation strategies that are vital for early career survival.

Based on the explicit feedback and systemic gaps identified by the participants, this study offers three clear recommendations for optimizing the initial teacher training curriculum:

1. **Practical curricular expansion:** Move beyond theoretical lectures by systematically expanding experiential learning tasks, including live case studies, pedagogical role-playing, and rigorous debate-based modules.

2. **Multimedia and technological integration:** Enhance instructional delivery through visual and digital resources, such as video-based conflict analysis tools, to simulate authentic classroom dilemmas.

3. **Organizational and structural synchronization:** Restructure the scheduling and delivery of cross-disciplinary elective courses to minimize physical and mental fatigue, thereby facilitating smoother access for non-traditional or working students.

In conclusion, this study provides strong empirical justification for the systematic, structured inclusion of standalone cross-disciplinary elective courses within teacher preparation frameworks. By intentionally balancing cognitive reflexivity with emotional security and cooperative infrastructure, higher education institutions can effectively prepare future educators capable of navigating the complex, dynamic realities of modern school environments.

Ethical considerations

The study followed ethical guidelines regarding: voluntary participation, anonymity, confidentiality, and use of data exclusively for research purposes. Both authors contributed equally to the conception, design, and writing of this manuscript.

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