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Teacher training and professional profile as drivers of quality in higher education

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Abstract

Drawing on theoretical, conceptual, and empirical foundations from university institutional management, this article examines teacher training and the professional profile as key drivers of quality processes in the context of higher education. A mixed-methods study was conducted using a non-experimental, cross-sectional design, integrating quantitative analysis with qualitative evidence derived from observation, participant interaction, and document analysis. The Perception Questionnaire on Teacher Training and Professional Profile, consisting of 22 Likert-scale items, was administered to a purposive sample of 284 university faculty members. The results indicated overall favorable evaluations across the assessed dimensions, with mean scores above 3.8. Exploratory factor analysis confirmed a coherent two-dimensional structure and high levels of internal consistency. However, gaps were identified in areas related to the strengthening of digital competencies, formative assessment, and systematic feedback. The findings indicate that the consolidation of continuous professional development programs aligned with standards of the teaching professional profile contributes to improving the quality of university education.

Keywords: Educational quality; higher education; teacher training; professional profile; learning assessment.

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Formación docente y perfil profesional como variables impulsoras de los procesos de calidad en la educación superior

Resumen

Desde referentes teóricos, conceptuales y empíricos propios de la gestión institucional universitaria, el presente artículo analiza la formación docente y el perfil profesional como variables impulsoras de los procesos de la calidad en el contexto de la educación superior. Se desarrolló un estudio con enfoque mixto, diseño no experimental y corte transversal, integrando análisis cuantitativo con evidencia cualitativa a partir de observación, interacción con participantes y análisis documental. Se aplicó el Cuestionario de Percepción sobre Formación Docente y Perfil Profesional, compuesto por 22 ítems en escala Likert, a una muestra intencional de 284 docentes universitarios. Los resultados mostraron valoraciones globalmente favorables en las dimensiones evaluadas, con medias superiores a 3,8. Asimismo, el análisis factorial exploratorio confirmó una estructura bidimensional coherente y altos niveles de consistencia interna. Sin embargo, se evidenciaron brechas relacionadas con el fortalecimiento de competencias digitales, la evaluación formativa y la retroalimentación sistemática. Se concluye que la consolidación de programas de formación continua, articulados con estándares del perfil profesional docente, contribuye al mejoramiento de la calidad educativa universitaria.

Palabras clave: Calidad educativa; educación superior; formación docente; perfil profesional; evaluación de los aprendizajes.

Introduction

The quality of higher education depends primarily on the professional development of university faculty, as it directly influences the relevance of the educational process, the effectiveness of learning, and compliance with institutional quality assurance and accreditation standards (Darling-Hammond et al., 2019; Organización de las Naciones Unidas para la Educación, la Ciencia y la Cultura [UNESCO], 2017; 2023). In specialized literature, the teaching role extends beyond the mere transmission of knowledge, emerging as a strategic agent for pedagogical innovation, knowledge generation, and social transformation (Suh et al., 2024; Organisation for Economic Co-operation and Development [OECD], 2024).

From this perspective, educational quality entails an integrated construct that articulates processes of training, performance, evaluation, and continuous improvement,

particularly relevant in contexts shaped by digital transformation and the knowledge society (Ezcurra, 2020; UNESCO, 2023; Avendaño & Solano, 2024; Băltarețu et al., 2025).

In this sense, teacher training is conceived as a continuous, dynamic, and contextualized process capable of responding to the challenges posed by the expansion of knowledge, the incorporation of emerging technologies, and the demands of university quality assurance systems (UNESCO et al., 2022; OECD, 2024). This process not only contributes to professional upskilling but also strengthens capacities aimed at institutional improvement by promoting pedagogical practices aligned with current standards of excellence and with a more equitable and inclusive higher education (UNESCO, 2023; Zavala et al., 2024).

In addition, the professional profile of faculty constitutes a multidimensional construct that integrates both generic and

specific competencies. Among the former are communication, leadership, change management capacity, and collaborative work; among the latter, disciplinary expertise, pedagogical use of technologies, and assessment oriented toward formative feedback are particularly salient (Ramírez-Montoya et al., 2021; Dervenis et al., 2022; Alan & Güven, 2022; Villalobos et al., 2023; Paredes-Chacín & Vargas-López, 2024).

This articulation of competencies positions faculty as central actors in ensuring meaningful learning and in achieving the Sustainable Development Goals, particularly SDG 4: “quality, equitable, and inclusive education for all” (UNESCO, 2023; Pacto Mundial, 2025). Therefore, strengthening the professional profile of faculty becomes a strategic pathway for advancing educational quality through more effective teaching practices, formative assessment, and greater capacity to adapt to changes in institutional management.

In recent years, various studies have revealed tensions between institutional demands (educational quality) and the actual conditions of faculty performance. Multicenter research points to recurring gaps in the integration of digital competencies, the implementation of active methodologies, and formative assessment practices—factors that directly influence faculty motivation and satisfaction (Fabriz et al., 2020; Estévez et al., 2021; Guerra & Plaza, 2021; Piñán et al., 2025;).

These gaps not only limit educational innovation but also affect alignment with universities’ strategic plans and quality policies, as well as their correspondence with organizational sustainability processes, thereby weakening coherence between institutional goals and everyday teaching practices (Marín-González et al., 2021; Rodríguez-Ojeda et al., 2024). Consequently, educational quality may be compromised when there is no systematic professional development that integrates teacher training, evaluation, and performance monitoring within the framework of quality assurance policies.

In the Ibero-American context, higher education institutions face the need to strengthen teacher training as a continuous process aligned with institutional culture in order to respond to contemporary challenges of quality, relevance, and educational transformation (Bennasar-García et al., 2021; OEI, 2023; Miranda et al., 2024). Specifically, quality-oriented institutional agendas require the consolidation of policies and training programs that strengthen the professional profile through the development of pedagogical, digital, and evaluative competencies that foster innovation, systematic feedback, and continuous improvement (Canto-Esquivel et al., 2022; OEI, 2023; Miranda et al., 2024).

In Colombia, the Ministry of National Education has established guidelines aimed at teacher professional development, emphasizing the importance of structured updating of programs that directly contribute to strengthening the quality of higher education (Ministerio de Educación Nacional [MEN] et al., 2022).

Within this framework, analyzing university faculty perceptions of teacher training and the consolidation of their professional profile becomes a priority. Faculty perspectives make it possible to understand not only levels of satisfaction with institutional development programs but also areas where gaps or resistance persist that may hinder the achievement of institutional quality standards. This knowledge provides strategic input for planning improvement actions, designing continuing education policies, and consolidating a culture of quality grounded in innovation, meaningful learning, and self-regulated learning (UNESCO, 2023; OECD, 2024).

Accordingly, this article analyzes the perceptions of 284 university faculty members regarding teacher training and professional profile as key variables driving the strengthening of quality in higher education. The objective of the study is to analyze the relationship between teacher training and the professional profile of university faculty as drivers of quality processes in higher

education.

To this end, the Perception Questionnaire on Teacher Training and Professional Profile in Higher Education (CP-FDPP) was administered, an instrument designed to identify trends, gaps, and training needs associated with the development of pedagogical, digital, and evaluative competencies. The findings provide relevant evidence to guide institutional decision-making regarding continuing professional development, performance evaluation, and the improvement of academic processes, in alignment with quality assurance policies.

Specifically, this study examines the perceptions of 284 university faculty members regarding teacher training and professional profile and analyzes their relationship as variables associated with strengthening educational quality through the application of the CP-FDPP questionnaire.

In terms of contribution, this article provides empirical evidence on the articulation between teacher training and professional profile as driving variables of quality processes in higher education, based on faculty perceptions. Unlike approaches focused solely on institutional descriptions or normative frameworks, the study offers measurable and verifiable results that identify specific gaps—particularly in digital competencies, formative assessment, and systematic feedback—useful for guiding improvement decisions in university management processes.

1. Theoretical foundation

Prior to theoretical development, it is necessary to clarify the conceptual articulation guiding this study. Educational quality in higher education is understood as an institutional purpose linked to learning assurance, social relevance, and the continuous improvement of academic processes, where its most visible expression materializes in teaching performance and in the pedagogical practices implemented in the university classroom (Chacón, 2019; Orozco et al., 2020;

UNESCO, 2023).

Within this framework, teacher training constitutes a strategic process of continuous professional development that strengthens a professional profile centered on pedagogical, digital, and evaluative competencies required to respond to current transformations in higher education and to quality standards (Darling-Hammond et al., 2017; Fernandes et al., 2023; Goodwin et al., 2023).

In this sense, the strengthening of these competencies is reflected in the consolidation of the faculty professional profile as a multidimensional, competency-based construct that directly influences educational innovation and the implementation of formative assessment processes, feedback for learning improvement, and the development of cooperative relationships not only at the professional level but also at personal and occupational levels (Black & Wiliam, 1998; Boud, 2010; Bravo et al., 2012; Dervenis et al., 2022; Manzanal et al., 2022).

Consequently, this study assumes that the relationship between teacher training and professional profile functions as a driving variable in strengthening educational quality in higher education.

1.1. Educational quality in higher education

Educational quality in higher education has become a central category in institutional quality assurance processes due to its direct relationship with the social relevance of universities, the effectiveness of learning, and compliance with accreditation standards. Within the framework of the 2030 Agenda, educational quality is conceived not only as an outcome but as a comprehensive process aimed at ensuring equitable and inclusive education, which requires strengthening institutional, curricular, and pedagogical conditions (UNESCO, 2023).

Thus, quality acquires a systemic character: it is expressed in institutional management, university teaching, and the

capacity to innovate in response to the demands of the knowledge society (OECD, 2024; Garzón-González et al., 2025).

From this perspective, quality systems in higher education must move beyond approaches limited to administrative control and instead orient themselves toward a culture of continuous improvement grounded in evaluation, monitoring of academic processes, and evidence-based decision-making. Recent literature emphasizes that quality assurance processes should focus on the real improvement of the educational process, strengthening teaching performance, educational innovation, and coherence among curriculum, assessment, and learning outcomes (UNESCO, 2023; Băltarețu et al., 2025). For this reason, educational quality is strengthened when institutional policies are aligned with faculty professionalization, since quality ultimately materializes in pedagogical practice.

Educational quality is also associated with faculty satisfaction and motivation, institutional capacity to retain academic talent, and the consolidation of educational innovation processes. Continuous professional development is recognized as a strategic factor in strengthening quality, as it contributes to improved teaching performance and the sustainability of academic processes (OECD, 2024).

Consequently, educational quality in higher education should be understood as a dynamic institutional construction that depends significantly on faculty professional development and the strengthening of the professional profile of university educators.

From the perspective of this study, educational quality in higher education cannot be understood solely as compliance with standards or accreditation outcomes, but rather as a dynamic process constructed through the interaction of institutional policies, pedagogical practices, and faculty professional development. In this sense, quality emerges as a property of the university system whose realization depends largely on faculty capacity to transform disciplinary knowledge into

relevant, inclusive, and meaningful learning experiences.

Likewise, educational quality is conceived as a process of continuous improvement grounded in critical reflection on practice, pedagogical innovation, and formative assessment—elements that enable responsiveness to the evolving demands of the knowledge society. Therefore, rather than a fixed state to be achieved, quality represents a horizon of institutional development that requires coherence among the faculty professional profile, continuing education programs, and the university's strategic purposes.

1.2. University Teacher Training as a Variable Associated with Educational Quality

Teacher training in higher education is conceived as a continuous, dynamic, and contextualized process aimed at strengthening faculty competencies to respond to contemporary academic, technological, and social transformations. Within this framework, educational quality is recognized as largely dependent on institutional capacity to sustain ongoing training programs that enhance teaching performance, pedagogical innovation, and the improvement of teaching-learning practices (UNESCO, 2023; OECD, 2024; Zavala et al., 2024).

Consequently, teacher training cannot be relegated to isolated training activities; it must aim at the deep transformation of educational practices by integrating pedagogical, digital, evaluative, and socio-emotional dimensions (Băltarețu et al., 2025).

Recent research highlights teacher training as a strategic mechanism for strengthening quality assurance, as it enables faculty to incorporate active methodologies, inclusive practices, pedagogical mediation, and formative assessment (Casimiro et al., 2025). In this sense, teacher training directly impacts educational quality because it influences the types of learning experiences

designed and the coherence between teaching and assessment (De León et al., 2024).

However, universities face persistent challenges related to gaps in digital competencies, implementation of active methodologies, and feedback-oriented assessment, limitations that may hinder alignment between quality policies and actual practices (Piñán et al., 2025; Moreira-Choez et al., 2025).

In the Ibero-American context, teacher training has been prioritized as a response to challenges of quality, inclusion, and relevance. Regional organizations emphasize the need to align faculty development programs with institutional culture, educational innovation, and university strategic plans (OEI, 2023; Chiarino & Plachot, 2023; Suárez-Amaya et al., 2024). In Colombia, in particular, guidelines have been established to strengthen continuous faculty development, with emphasis on pedagogical, digital, and evaluative competencies, highlighting its essential role in consolidating educational quality in higher education institutions (MEN et al., 2022). In sum, teacher training represents a factor associated with educational quality insofar as it strengthens teaching capacities, promotes innovation, and improves educational processes from an institutional perspective.

Thus, university teacher training can be understood as a strategic process of professional development aimed not only at updating knowledge but at the comprehensive transformation of pedagogical practices and institutional culture. Continuous training functions as a mechanism linking educational quality objectives with concrete teaching action by enabling the reflective incorporation of methodological, technological, and evaluative innovations in real teaching contexts.

Teacher training also acquires a systemic character when it is connected to the faculty professional profile, institutional policies, and continuous improvement processes, thereby overcoming instrumental approaches focused solely on technical training. From this perspective, educational quality does not

depend exclusively on the existence of training programs but on their relevance, continuity, and capacity to generate sustainable changes in teaching performance and student learning experiences.

Consequently, for the purposes of this article, university teacher training is conceived as a variable associated with educational quality insofar as it strengthens the competencies required to design, implement, and evaluate educational processes aligned with the demands of the knowledge society, contributing to the consolidation of more innovative, inclusive, and learning-oriented higher education institutions.

1.3. Faculty professional profile grounded in competency development as a driver of educational quality

The professional profile of university faculty is understood as a multidimensional construct integrating generic and specific competencies essential for ensuring relevant, innovative, and learning-outcome-oriented university teaching. Generic competencies include leadership, communication, collaborative work, change management, and innovation, while specific competencies encompass disciplinary expertise, pedagogical use of technology, and the implementation of formative assessment practices (Ramírez-Montoya et al., 2021; Alan & Güven, 2022; Suh et al., 2024; Moreira-Choez et al., 2025). This integration of competencies allows the professional profile to be understood as a determining factor in teaching performance and, therefore, as an essential element in guaranteeing educational quality.

Scientific evidence indicates that strengthening the professional profile of faculty not only improves academic performance but also increases motivation and job satisfaction—factors that influence institutional stability and quality assurance. In this regard, recent studies show that consolidating the faculty professional profile is associated with improvements in educational

innovation and with the strengthening of institutional accreditation processes (Guerra & Plaza, 2021; Piñán et al., 2025). This reinforces the notion that educational quality is sustained when faculty possess strong competencies in instructional design, technological mediation, and formative assessment.

Formative assessment and feedback, in particular, represent a critical professional competency that strengthens learning, promotes self-regulation, and enhances the educational experience; consequently, their presence or absence directly affects the quality of the educational process. However, various studies have shown that formative assessment remains one of the most complex gaps in higher education, generating tensions between institutional quality standards and traditional teaching practices (Guerra & Plaza, 2021; Piñán et al., 2025). Therefore, consolidating the professional profile requires strengthening pedagogical, digital, and evaluative competencies that enable faculty to respond to contemporary demands, contribute to institutional innovation, and sustain educational quality.

The professional profile of university faculty can also be explained as a dynamic construct integrating knowledge, skills, attitudes, and values oriented toward relevant and transformative teaching practice. Rather than a static set of competencies, it constitutes a system of capacities in continuous development, updated in response to scientific, technological, and social changes in higher education.

From this perspective, the professional profile becomes a driving force of educational quality when it guides teaching practice toward pedagogical innovation, meaningful technological mediation, and assessment focused on knowledge construction. Accordingly, quality depends not only on institutional structures or formal policies but also on faculty capacity to translate these orientations into coherent, inclusive, and context-sensitive learning experiences.

Thus, strengthening the faculty professional profile entails consolidating

pedagogical, digital, and evaluative competencies that enable responses to contemporary challenges in higher education, fostering more effective teaching-learning processes, self-regulation, cognitive autonomy, and institutional continuous improvement. From this standpoint, the professional profile emerges as a driver of educational quality insofar as it articulates individual faculty development with the university's strategic goals and the demands of the knowledge society.

2. Methodology

A mixed-methods study was conducted using a non-experimental, cross-sectional design with a descriptive-correlational scope, aimed at analyzing the relationship between teacher training and professional profile as driving variables of quality processes in higher education. Quantitative analysis was integrated with qualitative evidence derived from observation, participant interaction, and document analysis for purposes of interpretive triangulation.

2.1. Approach, paradigm, and design

The research was grounded in the critical rationalist paradigm, which supports rigorous analysis and the testing of theoretical explanations against empirical evidence (Popper, 1972, 2002; Hernández et al., 2014; Creswell, 2021). Consistent with this paradigm, a non-experimental, cross-sectional, correlational design was adopted, as the variables were analyzed in their natural context without intentional manipulation, with the aim of establishing associations among the dimensions studied (Hernández et al., 2014; Creswell, 2021).

2.2. Population and sample

The sample size was estimated using

the QuestionPro Audience tool (sample size calculator), establishing a confidence level of 99% and a margin of error of 5%, based on Cochran's (1977) formulation (Rahman, 2023). The population consisted of 493 university faculty members affiliated with a higher education institution located in the Colombian Caribbean region. A sample of 284 participants was determined, considering a 99% confidence level and a 5% margin of error, following Cochran's estimation (Roco et al., 2021).

2.3. Sampling

Non-probabilistic purposive sampling was employed (Creswell, 2021), selecting faculty members with active institutional affiliation and willingness to participate, while ensuring diversity across faculties and academic areas in order to incorporate representative perspectives of university teaching staff.

2.4. Instrument

Data collection was carried out using the Perception Questionnaire on Teacher Training and Professional Profile in Higher Education (CP-FDPP), consisting of 22 items on a five-point Likert scale (1 = strongly disagree; 5 = strongly agree). The instrument assesses perceptions regarding teaching competencies, training processes, and elements of the professional profile associated with improving educational quality. Its content was reviewed by experts to ensure clarity, relevance, reliability, validity, and objectivity of the items (Cardena, 2023; García-Vargas & Molina-Ruiz, 2025).

2.5. Procedure

The questionnaire was administered digitally in a self-administered format, following institutional authorization and

informed consent. Anonymity, confidentiality, and exclusive use of the information for academic purposes were guaranteed.

2.6. Data Analysis

Quantitative data were processed using descriptive and inferential statistics to characterize perception trends and analyze the association between teacher training and professional profile. Sample adequacy tests (KMO and Bartlett) were applied, along with exploratory factor analysis using Promax rotation and estimation of internal consistency, in accordance with psychometric standards in educational research.

Additionally, an exploratory qualitative component was incorporated to contextualize and interpret the quantitative findings. This involved observation of the academic environment, interaction with participating faculty, and review of institutional documentation related to training, evaluation, and quality. The information was organized using analytical categories linked to teaching competencies, digital competencies, formative assessment, and feedback, enabling integration of results through concomitant triangulation of an interpretive nature.

3. Results and discussion

The study results are systematically organized to characterize teacher training and professional profile as factors associated with educational quality in higher education. Specifically, the analysis considers: (i) the descriptive behavior of faculty evaluations; (ii) the identification of relevant training and professional gaps; (iii) psychometric confirmation of the bidimensional structure of the CP-FDPP instrument; and (iv) the association between the analyzed dimensions as empirical evidence of their link to the improvement of university educational quality.

Overall, the findings reveal a generally favorable perception among university faculty

regarding teacher training and professional profile, confirming their role as factors associated with strengthening educational quality in higher education. High ratings for components such as disciplinary updating and institutional commitment suggest significant progress in traditional dimensions of teaching performance, which are closely linked to quality assurance processes and academic relevance.

These findings align with current perspectives emphasizing continuous faculty professional development as a strategic condition for improving university teaching and consolidating institutional cultures of continuous improvement (Darling-Hammond et al., 2017; MEN et al., 2022; UNESCO et al., 2022).

However, the study also identifies critical gaps in the pedagogical integration of digital technologies, formative feedback, and the development of transversal competencies — dimensions directly related to educational innovation and learning quality. This situation is consistent with recent literature warning that university digital transformation depends not only on technological access but also on strengthening faculty competencies to mediate technology pedagogically and guide formative assessment processes centered on learning (Black & Wiliam, 1998; Boud, 2010; Auris et al., 2022; Duarte et al., 2022; Cárdenas-Zea et al., 2024; Moreira-Choez et al., 2025). In this sense, the identified gaps represent institutional opportunities to redesign continuing education pathways aligned with quality and accreditation standards.

Finally, the psychometric evidence obtained supports the consistency of the CP-FDPP instrument for assessing faculty perceptions in higher education by confirming a coherent bidimensional structure (Teacher Training and Professional Profile), along with adequate indices of fit and reliability. This constitutes a relevant contribution, as the availability of valid and reliable instruments strengthens the use of empirical evidence in educational quality management and in institutional decision-making oriented

toward continuous improvement (Ferrando et al., 2022; Cardeña, 2023; García-Vargas & Molina-Ruiz, 2025).

Consequently, the findings suggest that strengthening faculty digital, evaluative, and transversal competencies represents a strategic pathway for enhancing quality assurance in higher education, particularly in contexts characterized by accelerated technological change and increasing demands for pedagogical innovation.

Based on these results, this study contributes to the field of higher education by providing empirical evidence that allows teacher training and professional profile to be understood not as independent dimensions but as interdependent variables operating jointly within quality assurance processes. This finding expands traditional approaches centered on isolated constructs and proposes a systemic interpretation of faculty professional development, in which educational quality emerges from the interaction among competencies, pedagogical practices, and organizational development capacities.

From an applied perspective, these results suggest that quality assurance policies in higher education should be oriented toward comprehensive models of faculty professional development that integrate continuing education, performance evaluation, and institutional support. The evidence indicates that interventions focused exclusively on isolated training programs may be insufficient if not accompanied by organizational conditions that facilitate transfer to practice. In this regard, the study provides elements for reorienting institutional strategies toward systemic improvement approaches, in which teacher training and professional profile are conceived as strategic components of sustainability and educational innovation.

3.1. Descriptive behavior of teacher training and professional profile

The descriptive analysis (see Table 1) revealed a favorable trend in university

faculty perceptions regarding the dimensions of teacher training and professional profile. The results show scores concentrated at high levels of evaluation, with means above the midpoint of the scale and low dispersion, reflecting relative uniformity in participants' interpretation of the phenomenon. This

pattern is accompanied by negative skewness, indicating a predominance of responses in the “agree” and “strongly agree” categories, which suggests a positive perception of faculty professional development as a relevant component of institutional educational quality.

Table 1
General Descriptive Statistics of the CP-FDPP Instrument

Indicator	Value
Mean (range)	3.98 – 4.52
Median	4.10
Standard deviation (range)	0.67 – 1.00
Skewness	Negative (tendency toward high values)
Kurtosis	High (concentration in upper categories)
Shapiro–Wilk	$p < 0.001$

Note: The statistics indicate a predominance of responses at high levels of agreement and a non-normal distribution.

Source: Own elaboration, 2026, based on CP-FDPP results.

3.2. Priority gaps for strengthening educational quality

Despite the predominance of positive evaluations, item-level analysis identified relevant gaps associated with key components of educational quality. Greater dispersion was observed particularly in items related to digital competencies, formative assessment, and systematic feedback, indicating that these aspects are not yet fully consolidated in

university teaching practice.

Specifically, the items showing the highest variability were F1005, F1006, and F2006 (see Table 2), revealing divergent faculty perceptions regarding these components. These findings are significant because educational quality in higher education requires coherence between faculty professional development, the integration of technological resources, and the implementation of assessment strategies oriented toward learning.

Table 2
Items with Highest Dispersion and Priority Improvement Gaps

Item	Interpretation (summary)	Statistical evidence
F1005	Priority gap (competencies/training action)	Highest dispersion
F1006	Priority gap (training practices)	Highest dispersion
F2006	Priority gap (applied professional profile)	Highest dispersion

Note: Items F1005, F1006, and F2006 showed the greatest variability, indicating institutional opportunities for improvement in components related to teaching competencies and educational quality.

Source: Own elaboration, 2026.

3.3. Factorial structure of the instrument and factor consolidation

The structural validity of the CP-FDPP instrument was verified through factor

analysis. The results confirmed the suitability of the analysis, showing adequate sampling adequacy (KMO) and statistical significance in Bartlett's test ($p < 0.001$), which allowed the extraction of factors to proceed (see Table 3).

Table 3
Sampling Adequacy and Factor Structure of the CP-FDPP (EFA)

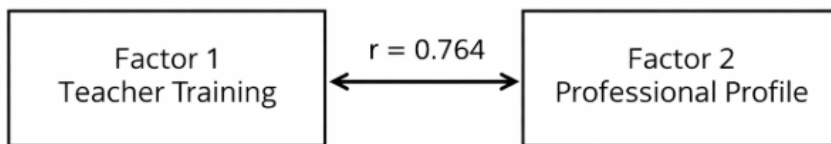
Test/Indicator	Result
KMO	0.809
Bartlett (χ^2)	780.159
Significance	$p < 0.001$
Number of factors	2
Variance explained – Factor 1	34.9%
Variance explained – Factor 2	19.9%
Total variance explained	54.8%

Note: The EFA with Promax rotation confirmed a bidimensional structure consistent with the theoretical model of the instrument.

Source: Own elaboration, 2026.

The exploratory factor analysis identified a bidimensional structure coherent with the theoretical model, grouping the items into two dimensions: Teacher Training and Professional Profile (see Figure I). The total variance explained exceeded the minimum acceptable threshold for educational instruments,

reaffirming that the extracted factors adequately represent the analyzed categories. This structure is essential for understanding the role of both dimensions as interconnected elements in university educational quality, as they integrate competencies, institutional practices, and teaching performance.



Source: Own elaboration, 2026.

Figure I: Bidimensional Structure of the CP-FDPP: Teacher Training and Professional Profile

3.4. Model Fit and Internal Consistency of the CP-FDPP

Confirmatory factor analysis was conducted to evaluate the overall model fit. The fit indices showed acceptable values,

indicating that the bidimensional structure of the instrument is suitable for studies of faculty perceptions aimed at evaluating formative and professional processes associated with educational quality. Although some indicators fall within moderate ranges, the overall

results confirm the adequacy of the model for application in higher education contexts.

Regarding reliability, the instrument demonstrated high internal consistency both overall and across dimensions (see Table 4). Cronbach's alpha and McDonald's

omega coefficients exceeded the minimum recommended criteria, confirming stability in the measurement of faculty perceptions and supporting the use of the CP-FDPP as an institutional diagnostic tool.

Table 4
Internal Consistency of the CP-FDPP Instrument (α and Ω)

Dimension	Cronbach's α	McDonald's Ω
Teacher Training	0.873	0.870
Professional Profile/Professional Development	0.841	0.845
Total instrument	0.892	0.895

Note: The coefficients indicate high reliability of the instrument both across its dimensions and overall.

Source: Own elaboration, 2026.

3.5. Teacher training and professional profile as associated factors

The analysis of the association between dimensions revealed a positive relationship between teacher training and professional profile. This finding indicates that both dimensions operate in an articulated manner and mutually reinforce each other within the context of university teaching performance. From an interpretive standpoint, this implies that institutional strengthening of teacher training may contribute to consolidating the professional profile, particularly

in pedagogical, evaluative, and digital competencies.

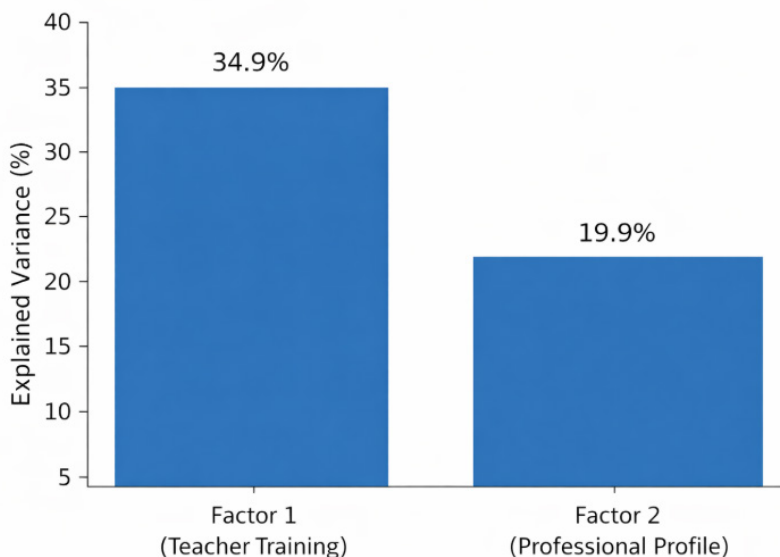
Consequently, the association between factors empirically supports the central premise of the article: teacher training and professional profile constitute factors associated with improving educational quality, as they influence teaching and assessment practices oriented toward learning, as well as conditions for innovation and sustainable professional performance. The association between dimensions is presented in Table 5 and graphically represented in Graphic I.

Table 5
Teacher Training and Professional Profile as Associated Factors

Association	Result
Correlation between factors (Teacher Training ↔ Professional Profile)	$r = 0.764$

Note: The positive correlation between factors justifies the use of oblique rotation (Promax) and confirms the articulation between teacher training and professional profile as associated factors within the framework of university educational quality.

Source: Own elaboration, 2026.



Source: Authors' own elaboration (2026).

Graphic I: Explained Variance by Factor (EFA) and Correlation Between CP-FDPP Dimensions ($r = 0.764$)

Conclusions

In line with the study's objective, the findings indicate that teacher training and professional profile constitute variables closely associated with strengthening quality in higher education, as they influence pedagogical performance, instructional innovation, and the sustainability of an institutional culture oriented toward continuous improvement. In this sense, teacher professional development emerges as a strategic factor for ensuring relevant educational processes aligned with university quality assurance standards.

The overall favorable evaluation expressed by faculty reflects significant institutional progress, particularly in disciplinary updating, teaching commitment, and participation in continuing professional development programs—components that contribute to academic relevance and to strengthening teaching–learning processes.

However, the study also confirms the persistence of critical gaps related to the pedagogical integration of digital technologies, formative assessment, systematic feedback, and the development of cross-cutting competencies, all of which represent priority areas for institutional intervention.

In terms of contributions, this research provides empirical evidence on the relationship between teacher training, professional profile, and educational quality from the perspective of university faculty, contributing to the understanding of these constructs as interdependent variables within institutional quality assurance systems. It also validates the use of the Perception Questionnaire on Teacher Training and Professional Profile (CP-FDPP) as a reliable instrument for assessing training needs and supporting evidence-based decision-making in university contexts.

Among the main limitations of the study are its cross-sectional design, which prevents

the establishment of causal relationships between the analyzed variables, and the purposive nature of the sample, which may limit the generalization of the results to other institutional contexts. Additionally, the use of perception-based data may introduce biases associated with participant subjectivity.

Regarding future research directions derived from the findings, longitudinal studies are recommended to examine the evolution of the faculty professional profile over time, as well as comparative studies across different institutions or higher education systems. It would also be pertinent to further investigate the impact of digital and evaluative competencies on student learning outcomes and to explore the relationship between teacher training, occupational well-being, and the sustainability of educational quality.

In summary, the consolidation of continuous teacher training programs aligned with professional profile standards constitutes a fundamental strategy for strengthening the quality of higher education, promoting pedagogical innovation, and ensuring universities that are more relevant, inclusive, and oriented toward meaningful learning. The findings provide a foundation for the formulation of university policies aimed at sustainable faculty professional development and for the design of quality assurance systems grounded in empirical evidence.

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