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Critical competencies in university teacher training: a systematic review of pedagogical, ethical and methodological challenges

Competencias críticas en formación docente universitaria: una revisión sistemática de desafíos pedagógicos, éticos y metodológicos

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Abstract

Strengthening critical competencies in university teacher education is essential for addressing the pedagogical, technological, and social challenges facing higher education. In this context, the objective of this study was to analyze the scientific evidence on these competencies by identifying research trends, theoretical foundations, and training strategies reported in the specialized literature. A systematic literature review was conducted following the PRISMA guidelines, supplemented by a bibliometric analysis aimed at characterizing scientific output through the temporal distribution of publications, the countries of affiliation of the first author, and the main keywords identified in the studies. The results showed a progressive increase in scientific output on the subject and demonstrated that the development of critical competencies strengthened reflective thinking, informed pedagogical decision-making, and improved educational practices, thereby fostering the training of university faculty with greater capacity to address the current challenges of higher education.

Keywords: Critical skills, university-level teacher education, critical thinking.

Resumen

El fortalecimiento de las competencias críticas en la formación docente universitaria constituye un aspecto fundamental para responder a los desafíos pedagógicos, tecnológicos y sociales que enfrenta la educación superior. En este contexto, la presente investigación tuvo como objetivo analizar la evidencia científica

sobre dichas competencias mediante la identificación de tendencias de investigación, fundamentos teóricos y estrategias formativas reportadas en la literatura especializada. Se realizó una revisión sistemática de la literatura siguiendo los lineamientos del método PRISMA, complementada con un análisis bibliométrico orientado a caracterizar la producción científica mediante la distribución temporal de las publicaciones, los países de afiliación del primer autor y las principales palabras clave identificadas en los estudios. Los resultados evidenciaron un incremento progresivo de la producción científica sobre la temática y mostraron que el desarrollo de competencias críticas fortaleció el pensamiento reflexivo, la toma de decisiones pedagógicas fundamentadas y la mejora de las prácticas educativas, favoreciendo la formación de docentes universitarios con mayores capacidades para afrontar los retos actuales de la educación superior.

Palabras clave: Competencias críticas, formación docente universitaria, pensamiento crítico.

Introduction

University teacher education faces the challenge of preparing professionals capable of responding to the transformations reshaping higher education amid digitalization, artificial intelligence, sociocultural diversity, and the growing demands of the knowledge society. Within this landscape, developing critical competencies takes on particular importance, as it fosters reflective thinking, evidence-based decision-making, and the capacity to analyze and transform educational practices from an ethical, innovative, and socially responsible standpoint.

A growing body of research indicates that initial teacher preparation should not be confined to the acquisition of subject-matter knowledge, but must also cultivate competencies tied to critical analysis, pedagogical reflection, problem-solving, and evidence-based decision-making. Methodologies such as problem-based learning, educational research, and reflective practice have proven effective in strengthening these competencies and in producing more well-rounded teacher preparation.

This study was warranted by the need to examine the scientific evidence on the development of critical competencies in university teacher education, taking into account the pedagogical, ethical, and methodological challenges present in contemporary educational settings. It also incorporated a bibliometric analysis intended to characterize scientific output in the field through the temporal distribution of publications, the countries of affiliation of the first authors, and the main keywords identified across the studies.

The objective of this study was to examine the available scientific evidence on the development of critical competencies in university teacher education, considering the pedagogical, ethical, and methodological challenges present in contemporary educational settings, with a view to identifying research trends, theoretical approaches, training strategies, and relevant contributions reported in the academic literature.

Building on this objective, the study addressed the following research questions: How does the development of critical competencies in university teacher education contribute to strengthening reflective thinking, pedagogical decision-making, and the transformation of contemporary educational practices? And what are the main pedagogical, ethical, and methodological challenges that shape the development of critical competencies among future university faculty?

Contemporary higher education calls for professionals who can critically analyze, interpret, and assess information in order to respond to academic and social settings marked by growing complexity. Within this framework, critical thinking is recognized as a cross-cutting competency that supports well-reasoned argumentation, the evaluation of evidence, and informed decision-making throughout educational processes (Parra & Cherre, 2026).

From a pedagogical standpoint, these capacities are strengthened through learning experiences grounded in research, the analysis of real-world situations, academic discussion, and ongoing reflection on professional practice (Cangalaya, 2020). Within the university setting, such competencies carry particular weight in teacher education, since they equip prospective faculty to understand educational problems, propose improvements, and respond critically to the demands of their context.

Along these lines, Fonseca (2025) notes that teaching in higher education demands capacities tied to rigorous analysis, well-grounded argumentation, and ongoing reflection on pedagogical practice. These

competencies not only enhance professional performance but also help shape a teaching practice oriented toward innovation and educational transformation.

Likewise, the social, technological, and cultural shifts of the twenty-first century have reshaped the demands placed on higher education, calling for faculty who move beyond disciplinary mastery to integrate pedagogical, research, digital, and socio-emotional competencies capable of meeting the present-day needs of students and society (Londoño & Sanabria, 2024).

In this vein, Toledo (2021) argues that competency-based teacher education must move past the mere acquisition of disciplinary knowledge to incorporate critical reflection, active methodologies, and learning experiences grounded in educational reality. From this standpoint, collaborative strategies, emerging technologies, and evidence-based practices help prepare future teachers with a greater capacity to navigate diverse and changing educational settings.

This shift in the teaching role has also been examined by Rico and Ponce (2022), who observe that changes within educational systems have redefined the traditional function of faculty. University teachers are no longer confined to transmitting content; they have become mediators of learning, able to guide training processes, encourage students' active participation, and create spaces where knowledge is built critically and meaningfully.

Seen in this light, teaching practice takes on a research-oriented and transformative dimension, since it involves examining contextual problems, reflecting on one's own pedagogical decisions, and devising alternatives for improvement. Claret (2023) accordingly emphasizes that continuous improvement, inclusion, and social responsibility are essential elements for guiding an educational practice committed to the quality and relevance of higher education.

Developing critical thinking among university students likewise calls for pedagogical approaches that promote participation, analysis, and well-founded argumentation. According to López et al. (2023), this process entails strengthening higher-order cognitive skills tied to interpreting information, weighing evidence, and forming reasoned judgments in academic and professional situations.

Consistent with this view, Mayor (2019) maintains that active methodologies such as problem-based learning, collaborative learning, and undergraduate research help students become more autonomous in analyzing situations, constructing arguments, and making informed decisions.

Similarly, Mina (2024) underscores the importance of implementing training strategies that encourage reflection, critical analysis, and active student participation, given that knowledge construction requires educational processes in which learning is understood as a dynamic, contextualized activity oriented toward holistic development.

Preparing future teachers involves more than mastering pedagogical and disciplinary knowledge; it also requires cultivating the ethical principles that guide their professional conduct. Maldonado (2021) notes in this regard that teacher preparation must strengthen the values, responsibilities, and professional judgment needed to respond appropriately to educational settings marked by diversity and complexity. Ethics thus becomes an essential element for promoting practices grounded in respect, equity, academic integrity, and a commitment to students' holistic development.

With respect to pedagogical decision-making, Ramos and López (2019) point out that teaching practice requires weighing the social, cultural, and human consequences of educational actions. Professional practice among university faculty therefore calls for a reflective stance that takes into account inclusion, educational justice, and the well-being of the academic community, leading to decisions that are more conscious and context-sensitive.

Muñoz et al. (2023) likewise argue that today's educational settings demand faculty capable of critically interpreting the social, cultural, and educational dynamics that shape learning processes. This capacity allows educators to grasp emerging problems, recognize the diversity present in training environments, and craft pedagogical responses grounded in principles of equity, inclusion, and social responsibility.

Building on this view, Hernández and Flores (2021) contend that incorporating reflective, research-based, and participatory processes into teacher education strengthens the capacity to question traditional practices and build alternatives geared toward educational improvement. Examining real-world experiences and understanding the factors that shape educational quality contribute to developing professionals capable of driving change within their own settings.

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In a complementary vein, Marín et al. (2025) demonstrate the value of incorporating active methodologies that foster higher-order cognitive skills, allowing teaching and learning processes to move beyond rote memorization and instead promote reflection, analysis, and the autonomous construction of knowledge.

Preparing future teachers involves not only mastering pedagogical and disciplinary knowledge but also cultivating the ethical principles that guide their professional conduct. Maldonado (2021) argues in this regard that teacher preparation must strengthen the values, responsibilities, and professional judgment needed to respond appropriately to educational settings marked by diversity and complexity. From this standpoint, ethics emerges as an essential component for promoting educational practices grounded in respect, equity, academic integrity, and a commitment to students' holistic development.

Regarding pedagogical decision-making, Ramos and López (2019) note that teaching practice requires weighing the social, cultural, and human implications of educational actions. As a result, professional practice among university faculty calls for a reflective stance that takes into account inclusion, educational justice, and the well-being of the academic community, fostering decisions that are contextualized and well-founded.

Muñoz et al. (2023) similarly maintain that today's educational settings require faculty capable of critically interpreting the social, cultural, and educational dynamics that shape teaching and learning processes. This capacity supports an understanding of emerging problems, an awareness of the diversity found in training contexts, and the construction of pedagogical responses guided by principles of equity, inclusion, and social responsibility.

Along the same lines, Hernández and Flores (2021) argue that incorporating reflective, research-based, and participatory processes throughout teacher education strengthens the capacity to question traditional practices and generate alternatives aimed at educational improvement. Examining real-world experiences and understanding the factors that shape educational quality contribute to developing professionals equipped to intervene in and transform their own settings.

Complementing this, Marín et al. (2025) show that incorporating active methodologies fosters the development of higher-order cognitive skills, allowing teaching and learning processes to move beyond the mere reproduction of information and instead promote reflection, analysis, and the autonomous construction of knowledge. Taken together, the range of approaches and contributions on critical competencies in university teacher education points to the need to systematize the available scientific output, identify research trends, and recognize the main theoretical and methodological contributions made in this field of study.

Methodology

This study was carried out as a systematic literature review complemented by a descriptive bibliometric analysis, aimed at identifying, selecting, appraising, and synthesizing the available scientific evidence on the development of critical competencies in university teacher education and the pedagogical, ethical, and methodological challenges present in contemporary educational settings. The systematic review made it possible to integrate the main findings from empirical research and theoretical contributions, while the bibliometric analysis characterized scientific output through indicators related to the temporal evolution of publications, the countries of affiliation of the first authors, and the main keywords associated with the field.

The literature search was conducted in the Scopus, Web of Science, SciELO, and ERIC databases, selected for their academic standing, scientific coverage, and relevance to the field of education. These sources provided access to specialized literature on critical competencies in university teacher education, ensuring the selection of studies with thematic relevance and methodological soundness. The search strategy drew on terms such as "competencias críticas," "pensamiento crítico," "formación docente universitaria," "desarrollo profesional docente," "reflexión pedagógica," and "educación superior," combined through the Boolean operators AND and OR according to the specifications of each database.

The inclusion criteria covered original research articles, systematic reviews, and empirical studies published between 2020 and 2026, available in full text, written in Spanish or English, and indexed in the selected databases. Studies addressing the development of critical competencies in university teacher education were also included, encompassing research on critical thinking, pedagogical reflection, competency-based training, teaching strategies, educational innovation, and professional ethics.

Duplicate records, book chapters, theses, conference proceedings, editorials, letters to the editor, and publications lacking a peer-review process were excluded. Studies that touched on higher education or teacher training but did not specifically examine the development of critical competencies, reflective thinking, or strategies aimed at strengthening university teaching practice were likewise excluded.

The search process identified 110 bibliographic records related to the study topic. After applying the eligibility criteria and carrying out the corresponding screening, 70 studies were selected for full-text review. These documents were evaluated in terms of methodological quality, theoretical grounding, coherence of the research design, and the relevance of their results.

As a result of this appraisal process, 46 studies were excluded because they did not meet the established criteria or did not specifically address the development of critical competencies in university teacher education. The final corpus therefore comprised 24 scientific articles, 15 of which followed a qualitative approach and 9 a quantitative one.

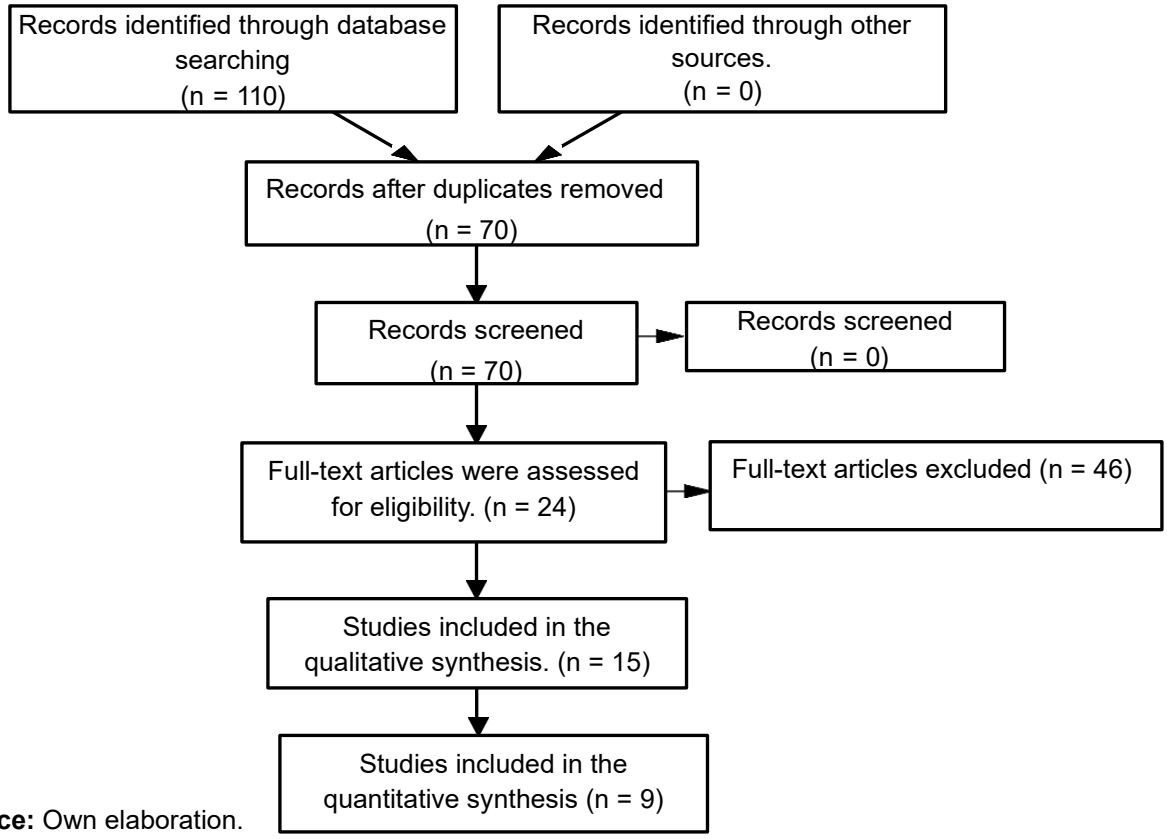
The systematic review process was conducted in accordance with the PRISMA statement (Preferred Reporting Items for Systematic Reviews and Meta-Analyses), which guided the identification, selection, appraisal, and synthesis stages of the scientific evidence.

Bibliometric analysis

As a complement to the systematic review, a descriptive bibliometric analysis was carried out on the 24 studies included in the final corpus. This analysis characterized scientific output through indicators related to the temporal distribution of publications, the country of affiliation of the first author, and the main keywords identified in the selected documents.

The data obtained were organized and processed using Microsoft Excel, making it possible to identify publication trends and thematic patterns associated with the development of critical competencies in university teacher education. Bibliometric analysis is a methodological strategy used to examine the evolution of a scientific field through indicators of output and knowledge structure (Aria & Cuccurullo, 2017; Donthu et al., 2021).

Figure 1. *PRISMA method.*



Source: Own elaboration.

Results

The results are presented on the basis of the scientific evidence gathered on the development of critical competencies in university teacher education and the pedagogical, ethical, and methodological challenges present in contemporary educational settings. Synthesizing the studies made it possible to identify the main findings related to the strengthening of critical thinking, reflection on teaching practice, ethical training, the application of innovative pedagogical strategies, and the development of problem-solving capacities in complex educational settings.

The study selection process followed the stages set out in the PRISMA statement. An initial 110 bibliographic records were identified from the Scopus, Web of Science, SciELO, and ERIC databases. After removing duplicates and applying the inclusion and exclusion criteria, 70 studies were assessed in full text. Subsequently, 46 studies were excluded on eligibility grounds, leaving a final corpus of 24 scientific articles. These studies formed the documentary basis for analyzing the trends, methodological approaches, and contributions related to the development of critical competencies in university teacher education.

Table 1. *Characterization matrix of the studies included in the systematic review.*

Author, year	Study objective	Methodological design	Sample/Context	Study theme	Main findings
Benavides & López (2020)	To analyze current challenges in the ongoing professional development of university faculty.	Documentary study/theoretical analysis.	University faculty and higher education context.	Continuing teacher education.	Ongoing professional development was identified as a key process for strengthening professional competencies, pedagogical innovation, and adaptation to educational change.
Canese et al. (2025)	To examine advances and challenges in critical thinking within teacher education.	Qualitative/documentary study.	University teacher education in Paraguay.	Critical thinking and teacher education.	Critical thinking was established as an essential competency for pedagogical reflection, decision-making, and educational transformation.
Cangalaya (2020)	To analyze the development of critical thinking skills through research-	Qualitative research.	University students.	Critical thinking skills.	Research-based learning fostered analysis, argumentation, interpretation, and the

Author, year	Study objective	Methodological design	Sample/Context	Study theme	Main findings
	based processes.				construction of critical knowledge.
Cipagauta (2020)	To analyze perspectives on the ongoing professional development of university faculty.	Documentary review.	Higher education.	Teacher professional development.	Continuing education strengthened pedagogical capacities and enabled faculty to respond to new demands within the university.
Claret (2023)	To describe experiences of pedagogical reflection in teacher education.	Qualitative study.	Faculty engaged in training processes.	Teacher pedagogical reflection.	Reflection on practice fostered the construction of professional identity and improved teaching.
Díaz et al. (2024)	To analyze the importance of continuing education in teaching.	Documentary review.	General educational context.	Continuing teacher education.	Professional updating was regarded as essential for addressing contemporary educational challenges.
Fonseca (2025)	To identify the teaching competencies needed to foster learning.	Documentary research.	Educational institutions.	Teaching competencies.	Pedagogical, communicative, and critical competencies strengthened the quality of the educational process.
García et al. (2026)	To analyze teaching strategies used to improve learning.	Systematic review.	Studies on educational strategies.	Teaching strategies.	Active methodologies promoted participation, critical thinking, and meaningful learning.
Hernández & Flores (2021)	To analyze teacher education from a	Qualitative study.	Faculty and educational context.	Critical teacher education.	Critical teacher education made it possible to question

Author, year	Study objective	Methodological design	Sample/Context	Study theme	Main findings
	critical-social perspective.				traditional practices and promote educational transformation.
Londoño & Sanabria (2024)	To examine the characteristics of university faculty training.	Theoretical/documentary review.	University faculty.	Teacher professionalization.	University faculty need research-oriented, pedagogical, and reflective competencies to respond to present-day demands.
López et al. (2023)	To understand teachers' experiences related to critical thinking in the classroom.	Qualitative research.	Ecuadorian teachers.	Critical thinking in education.	Teachers recognized the importance of participatory strategies for developing students' analytical and reflective skills.
Maldonado et al. (2021)	To analyze the professional ethics of university faculty.	Documentary study.	University faculty.	Ethics and teaching practice.	Professional ethics was linked to responsibility, educational commitment, and students' holistic development.
Marín et al. (2025)	To identify teaching strategies that foster critical thinking.	Systematic review (SALSA method).	Specialized scientific literature.	Strategies for critical thinking.	Active methodologies fostered argumentation, communication, and problem-solving.
Mayor (2019)	To analyze the pedagogical dimensions of service-learning.	Qualitative study.	University service-learning experiences.	Reflective pedagogical practices.	Service-learning strengthened critical thinking, social participation, and professional commitment.

Author, year	Study objective	Methodological design	Sample/Context	Study theme	Main findings
Mina (2024)	To analyze the relationship between pedagogical practice and critical thinking.	Qualitative research.	University teaching practice.	Pedagogical reflection and critical thinking.	Teacher reflection made it possible to develop critical processes linked to educational improvement.
Muñoz et al. (2023)	To explore perceptions of teacher education and critical thinking.	Qualitative study.	Participants in teacher education programs.	Teacher education and critical thinking.	A relationship was found among training experiences, professional reflection, and critical development.
Parra & Cherre (2026)	To systematize research on critical thinking in higher education.	Systematic review.	Scientific studies on higher education.	Critical thinking in higher education.	Critical thinking was recognized as a cross-cutting competency for academic and professional performance.
Ramos & López (2019)	To analyze the ethical training of teaching professionals.	Documentary study.	Teacher professional training.	Teacher professional ethics.	Ethics constitutes an essential component of faculty identity and responsibility.
Rico & Ponce (2022)	To analyze the role of the 21st-century university faculty member.	Documentary research.	Higher education.	Teacher's professional role.	Today's faculty members need pedagogical, digital, research, and critical competencies.
Toledo (2021)	To review trends in university faculty training.	Documentary review.	Literature on higher education.	University teacher education.	Current trends point toward reflective, research-oriented, and innovative faculty.
Valenzuela (2024)	To analyze the presence of critical	Critical/documentary analysis.	University curricula.	Critical thinking in the curriculum.	The findings pointed to the need to

Author, year	Study objective	Methodological design	Sample/Context	Study theme	Main findings
	thinking in competency-based curricula.				strengthen curricular spaces that foster authentic critical thinking.
Vendrell (2024)	To analyze strategies for developing critical thinking in higher education.	Theoretical review.	University-level higher education.	Development of critical thinking.	Dialogic, reflective, and collaborative strategies fostered the growth of critical thinking.

Source: Own elaboration.

Note. The matrix presents the characterization of the 24 studies selected as the final corpus of analysis, taking into account the most relevant methodological and thematic elements of each study. Systematizing this information made it possible to identify the studies' purpose, the methodological approaches used, the educational contexts addressed, and the main contributions related to university teacher education, critical thinking, and the development of professional competencies.

Bibliometric analysis of scientific output

The bibliometric analysis conducted on the 24 articles that made up the final corpus made it possible to characterize the main trends in scientific output related to the development of critical competencies in university teacher education. The indicators examined included the temporal evolution of publications, the country of affiliation of the first author, the journals of origin, and the frequency of keyword occurrence, with the aim of identifying productivity patterns and the main thematic lines addressed in the specialized literature.

Table 2. *Temporal distribution of scientific publications.*

Year of publication	Number of articles	Percentage (%)
2019	1	4,17
2020	4	16,67
2021	3	12,50
2022	1	4,17
2023	3	12,50
2024	5	20,83
2025	4	16,67
2026	2	8,33
Total	**24**	**100**

Source: Own elaboration based on the documentary corpus.

Note. The geographic distribution of the studies included in the systematic review showed a greater concentration of publications from Colombia (25.00%), Peru (20.83%), and Ecuador (12.50%), reflecting a substantial body of Latin American scholarship on the development of critical competencies in university teacher education. Contributions from Mexico, Chile, Paraguay, and Spain were also identified, along with other countries with smaller representation, pointing to the diversity of academic settings from which this topic has been examined.

Table 3. *Distribution of publications by country of affiliation of the first author.*

Country	Number of articles	Percentage (%)
Ecuador	3	12,50
Peru	5	20,83
Colombia	6	25,00
Mexico	2	8,33
Paraguay	1	4,17
Spain	1	4,17
Chile	2	8,33
Other	4	16,67
Total	**24**	**100**

Source: Own elaboration based on the bibliometric analysis of the 24 scientific articles included in the systematic review.

Note. The bibliometric analysis of the geographic origin of the 24 included articles made it possible to identify the distribution of scientific output by the first author's country of affiliation. The results showed a greater presence of research from Colombia, Peru, and Ecuador, demonstrating a substantial contribution from Latin American countries to the study of critical competencies in university teacher education.

Table 4. *Main keywords identified in the studies.*

Keyword	Approximate frequency
Critical thinking	8
Teacher education	7
Higher education	6
Teaching competencies	5
Pedagogical reflection	5
Teaching strategies	4
Teacher professional training	4
Educational innovation	3
Professional ethics	3
Pedagogical practice	3

Source: Own elaboration based on the bibliometric analysis of the selected articles.

Note. The analysis of keyword frequency identified the main concepts associated with scientific output on critical competencies in university teacher education. *The* most frequent terms were *critical thinking, teacher education and higher education,* showing that the specialized literature is concentrated mainly on the development of reflective, professional, and pedagogical capacities at the university level.

Discussion

Analysis of the 24 included studies established that developing critical competencies stands as one of the central challenges facing university teacher education, given that today's demands on higher education require moving beyond models focused exclusively on transmitting disciplinary content. The findings pointed to the need to prepare faculty capable of analyzing educational problems, reflecting on their own practice, and making informed decisions in settings shaped by social, technological, and pedagogical change. These results align with Canese et al. (2025), who note that critical thinking is a fundamental competency for strengthening faculty members' reflective capacity and advancing processes of educational transformation.

From a bibliometric standpoint, the temporal evolution of publications revealed a progressive rise in scientific interest in critical competencies within university teacher education, reflecting the consolidation of this topic as a significant line of educational research. The concentration of studies from Latin American countries such as Colombia, Peru, and Ecuador likewise points to a regional concern with strengthening faculty training processes through reflective and critical approaches. This trend can be read as a response to the challenges facing Latin American university systems in terms of educational quality, pedagogical innovation, and teacher preparation. These results are consistent with Aria and Cuccurullo (2017) and Donthu et al. (2021), who argue that bibliometric studies make it possible to trace the evolution of scientific fields, their thematic trends, and the dynamics underlying knowledge generation.

The results also showed that ongoing faculty development is a decisive factor in strengthening critical competencies, since it allows educators to update their knowledge, adopt new pedagogical strategies, and build analytical capacities in response to changes in higher education. These findings are consistent with Cipagauta (2020), who highlights that continuing education helps faculty adapt to new educational settings and strengthens pedagogical, research, and reflective dimensions of their work. Complementing this, Díaz et al. (2024) note that professional updating facilitates the integration of innovative methodologies and educational resources aimed at improving teaching and learning processes, while Benavides and López (2020) view teacher professional development as an ongoing process of building and transforming educational practice.

With regard to their training implications, the evidence reviewed suggests that critical competencies are not merely cognitive skills but rather an integration of pedagogical, ethical, research, and professional dimensions that enable teachers to interpret their educational reality and craft context-specific responses. This view aligns with Hernández and Flores (2021), who stress the importance of moving beyond traditional models based on the reproduction of knowledge toward training processes oriented toward analysis, reflection, and educational transformation. Valenzuela (2024), however, cautions that embedding critical thinking in university curricula remains a challenge, since in many settings it persists as a stated intention rather than a competency actually developed through systematic learning experiences.

Taken together, the results of this review suggest that strengthening critical competencies calls for deliberate training approaches, aligned with active methodologies, educational research, and ongoing spaces for professional reflection. University teacher education must therefore move toward models that integrate disciplinary knowledge with analytical, ethical, and transformative capacities, enabling future faculty to respond appropriately to the complexities of contemporary higher education.

Conclusions

The analysis of the scientific evidence established that critical competencies represent a significant component of university teacher education, given their contribution to the development of reflective thinking, informed pedagogical decision-making, and the improvement of educational practices. The studies reviewed showed that these competencies help faculty interpret complex educational situations, assess information from a critical standpoint, and design pedagogical responses suited to the needs of higher education.

The main challenges to strengthening these competencies were also found to involve the need to transform traditional teaching models, create ongoing spaces for pedagogical reflection, and implement methodological strategies aimed at fostering intellectual autonomy, professional ethics, and educational innovation. University teacher education therefore requires integrative processes that combine disciplinary knowledge with critical capacities and a commitment to the social context.

The bibliometric analysis revealed a growing trend in scientific output on critical competencies in university teacher education, with a notable share of research conducted in Latin American settings. The main thematic lines identified were associated with critical thinking, teacher education, higher education, and professional competencies, reflecting sustained academic interest in understanding faculty preparation through reflective and transformative approaches.

Finally, the study concludes that continuing education is a necessary avenue for strengthening the critical competencies of university faculty, particularly when combined with research, reflection on practice, and methodological innovation. Ongoing faculty development fosters a deeper understanding of educational challenges and contributes to the formation of professionals capable of analyzing, questioning, and improving their own teaching processes.

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