




Nurse educators' competencies in undergraduate nursing education: an integrative review

Competências do enfermeiro docente no ensino de graduação em enfermagem: revisão integrativa

How to cite this article:

Silva VEN, Souza SMF, Bessa MEP. Nurse educators' competencies in undergraduate nursing education: an integrative review. Rev Rene. 2026;27:e96438. DOI: <https://doi.org/10.36517/2175-6783.20262796438>

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Conflict of interest: the authors have declared that there is no conflict of interest.

EDITOR IN CHIEF: Ana Fatima Carvalho Fernandes 

ASSOCIATE EDITOR: Adriana Cristina Nicolussi 

ABSTRACT

Objective: to identify and analyze nurse educators' competencies that favor the quality of the teaching-learning process in undergraduate nursing education. **Methods:** an integrative review was conducted in MEDLINE, SCOPUS, Web of Science, LILACS, CINAHL, and EMBASE using descriptors "Nurses", "Faculty", "Professional Competency", and "Nursing Education". The guiding question was: what nurse educators' competencies favor the quality of the teaching-learning process in undergraduate nursing education? Studies in Portuguese, English, and Spanish, published between 2020 and 2025, were included. Selection was performed using Rayyan software by two reviewers, and data were subjected to thematic analysis. **Results:** twenty-six studies were selected, predominantly in English (n=25) and concentrated between 2023-2025 (n=14). The quality of the teaching-learning process was associated with integration of pedagogical, cultural, digital, relational competencies, as well as innovation and leadership. The profile of nurse educators was consolidated through the integration of these competencies in response to educational demands. **Conclusion:** competencies encompassed different dimensions, with emphasis on pedagogical and didactic competencies as structuring elements of educational practice, articulated with ethical, cultural, digital, relational, and innovation-related competencies. **Contributions to practice:** it provides a framework for faculty development guidelines and a basis for planning and implementing continuing education processes for nurse educators.

Descriptors: Education, Nursing; Professional Competence; Faculty, Nursing.

RESUMO

Objetivo: identificar e analisar as competências do enfermeiro docente que favorecem a qualidade do processo de ensino-aprendizagem na graduação em enfermagem. **Métodos:** revisão integrativa realizada nas bases MEDLINE, SCOPUS, Web of Science, LILACS, CINAHL e EMBASE com os descritores: Enfermeiros, Docentes, Competência Profissional e Educação em Enfermagem. Utilizou-se da pergunta norteadora: quais competências dos enfermeiros docentes favorecem a qualidade do processo de ensino-aprendizagem na graduação em Enfermagem? Incluiu-se estudos em português, inglês e espanhol, publicados entre 2020 e 2025. A seleção foi realizada no *software* Rayyan por dois revisores, e os dados foram submetidos à análise temática. **Resultados:** selecionaram-se 26 estudos, predominantemente em inglês (n=25) e concentrados entre 2023-2025 (n=14). A qualidade do processo ensino-aprendizagem associou-se à integração de competências pedagógicas, culturais, digitais, relacionais, inovação e liderança. O perfil do enfermeiro docente consolidou-se na integração dessas competências frente às demandas da formação. **Conclusão:** as competências abrangeram diferentes dimensões, destacando-se as pedagógicas e didáticas como estruturantes da prática educativa, articuladas às éticas, culturais, digitais, relacionais e de inovação. **Contribuições para a prática:** oferece um referencial para diretrizes de desenvolvimento docente e base para o planejamento e a execução de processos de formação continuada de enfermeiros docentes.

Descritores: Educação em Enfermagem; Competência Profissional; Corpo Docente de Enfermagem.

Introduction

Teaching is constituted as an intentional process of pedagogical mediation, in which the educator plans, develops, and assessed educational actions aimed at promoting learning⁽¹⁾. This practice involves reflection on content, methods, and the educational context, configuring itself as an educational praxis. Praxis is established when teaching action is conscious, problematizing, and oriented toward transforming reality⁽²⁾. In this sense, teaching at any level of education requires the development of competencies that support the quality of the teaching-learning process.

The terms “faculty”, “professor”, and “educator” are often used as synonyms, as they all refer to the professional responsible for the teaching-learning process. However, the term “faculty” is usually more closely related to the role performed in formal education, that is, in the exercise of teaching⁽³⁾. The terms “professor” or “educator”, on the other hand, may refer to identity and the application of pedagogical practice in different contexts using life experience or acquired knowledge⁽⁴⁾.

In the context of health education, faculty members act in training professionals to deal with clinical, epidemiological, technological, and social demands. Educators in this field integrate biomedical knowledge with topics related to health education, health promotion, and patient-centered care, incorporating interdisciplinarity, collaborative practices, use of scientific evidence, and ethical awareness⁽⁵⁾. Moreover, teaching in health requires particularities, such as reflection on the reality of the health system adopted by the country⁽⁶⁾.

Nursing education stands out due to the demand for practical teaching competencies that dialogue with transformations in society, science, and technology. In recent decades, the process of teaching and learning in nursing has been driven by changes in the Brazilian National Curriculum Guidelines⁽⁷⁾. In response to compliance with this regulation, the incorporation of new methodologies and the increasing

use of technologies can be observed, requiring educators to adopt new ways of thinking and conducting teaching⁽⁸⁾.

A nurse who works in teaching presents technical-scientific and human skills that allow them to articulate theory and practice and prepare students to work at different levels of healthcare. This process requires didactic-pedagogical strategies and skills that must be present in nurses acting as educators in higher or technical education⁽⁹⁾. Given this scenario, the following question emerges: what nurse educators' competencies favor the quality of the teaching-learning process in undergraduate nursing education?

Investigating which competencies are attributed to nurse educators in undergraduate nursing education is relevant, as they directly influence the quality of training in the face of growing healthcare demands and the diversification of student profiles⁽¹⁰⁾.

Discussions about faculty education, desired profiles for teaching in health, and pedagogical competencies associated with this field are recurrent in the literature. However, there is a lack of syntheses that integrate, in an updated way, the specific competencies attributed to nurse educators in nursing education⁽¹¹⁻¹²⁾. There is also fragmentation that rarely articulates traditional pedagogical competencies with emerging demands for digital literacy and social justice in the curriculum. Therefore, understanding the competencies attributed to nurse educators is necessary to ensure the quality of professional training, contributing to educational practices aligned with contemporary health demands.

It is relevant to gather and analyze evidence on the competencies attributed to nurse educators in order to support pedagogical training processes, guide curriculum planning, and support institutional policies aimed at faculty development in nursing.

In this sense, it is considered that the quality of the teaching-learning process in contemporary nursing may depend on the integration of different competencies. Therefore, this study aimed to identify and analyze nurse educators' competencies that favor the

quality of the teaching-learning process in undergraduate nursing education.

Methods

Study design

This integrative review was conducted in six stages⁽¹³⁾: (I) development of the guiding question; (II) definition of databases, eligibility criteria, and study search; (III) data extraction; (IV) data analysis and processing; (V) synthesis of results; and (VI) presentation of the review. The protocol was registered on the Open Science Framework (doi: <https://doi.org/10.17605/OSF.IO/8HS7R>).

Guiding question

The guiding question was developed based on the PICo strategy (Population, Interest, Context), defined as follows: P = nurse educators in undergraduate nursing education; I = teaching competencies that support educational practice; Co = quality of the teaching-learning process in undergraduate nursing education. Based on this structure, the following question was formulated: what nurse educators' competencies favor the quality of the teaching-learning process in undergraduate nursing education?

Databases and search strategy

Searches were conducted in the Medical Literature Analysis and Retrieval System Online (MEDLINE) via PubMed, Cumulative Index to Nursing and Allied Health Literature (CINAHL), *Literatura Latino-Americana e do Caribe em Ciências da Saúde* (LILACS), EMBASE, SCOPUS, and Web of Science databases, accessed through the *Comunidade Acadêmica Federada* (CAFe) portal. The search strategy was developed using controlled descriptors from Health Sciences Descriptors (DeCS) and Medical Subject Headings (MeSH), combined with the Boolean operators "AND" and "OR". In addition to controlled terms, alternative keywords related to the topic were included. The terms were structured into three main axes: nursing faculty (Nurse Educator, Nursing Faculty), professional competencies (Professional Competency, Competencies), and the teaching-learning process (Teaching, Education, Nursing). The strategy followed the Extraction, Conversion, Combination, Construction, and Use (ECU) model⁽¹⁴⁾ and was adapted to the syntax of each database to ensure comprehensive retrieval of studies. The search was carried out on September 24, 2025, exclusively in the selected databases. Figure 1 presents the adapted search strategies for each database.

Databases	Search strategy
MEDLINE	((("Nurses"[MeSH Terms] OR "nurse*" [Title/Abstract] OR "nurse educator*" [Title/Abstract] OR "nursing faculty" [Title/Abstract] OR "nurse teacher*" [Title/Abstract]) AND ("Professional Competence"[MeSH Terms] OR "competenc*" [All Fields] OR "skill*" [All Fields] OR "teaching skill*" [All Fields] OR "educational competence*" [Title/Abstract]) AND ("Undergraduate Nursing Education" [Title/Abstract] OR "nursing education" [Title/Abstract] OR "undergraduate nursing" [Title/Abstract]))
CINAHL	((MH "Nurse Educators" OR nurse* OR "nurse educator*" OR "nursing faculty" OR "nurse teacher*") AND (MH "Faculty Evaluation" OR MH "Professional Competence" OR competenc* OR skill* OR "teaching skill*" OR "educational competence*") AND (MH "Undergraduate Nursing Education" OR "nursing education" OR "undergraduate nursing"))
LILACS	((("Professor de Enfermagem" OR "Docente de Enfermagem") AND ("Competência" OR "Habilidade" OR "Competências Docentes" OR "Habilidades Educativas") AND ("Educação em Enfermagem" OR "Graduação em Enfermagem" OR "Ensino de Enfermagem"))
SCOPUS	(TITLE-ABS-KEY("nurse educator*" OR "nursing faculty" OR "nurse teacher*")) AND (TITLE-ABS-KEY(competenc* OR skill* OR "teaching skill*" OR "educational competence*")) AND (TITLE-ABS-KEY("nursing education" OR "undergraduate nursing" OR "undergraduate nursing education"))
Web of Science	(TS=("nurse educator*" OR "nursing faculty" OR "nurse teacher*") AND TS=(competenc* OR skill* OR "teaching skill*" OR "educational competence*") AND TS=("nursing education" OR "undergraduate nursing" OR "undergraduate nursing education"))
EMBASE	((('nurse'/exp OR 'nurse educator'/exp OR nurse*:ti,ab OR "nurse educator*":ti,ab OR "nursing faculty":ti,ab OR "nurse teacher*":ti,ab) AND ('competence'/exp OR 'teaching skill'/exp OR 'educational competence*':ti,ab) AND ('undergraduate nursing education'/exp OR "undergraduate nursing":ti,ab OR "nursing education":ti,ab))

Figure 1 – Adaptation of the search strategy. Sobral, CE, Brazil, 2026

Eligibility criteria

Studies were included if they had full text available, were directly aligned with the research objective, were published in Portuguese, Spanish, or English, and were published between 2020 and 2025. This time frame was selected due to the impact of the COVID-19 pandemic on nursing education processes⁽¹⁵⁾, considering that studies published after 2020 better reflect current competencies required of nurse educators. After the identification stage, duplicate records were removed. Editorials, abstracts, dissertations, theses, reviews, protocols, and studies unrelated to the topic and/or that did not identify competencies of undergraduate nursing faculty were excluded.

Study selection

Screening and selection were conducted independently by two reviewers between September and October 2025 using the Rayyan software, a digital tool designed to support the screening and organization of studies in reviews. Disagreements between reviewers were resolved by consensus.

Data collection and analysis

Data were organized in spreadsheets using Microsoft Excel[®]. Extracted variables included: authors, year, country, language, database, study type, title, objective, and main competencies described. Levels of evidence were classified into seven hierarchical levels⁽¹⁶⁾. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)⁽¹⁷⁾ checklist was used to guide the presentation of results, along with the PRISMA flowchart to illustrate the processes of identification, screening, eligibility, and inclusion of studies.

Findings were organized based on similarity and recurrence, allowing the identification of meaning units that supported coding and the inductive development of emerging thematic categories, considering variables of interest and key concepts⁽¹⁸⁾, in line with the objectives of the integrative review. The analysis was grounded in the World Health Organization framework “Nurse Educator Core Competencies”, in which the identified competency categories were compared with the eight conceptual domains described in this reference⁽¹⁹⁾. These domains include: (1) theories and principles of adult learning; (2) curriculum and implementation; (3) nursing practice; (4) research and evidence; (5) communication, collaboration, and partnership; (6) ethical/legal principles and professionalism; (7) monitoring and evaluation; and (8) management, leadership, and advocacy.

Ethical aspects

As this is an integrative review based on secondary data from publicly available sources, approval from an Institutional Review Board was not required. However, the originality of the ideas and copyright regulations were respected in accordance with Law 9,610/98.

Results

The database search yielded 9,502 records. After removing duplicates and applying filters for time frame, language, and full-text availability, 2,355 studies remained for title and abstract screening. Of these, 2,325 were excluded for not meeting the inclusion criteria. Following full-text assessment, 30 studies were assessed, of which four were excluded for not addressing the research question. The final sample comprised 26 studies, as illustrated in Figure 2.

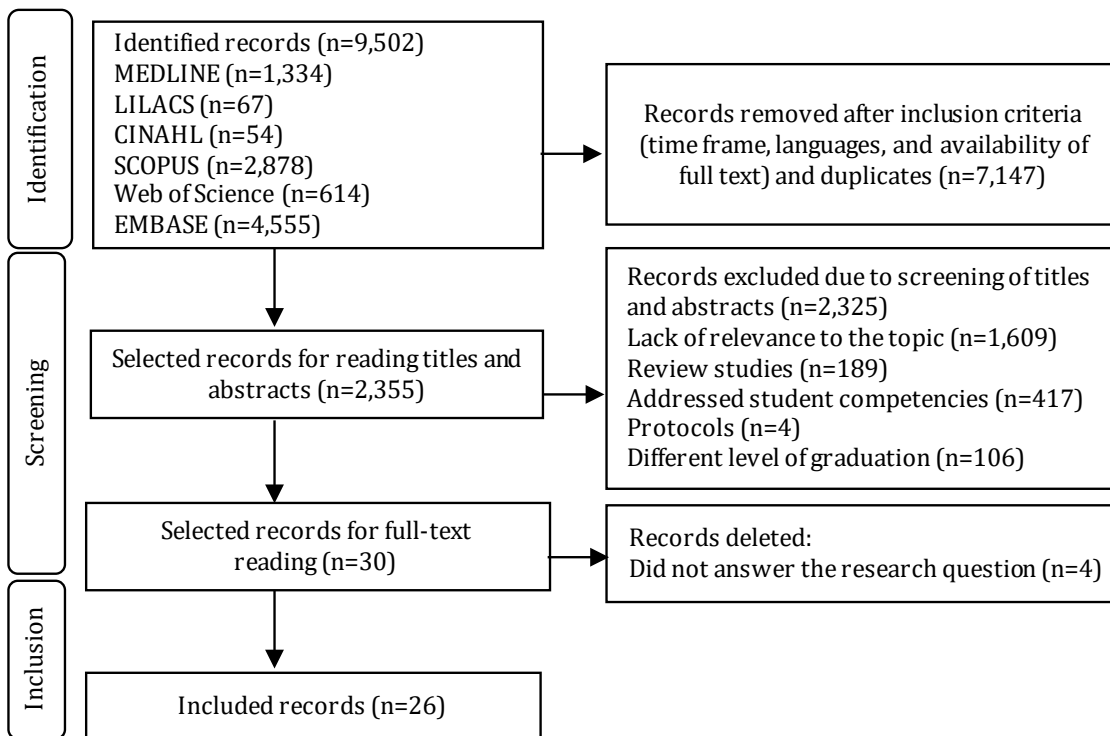


Figure 2 – Flowchart for selecting studies included in the integrative review. Sobral, CE, Brazil, 2026

Regarding publication year, there was a higher concentration in 2023 (n=7; 26.9%) and 2025 (n=7; 26.9%), followed by 2022 (n=4; 15.4%), 2024 (n=3; 11.5%), and 2021 (n=3; 11.5%), with two studies published in 2020 (n=2; 7.7%). In terms of language, English predominated (n=25; 96.2%), with one study published in Portuguese (n=1; 3.8%). Regarding levels

of evidence, most studies were classified as level VI (n=18; 69.2%), followed by level V (n=7; 26.9%) and level IV (n=1; 3.8% %).

Figure 3 presents the characterization of the studies (A1–A26), including authors, year, country, language, database, level of evidence, study design, sample, and main findings related to teaching competencies.

Code	Authors/Year/ Country/Language/ Database	Study design/ Level of evidence	Sample	Teaching competency associated with the quality of teaching and learning
A1	Menezes et al ⁽²⁰⁾ 2020/Brazil Portuguese/Web of Science	Qualitative/V	77 professors	Pedagogical training and professor autonomy qualify the transition from clinical nurse to nurse-professor.
A2	Satoh et al ⁽²¹⁾ 2020/Japan English/SCOPUS	Descriptive quantitative/VI	372 professors	Facilitation of active learning, academic research, university management, ethical self-directed learning, and professor autonomy.
A3	Eycan et al ⁽²²⁾ 2021/Turkey English/MEDLINE	Quantitative, descriptive, cross-sectional/VI	396 professors	Didactic-technological planning, distance learning management, and continuing education are associated with more positive perceptions of distance learning and the quality of teaching and learning.
A4	Doi et al ⁽²³⁾ 2021/Japan English/SCOPUS	Methodological/VI	1,299 professors	Facilitation of learning, curriculum development, organizational communication, and assurance of educational quality.
A5	Salminen et al ⁽²⁴⁾ 2021/Multinational (Europe) English/EMBASE	Descriptive and comparative quantitative/VI	1,796 students	Theory-practice integration, use of evidence, encouragement of critical thinking, self-direction, and decision-making.

(the Figure 3 continue in the next page...)

Code	Authors/Year/Country/Language/Database	Study design/Level of evidence	Sample	Teaching competency associated with the quality of teaching and learning
A6	Nyoni et al ⁽⁴⁵⁾ 2022/South Africa English/WoS	Experience report/V	7 professors	Pedagogical innovation, teamwork, flexibility, and reflection on practice support immersive educational strategies and qualify the development of clinical skills.
A7	Kaarlela et al ⁽²⁶⁾ 2022/Finland English/SCOPUS	Cross-sectional quantitative/VI	19 professors	Pedagogical competencies, professor experience, and digital competency, especially in technologically mediated clinical environments.
A8	Jobst et al ⁽²⁷⁾ 2022/Germany English/SCOPUS	Cross-sectional quantitative/VI	169 professors	Digital pedagogical competency, associated with continuous professional development, is essential for integrating educational technologies into teaching.
A9	Makhene ⁽²⁸⁾ 2022/South Africa English/SCOPUS	Qualitative/V	13 professors	The development of critical thinking depends on the intentional use of students' fundamental knowledge combined with reflective and problem-solving pedagogical strategies.
A10	Gradellini et al ⁽²⁹⁾ 2023/United States English/MEDLINE	Methodological/VI	46 specialists in intercultural nursing education	Competencies in the pedagogical, cultural, and professional dimensions support the quality of teaching and learning and guide curricular and formative development.
A11	Sudo et al ⁽³⁰⁾ 2023/Japan English/MEDLINE	Quasi-experimental/IV	100 professors and preceptors	Theoretical thinking, evidence-based teaching, and academic-clinical integration are associated with greater student satisfaction and learning in nursing.
A12	Elonen et al ⁽³¹⁾ 2023/United States English/SCOPUS	Cross-sectional and comparative quantitative/VI	329 professors, 60 heads of nursing departments and 1,058 students	Pedagogical and professional competency constitute the core of a nursing professor's performance, being strengthened by formal pedagogical training and continuous teaching experience.
A13	Schenell et al ⁽³²⁾ 2023/Sweden English/SCOPUS	Qualitative/V	22 professors	Flexibility, facilitation in small groups, and the creation of safe environments for reflection and theory-practice integration.
A14	Majnoon et al ⁽³³⁾ 2023/Iran English/SCOPUS	Descriptive cross-sectional quantitative/VI	84 professors	Professors' cultural competency is dynamic and directly associated with the quality of teaching, reinforcing the need for systematic training in professional development.
A15	Valdez et al ⁽³⁴⁾ 2023/United States English/SCOPUS	Descriptive quantitative/VI	318 professors	Knowledge related to diversity, equity, and inclusion as a professor competency. The need for pedagogical qualification and curriculum review was highlighted.
A16	Quintana-Alonso et al ⁽³⁵⁾ , 2023/Spain English/SCOPUS	Methodological/VI	327 professors	Pedagogical, disciplinary, communicative, and leadership competencies in nursing education.
A17	Gilbert et al ⁽³⁶⁾ 2024/United States English/SCOPUS	Mixed methods (qualitative-quantitative)/VI	20 professors	Competencies in pedagogical knowledge, leadership, teamwork, and socio-emotional attitudes support the quality of teaching in changing contexts.
A18	Vauhkonen et al ⁽³⁷⁾ 2024/United Kingdom English/SCOPUS	Cross-sectional quantitative/VI	302 professors	Professional and pedagogical competencies, associated with a balance of mental workload, are positively related to professor well-being and the quality of teaching and learning.
A19	Grøndahl et al ⁽³⁸⁾ 2025/Indonesia English/MEDLINE	Qualitative (exploratory and descriptive)/V	32 professors	Competencies in active methodologies, reflective facilitation, collaboration, and management/leadership.
A20	Hashish et al ⁽³⁹⁾ 2025/United States English, MEDLINE	Mixed methods (qualitative-quantitative)/VI	20 professors	A professor's cultural competency, especially cultural awareness linked to transcultural pedagogical behaviors, is a relevant predictor of the quality of nursing education.
A21	Rony et al ⁽⁴⁰⁾ 2025/United States English/MEDLINE	Qualitative/V	16 professors	A professor's technological and digital competency, with ethical and pedagogical integration of artificial intelligence, is essential for the quality of training.
A22	Maboh et al ⁽⁴¹⁾ 2025/South Africa English/Web of Science	Descriptive/program implementation assessment/VI	13 professors	Competency in simulation-based education, combined with professor adaptability and creativity, ensures the quality of practical teaching in resource-limited contexts.
A23	Visiers-Jiménez et al ⁽⁴²⁾ 2025/United States English/SCOPUS	Cross-sectional quantitative/VI	1,364 professors	A professor's cultural competency directly influences the quality of cross-cultural teaching, being strengthened by international experiences and a higher level of academic training.
A24	Quintana-Alonso et al ⁽⁴³⁾ , 2025/Spain English/SCOPUS	Descriptive quantitative/VI	327 professors	Teaching, communication, and interpersonal skills are highly valued by nursing professors, highlighting the need for structured pedagogical training.
A25	Himes et al ⁽⁴⁴⁾ 2025/Spain English/SCOPUS	Methodological/VI	12 experts in genomics and nursing education	Specialized pedagogical skills, educational leadership, and continuous professional development strengthen the quality of training in emerging areas.
A26	Owoeye et al ⁽⁴⁵⁾ 2025/Nigeria English/EMBASE	Descriptive qualitative and cross-sectional/VI	12 professors	Pedagogical skills, use of and experience with digital educational technology, and use of technology in clinical and administrative education.

Figure 3 – Characterization of the integrative review sample. Sobral, CE, Brazil, 2026

The analysis identified six analytical categories of teaching competencies associated with the quality of the teaching-learning process in nursing education: pedagogical and didactic; cultural, ethical and diversity; digital and technological; relational and socio-emotional; innovation and adaptability; and professional development and leadership.

Figure 4 presents the evidence matrix structured from the competency categories identified in the review and their correspondence with nurse educators' competencies. The matrix also includes the studies that support each category and the respective synthesis of the identified evidence.

Categories of competencies identified	Competencies/masteries of nurse educators*	Studies	Synthesis of evidence
Pedagogical and didactic	1) Theories and principles of adult learning; 2) Curriculum and implementation; 7) Monitoring and evaluation.	A4, A5, A6, A7, A9, A10, A11, A12, A13, A16, A17, A19, A21, A24, A25	They are highlighted as central to the planning, conducting, and assessing teaching and learning, with emphasis on didactic organization, pedagogical mediation, the articulation of theory and practice, and the adaptation of strategies to the needs of students.
Cultural, ethical, and diversity-related	6) Ethical/legal principles and professionalism.	A10, A12, A14, A15, A20, A23	Professors must possess sensitivity to mediate diversity, combat biases, and integrate cultural competency as an inseparable pillar of the practice of humanized care.
Digital and technological	2) Curriculum and implementation; 4) Research and evidence.	A3, A8, A21, A22, A26	They encompass the domain of Virtual Learning Environments and literacy in Artificial Intelligence. They include the competency to implement Simulation-Based Education in contexts with varied resources and the critical use of digital educational technologies.
Relational and socioemotional	5) Communication, collaboration, and partnership.	A2, A9, A10, A13, A15, A16, A17, A18	They highlight occupational well-being and mental workload management as supporting competencies. They focus on emotional intelligence, empathy, and active listening.
Innovation and adaptability	2) Curriculum and implementation; 3) Nursing practice.	A4, A6, A8, A11, A17, A23, A25	They reflect pedagogical agility and professor resilience. They include the ability to innovate in educational strategies and the flexibility to adapt traditional curricula to new social and market demands.
Professional development and leadership	3) Nursing practice; 8) Management, leadership, and advocacy.	A1, A2, A4, A5, A16, A18	They are consolidated in ongoing training, critical reflection on one's own practice, academic leadership, and ethical-political engagement with the profession.

*World Health Organization domains

Figure 4 – Matrix of identified evidence. Sobral, CE, Brazil, 2026

Discussion

Pedagogical and didactic competencies encompass classroom management, instructional planning, delivery of teaching, and assessment of learning. They also involve understanding the factors that influence and regulate students' learning processes⁽¹¹⁾. These competencies were found to align with domains 1, 2, and 7⁽²⁰⁾.

The findings suggest that effective nursing education relies on a cohesive and interconnected pedagogical cycle. Domains 1 and 2 provide, respectively, the theoretical foundation of andragogy and its implementation through curricula aligned with health

care demands. However, this dynamic is only complete with domain 7, which ensures quality regulation. Thus, pedagogical competency in nurse educators involves understanding learning theories, applying active methodologies, and assessing competencies in an ethical and systematic manner⁽¹⁹⁾. These skills contribute to the training of professionals capable of delivering evidence-based care⁽³⁷⁾.

In this context, competencies related to instructional planning, pedagogical mediation, and the integration of theory and practice were identified as fundamental to fostering learning^(22,29-30,43). Instructional planning structures teaching activities and guides educational practices⁽⁴⁶⁾, while pedagogical mediation

connects learners, technologies, and educational objectives⁽⁴⁷⁾, highlighting the political-pedagogical role of the educator^(19,48). This perspective aligns with the transition from a nurse who teaches to a nurse educator, as described in the Brazilian context⁽²⁰⁾ and reinforced in other settings^(26,31), emphasizing the need for formal pedagogical training to enhance the educational process⁽¹⁹⁾.

Cultural, ethical, and diversity-related competencies were associated with heterogeneity, equity, and inclusion as structural elements of teaching quality in nursing education⁽²⁹⁾. These competencies correspond to domain 6, which encompasses ethical, legal, and professional principles guiding the practice of nurse educators.

In this regard, an ethical commitment to creating safe, inclusive, and respectful learning environments emerged as a key component of teaching practice, contributing to the development of critically reflective and ethically grounded professionals^(29,33,37,39,42). Regarding diversity, equity, and inclusion, the evidence indicates that these competencies play a political-pedagogical role in nursing education by recognizing and problematizing structural inequalities present in society and healthcare systems. Faculty mediation of intersections related to race, gender, and social class promotes students' social and racial literacy, contributing to more equitable clinical practice^(32,34,39,44-45).

Cultural competency emerged as both a desirable attribute and a direct predictor of teaching quality, contributing to the preparation of professionals attentive to social justice and health equity^(33,39,42). These competencies were shown to be dynamic and strengthened by international experiences, advanced academic training, and ongoing professional development, reinforcing the importance of continuing education for nurse educators^(19,29,37,39,42).

Digital and technological competencies involve the integration of educational technologies, virtual learning environments, clinical simulation, and artificial intelligence—elements that are reshaping pedagogical

practices and require technical mastery from educators⁽⁴⁹⁾. These competencies have been consolidated and accelerated since the COVID-19 pandemic^(22,25). In this study, such competencies were closely associated with domains 2 and 4⁽¹⁹⁾.

Domain 2 provides the structural basis for integrating these technologies into responsive curricula, while domain 4 supports the incorporation of evidence and knowledge production within educational practice, where educators guide students through technology-mediated learning processes⁽¹⁹⁾.

The critical and pedagogical use of digital tools, particularly artificial intelligence⁽⁴⁰⁾, requires educators to develop digital literacy that enhances—rather than replaces—human clinical judgment. Thus, technological competency involves pedagogical-technical skills that enable educators to act as facilitators in highly complex technological environments⁽¹⁹⁾.

Relational and socioemotional competencies refer to the ability to manage emotions, build positive interpersonal relationships, make responsible decisions, and deal constructively with challenges in educational settings⁽³⁶⁾. These competencies align with domain 5, which focuses on communication, collaboration, and partnerships⁽¹⁹⁾. The identified articulation suggests that this domain acts as an integrating axis of the human dimension.

In this sense, these skills proved to be crucial for pedagogical effectiveness, since the success of the professor-student relationship depends on empathy, active listening, and the building of strong bonds^(23-24,28,32,34,36,38-39,42). Domain 5 provides educators with the necessary tools to offer emotional support and mediate conflicts. This support is essential for emotions to be addressed pedagogically⁽¹⁹⁾.

Thus, managing ethical and human dimensions was identified as an inherent requirement of teaching⁽¹⁹⁾. In this context, these competencies contribute to the development of students' relational skills and teamwork abilities, influencing their attitudes through role modeling and ethical conduct during the educational process^(23-24,28,32,34,38-39,42).

Competencies related to innovation and adaptability involve the educator's ability to develop creative, evidence-based educational solutions to overcome contextual limitations⁽²⁵⁾. These competencies were found to be intrinsically linked to domains 2 and 3, reflecting the need to adjust curricular structures to the complexities and unpredictability of real-world healthcare settings^(35,46).

Domain 2 supports the promotion of critical thinking and student autonomy through active methodologies, small-group learning, and guided reflection^(19,28,32,38). However, its integration with domain 3 requires educators to apply creativity in health education practices.

Instructional planning grounded in the integration of curricular organization (domain 2) and direct student support (domain 3) ensures that nursing education remains both robust and innovative^(19,22,25). This is particularly relevant in low- and middle-income countries, where structural and contextual inequalities directly impact educational processes^(41,45).

Competencies related to professional development and leadership involve an educator's ability to take an active role in organizing teaching, making pedagogical decisions, and strengthening professional identity^(21,44). The findings indicate an interdependent relationship between domains 3 and 8, in which continuous development supports leadership in institutional and pedagogical improvement.

Domain 3 involves reflective practice and ongoing qualification, while domain 8 enables educators to lead educational processes with autonomy and a clear pedagogical vision⁽¹⁹⁾. Thus, the integration of these domains underpins teaching quality and highlights the importance of nurse educators playing leadership roles in organizing education and strengthening the profession⁽⁴⁶⁾.

However, a tendency toward individualizing responsibility was observed, overlooking structural and institutional conditions that influence the development of these competencies⁽³⁵⁾. Therefore, the full development of these domains requires not only in-

dividual effort but also institutional policies that support educational practice⁽¹⁹⁾.

The emphasis on teaching competencies reflects a broader understanding that nursing education is shaped by institutional, cultural, and political contexts⁽⁴⁶⁾. Accordingly, isolated individual competencies are insufficient to overcome structural and institutional barriers⁽¹⁹⁾.

The findings both confirm and expand the domains of nurse educator competencies⁽¹⁹⁾, showing alignment in pedagogical, ethical, relational, and leadership dimensions. However, some domains require further conceptual development, particularly those related to digital competencies, cultural competency, and diversity.

Study limitations

A predominance of studies published in English and conducted in high-income countries was observed. This characteristic may limit the generalizability of the findings to contexts marked by social and structural inequalities. The selected time frame may also have restricted the inclusion of relevant studies published prior to this period. In addition, methodological heterogeneity was identified among the included studies, with a predominance of cross-sectional designs and self-reported competencies, which may introduce perception bias. Therefore, further research is recommended to deepen the understanding of the relationship between teaching competencies, learning outcomes, and quality of healthcare, contributing to a more contextualized perspective.

Contributions to practice

This study provides a framework for structuring faculty training curricula and for academic performance assessment processes. It recommends that educational institutions invest in technological infrastructure and in the development of digital and cultural literacy among faculty members. It is also considered

that this study may serve as a basis for planning and implementing continuing education processes for nurse educators.

Conclusion

The findings demonstrate that the competencies attributed to nurse educators in undergraduate nursing education encompass multiple dimensions, with pedagogical and didactic competencies standing out as the structural core of educational practice, articulated with ethical, cultural, digital, relational, and innovation-related dimensions. These results indicate that nursing education requires pedagogical skills that support effective mediation of the teaching-learning process and adaptation to contemporary health-care demands.

It was also observed that the development of these competencies is associated with strengthening pedagogical training and investing in institutional processes for faculty qualification. The importance of policies and programs aimed at the training and professional development of nurse educators is emphasized, as they contribute to the overall quality of nursing education.

Authors' contributions

Conception and design or data analysis and interpretation; Manuscript drafting or critical revision of relevant intellectual content; Final approval of the version to be published: **Silva VEN, Souza SMF, Bessa MEP**. Agreement to be responsible for all aspects of the manuscript related to the accuracy or integrity of any part, provided that these aspects are properly investigated and resolved: **Bessa MEP**.

Data availability

The dataset supporting the findings of this study is available upon request from the corresponding author.

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