

THEORETICAL ARTICLE/ ESSAY

Lifelong learning in nursing: Modern challenges

Lifelong learning entre profissionais de enfermagem: Desafios contemporâneos
Lifelong learning entre los profesionales de enfermería: Retos contemporâneos

Thué Camargo Ferraz de Ornellas¹
 <https://orcid.org/0000-0001-7876-6805>
Maria Inês Monteiro¹
 <https://orcid.org/0000-0002-6004-8378>

¹ School of Nursing, UNICAMP -
 State University of Campinas, Itapira
 University Center, Itapira, Brazil

Abstract**Background:** Education is a process that must be continuously developed throughout professional life.**Objective:** To reflect on the challenges of lifelong learning in modern nursing.**Main topics under analysis:** The advancement of nursing practice depends on integrating professional, personal, cultural, and socioeconomic knowledge. The fundamental changes occurring in theoretical and practical knowledge require more complex care actions and services, which demand that nurses learn to adapt continuously to new technologies. Different generations with distinctive characteristics and interests undergo the learning and educational process. Nurses must actively manage their knowledge, skills, and attitudes and harmonize professional demands and challenges with quality of life.**Conclusion:** The innovative nursing professional combines technical and behavioral skills. The main challenge is the combination of work environment, social context, and educational strategies, which should stimulate learning success, allow safe care delivery to patients and communities, and contribute to universal health.**Keywords:** learning; nursing; education, nursing; education, continuing; information technology; nursing informatics**Resumo****Enquadramento:** A construção do processo educativo deve ocorrer de forma ininterrupta na trajetória de vida profissional.**Objetivo:** Refletir sobre os desafios da aprendizagem ao longo da vida (*lifelong learning*) de profissionais de enfermagem no mundo contemporâneo.**Principais tópicos em análise:** avanços na prática de enfermagem depende da incorporação de conhecimentos, envolvendo aspectos profissionais, pessoais, culturais e socioeconômicos. Importantes mudanças no saber teórico e prático, exigem maior complexidade nas ações e serviços assistenciais, exigindo dos enfermeiros, aprendizagem para o ajustamento contínuo às novas tecnologias. O processo educativo e a aprendizagem perpassam diferentes gerações, com características e interesses diversos. Enfermeiros precisam de gerir de forma ativa os seus próprios conhecimentos, habilidades e atitudes, compatibilizando exigências e desafios profissionais com qualidade de vida.**Conclusão:** O profissional inovador reúne habilidades técnicas e comportamentais. O principal desafio é a articulação entre ambiente de trabalho, contexto social e estratégias educacionais, potencializando o sucesso na aprendizagem, resultando em práticas seguras prestadas aos pacientes e à coletividade, colaborando para o alcance da saúde universal.**Palavras-chave:** aprendizagem; enfermagem; educação em enfermagem; educação continuada; tecnologia da informação; informática em enfermagem**Resumen****Marco contextual:** La construcción del proceso educativo debe producirse de forma ininterrumpida en la trayectoria de la vida profesional.**Objetivo:** Reflexionar sobre los retos del aprendizaje a lo largo de la vida (*lifelong learning*) para los profesionales de enfermería en el mundo contemporáneo.**Principales temas en análisis:** Los avances en la práctica enfermera dependen de la incorporación de conocimientos, que implican aspectos profesionales, personales, culturales y socioeconómicos. Los importantes cambios en los conocimientos teóricos y prácticos exigen una mayor complejidad en las acciones y los servicios asistenciales, lo que requiere que los enfermeros tengan que aprender a adaptarse continuamente a las nuevas tecnologías. El proceso educativo y el aprendizaje atraviesan distintas generaciones, con características e intereses diferentes. Los enfermeros necesitan gestionar activamente sus propios conocimientos, habilidades y actitudes, y compatibilizar las exigencias y los retos profesionales con la calidad de vida.**Conclusión:** El profesional innovador reúne competencias técnicas y comportamentales. El principal desafío es la articulación entre ambiente de trabajo, contexto social y estrategias educativas, lo que potencia el éxito en el aprendizaje, resulta en prácticas seguras proporcionadas a los pacientes y a la colectividad, y contribuye a alcanzar la universalización de la salud.**Palabras clave:** aprendizaje; enfermería; educación en enfermería; educación continua; tecnología de la información; informática aplicada a la enfermería**Corresponding author**

Thué Camargo Ferraz de Ornellas

E-mail: thuicornellas@terra.com.br

Received: 20.05.22

Accepted: 01.12.22



How to cite this article: Ornellas, T. C., & Monteiro, M. I. (2022). Lifelong learning among nursing professional: Contemporary challenges. *Revista de Enfermagem Referência*, 6(2), e22055. <https://doi.org/10.12707/RVI22055>



Introduction

“The world of work [has undergone transformative changes], driven by technological innovations, demographic shifts, environmental and climate change, and globalization” International Labour Organization [ILO], 2019, p. 02).

Fundamental changes in theoretical and practical knowledge and health needs have created the demand for more complex care actions and services, requiring nurses to learn to adapt continuously to the various workplaces. These changes, associated with the speed with which new scientific and technical information is available, have grown exponentially, making it vital to incorporate knowledge gradually and sequentially (Butcher & Bruce, 2015).

The future health workforce needs to rapidly expand its learning, seeking to systematize, modernize, and extend the reach of individual, national, and global-level goals to meet the health needs of the populations. Lifelong learning is key to achieving meaningful outcomes (Gamhewage et al., 2022).

The present article analyses the education process of nursing professionals from different generations, seeking modern approaches to address learning throughout professional life (lifelong learning).

The new global trends have redesigned and updated the population's historical profile concerning health issues. Current relevant health needs arising from chronic non-communicable diseases, vector-borne diseases, malnutrition, obesity, violence, suicide, climate change, environmental disasters, pandemics, and the population's increased longevity challenge health teams, including nurses.

Considering the transformations, addressing the concepts of learning and education in the individualized, professional, and interprofessional contexts defies the researcher to examine what has been accomplished so far, identifying the potential to be developed in the coming years.

Given their specificity, healthcare interprofessional teams require constant updating through innovative learning methods. The aim is to obtain relevant and safe synergistic results to accomplish clinical goals, acquire knowledge, and develop skills and attitudes toward shared healthcare decision-making (Silva, 2020).

Cassiani et al. (2017) conducted a study to evaluate and analyze the status of baccalaureate-level nursing education programs in Latin America and the Caribbean. The authors suggest that the professional training of 21st-century health professionals must be oriented toward the principles of transformative and interprofessional education. This enables the development of critical and complex thinking and the training of leaders in nursing and other health professions, allowing the creation of strategies for achieving universal health. Moreover, Cassiani et al. (2017) consider nursing leadership a facilitating tool for promoting a culture of lifelong learning in the workplace. The current challenge is the need to empower nurses to become nurse leaders and advocate and commit to lifelong learning, promoting a favorable work environ-

ment for their team members' professional and personal development (Cassiani et al., 2017).

Many factors have contributed to the significant transformation and evolution of how learning for health care is experienced. However, the challenges to be faced include overcoming socioeconomic factors, inequalities between countries, new technologies, costs, languages, and professionals' different generations, among other relevant aspects (Gamhewage et al., 2022).

Due to the COVID-19 pandemic and the enormous contribution of nursing to society, the directors of the Nursing Now Global (2019-2020) campaign - led by the World Health Organization (WHO) and the International Council of Nurses (ICN), extended the campaign until the end of June 2021, “for its part, calls on governments to invest in policies that value the role of Nursing given the shortage of nine million nurses, their low pay, gender inequality, and the lack of professionals in leadership positions”, for maintaining the goals, among others, of meeting the shortage of professionals, [and] stimulating the creation of programs for incentive, visibility, valorization, and employability policies for professional nurses, thus ensuring more significant investment in the improvement of education and professional development and disseminating the most effective and innovative nursing practices (Cassiani & Lira Neto, 2018, p. 2351).

In 2019, the WHO launched the Global Learning Strategy for Health (GLSH) to collaboratively expand and intensify the future of lifelong learning for health workers. It aimed to contribute to protecting and promoting public health with a global proposal for the next ten, 20, and 30 years. It is understood that access to lifelong learning for health care and public health workers directly impacts the world population's equity and quality of access to health care (Gamhewage et al., 2022; World Health Organization [WHO], 2022). Thus, it is crucial to rethink the process of meaningful learning for nursing professionals today, discussing the relationship between individual, professional, and collective aspects and solidifying positive changes and more optimistic views about the world of work in health. Also, it is essential to look forward and glimpse the future while examining and preserving the roots of care delivery. From this proposal, the following questions arose regarding the advances that need to be made: 1. What are the current meanings attributed to learning for health?; 2. How to include lifelong learning for nursing professionals?; 3. What is the role of public and private institutions in health teams' professional development?; 4. How should this professional segment be motivated individually and collectively?; 5. What are the most appropriate educational strategies for modern nursing professionals?

The accelerated pace of knowledge production in health requires the workers' constant effort to keep themselves updated and apply in their everyday lives adequate solutions using scientific evidence to the problems they experience. Thus, the present study aims to reflect on the issue of lifelong learning in modern nursing.



Development

In recent decades, the role of lifelong learning and the incorporation of new knowledge have transformed concepts, triggering continuous and extremely relevant re-interpretations of nursing practices.

Continuing education, as well as other related aspects equally fundamental for strengthening the nursing profession, is a crucial factor for the valorization and achievement of better working conditions, positively impacting care delivery.

The present essay is based on national (Brazilian) and international literature.

Reflecting on the different concepts of nursing education.

Historically, nursing education has been described using different approaches and professional development strategies and conceptions. Several terms or terminologies have been used, such as “in-service education,” “continuing education,” “permanent education,” “professional development,” “professional development practice,” “lifelong education,” “self-directed learning,” and “in-service self-assessment.” More recently, the concept expanded to include the terms “inclusive growth” and “self-construction of knowledge,” demonstrating a new perception aimed at shifting the focus from the professional scope to the entirety of human learning (Andrade et al., 2020; Bindon, 2017; Butcher & Bruce, 2015; Peixoto et al., 2013; Qalehsari et al., 2017; Rouleau et al., 2017).

Continuing education is an educational proposal that aims to intensify, reinforce, and complement the understanding of academic content, improving skills and abilities in the professional environment (Peixoto et al., 2013).

It is worth noting that nurses believe that acquiring knowledge through continuing professional education increases their self-confidence and helps to develop professional growth (Qalehsari et al., 2017).

The term “permanent education in health,” disseminated by the Pan American Health Organization (PAHO) in the 1970s, is defined by the Brazilian National Policy of Permanent Education in Health as the “learning at work, where learning and teaching are incorporated into the daily life of organizations and work, based on meaningful learning and the possibility of transforming professional practices [it] takes place in everyday work” (Departamento de Gestão da Educação na Saúde, 2018, p. 10).

The practices and knowledge related to the terms “in-service education,” “continuing education,” and “permanent education” present different concepts. Still, they are relevant and display “a complementary and non-excluding character” apart from interacting with one another (Peixoto et al., 2013, p. 324).

Modern learning strategies

Technology has transformed relationships in the world of work, and the new skills required for professional performance demand the individual’s constant professional improvement.

Considering the term “lifelong learning,” researchers

highlight the lack of conceptual clarity, which often causes confusion and leads to assumptions about its meaning (Butcher & Bruce, 2015).

The GLSH (2019) assumed the term “learning” to move away from traditional approaches that focus on training and education (Gamhewage et al., 2022).

Learning in nursing involves acquiring skills necessary to deliver health care to different social segments in various settings and contexts. To achieve this goal, it is essential to involve nursing professionals since academic life (together with students, teachers, technical courses, and undergraduate nursing courses) and include the workers, coordinators, and leaders of organizations linked to the provision of health services, as well as public and private policies and other social subjects. Implementing transformative and interprofessional educational processes in decision-making involves several individuals, professions, and stakeholders, inside and outside the organizations (Cassiani et al., 2017). Thus, it is crucial to consider new understandings of lifelong learning for nurses, incorporating other perspectives that involve individual choices regarding professional development strategies, improving knowledge in the workplace, and ultimately delivering safer care to patients (Butcher & Bruce, 2015).

To improve the likelihood of nurses’ successful learning, it is essential to meet individual criteria of proactivity and motivation, and have the support of environmental structures, leadership, and professional organizations with consolidated expertise in professional development strategies, thus expanding knowledge and developing skills and attitudes. Changes and positive impacts on clinical practice depend on collaborative processes, where professionals have the leading role and are actively held accountable (Bindon, 2017).

The systematic review conducted by Qalehsari et al. (2017), aimed at clarifying lifelong learning strategies for nursing students considering the international experience, found other meanings for lifelong learning. The authors introduce the terms “self-construction of knowledge” and “inclusive growth.”

The definitions discussed go beyond the professional sphere, influencing personal improvement in several areas and collaborating for transformations at work and in society. The term “self-construction of knowledge” or “self-directed learning” presents learning as a life commitment in which the individual assumes the process’s leading role. The process requires the self-construction of knowledge, learning and time management, prioritization of objectives, and development and setting of goals, as well as self-assessment through realistically measurable strategies used as a basis for self-improvement (Chakkaravarthy et al., 2018; Qalehsari et al., 2017).

“Inclusive growth” is about recognizing elements of learning in different dimensions of human existence, including ethical, legal, intellectual, spiritual, physical, mental, and personality aspects, the commitment to sustainable development, progression and qualification for work, and a positive perspective on collective and social issues (Qalehsari et al., 2017).



The challenge posed by this concept appears to be vital due to the importance and magnitude of the topic and its relationship with the future of nursing professionals. Seeking for a modern outlook, it is understood that learning and learning elements should be used, individually or collectively, to promote general skills and competencies in individuals during their entire life cycle and as members of society, thus becoming a relevant and combined tool that does not limit knowledge to an exclusively professional perspective.

Health care financing and professional development

Currently, the “economic imbalances generate budget cuts and encourage the public and private sectors to take measures to reduce production costs, including [in] the health field” (Oliveira et al., 2018, p.161).

On the other hand, there is a need for investments to improve education, health policies, and health practices and care. Issues linked to financial resources often encounter economic restrictions and challenges, resulting in institutional, social, and personal consequences.

Health institutions in the public, private, and third sectors (Philanthropic Organizations, Non-Governmental Organizations, and Civil Society Organizations of Public Interest) have regulated the policies and guidelines that seek fast and low-cost solutions to survive in a competitive environment that involves considerable financial investment.

The public sector coexists with the countless needs coming from society and the restlessness provoked by the new demands in health, seeking effective answers through national permanent education programs developed with the collaboration of regional and state coordinating entities. The strategy uses significant learning as a reference, encouraging transformations in professional practice and the organization of the work developed with the population (Mishima et al., 2015).

The current global trend characterized by increased complexities in healthcare settings demands the improvement of the health workforce to maintain the safety and quality of health care delivery (Chakkaravarthy et al., 2018).

Thus, professional development and lifelong learning for nurses is a significant challenge. However, staying updated in knowledge areas that demand training in complex specialties can require financial efforts and resources. Therefore, the responsibility of lifelong learning should not be approached only individually but should be extended to the work environment (Bindon, 2017). Often, nurses have more than one employment contract with double shifts, hindering educational approaches that require their presence outside of work hours. Thus, workplace-related strategies should implement a learning culture that impacts the quality of care and productivity, yet bearing in mind that the concept of health in the workplace must be respected to benefit the worker's health. Environment, strategic learning management, and organizational planning are essential factors. They contribute to establishing policies and procedures promoting the development of relevant combined information capable

of fostering active learning and creating specific or personalized solutions (Qalehsari et al., 2017).

In Brazil, many public and private health providers organize permanent training actions involving interdisciplinary sectors and seek the collaboration of internal workplace resources, such as Human Resources, Psychology Services, Information Technology, Logistics, Internal Commission for Accident Prevention, Nursing Governance and Management, Patient Safety Centers, Laboratory and Pharmacy Services, among others. The aim is to coordinate efforts to provide the professional's adjustment to the skills required by the position from a technical and behavioral point of view during the working day.

For executive positions or positions with specific requirements, many health sectors have resorted to consulting services to identify qualified human resources with technical and cognitive skills that include what the labor market describes as soft skills, that is, professionals with social-emotional skills who are leaders skilled in interpersonal relationships, with an entrepreneurial attitude, well connected with the workplace, and capable of improving financial results through functional and procedural innovations.

Given the increase in attributes necessary for developing essential knowledge of technical and interpersonal skills, information processing, critical thinking, and the ability to be constantly updated in terms of information technology and network connectivity, many institutions have begun tracking the skills required for the positions and trying to individualize the dimensions of permanent education. They prioritize the specific requirements and expectations of the population to be trained to make it viable.

In this scenario, learning has no specific environment, as it can occur “at the bedside, in a classroom . . . or online learning module” (Bindon, 2017, p. 101).

Digital education has promoted the use of new smart devices for health learning, making use of e-learning strategies (employing electronic or digital means or mobile devices), online classroom platforms and webinars (videoconferencing for educational purposes), digital tools, didactic applications, and mobile and cloud technologies, as well as different traditional training methods and programs with classes, courses, discussions with experts, reading materials in healthcare libraries with specific nursing topics, videos, texts, interactive workshops, and online study groups. These strategies allow nursing professionals to have greater flexibility in terms of time and location, with interactions between nursing resources and services, which can result in a promising avenue for addressing the particular barriers and challenges of learning (Rouleau et al., 2017)

The COVID-19 pandemic has impacted countries and societies in an intense and unprecedented way. In this context, governments and private sectors implemented several digital education strategies worldwide, aiming to subsidize health teams' education, seeking quick responses to the eminent crisis in health services, and improving care.

The flow of information made available by digital technologies broke the existing patterns and models of professional learning. Moreover, it is expected to lead



to profound changes in health sciences education in the coming years.

In addition to new technologies, other learning models promoting skill development in undergraduate students and health care teams have been used in nursing. For example, partnerships with universities encouraging the educational involvement of students and faculty, the use of critical thinking based on knowledge synthesized from scientific evidence made available in electronic databases as a support for decision-making, and the several active learning methodologies using realistic simulation strategies, *in situ* training, and hybrid training, yet considering the need for local, cultural, and financial adaptations (Haukedal et al., 2018; Kaneko & Lopes, 2019; Oliveira et al., 2016).

Professional motivation: an individual or collective quality?

Chakkaravarthy et al. conducted an integrative review in 2018 to systematically review the evidence on predictors for nurses' and midwives' readiness to adhere to online learning. The review demonstrated that data such as age, gender, marital status, professional qualification, work experience, and additional administrative responsibilities did not influence the active search for learning. On the other hand, the success of different educational approaches provided evidence supporting the influence of work environments and institutional policies that link the professional's educational processes and individual characteristics. Thus, involving nurses and midwives in knowledge acquisition positively influences clinical skills and professional and teaching competencies (Chakkaravarthy et al., 2018).

Also, a highlight is given to the importance of cultivating an organizational culture in the workplace that encourages nursing professionals to seek, in addition to individual, collective goals that all team members can achieve

Considering how the modern world is highly connected and characterized by rapid changes, it is expected that the several categories of employing institutions and their nurse managers will feel encouraged to adopt new positions, creating a learning culture in the workplace that helps workers to self-construct their lifelong learning processes, facing the challenges of innovations and actively developing qualified knowledge for their professional area. In general, no professional is ready to perform their role with absolute excellence, so it becomes vital to inspire continuous learning habits, bearing in mind that knowledge is infinite and increasingly necessary to achieve personal and professional career development.

As new perspectives on learning for health are considered, it is fundamental to examine objectively and realistically the notion that modern professionals, including nurses, should be considered "eternal learners." The prerogative that autonomy directs the career must be respected. Also, careers should be based on reflective thinking about personal and professional development and its individual and collective practices, exploring new possibilities related to teaching, learning, and knowledge expansion (Butcher & Bruce, 2015).

Learning Trends for the Needs of Modern Nursing

"The future health workforce has specific and different learning needs – millennials, generation Z, and women, in particular, need careful consideration of their needs to expand learning for both health care and public health" (Gamhewage et al., 2022, p. 74).

A paradigm shift in health education is necessary to achieve the expected goals for this millennium's professionals and enable universal health achievement. Using reflective strategies that challenge logical reasoning by employing transformative and interprofessional education and collaborative practices as guidelines promotes the transformation of the health workforce to meet qualified health needs. This results in better care delivery to the population (Cassiani et al., 2017).

Continuing education is vital for the nursing professional's future, potentially influencing all dimensions of nursing services at different levels. However, there are many barriers to be overcome. The factors that most impact participation in programs promoting lifelong learning are the lack of time, occupational and/or family obligations, geographic distance from study locations, and lack of support from both the workplace and managers (Rouleau et al., 2017. Rouleau et al., 2019).

Continued professional development allows the renewal and updating of skills. Moreover, building a culture of lifelong learning for nurses is essential. However, many challenges exist in keeping professionals motivated to seek lifelong learning, as nurses must be able to carry on their education using efficient methods that allow them to continue delivering adequate and safe health care to their patients. Unlike traditional learning methods, e-learning is a new flexible learning method for nurses (Rouleau et al., 2019).

The ease of access to information encourages investment in continuing education, resulting in the development of professional autonomy and professionalism. Thus, e-learning and other information technologies are expected to play a central role in providing lifelong learning and promoting the harmonization between personal and professional lives in the coming years.

Conclusion

New technologies and the current post-pandemic historical context have affected living and working. Lifelong learning has become necessary for nurses' professional practice, being directly related to quality of care and patient safety. Thus, professional education must be understood as a permanent training and development process, beginning with the initial training and continuing throughout professional life.

Currently, e-learning is an important, flexible, and accessible teaching-learning tool that allows nursing staff to learn at their own pace and from the location of their choice, providing personalized content and teaching methods based on individual needs.

A growing evidence base demonstrates that the millennial and "Z" generations workforce, characterized as digital natives, extensively uses information technology in

everyday routines. Both generations are familiar with and skillful at using connectivity networks. These networks enable fast communication and e-learning, establishing the importance of digital skills for health professionals within the context of lifelong learning and maintaining their competitiveness in the labor market. New digital practices must accompany education by introducing continuous learning technologies, which relevantly impact the delivery of quality care to the population.

Moreover, the permanent concern with professional learning challenges must align with personal values, a sense of responsibility, engagement, respect for others, and good interpersonal relationships. Also, it should inspire positive energy, focusing on solutions rather than problems. To be successful, nursing professionals must be informed and involved in continuous development opportunities to improve the quality of care and patient outcomes, thus enhancing their career prospects.

The main challenge today will be to foster the harmonization of educational strategies with the worker's personal characteristics, work environment, and socioeconomic context.

Finally, lifelong learning for nurses and health teams must become an essential tool, particularly during the global crisis in health services, which in most countries struggle for a generalized reform while dealing with scarce human and financial resources.

Author contributions

Conceptualization: Ornellas, T. C., Monteiro, M. I.

Data curation: Ornellas, T. C.

Formal analysis: Ornellas, T. C., Monteiro, M. I.

Investigation: Ornellas, T. C.

Methodology: Ornellas, T. C.

Supervision: Monteiro, M. I.

Validation: Monteiro, M. I.

Writing – Original draft: Ornellas, T. C.

Writing – Review & editing: Monteiro, M. I.

References

- Andrade, K., Cortez, E., Pereira, A., & Castro, J. (2020). A implantação do programa de educação permanente em saúde: Uma contribuição para o fortalecimento do SUS. *Debates em Educação*, 12(26), 97. <https://doi.org/10.28998/2175-6600.2020v12n26p97-108>
- Bindon, S. (2017). Professional development strategies to enhance nurses' knowledge and maintain safe practice. *AORN Journal*, 106(2), 99-110. <https://doi.org/10.1016/j.aorn.2017.06.002>
- Departamento de Gestão da Educação na Saúde. (2018). *Política nacional de educação permanente em saúde: O que se tem produzido para o seu fortalecimento*. https://bvsm.s.saude.gov.br/bvs/publicacoes/politica_nacional_educacao_permanente_saude_fortalecimento.pdf
- Butcher, D., & Bruce, A. (2015). Nurses and lifelong learning: Creating "makers and shapers" or "users and choosers"? *Nursing Forum*, 51(2), 97-104. <https://doi.org/10.1111/nuf.12126>
- Cassiani, S., & Lira Neto, J. (2018). Nursing perspectives and the "nursing now" campaign. *Revista Brasileira de Enfermagem*, 71(5), 2351-2352. <https://doi.org/10.1590/0034-7167.2018710501>
- Cassiani, S., Wilson, L., Mikael, S., Peña, L., Grajales, R., McCree, L., Theus, L., Agudelo, M. C., Felix, A. S., Uriza, J. M., & Gutierrez, N. R. (2017). The situation of nursing education in Latin America and the Caribbean towards universal health. *Revista Latino-Americana de Enfermagem*, 25, e2913. <https://doi.org/10.1590/1518-8345.2232.2913>
- Chakkaravarthy, K., Ibrahim, N., Mahmud, M., & Venkatasalu, M. (2018). Predictors for nurses and midwives' readiness towards self-directed learning: An integrated review. *Nurse Education Today*, 69, 60-66. <https://doi.org/10.1016/j.nedt.2018.06.030>
- Gamhewage, G., Mylonas, C., Mahmoud, M., & Stucke, O. (2022). Developing the first-ever global learning strategy to frame the future of learning for achieving public health goals. *Journal of Oral Biology and Craniofacial Research*, 12(1), 74-76. <https://doi.org/10.1016/j.jobcr.2021.09.016>
- Haukedal, T., Reierson, I., Hedeman, H., & Bjørk, I. (2018). The impact of a new pedagogical intervention on nursing students' knowledge acquisition in simulation-based learning: A quasi-experimental study. *Nursing Research and Practice*, 2018, 1-10. <https://doi.org/10.1155/2018/7437386>
- International Labour Organization. (2019). *ILO centenary declaration for the future of work, 2019*. <https://www.ilo.org/global/about-the-ilo/mission-and-objectives/centenary-declaration/lang--en/index.htm>
- Kaneko, R., & Lopes, M. (2019). Realistic health care simulation scenario: What is relevant for its design? *Revista da Escola de Enfermagem da USP*, 53, e03453. <https://doi.org/10.1590/s1980-220x2018015703453>
- Mishima, S., Aiub, A., Rigato, A., Fortuna, C., Matumoto, S., Ogata, M., Silva, M. V., & Nogueira, A. C. (2015). Managers' perspective on continuous health education in a region of São Paulo State. *Revista da Escola de Enfermagem da USP*, 49(4), 665-673. <https://doi.org/10.1590/s0080-623420150000400018>
- Oliveira, J., Pires, D., Alvarez, Â., Sena, R., Medeiros, S., & Andrade, S. (2018). Trends in the job market of nurses in the view of managers. *Revista Brasileira de Enfermagem*, 71(1), 148-155. <https://doi.org/10.1590/0034-7167-2016-0103>
- Oliveira, L., Díaz, L., Carbogim, F., Rodrigues, A., & Püschel, V. (2016). Effectiveness of teaching strategies on the development of critical thinking in undergraduate nursing students: A meta-analysis. *Revista da Escola de Enfermagem da USP*, 50(2), 355-364. <https://doi.org/10.1590/s0080-623420160000200023>
- Peixoto, L., Gonçalves, L., Costa, T., Tavares, C., Cavalcanti, A., & Cortez, E. (2013). Educación permanente, continuada y de servicio: Desvelando sus conceptos. *Enfermería Global*, 12(29), 324-340. https://scielo.isciii.es/pdf/eg/v12n29/pt_revision1.pdf
- Qalehsari, M., Khaghanizadeh, M., & Ebadi, A. (2017). Lifelong learning strategies in nursing: A systematic review. *Electronic Physician*, 9(10), 5541-5550. <https://doi.org/10.19082/5541>
- Rouleau, G., Gagnon, M., Côté, J., Payne-Gagnon, J., Hudson, E., Bouix-Picasso, J., & Dubois, C. (2017). Effects of e-learning in a continuing education context on nursing care: A review of systematic qualitative, quantitative and mixed studies reviews (protocol). *BMJ Open*, 7(10), e018441. <https://doi.org/10.1136/bmjopen-2017-018441>
- Rouleau, G., Gagnon, M.-P., Côté, J., Payne-Gagnon, J., Hudson, E., Dubois, C.-A., & Bouix-Picasso, J. (2019). Effects of e-learning in a continuing education context on nursing care: Systematic review of systematic qualitative, quantitative, and mixed-studies reviews. *Journal of Medical Internet Research*, 21(10), e15118. <https://doi.org/10.2196/15118>



Silva, G. (2020). Interprofessional education and faculty training in health. *Revista de Enfermagem Referência*, 4(1), 1-4. https://web.esenfc.pt/v02/pa/conteudos/downloadArtigo.php?id_fichei-

[ro=2776&codigo=](https://www.who.int/about/who-academy/learning-strategy)
World Health Organization (WHO). (2022). *Learning Strategy*. <https://www.who.int/about/who-academy/learning-strategy>