

COMPLEX THINKING AND EDUCATION IN NURSING: POSSIBILITIES OF UNIVERSITY EXTENSION

PENSAMIENTO COMPLEJO Y EDUCACIÓN EN ENFERMERÍA: POSIBILIDADES DE EXTENSIÓN UNIVERSITARIA

PENSAMENTO COMPLEXO E FORMAÇÃO EM ENFERMAGEM: POSSIBILIDADES DA EXTENSÃO UNIVERSITÁRIA

¹Emanuely Vieira Pereira

²Samyra Paula Lustoza Xavier

³Ana Virgínia de Melo Fialho

⁴Karla Corrêa Lima Miranda

⁵Lúcia de Fátima da Silva

⁶Maria Vilani Cavalcante Guedes

⁷Maria Célia de Freitas

¹<https://orcid.org/0000-0003-1457-6281>

²<https://orcid.org/0000-0002-5295-7627>

³ <https://orcid.org/0000-0002-4471-1758>

⁴ <https://orcid.org/0000-0001-6738-473X>

⁵<https://orcid.org/0000-0002-3217-3681>

⁶<https://orcid.org/0000-0002-6766-4376>

⁷<https://orcid.org/0000-0003-4487-1193>

ABSTRACT

Objective: The objective was to discuss, in the light of Complex Thinking, the possibilities of university extension in the training of nurses. **Method:** This is a reflective theoretical study based on the complex thinking proposed by Edgar Morin in conjunction with the five guidelines of university extension. In order to articulate the concept proposed by the author to the subject under study, non-systematic electronic searches were carried out on the subject, carrying out a critical reading of his works and those of other scholars. **Results:** The discussions used Edgar Morin's complex thinking framework and the five university extension guidelines: Dialogical Interaction; Interdisciplinarity and Interprofessionality; Inseparability Teaching-Research-Extension; Impacts on Student Training and Impact and Social Transformation in Nursing Higher Education. Contributions and possibilities of extension practices were evidenced for the training of nurses aimed at the development of complex, critical, reflective, human and citizen thinking. **Final considerations:** It is concluded that (re)thinking the pedagogical and curricular practices of extension in Nursing education in conjunction with complex thinking is essential for an emancipatory and transdisciplinary praxis.

Keywords: Nursing; Education, Nursing; Community-Institutional Relations; Health Human Resource Training.

RESUMEN

Objetivo: El objetivo fue discutir, a la luz del Pensamiento Complejo, las posibilidades de la extensión universitaria en la formación de enfermeros. **Método:** Se trata de un estudio teórico reflexivo basado en el pensamiento complejo propuesto por Edgar Morin en conjunto con los cinco lineamientos de la extensión universitaria. Para articular el concepto propuesto por el autor al tema en estudio, se realizaron búsquedas electrónicas no sistemáticas sobre el tema, efectuando una lectura crítica de sus obras y de las de otros estudiosos. **Resultados:** Las discusiones utilizaron el marco de pensamiento complejo de Edgar Morin y las cinco directrices de la extensión universitaria: Interacción Dialógica; Interdisciplinaria e Interprofesionalidad; Inseparabilidad Docencia-Investigación-Extensión; Impactos en la Formación de Estudiantes e Impacto y Transformación Social en la Educación Superior de Enfermería. Se evidenciaron aportes y posibilidades de prácticas extensionistas para la formación de enfermeros encaminados al desarrollo del pensamiento complejo, crítico, reflexivo, humano y ciudadano. **Consideraciones finales:** Se concluye que (re) pensar las prácticas pedagógicas y curriculares de extensión en la formación de Enfermería en conjunto con el pensamiento complejo es fundamental para una praxis emancipatoria y transdisciplinaria.

Palabras clave: enfermería; Educación en Enfermería; Community-Institutional Relations; Capacitación de Recursos Humanos en Salud.

RESUMO

Objetivo: Objetivou-se discutir à luz do Pensamento Complexo as possibilidades da extensão universitária na formação do Enfermeiro. **Método:** Trata-se de estudo teórico reflexivo com base referencial do pensamento complexo proposto por Edgar Morin em articulação com as cinco diretrizes da extensão universitária. Para articular o conceito proposto pelo autor a temática em estudo, foram realizadas buscas eletrônicas não sistemática sobre o tema, realizando-se leitura crítica de suas obras e de outros estudiosos. **Resultados:** As discussões utilizaram o referencial do pensamento complexo de Edgar Morin e as cinco diretrizes da extensão universitária: Interação Dialógica; Interdisciplinaridade e Interprofesionalidade; Indissociabilidade Ensino- Pesquisa- Extensão; Impactos na Formação dos estudantes e Impacto e Transformação social, no ensino superior em Enfermagem. Evidenciaram-se contribuições e possibilidades das práticas extensionistas para a formação do enfermeiro direcionadas ao desenvolvimento do pensamento complexo, crítico, reflexivo, humano e cidadão. **Considerações finais:** Conclui-se que (re) pensar as práticas pedagógicas e curriculares da extensão na formação em Enfermagem em articulação com o pensamento complexo é imprescindível para uma práxis emancipatória e transdisciplinária.

Palavras-chave: Enfermagem; Educação em Enfermagem; Relações Comunidade-Instituição; Capacitação de Recursos Humanos em Saúde.

INTRODUCTION

Complex thinking constitutes a theoretical-philosophical framework that contemplates the multidimensionality of the subject as a social, biological, political, affective, mythological being and, considering aspects that compose the scenario in which the individual is inserted, recognizes complexity as the union between the parts and the whole¹.

Thinking about complexity is a new way of seeing, constituting, apprehending, and contextualizing the real under random influence². From an educational perspective, complex thinking should promote “general intelligence” favoring the natural aptitude of the human mind to solve problems and contextualize knowledge in a critical, creative, and continuous way¹.

Education should encourage the understanding that society is constantly changing³, recognizing the complexity of everyday life, and integrating different knowledge and ways of thinking⁴.

Although the importance of the philosophical assumptions signaled by Edgar Morin¹⁻² is a guiding paradigm of training processes, there is still an educational culture rooted in traditional practices with overvaluation and contents and disciplines over fragmentation compared to other knowledge strongly based on the precepts of positivism and reductionism⁴. Reinforcing the logic of knowledge fragmentation and limits the ability to understand the whole.

Since the Unified Health System (SUS) foundation, discussions have expanded about the importance of critical-reflective professional training aligned with the current social, economic, political, and health requirements in the Brazilian scenario⁵. Thus, the education tripod “teaching, research, and extension” is emphasized as curricular components that promote the development of essential competencies in the students to work “with and for” the community⁶.

Regarding the discursive logic of complex thinking, university extension manifests itself as a privileged locus offered by the educational scenario, capable of favoring new possibilities for the student to know a given territory and, from the integration of knowledge, experiences, and practices, to understand and modify the local reality.

Therefore, the relevance of this study is based on raising reflections that link theoretical assumptions to educational practices, providing, from the philosophical framework of Morin² an expanded view of the possibilities of university extension for the training of nurses in light of the complexity.

Furthermore, as pointed out in a literature review⁶, there were incipient publications aimed at the impact of university extension on professional training. In this way, the objective was to discuss, in the light of complex thinking, the possibilities of university extension in the training of nurses.

METHODS

This is a reflective theoretical study developed in the second semester of 2021 during the critical analysis of clinical care in the health nursing discipline linked to the Post Graduate Program in Clinical Health Care and Nursing (PPCLIS) of the State University of Ceara (UECE) based on a framework of complex thinking proposed by Edgar Morin² and the five guidelines of university extension: dialogical interaction, interdisciplinarity and interprofessional, inseparability teaching-research-extension, impacts on student training, and impact and social transformation in nursing higher education.

We performed non-systematic electronic searches during November 2021 on research related to the subject. Finally, a critical reading of the guidelines of the University Extension and the works "The seven pieces of knowledge necessary for the education of the future," "Introduction to complex thinking," and "The reconnection of knowledge: the challenge of the 21st century" was performed.

RESULTS AND DISCUSSION

Since the National Curriculum Guidelines (DCN) elaboration, university extension emerged as a proposal to reorient nursing education. According to Resolution No. 1133 of the National Education Council (CNE), of November 7, 2001, in article 5, paragraph 3, "to establish new relationships with the social

context, recognizing the structure and forms of social organization, their transformations, and expressions"⁷ is one of the specific competences of university extension.

This competence identified as essential for the training of nurses is conceptually close to the idea of Morin² when he establishes the need to recognize the multiple issues that involve the daily life of individuals to modify reality in a more profound and complex way.

The professional practice of Nursing, as a science of care, is committed to providing opportunities and leading new possibilities for social intervention, based on proactive practices committed to local needs and demands⁸. Thus, this is a complex, multifaceted field of knowledge and care that requires a set of skills from the professional to act.

Due to the challenges that Higher Education Institutions (HEIs) face related to political, economic, management, and pedagogical issues that shape the training processes, there are still gaps in the "know-how" related to extension actions and how they should integrate the curricula.

Intending to direct HEIs on extension actions implementation in the curricula of health courses, FORPROEX created, in 2013, guidelines for university extension based on: dialogical interaction, interdisciplinarity and interprofessional, inseparability teaching-research-extension, impacts on student training, and impact and social transformation in nursing higher education⁹⁻¹¹.

The structure between the extension activities and nurse training process permeates the understanding that the dialectical movement, historicity, and mediations subsidize the involvement of peers, their conception of university extension, and the evaluation process¹².

In this sense, enrolling in extension practices requires the student to develop ethical, dialogic, and co-participatory communication with users¹¹⁻¹³, recognizing the inseparability between subject and object (care), articulating theory and practice, and the high complexity of being².

However, the literature¹¹⁻¹³ points out that extension activities are still restricted to care practices with the transmission of knowledge based on the perception of the students, which does not necessarily match the needs of the public in question.

This aspect is close to the logic of banking education as students do not recognize/consider community protagonism and autonomy or present limitations in the development of communication¹¹⁻¹³ and health literacy¹⁴ due to the strong influence of the hegemonic model still present in technical-scientific training¹³.

Thinking about Morin's complexity² reiterates the premise that it is necessary to integrate knowledge, consider the whole, looking at the particularities that surround it. Initially, health care actions are based on exchanges in the communication process, which should favor a

horizontal relationship between the professional and the user, allowing it to reach the goals for improving the quality of life and health¹⁵.

In this sense, there is a challenge in training, which is to propose educational strategies that allow the development of skills for communication in health to transpose scientificity, considering and integrating popular knowledge and demands in extension actions carried out by nursing students, as well as articulating disciplinary expertise in the elaboration of individualized and/or collective care.

The extensionist experience contributes to expanding knowledge, humanized technical-scientific training, and experimentation of contiguous interdisciplinary work by improving technical skills necessary for interprofessional practice and offering care that considers the socio-historical-cultural context of users¹⁶. These possibilities corroborate the idea of complex care and distance such practices from the reductionist and simplifying logic of the subject²⁻¹⁷.

Community immersion, once allowing access to the complexity of living in society, contributes to the cognitive development of the academic and the adoption of a citizen posture that contributes to a humanist, critical and reflective formation¹³. Thus, from the interprofessional integration, the user/family/community is perceived from different points of view so that the sciences could "join and separate"¹⁷ for constructing

collaborative, articulated, and resolute care plans¹⁸.

Nursing training is in the process of reorientation and has stimulated the development and adoption of its professional role as actors and agents of social transformation¹⁵.

However, in addition to pedagogical and institutional changes, the effectiveness of inter and transdisciplinary teaching and health practices requires expertise, experience, and application of different teaching-learning strategies¹⁷. This aspect constitutes an emerging challenge for the praxis modification of praxis in health education.

The health macro-conceptual perspective opens the possibility to (re)think training and provides an opportunity to understand the need for articulation between teaching-research-extension⁶. There is, therefore, the opportunity to develop skills for care through the integration of theoretical-practical knowledge in extension work.

The curriculum, when aligning the student profile with the demands and local realities, gives the possibility for training to instigate in the future nurses the ability to recognize that university extension, once decentralizing the actions of the academic scenario, glimpses other spaces and scenarios for the production and strengthening of knowledge.

Nursing actions are constantly associated with favoring changes and improvements in the population's life and health conditions, so it is unreasonable that the production of such

knowledge happens far from this reality. The nurse's know-how is closely linked to the production of their field of expertise, which "emerges from and results in" the promotion of health and well-being of individuals/family/community.

The community diagnosis provided by the reflections on the singularities and complexities identified in the community experiences¹⁹ allows the nursing student to understand and apply knowledge when faced with dilemmas regarding uncertainties, order, and disorder in the care practice scenarios, to reanalyze their epistemological perspectives in the face of hyper human complexity, and to reconstruct conceptions regarding ambiguity and resolution through unique and static means scientifically evidenced².

The inseparability between teaching-research-extension practices constitutes structuring axes for training in higher education. In the premises of complete thinking, they reaffirm the dialogic need to articulate disciplinary knowledge, recognize the constant changes in reality and the unintelligibility of the complex knowledge^{1,2}.

In addition, the observation of reality raises new perspectives on fundamental issues, allowing for expansion or proposal of unique views of scientific investigation to highlight the need to (re)think practices, recognize the transience of knowledge production, and the investigative inexhaustibility related to complexity as an anthropological phenomenon.

Therefore, university extension allows the academic to approach and triangulate "health service - community - university," expanding the look at practices¹¹ and revealing the relationships between the different contexts experienced in the health-disease process, recognizing them in their particularities, subjectivities, and complexities. These break the "blindness" linked to the reductionist and fragmented logic of care beyond the technical dimension²⁻¹⁷.

However, operationalization of the extension curricularization faces obstacles such as the need to restructure the courses' political Pedagogical projects and readjustment the theoretical and/or practical components of nurse training.

There is still a need for more significant political, economic, institutional, and governmental incentives, expansion of discussions at the university level regarding the development of projects anchored in community needs, as well as the appreciation of teachers⁶ and students involved in extensionist praxis.

Furthermore, there is a need to invest in educational methodologies for meaningful learning¹⁹ that encourage the development of critical-reflective thinking in the training of nurses¹⁸ and co-responsibility in constructing their knowledge²⁰.

In this sense, some aspects that can help in this process are listed here as suggestions: Teacher training for restructuring disciplinary procedures and their respective menus; Organize the sizing of the workload destined for a

semester or annual extension according to institutional dynamics, integrating it, especially, in the disciplines that concern nursing care in the different phases of the life cycle; Rethinking teaching and student practices in articulation with theoretical, practical and community components, and enabling the articulation of other courses/knowledge/content/disciplines in community actions.

Despite the challenges of including university extension in the curricula, studies²¹⁻²² show that the implementation in health education contributed to the development of a more human and citizen consciousness, being encouraged as a valuable practice for students to fully develop their subjective capacities in parallel with technical training by adding knowledge for health care during the experiences in the community territory.

The use of critical and reflective thinking during the nurses' training process allows decision-making considering the influence of political, ethical, affective, bodily, cognitive, artistic, and cultural dimensions on decisions and worldviews. Thus, constituting an emancipatory practice for teachers, students, and users¹⁸, since the transformation of reality is operationalized by conscious and planned interventions¹⁹, considering unpredictability and uncertainties that permeate social relationships².

There is an emancipatory purpose in university extension when subjects, based on "reflection in action," are invited to build their knowledge, challenging the laws of social

reproduction and transforming theoretical-practical knowledge based on reality²³. Complex thinking strengthens university extension in this sense of (re)construction of knowledge and social transformation.

FINAL CONSIDERATIONS

The university extension programs contribute to the training of nurses as it enables the development of complex-critical-reflexive thinking in the student when approaching reality in the health territories.

Furthermore, we reaffirmed that the logical concept of university extension is consistent with the complex thinking of Edgar Morin², as it promotes reflections and instigates changes in pedagogical and curricular practices for developing competencies for emancipatory, humanistic, and transdisciplinary praxis.

We hope that the discussions make it possible to recognize university extension as a strategy/path/possibility of modifications in the training process in Nursing when considering the new trends necessary for professional practice in attention to current social and ideological changes.

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