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Reflections in the light of the complexity theory and nursing education

Reflexões à luz da Teoria da Complexidade e a formação do enfermeiro

Reflexiones a la luz de la Teoría de la Complejidad y la formación del enfermero

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ABSTRACT

Objective: to reflect on nursing education, taking into account the principles of complex thinking proposed by Morin. **Method**: reflection based on the principles of the complexity theory by Edgar Morin. **Results**: the application of complexity in teaching proposes an emancipatory education based on questioning and social transformation. It comprises the education of nurses who interact with others as a characteristic of their work. It is necessary to prepare students to develop critical and reflective attitudes and actions to overcome the fragmentation and linearity of knowledge. **Conclusion**: nursing care has been based on a reductionist assistance, reflecting the Cartesian model. Thus, nursing education seeks to comprise shared knowledge and experiences so that no subject or professional overpowers another, accepting the uniqueness of professionals and patients.
Descriptors: Nursing; Nursing Care; Teaching; Curriculum; Complexity Theory.

RESUMO

Objetivo: refletir sobre a formação em Enfermagem levando em consideração os princípios do pensar complexo proposto por Morin. **Método**: reflexão fundamentada nos princípios da Teoria da Complexidade de Edgar Morin. **Resultados**: a aplicação da complexidade no ensino propõe uma educação emancipadora pautada no questionamento e na transformação social. Compreende a formação de enfermeiros que tenham como característica do seu trabalho a interação com o outro. Faz-se necessário preparar o discente para desenvolver atitudes e ações críticas e reflexivas capazes de superar a fragmentação e a linearidade do conhecimento. **Conclusão**: o cuidado de Enfermagem tem sido baseado numa assistência reducionista, refletindo o modelo cartesiano. Assim, a formação do enfermeiro busca contemplar saberes e experiências compartilhados de maneira que não exista o domínio de nenhuma disciplina sobre as outras, de nenhum profissional sobre o outro, aceitando as singularidades tanto dos profissionais como do próprio cliente/paciente.
Descritores: Enfermagem; Cuidados de Enfermagem; Ensino; Currículo; Teoria da Complexidade.

RESUMEN

Objetivo: reflexionar sobre la formación en Enfermería teniendo en consideración los principios del pensar complejo propuesto por Morin. **Método**: reflexión fundamentada en los principios de la Teoría de la Complejidad de Edgar Morin. **Resultados**: la aplicación de la complejidad en la enseñanza propuesta una educación emancipadora pautada en el cuestionamiento y en la transformación social. Comprende la formación de enfermeros que tengan como característica de su trabajo la interacción con el otro. Se hace necesario preparar al aprendiz para desarrollar actitudes y acciones críticas y reflexivas capaces de superar la fragmentación y la linealidad del conocimiento. **Conclusión**: el cuidado de Enfermería ha sido basado en una asistencia reduccionista, reflexionando el modelo cartesiano. Así, la formación del enfermero busca contemplar saberes y experiencias compartidas de manera que no exista el dominio de ninguna disciplina sobre las otras, de ningún profesional sobre otro, aceptando las singularidades tanto de los profesionales como del propio cliente/paciente.
Descriptores: Enfermería; Atención de Enfermería; Enseñanza; Curriculum; Teoría de la Complejidad.

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INTRODUCTION

Health professionals' education has been historically influenced by the use of assistance methodologies, focusing on conservative, fragmented and reductionist approaches, in which the curative knowledge is favored at the expense of proactive practices aimed at protecting and promoting health. Aiming at technical efficiency, knowledge conveyance centered on lectures provides students with little or no possibility of inclusion and participation. Besides the emphasis on technical competence, traditional approaches fragment reason and emotion, science and ethics, objective and subjective, leading the process of teaching and learning to be focused primarily on the professor, and in classroom environment, with little opportunity to practice problematization and constructivism[1].

In their incompleteness, human beings usually seek knowledge as a way of overcoming their limits, recognizing their interdependence, and strengthening themselves through relations, interactions and associations with peers and natural resources. The process of caring/care and the academic education of nursing professionals have been one of the main objects of reflection and research in the last years. Nursing undergraduate education, based on curriculum guidelines of August 7, 2001, aims to train generalist, critical-reflective professionals, who focus on various scenarios, based on themes that include the human living[2].

However, the hegemonic traditional models of teaching and learning are therefore increasingly questioned in the light of references that allow students' expansion of interactive and associative possibilities in the different scenarios of professional work. Meanwhile, active methodologies grounded on significant theoretical and methodological principles encourage students to self-manage/self-govern their process of knowledge construction during health/nursing studies[3].

Therefore, active methodologies favor the problematization through which individuals are encouraged to think, reflect, create, wonder and continuously re-signify their findings. The theory and practice problematization, as a teaching and learning strategy, has the possibility to provide a direct contact with information and knowledge production, in order to instigate an ongoing endogenous and permanent process[1].

In the perspective of care/caring ruled by a fragmented view of human beings, reflections in the context of nursing education are important to optimize the quality of care that meets the needs of individuals, considering them singular and plural, that is, the part and the whole that they represent[4].

It is worth highlighting the contribution and importance of nursing education based on holistic and systemic thinking, with the former seeking a comprehensive view of the whole, and the latter seeking the principle of relating the knowledge of the parts to the knowledge of the whole and vice versa[5].

It is in the theoretical and methodological construct of complex thinking that one seeks the interpretation of the meaning of the human being, aiming to move, combine, and integrate various compartmentalized pieces of knowledge in various fields of knowledge, without losing the essence and particularities of each phenomenon, reconnecting matter and spirit, nature and culture, subject and object, objectivity and subjectivity, art, science, and philosophy. It also considers rational-logical-scientific and mythic-symbolic-magical thoughts, involving terminologies such as transdisciplinarity, interdisciplinarity, and multidisciplinarity, intertwined with health and nursing care issues.

Therefore, this study presents the following guiding question: how can the complexity theory be explored in nursing education? Thus, based on the assumptions of the complexity theory, this article aimed to reflect on nursing education, considering the principles of complex thinking proposed by Morin.

EDGAR MORIN AND THE COMPLEXITY THEORY

To Edgar Morin, intellectual life is inseparable from life experiences. Son of Spanish Jews, his parents migrated to France during the first decade of the twentieth century. Morin's restless position was reflected in a production that was dynamic and attentive to the phenomena of his time and, especially, always open to dialogue, that is, able to incorporate the complexity of facts and elements of the living world. He admits that each of his books results from a clash of conflicting ideas, and that contradiction has both an existential and intellectual character. Morin introduces a concept that is emerging in certain historical and cultural circumstances: the concept of self-ethics. Tolerance, forgiveness and redemption merge with each other, creating a sense of ethics of understanding. From this list of universal values, he suggests that the formation of a humanitarian identity and a planetary consciousness is urgent[6].

Complex thinking admits that the knowledge of the parts depends on the knowledge of the whole, as well as the knowledge of the whole depends on the knowledge of the parts. From this perspective, the world is seen in its entirety, interconnected, and not as a sum of separate parts. Therefore, complexity is part of the way of thinking, and is opposed to the reduction of parts or to the mechanism of the Cartesian thought[7].

It is known that from a systemic-organizational point of view the whole is more than the sum of its parts. Moreover, although the whole is more than the sum of the parts, the whole is also less than the sum of the parts. This "less" refers to the qualities which are restricted and inhibited by the effect of organizational feedback from the whole over its parts[5].

He considers three fundamental principles: dialogic, holographic and organizational recursion. The first allows us to maintain the duality within the unit, simultaneously involving antagonistic and complementary terms. The second principle is that not only the parts are in the whole, but also the whole is in the parts. The third refers to the rupture of a linear idea of cause and effect, in which the products and the effects are, at the same time, causes and producers of what produces them[5].

Health services, and specifically nursing in its work process, constantly deal with structures, relationships, behaviors, and complex experiences, generating needs and multidimensional, flexible and contradictory views. Complex thinking allows to understand health organizations as environments permeated with unpredictable connections, built on relationships, imbricated in care processes in which nursing is

inserted. These interactions can modify the individuals of the relationship, as well as the environment itself. Thus, the relationship between other health professionals and nurses requires care planning, since the processes are a result of the dynamic nature of the systems considered to be complex[6].

NURSING CARE AS A COMPLEX PHENOMENON

The education of healthcare professionals, particularly nurses, has been permeated by new concepts, terms and references, both from the proposals contained in the Brazil's National Policy on Education and the National Curriculum Guidelines for Nursing, and in institutional initiatives, or even in the individual ones, to conduct training innovations. When thinking of nursing as a science, art and technology that promotes nursing care to the human being in his uniqueness and multidimensionality, combined with other professionals committed to the health phenomenon, it is assumed that only an expanded concept of care/caring can account for the complexity of the human being, who is in a continuous process of self-organization to live better, or to live healthily[8].

Hence, the contrasts between the Cartesian and complexity paradigms come to have a direct influence on nursing education. However, the need to train professionals in this category with a critical and reflective profile makes the reductionist world view insufficient for the current times.

The application of complexity in teaching proposes an emancipatory education precisely because it favors daily reflection, questioning and social transformation. Meanwhile, reductionist conceptions, permeated by linear and fragmented thoughts, value the consensus of a pedagogy that, aiming at harmony and unity, ultimately promotes domestication and indifference[9].

The complexity theory is based on a thought that considers all influences: internal and external ones. Thus, it emphasizes uncertainty as a guiding principle of humanity and does not propose to eliminate this uncertainty; on the contrary, it suggests that one seeks to understand the contradiction and the unpredictable from the coexistence of these two aspects[7].

Complexity does not have the intention to explain all aspects of a phenomenon, in this case nursing care, but to consider the multidimensionality of interactive and associative threads to understand care. Thus, complexity instigates learning to learn, with questioning being essential from the perspective of thinking and constantly rethinking the "self", the "we' and the world.

Regarding nursing education, the development of constructivist pedagogical teaching-learning approaches allows the education of critical and committed professionals with their own processes of knowledge construction, but, above all, with the potential to become protagonists of a new history, through the exercise of citizenship, and the commitment to social change.

From this premise, it is necessary, in teaching practice, to establish doubt, working with uncertainty, rather than denying it, to promote the search for an integrative understanding, one that totalizes concepts, content and topics to be discussed with students. Knowing, studying, understanding human complexity is a necessary task for professionals who have interaction to the other as the characteristic of their work. Working in education

has this singularity: one works with and for each other. Technical and scientific work is almost invariably associated with direct interaction with the target subject/object of interventions[9].

Thus, the student is prepared to develop critical, reflective actions and attitudes that can overcome the fragmentation and linearity of knowledge, the centralization on the professor's role, and the lack of contextualization, making it essential to incorporate the need for relationships, of the holographic principle, and of the flexibility in actions of care, so that it is possible to reflect the importance of incorporating complex thinking to the teaching of undergraduate nursing[10].

It is recommended to pay attention to the importance of the work of a heterogeneous team that is committed to interdisciplinarity, because the complex effect of knowledge is more noticeable: it is not only added, but strengthened and broadened. It is the role of educational institutions to allow the network of diverse perspectives from students, who will be able to continue with these and other perspectives in the working world. Today, it is considered that the practice of caring/care requires, more than ever, a rigorous and open examination of traditional forms of thinking, describing and directing it. With the recovery of problematic and critical thinking, it is permissible to go beyond what is established as lawful and true knowledge, sometimes arrogantly, as one thought. What is sought is the performance of a constant exercise of interrogation of what appears to be evident, and acceptance of the limits of our thinking and of this uncertainty of the present[5].

Given that the construction of knowledge does not happen through the sum of knowledge, but through the transformation and organization that has been seized, complexity explains that the search for unity often leads the human being to try to match the parts, erasing their singularities. However, the characteristics of each part must be preserved so that there is full understanding of the whole. The results show that, during the undergraduate course, it is necessary to consider how the contents are covered, so that the successive approximations are not just a cluster of new issues[11].

FINAL CONSIDERATIONS

Nursing caring/care cannot be conceived as a reductionist and simplistic action, but as a unique construction that involves interactions, reflections and self-knowledge. Nursing, when building an extended care, is constantly seeking to comprise action-reflection-action, a fundamental aspect in the various scenarios of care to human health. Nurses must envision a care that cannot be limited to the development that is only contextualized in the holistic view, but that can connect and relate, that is, to be the articulator and integrator of care, through their leadership skills.

By using complex thinking, nursing professionals turn themselves to the reconnection of knowledge of subjects, where knowledge and experience come to be reflected and shared so that no subject or professional overpowers others, to provide expanded, safe and effective care, respecting and accepting the singularities of the professional and the customers/patients themselves as active participants in the process.

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