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QUALITY NURSING EDUCATION: A COMPLEX AND MULTIDIMENSIONAL PHENOMENON

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ABSTRACT

Objective: to reflect on quality Nursing education as a complex and multidimensional phenomenon.

Method: this is a theoretical-reflexive study developed and systematized into five units of reflection: significant learning environments; active methodologies; Interactions in different realities; collaborative networks; and complex intervention approaches.

Results: based on complex thinking, an analysis of the units of reflection has shown that learning in the contemporaneity can no longer be conceived as a specific and linear process. Quality education is related to expanding systemic interactions and associations, and to the ability to strengthen its relation with a constantly changing complex reality.

Conclusion: it is necessary to transcend the simplification paradigm, taking into account the intrinsic complexity that lies at the heart of science.

DESCRIPTORS: Nursing education. Higher education. Non-linear dynamics. Quality.

EDUCAÇÃO DE QUALIDADE NA ENFERMAGEM: FENÔMENO COMPLEXO E MULTIDIMENSIONAL

RESUMO

Objetivo: refletir sobre a educação de qualidade na Enfermagem como fenômeno complexo e multidimensional.

Método: trata-se de um estudo teórico-reflexivo desenvolvido e sistematizado em cinco unidades de reflexão: ambientes de aprendizagem significativa; metodologias ativas; convivência em realidades distintas; redes colaborativas; e, abordagens complexas de intervenção.

Resultados: a análise das unidades de reflexão, à luz do pensamento complexo, demonstraram que a aprendizagem, na contemporaneidade, não pode mais ser concebida como processo pontual e linear. A educação de qualidade está relacionada à ampliação das interações e associações sistêmicas e à capacidade de fortalecer a interlocução com a realidade complexa e em constante mudança.

Conclusão: necessita-se transcender o paradigma da simplificação e considerar a complexidade intrínseca que se encontra no cerne da ciência.

DESCRITORES: Educação em enfermagem. Educação superior. Dinâmica não linear. Qualidade.

EDUCACIÓN DE CALIDAD EN LA ENFERMERÍA: FENÓMENO COMPLEJO Y MULTIDIMENSIONAL

RESUMEN

Objetivo: reflexionar sobre la educación de calidad en la Enfermería como fenómeno complejo y multidimensional.

Método: se trata de un estudio teórico-reflexivo desarrollado y sistematizado en cinco unidades de reflexión: ambientes de aprendizaje significativo, metodologías activas, convivencia en realidades distintas, redes colaborativas y abordajes complejos de intervención.

Resultados: el análisis de las unidades de reflexión a la luz del pensamiento complejo demostró que el aprendizaje, en la contemporaneidad, no puede ser concebido como un proceso puntual y lineal. La educación de calidad está relacionada con la ampliación de las interacciones, las asociaciones sistémicas y con la capacidad de fortalecer la interlocución con la realidad compleja y en constante cambio.

Conclusión: se necesita transcender el paradigma de la simplificación y considerar a la complejidad intrínseca que se encuentra en el cerne de la ciencia.

DESCRIPTORES: Educación en enfermería. Educación superior. Dinámica no lineal. Cualidad.

INTRODUCTION

Education is a complex and multidimensional phenomenon, unable to be solely understood by an analysis of quantitative variables. Education needs to develop associative skills capable of interacting in a global world, which more and more values critical reflexive capacity and the innovative and transforming character of social problems.[1-2] Understood as a complex phenomenon, quality education involves the relationship between material and human resources, as well as teaching-learning processes, the curriculum, the experiences, teachers' commitment and their attitudes, and the learning expectations, in addition to the unique performance of each student.

At an international level, academic discussions in the health area have focused on high quality learning. The implications of international academic mobility, globalization of education, growing technological advances, challenges related to demographic changes, emergence of new health demands, and chronic diseases, among others, are being discussed. In this process, the discussions are recurrently being focused on the necessary teaching skills to promote quality learning.[1-2]

National discussions in Brazil focus on the desirable attributes of the educational process with a view to the production, organization, management and dissemination of knowledge and practices that are fundamental to the exercise of citizenship and of the profession. In order to do so, investments have been made in new teaching-learning methodologies, in practices based on scientific evidence, in innovative technologies and in references that support the systemic conception and social protagonism, regarding both academic training and the professional's continuing and permanent education. With regard to the National Curricular Guidelines of health courses, it can be recognized that these have caused gradual changes in the ways to conceive and effectuate the teaching-learning process, with a growing impact on social needs. As its essence, the Curricular Guidelines propose training nurses with a generalist, humanist, critical and reflexive view in order for them to understand and responsibly and competently intervene in the processes of nursing care and health.[2-3]

Important advances can be noticed in the Nursing area, of which we can highlight advances related to academic research, the growth of post-graduate programs, the internationalization of knowledge, the qualification of learning methodologies and the growing impact of Nursing care as a social practice. There is promising evidence to support significant learning environments, problem-solving methodologies, self-critical and self-reflexive processes based on formulating good questions rather than giving ready answers, among others.[3-4] On the other hand, studies have shown that there are few qualitative changes in health care practices, as well as scientific evidence that supports care as a complex and multidimensional system.[4-5]

For Morin, one of the complex thinking authors, education necessarily goes through thought reform. According to the author's vision, it is necessary to replace thoughts that reduce and fragment with thoughts that distinguish, unite and integrate, meaning by complex, dynamic and evolutionary thinking. The author acknowledges that there are no problems that are not complex, and consequently there is no room for simplified knowledge.[6-8]

The construction of knowledge, especially that of Nursing, generally takes place in evolutionary phases which do not succeed in a linear and specific way, but instead procedurally and complementarily. In the first phase, the Florence Nightingale period, the focus of Nursing knowledge focused on answering the question "what to do?". In the second phase, in trying to conquer the technical domain, Nursing sought to define "how to do it?".

The third phase focused on investigating "why do it?". In the fourth phase, we sought to discuss "what is proper nursing knowledge?"[9] and, in adding a fifth phase, we ask: how to promote quality education in Nursing as a complex and multidimensional phenomenon, in view of the need to understand complex relationships that were not taught to us in the mechanistic educational model?

Based on the above, our objective is to reflect on quality education in Nursing as a complex and multidimensional phenomenon.

QUALITY EDUCATION BASED ON COMPLEX THOUGHT

This is a theoretical-reflective study that focused on quality education in the light of complex thinking. This study was developed and systematized based on five reflection units: Significant learning environments; Active methodologies; Interactions in different realities; Collaborative networks; and Complex intervention approaches, demonstrating that quality learning can no longer be conceived as a specific and linear process. The promotion of quality implies in expanding the interactions and systemic associations, as well as in the ability to strengthen the discussion with the constantly changing complex reality.

Social reality, as already mentioned, is under constant evolution and transformation. Virtually all people have access to changes almost immediately. Therefore, this recurrent question arises: what skills and abilities are needed to navigate through this ocean of uncertainties? What skills and abilities need to be developed in order to maintain the dynamic integration and to not "sink" between the possible currents in the crossing? What skills and competencies are needed to cope with the new social phenomena that will emerge? How can we face social and health realities, which require increasingly complex and multidimensional responses?

Developing learning to change the world at an unprecedented pace *a priori* implies in breaking down the disciplinary barriers, so that systemic learning prevails over linear and fragmented knowledge; that multidimensionality prevails over deterministic causalities; horizontal over verticalized practices; and complexity over simplifying approaches. Students need to gradually acquire skills to carry out research, critically analyzing and questioning what is uncertain and random because, by definition, what is new is not predictable.[10]

Significant learning environments

In the logic of complex thinking it is necessary to overcome repetitive and/or transmissive teaching, meaning the subject-object relation. The challenge of learning is no longer the vertical acquisition of knowledge, but enabling the student to be able to give meaning to things from their expanded and contextualized understanding. Under this approach, the greatest challenge for teachers is creating a teaching process that meets this new way of learning, given that the accumulation of available information requires discernment to choose the relevant content that can generate significant new knowledge when interconnected with its environment.[6]

Therefore, meaningful learning focuses on valuing the student's prior knowledge. New knowledge is acquired and expanded as the student is able to associate it with prior knowledge. Thus, learning environments need to be aggregators and instigators, so that students can find meaning in the new information and to be able to connect this information with the multidimensionality of the phenomena surrounding it.[11]

It is necessary to consider that in most cases the previous information already has some meaning for the student, and that it influences them in the construction of new learning, which is incorporated from their connections with different knowledge and social realities. In this sense, meaningful learning can be defined as a process by which new information interconnects with the already existing knowledge structure. It is up to the teacher to value and enhance previous knowledge in order to build the mental structures that allow for discovering and expanding the new concepts.[10]

Meaningful learning enables the active participation of the student in the construction of knowledge. In this logic, the student moves to dialogical action rather than just being a knowledge receiver. Knowledge ceases to be the domain of the teacher and becomes a dialogical construction with meaning for both involved. Thus, the student becomes an active and reflexive subject and the teacher will assume the position of mediator and instigator of the teaching-learning process.[11]

Active methodologies

Meaningful learning enables active and autonomous student interaction in knowledge construction, in addition to providing a critical analysis of reality. It is important that this process broadens the relationships and systemic associations. In

this sense, active methodologies contribute to the critical-reflexive apprehension of the processed information, which require the student's participation and interaction with the available tools.[11]

Active methodologies are related to the interactive approaches adopted in the development of the teaching-learning process. These can be interconnected to actual experiences and are more specifically used when trying to contribute to problem-based learning. In this approach, the student needs to take in and understand the phenomena in a comprehensive and multidimensional way, as well as to propose possible intervention strategies through the process of action-reflection-action.[12]

Problematization emphasized in this methodology seeks to stimulate the student to think, reflect, create, inquire and to continuously (re)signify their discoveries. Theoretical-practical problematization as a teaching-learning strategy brings the possibility of providing the connection with information and to produce expanded and contextualized knowledge. By expanding the interactive and associative possibilities, active methodologies constitute a meaningful strategy for the student to develop self-critical processes that are in line with emerging needs. This perspective is coherent with one of the characteristics of complex thinking, which is that of a dialectical, dynamic and evolutionary thought, in which nothing is repeated with the same characteristics, and which is what signals the evolutionary character of the teaching-learning process.[11-12]

The reform of the teaching-learning process necessarily goes through thought reform. The initial step is therefore developing a thought that allows for reconnecting knowledge in a dialogic and complementary relationship. The role of the teacher in this context is not limited to developing technical-scientific competences, but their ability to promote interactive and integrative processes based on the existential dynamics.[13]

Interaction in different realities

Interaction in different realities allows the student to ask new and different questions instead of practicing good answers, in addition to allowing the extension of the object by a complex and multidimensional understanding of the phenomenon. Similarly, it awakens the student to a world under constant transformation, to which they will hardly have ready answers. Based on this dialogical relationship, learning occurs when the student (inserted in a distinct social/global context) apprehends the object in a systemic way and is able to perform self-criticism.[13] Meaningful learning occurs in this context when the student is able to instigate themselves and at the same time provoke personal disorder based on prior knowledge. This disorder, in the logic of complex thinking, opens the possibility for a new order, meaning for new, more meaningful, more complex and of higher quality learning.[6-7]

It is also important that communicative skills are developed, as well as social and political skills, based on the insertion of the students in complex environments. This social recognition of the practice, in addition to technical manifestations, suggest that the student understands the disjointed dimensions implicit in the nurse's role, especially in adverse contexts of apparent uncertainty.[9] According to this logic, the teacher assumes the role of mediator, meaning that they offer tools which help the student to interpret and to analyze the social environment in a comprehensive and multidimensional way. In this perspective, meaningful learning can be characterized as the acquisition of meaningful knowledge in a concrete reality, in which the student themselves (but under the teacher's mediation) need to develop interactive skills and promote the proper connections to take in social phenomena in an expanded, contextualized and global way.[13]

Collaborative networks

The current context motivated by the Web, hyper-media and collaborative networks (among other resources), suggest new social and interaction styles, in addition to a (re)signification of the *modus operandi* of the professionals in general. The possibilities of mostly mobile information and communication suggest dynamic, interactive and creative perspectives for learning. In this interactive platform, human beings can travel all over the planet without even leaving their physical location. Society ceases to be local and becomes global. Under this approach, information and communication technologies allow the interactivity of society with the potential to change culture and to generally disseminate information in an irreversible process.[14]

With the advent of new information and communication technologies, there is no way to remain oblivious and/or indifferent to changes in education, considering that these transcend the limits of the spatial, temporal, cultural and curricular dimensions, in addition to providing interfaces between the different social actors. In this age of interconnectivity when interaction/interactivity stand out, it is important to

stimulate interaction with a diversity of ideas, dialogue, citizenship, and collaboratively productive work. Therefore, it is necessary that pedagogical proposals that incorporate mediating potentialities and that contemplate the technologies of information and communication are developed, in addition to the flexibility of the curriculum, creating spaces and times for student-teacher educational performance which are compatible with the current demands.[15]

The world is therefore a network of connections, interconnections, movement, energy flow and interrelations, which is under a constant process of change and transformation. According to this logic, collaborative networks are configured as dynamic structures and are characterized as associative chains between individuals or groups, based on dialogical learning processes which are more adaptable, dynamic and consequently more flexible and adaptable to continuous changes. In this paradoxical, highly dynamic and interactive movement, education needs to rethink its social function and gradually foster collaborative networks on a local and global level.[16]

Complex intervention approaches

In a moment of paradigmatic transition, the learning process cannot be supported by simplifying approaches in which vertical and hegemonic relationships prevail, but rather a complex vision based on overcoming the fragmented, linear and reductionist view of the universe. In the learning process, the teacher often tends to break down and/or facilitate ideas for the students in order to make them simpler for them to be decoded. This way of proceeding assumes that phenomena are simple and easy to solve. According to the logic of complex thinking, learning is based on approaches that transcend the simplified look and seek to achieve the uniqueness and multidimensionality of the different actors and components involved in the process.[6]

Therefore, traditional teaching and learning models are nowadays increasingly questioned and provoked in light of the new references that are based on complex thinking. This is one of the references which enables construction of multidimensional knowledge through its circular and interactive character that goes beyond the sum of programmatic content. Complex thinking aims to overcome the naive consciousness to reach a critical consciousness, capable of taking in the world as a network of multiple relationships which are constantly changing. In this logic, the teacher, as a mediator of the learning process, needs to be able to integrate, re-connect and instigate the knowledge construction in the singular and multidimensional fields, in addition to reconciling the individual and collective instances. Thus, both the teacher and the student will be subjects of meaningful, emancipatory and transformative learning.[6]

In order to develop quality education in Nursing and to consequently qualify health care, nurses need to critically think and reflect on their practice in order to solve complex problems. In order to do so, it is indispensable that nurses enable negotiation tools and dialogical processes of action-reflection-action in their formative processes for an expanded and contextualized understanding of the social and health phenomena.[11]

From the perspective of complexity, quality education is a product and producer of thought reform. Therefore, teaching based on problematization and contextualization which are the bases of innovative and instigating methodologies is necessary. Teaching that allows knowledge reconnection and the ability to understand, integrate, aggregate, and above all to overcome the fragmented, linear and reductionist vision of social phenomena. Therefore, it is necessary to replace linear thinking that separates and fragments by complex and multidimensional thinking, capable of reconnecting and systematizing knowledge, much more than reproducing it through programmatic content.[6,17]

CONCLUSION

Quality education is related to expanding systemic interactions and associations and to the ability to strengthen the dialogue with the complex and constantly changing reality. It is necessary to gradually transcend the simplification paradigm and to consider the intrinsic complexity that lies at the heart of science.

Complex thinking is the emphasis of quality education; it transcends the sovereignty of instituted order and conceives the dialogical relationship between order, disorder, and organization. In this relationship, the teacher assumes the role of learning mediator, which implies in valuing and potentiating human singularities, in addition to apprehending the phenomena in a multidimensional form. It is necessary that the teacher is able to transcend old educational paradigms through problematizing their practice and basing it on new questions.

Complex thinking naturally enables the subject's reflective capacity over themselves and their being and acting in the world. In this sense, reflection allows for transposing personal limits imposed by instituted thought, and respectively adopting committed actions. In light of complex thinking, quality education refers to the practice conceived by the intricate relationship of threads that intersect in a plural and multidimensional knowledge network. Thus, the disciplines and specialized contents will continue to be important; however, their relevance lies in the ability to interconnect and intersect it with other knowledge.

In order to achieve this process, it is necessary to transcend the simplification paradigm characterized by principles of disjunction, reduction and fragmentation, and to gradually consider the complexity of social phenomena. Therefore, the challenge of quality education remains in the light of complex references, as well as by adopting strategies that allow for legitimizing and incorporating scientific knowledge into the Nursing care process in practice.

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