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Reflection

EXPERIENTIAL LEARNING AND KNOWLEDGE CREATION: APPLICATIONS IN NURSING

APRENDIZAGEM EXPERIENCIAL E CRIAÇÃO DO CONHECIMENTO: APLICAÇÕES EM ENFERMAGEM

APRENDIZAJE EXPERIMENTAL Y LA CREACIÓN DE CONOCIMIENTO: APLICACIONES EN ENFERMERÍA

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ABSTRACT

Nurses make constant decisions and, therefore, use learning and knowledge all the time. This study aimed to analyze the possibilities of application of the theories known as "experiential learning" and "knowledge creation" in the professional practice of nurses. This is a reflective study on the application of the two theories in nursing practice, recognizing their specificities and similarities. It was observed that the theory of experiential learning refers to individual modes of acquisition of knowledge and the theory of knowledge creation relates to how meanings are created and how knowledge is built within organizations. Although specific to certain situations, they have similarities and both are useful to the professional nursing practice. Thus, results led to the conclusion that the understanding of the principles inherent in theories may favor the exchange of experiences and promote innovation and improvement of the practice of nursing care.

Keywords: Nursing; Learning; Knowledge; Knowledge Management.

RESUMO

O enfermeiro toma decisões constantemente e, para isso, lança mão de aprendizado e conhecimento a todo o momento. Este estudo teve como objetivo analisar as possibilidades de aplicação das teorias aprendizagem experiencial e criação do conhecimento na prática profissional do enfermeiro. Trata-se de estudo reflexivo, relativamente à aplicação das duas teorias na prática da enfermagem, reconhecendo suas especificidades e similaridades. Observou-se que a teoria da aprendizagem experiencial se refere aos modos individuais de apreensão do conhecimento e a teoria da criação do conhecimento diz respeito ao modo como se criam significados e se constrói o conhecimento dentro das organizações. Embora sejam específicas a determinadas situações, apresentam similaridades, sendo ambas úteis ao exercício profissional da enfermagem. Assim, concluiu-se que a compreensão dos princípios inerentes às teorias pode favorecer a troca de experiências e promover a inovação e aperfeiçoamento da prática do cuidado de enfermagem.

Palavras-chave: *Enfermagem; Aprendizagem; Conhecimento; Gestão do Conhecimento.*

RESUMEN

Los enfermeros toman decisiones constantemente y, por lo tanto, se valen permanentemente del aprendizaje y del conocimiento. Este estudio tuvo como objetivo analizar las posibilidades de aplicar las teorías del aprendizaje experiencial y de la creación de conocimiento en la práctica profesional de los enfermeros. Se trata de un estudio de reflexión sobre la aplicación de las dos teorías en la práctica de enfermería, reconociendo sus especificidades y semejanzas. Se observó que la teoría del aprendizaje experiencial se refiere a las formas individuales de adquisición de conocimientos y la teoría de la creación de conocimiento se refiere a cómo se crean los significados y se construye el conocimiento dentro de las organizaciones. Aunque sean específicas a ciertas situaciones muestran semejanzas y ambas son útiles para la práctica profesional de enfermería. Por lo tanto, se llega a la conclusión que la comprensión de los principios de dichas teorías podría favorecer el intercambio de experiencias y promover la innovación y la mejora de la práctica de los cuidados de enfermería.

Palabras clave*: Enfermería; Aprendizaje; Conocimiento; Gestión del Conocimiento.*

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INTRODUCTION

Nurses have expanded their activities in healthcare organizations in different levels of complexity and an increasingly decisive role in identifying health needs and in the respective decision-making has been attributed to these professionals.[1] Because nurses are professionals who, besides providing direct assistance to people, also lead a team of professionals and need to constantly adjust their work process through the articulation of functions, they build and pass on knowledge all the time.[2]

In this scenario, when nurses interact with other professionals, they articulate learning, knowledge, rationality, competence and awareness for their development and for the achievement of the organizations' objectives and goals.[1,2] They acquire individual knowledge through learning from lived experience;[3] and this knowledge of individual nurses, along with the knowledge of others, build up organizational knowledge, which is a knowledge that emerges from the interaction between individuals in the organization.[4]

In the nurses' practice, learning consists in a continuous and ascending process immersed in a natural and cultural environment and is based on the understanding and transformation of experiences that enable the creation and re-creation of knowledge.[3] At the organizational level, the construction of knowledge happens through the conversion of information and sharing of knowledge with others. This process is achieved when there is a synergistic relationship between tacit (subjective and intuitive) and explicit (formal and objective), and when social processes able to create new knowledge through tacit conversion into explicit and vice versa are developed.[4]

While experiencing the practice in health organizations, acquisition of new knowledge and expansion of knowledge, nurses manage and articulate a wide range of information from various sources in order to obtain results with quality in their work.[5] The Systematization of Nursing Assistance (SNA), which promotes individualized and continuous care with quality to patients and places emphasis on the autonomy of the nursing practice, provides basis for the technical-scientific knowledge of nurses.[6] The SNA also provides an organization of the care process capable of generating information that, when shared and analyzed by the team to evaluate the practices, can change behaviors and generate new knowledge.

Managing learning and knowledge in health institutions is a challenge for health professionals. Developing strategies of creation, maintenance and sharing of information and knowledge enables these professionals to achieve more quickly the alternatives needed for decision making.[5]

In this sense, two theories underlie the learning and the knowledge acquired and shared by nurses in organizations. The experiential learning theory states that learning is a process in which knowledge is built by the transformation of the experience, and this is the interaction between internal and external means of the individual.[3] The theory of knowledge creation, in turn, consists in the continuous and dynamic interaction of tacit and explicit knowledge shared between individuals for the construction of knowledge of the organization.[4]

Reflecting on such theories equip nurses to consciously use the information in their professional practice. Individual learning and organizational knowledge, as tools for appropriate decision making, directed to achieving the organization's objectives are indispensable for the managerial work and team coordination.

This study aimed to analyze the possible applications of the theories known as experiential learning and knowledge creation in the professional practice of nurses.

Experiential learning

American psychologist and educational theorist David Kolb defined experiential learning as a process in which knowledge is built from the transformation of experience. The experience represents the interaction between the internal and the external environments of a being, forming situations. The claim that people live in a world means, specifically, that they live a series of situations. Living "in" a world means not simply "being" in it, but interacting with it. Idealistic approaches of traditional education are based on an empiricist philosophy that considers knowledge a fixed and unchangeable element, one that can be measured by the information storage capacity. Unlike these approaches, experiential learning advocates that education must be under constant transformation and influenced by the social context of individuals who are able to create and re-create their own knowledge through experience.[3]

Some concepts are used to support the theory of experiential learning. They present an integrative and holistic perspective of learning that combines experience, concept, reflection and action.

Figure 1 shows the representation with intersecting arrows of the two dimensions that unite theory and practice (concrete – abstract, active – reflective). The rectangles indicate the four facets of development: apprehension (intuitive and instantaneous learning through practical experience), intention (intentional reflection that transforms the learning), comprehension (conceptual interpretations and symbolic representations) and extension (actions toward new experiences). The concave and convex expressions relate to systems of thought: prehension (dialectical relationship between concrete and abstract) and transformation (dialectical relationship between active and reflective). The four learning modes are represented in the oval figures: concrete experience (CE); reflective observation (RO); abstract conceptualization (AC); active experimentation (AE).[7]

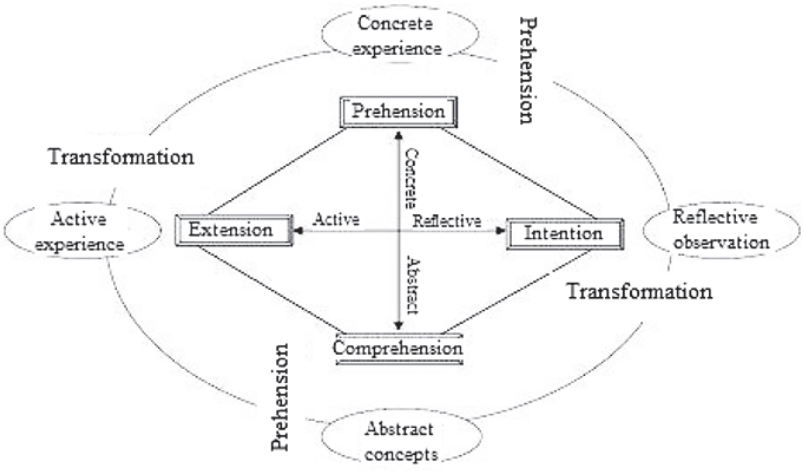

Figure 1 - Cycle of experiential learning.
Source: Kolb, 2014[3].

These concepts do not make any sense when isolated. Thus, Kolb prepared combinations of them, always putting together a prehension process and a transformation process, resulting in four combinations: prehension transformed by extension (CE – AE); comprehension transformed by extension (AC – AE); prehension transformed by intention (CE – RO); comprehension transformed by intention (AC – RO).[7]

Dialectical cycle formed by concrete experience, observation and reflection, formation of abstract concepts and finally testing of hypotheses and concepts in new situations are the pillars of lived experience, knowledge construction and projection of learning toward future experiences.[7] In experiential learning, learning is a constant re-learning, as individuals are not "blank pages" and, therefore, they anchor the new knowledge to prior knowledge in order to integrate it or replace it.[3]

Experiential learning can be characterized based on the following propositions: learning is best conceived as a process, not in terms of results; learning is a continuous process based on experience; the learning process requires the resolution of conflicts between dialectically opposed modes of adaptation to the world; learning involves transaction between the person and the environment; learning is a process that encourages the construction of knowledge.[3,8]

Knowledge creation

The creation of knowledge is the interaction between the processes of identification, extraction, creation and transfer of knowledge, combining various forms and types of knowledge in order to develop skills and achieve the organization's objectives.[4]

One can distinguish knowledge into two classifications: *tacit* knowledge, which originates from individual experiences, perceptions and values that depend on the context; and *explicit* knowledge articulated in formal language (words, symbols and numbers), which can be stored in a repository that allows its formal and easy transmission within the organization.[4]

The creation of organizational knowledge comprises a continuous and dynamic interaction between tacit and explicit knowledge. Tacit and explicit mobilized knowledge are "organisationally" amplified based on four modes of knowledge conversion, as follows: socialization, externalization, combination and internalization, also named the SECI model.[4]

The conversion of tacit knowledge based on another tacit knowledge through the experience sharing method is called *socialization* and can be acquired by observation or imitation.[4] It is built based on the sharing of experiences, whether through technical skills or models of conduct, organization and systematization.

The articulation of tacit knowledge into explicit knowledge is understood as *externalization*, knowledge acquired through metaphors, analogies, concepts, hypotheses or models. Externalization is triggered by dialogue or collective reflection, with formation of a new concept.[4]

In the *combination*, the conversion of knowledge occurs through the systematization and application of explicit knowledge through the articulation of different bodies of explicit knowledge between each other. At that point, individuals exchange knowledge and information through documents, meetings, telephone conversations or digital media.[4]

When the processes of socialization, externalization and combination are incorporated into the tacit knowledge of the individual, the process of *internalization* takes place. This is the conversion of explicit knowledge into tacit knowledge. It is in this process that the individual "learns by doing". Since then, a new tacit knowledge is internalized in the individual. For knowledge creation happen in fact, socializing what was internalized, again, is necessary, starting a new cycle.[4] This move-

ment in the creation and sharing of knowledge is what sets the spiral of knowledge creation process.

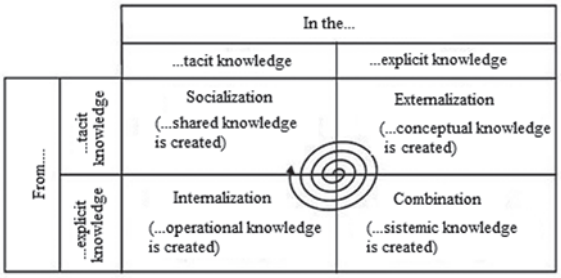

Figure 2 - Knowledge cycle.
Source: Nonaka e Takeuschi, 2008[4].

In the SECI model, the process of socialization occurs between individuals of the same organization. In externalization, the conversion of knowledge is passed to a group of individuals who, in the process of combination, convert the knowledge to the organization that, in turn, "returns" new knowledge to individuals in the process of internalization.

Specificities and similarities between the cycles of experiential learning and knowledge creation

The theories of experiential learning and knowledge creation have specificities at the level of knowledge construction; the first regards the individual level, and the second, building organizational knowledge. In spite of this, they also have some similarities (Table 1).

Table 1 - Summary of specificities and similarities of the cycles of experiential learning and of knowledge creation

	Specificities	Similarities
Experiential Learning	- individual/personal; - learning is a constant re-learning; - it integrates or replaces new knowledge; - process of adaptation to the world; - process of transaction between people and the environment.	- dialectic; - confrontation of opposing ideas; - sharing of experiences; - assigning of meanings to experiences; - observation or imitation "learn by doing"; - process of knowledge construction.
Knowledge Creation	- collective/organizational; - transformation of subjective knowledge into explicit knowledge; - systematization of explicit knowledge.	

Applicability of theories in nursing practice

Knowledge management becomes a key strategy to health institutions, whether public or private, as high to low complexity organizations. Increased appreciation of knowledge is needed, making the investment in people and the use of the intelligence of professionals in health organizations converge to a knowledge-based economy. Thus, the process of knowledge creation covers all the ways to generate, store, distribute and use this knowledge and aims to promote growth, development, communication and preservation of knowledge within healthcare organizations, enabling range of agile and assertive responses linked to decisions that need to be taken.[5]

Table 2 - Application of experiential learning and knowledge creation cycles to NURSING

Cycle	Applications of cycles in nursing
Experiential Learning	- allows the assessment of the organization based on previous experience; - allows the creation and re-creation of the individual's own knowledge from experience lived in the organization; - contributes to the creation of organizational knowledge.
Knowledge Construction	- produces organizational knowledge; - promotes growth, development, communication and preservation of knowledge in the organization; - allows sharing of knowledge and experiences between the nursing staff and other individuals in the organization; - allows collective dialogue and reflection; - improves the decision-making process; - enables the achievement of desired results in a quick and assertive manner; - directly reflects the quality of care provided.

Among the advantages of knowledge creation in health organizations is the improvement of the decision making process. Knowledge creation encourages cooperation between different professionals, improving the quality of care, reducing medical errors, reducing costs, stimulating innovation and agility in responses, promoting evidence-based practice and dissemination of best practices, improved organizational performance and promoting higher accountability in the use of public or private resources.[9]

Thus, during their professional activities, nurses make use of tacit and explicit knowledge. Explicit knowledge subsidizes the practice of nurses, and tacit knowledge comes from their personal experience accumulated over the years, marked by intuition and common sense. In this kind of knowledge, sharing occurs in the dialogue within the team and is an important mechanism for learning.[4,5]

That is, experiential learning of nurses is influenced by their social context and this is able to create and re-create their own knowledge from experience.[3] Thus, individual learning of nurses contributes to the creation of knowledge of the organization where this is inserted. This knowledge has been seen as one of the most important resources of organizations, as it can turn actions more efficient and effective.[5]

However, understanding the transfer process through which knowledge and individual learning are incorporated into the organization is the main challenge. This is because, besides creating knowledge, the main role of the organization is to integrate this knowledge. Therefore, sharing of tacit knowledge of nurses through socialization is essential.

In socialization, workers acquire tacit knowledge about the organization, the working group and their tasks, as well as how to adapt and understand how to behave in each of these dimensions.[4,5] An example of this is the day of integration of new employees. This day is offered by many companies aiming to pass all relevant information on the institution and the position they will occupy on their first day of work.

In the process of externalization, the transformation of tacit knowledge into explicit takes place. An exemple of this is the construction of service protocols, procedure manuals and routines for activities of daily work. These documents are very effective to document learning, making it possible that the accumulated knowledge turns the employee's practice easy to carry out, in an efficient and safe way. This way of sharing knowledge causes the organization to become the owner of the knowledge and, therefore, the ruler of its transfer between groups or people in the same organization.[4,8]

This has also been observed in the process of internalization, in which the conversion of explicit knowledge into tacit knowledge happens. In this process, nurses can develop continuing education activities using handouts that may subsequently be used and shared within the team. Continuing education means learning in the workplace. It is carried out based on real problems experienced in the practice always taking into account the previous experience and knowledge of each one, making the training and development of health professionals to be guided by the health needs of patients.[10] Another example of internalization refers to discussion groups or management meetings. These apply scientific methods to diagnose organizational problems, as well as statistical data to support decisions.[4,8]

An example of the process of combination, in which an exchange of explicit knowledge happens, is the multidisciplinary team work for production of treatment guides to patients with a given diagnosis, ensuring humanized and specific care for these patients.[5]

Thus, the quality of the nursing service depends on a culture of learning and knowledge sharing with a view to obtaining skills for client care. Nursing should leave conformist attitudes that provide security through what is already known and what blocks the growth of the body of knowledge contained in the care science.[11] Therefore, nurses in leadership positions, aware of the tacit and explicit aspects of knowledge, has to emphasize the process of knowledge creation in the organization.[5,7]

Nurses, as health service managers, should know how to disseminate and share tacit and explicit knowledge with their team members and other health professionals in order to contribute to decision making on care actions, which will ultimately reflect directly on the quality of care. By acquiring more knowledge, nursing professionals can take safer and more effective decisions. This behavior results in the modification of the characteristics of the work developed and leads to faster and more assertive attainment of expected results.[5]

CONCLUSION

The discussion on these two theories, one stemming from Psychology and other from Administration, allows the reflection on the complexity involved in the process of creating knowledge and learning. Individuals are key elements, because ideas start in them. Yet, it is only in the interaction between individuals, in the confrontation of opinions, that new knowledge emerges and is incorporated into the organization. The day-to-day of health organizations is full of experiences that can be useful to enhance individual learning.

Nursing professionals, especially nurses, perform experiential learning and knowledge creation in a discrete, but intrinsic, manner. Thus, opening spaces for socializing these learnings favors the creation of organizational knowledge. In health and nursing services, understanding these principles promotes knowledge creation and consequent innovation and improvement of care.

A limitation identified in this study was the shortage of productions that concomitantly linked knowledge creation and experiential learning to nursing. It is suggested that more productions need to be developed on this subject in view of its wide applicability and importance to nursing and health organizations.

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