144 - TEACHING-LEARNING PROCESS SCHOOLS IN HEALTH: THEORETICAL REFLECTIONS

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Introduction

In recent years, the graduation in courses in the area of the health has been discussed widely. In general, the approaches on this subject are centralized in the movement of curricular changing and in the explosion of the proposal of Problem-Based Learning (PBL). This proposal is the latest approach on this subject. This new methodology of teaching and learning values the students while active person in the transformation of the practices of heath with social commitment and (re)builder of their knowledge (MORAES e MANZINI, 2006, p.126)

For Cyrino and Toralles-Pereira (2004, p.2), this changings, in medical education in wider vision of the courses of health area, generate some challenge such break with traditional structures and models of teaching to form professionals of health with competences that permit them recoup the essential dimension of care, that is, the relationship among humans.

In this way, to promote educational innovations, the institutions responsible for formation of health professionals need to comprehend the difficulties to be faced in the changing processes in the school context and in the educative practice. They need to face the challenge of changing from a traditional practice, in which the student is object, to a practice that has the student as subject.

According to Moraes e Manzini (2006, p.126) PBL appeared at first in the Faculty of Medicine of University of McMaster, in Hamilton, province of Ontario, Canada, in 1969. It spread around the world and schools, including institutions in 26 countries. PBL is also used in other areas like Law, Architecture, Economy and Biblioteconomia. The PBL, differently of method of traditional teaching based on the transmition of disciplinary knowledge, represents a perspective of teaching-learning anchored in the constructivism, (re)construction of knowledge, whose process is centered in the student.

The PBL is a method of teaching-learning based on a learning based in problems that focus knowledge, skills, attitudes and values. Learning is centred in the student, the learning to learn, the integration of contents of basic sciences and clinics, besides interdisciplinary knowledge. In this methodology, the students are placed in small groups, assisted by a docent-tutor, who leaves transmitter role of knowledge and assumes facilitator role of learning, promoting the (re)construction of new knowledge, skills, attitudes and values from the knowledge and previous experiences of students.

For Tomaz (2001, p.762) one of basic functions of facilitator in the PBL is to stimulate critic thought and self-learning among students by orientation in metacognition it refers to the knowledge that people have about their own thinking process. Author understands facilitator like an artist, because many times during the process he needs of intuition, creativity, improvisation and expression due innovator feature of methodology used and applied by him in the PBL.

In that changing scenery, the docent faces a context of transitoriness of the knowledge, demanding not only the domain of the content of its specific area, but mainly the administration of the educational process with its students. They must, essentially, learn to learn. Front to the existent complexity in the exercise of that new role, we believe to be fundamental that the former institutions understand the importance of the permanent training of the professors/facilitators in all the stages of the process of professionals' formation of area of heath, participating indeed of this change process.

This article aims to stimulate the discussion and the permanent professional development of the professors/facilitators that act in the courses of professional formation of the area of health, as instrument of (re)elaboration and of transformation of the educational practice. When discussing the process teaching-learning and the relationships among development, learning and teaching in the context of the interactionist theories , we looked for to contribute for the reflection on aspects of the learning place that facilitate to the professor to pass of the condition of transmitter of information to encouraging, guiding, facilitator condition of the learning. And the student becomes a partner in the process.

The Teaching-learning process in the context of the Interactionist Theories

The mastery of the theoretical field of the psychology allows to the docent of the school of the area of health to understand the conceptions that base PBL, favoring the changes in the practice and the alterations of the conceptions on teaching-learning. Such professionals, in spite of they have experience in their area of performance, they don't have mastery on the theoretical field of the psychology due to their formation is based on the culture of the transmission of information. In this context, it becomes fundamental to make the first question: how people learn?

There are several answers for that question, even so we will analyze from four groups. The first and larger group holds that the subjects learn supported in the experience, for the absorption and transmission of the knowledge by he teacher. It believes that whole knowledge is, a priori, inherent to the own subject (apriority). The second group affirms that the subjects learn for the accumulation of experiences. It understands that the knowledge comes totally from the observations of the environment that surrounds them (empiricism). The third group argues that the subjects learn through a constructive process based on the subject's cognoscenti capacity. That group defends that the knowledge, in any level, is generated through a radical interaction of the subject with the environment from structures previously existent in the subject. The fourth attests that the knowledge happens through the interaction of the subject with the social world. That group assumes that the knowledge gives itself from the exterior to the subject's interior, resultant from of the interactions with the world and by means of internalization of the social actions. The last two groups followed the theories of Piaget (1970) and of Vigotsky (1991).

Relationships among Development, Learning and Teaching in Interactionist Approach

The interactionist theories explain the knowledge through the participation of both the subject and the objects of knowledge, which results not only in the organization of real but as well as the construction the structures of the subject. We have no intention to do a review of the psychological bases. Actually, we want to establish some considerations on two great exponents of the guiding principles of constructivist theory: Jean Piaget (1896-1980) and Vigotsky (1896-1934). In the first moment we will approach the Piagetian and Vygotskyan thought (conceptions and principles) and in the second moment we will reflect on the

learning place in the interactionist context.

For Piaget (1974), the education is not only a formation. It is also a necessary former condition to the own natural development. The author affirms that to know is to act in front of the reality that involves us. That is, the subject knows insofar as that modifies the reality through his actions. However, it cannot translate to act, in the piagetian sense, basically for external and visible actions and movements. In most of the cases that activity is internal and mental, even if based on physical objects (COLL, 2000, p. 250).

According to Piaget (1970) the relationships among subject-object occur through a process of double face denominated adaptation, which is subdivided in two moments: the assimilation and the accommodation. For Bridges et al (2006, p. 68), the assimilation is transformer action of the subject on the object and the accommodation is transformer action of the subject on himself. Thus, in successive assimilation and accommodation processes happen, the process of cognitive development gradually. In that perspective, the construction of the cognitive structures occurs from the relationship that forms between the subject that thinks and learns and the object to be learned. For Coll (2000), the constant game of assimilation and accommodation makes schemes modify themselves.

In this sense, the subject constructs the structures in so far as his needs, depending on the situations. It makes the experience an active process. The action happens in agreement with some need, provoking in the subject an unbalance state, an alteration of the experienced routine. And then, triggering new inquiries in search of new ways of relate to world, in the attempt of better adaptation to it. This way, the scheme is good to give sense, to interpret and to order the reality.

When placing in the center of the attentions, the constructive and active nature of the knowledge, the piagetian principles reflect in the way of understanding the school learnings placing the student as central protagonist in the acquisition of new knowledge. It understands that the student learns alone and in natural way through actions that he develops in interaction with the objects.

However, Coll (2000, p. 252) it argues that Piaget in the intention of showing that the knowledge are constructed along the life and that that construction adopts the same progression for all the subjects. It subordinates the learning to the development, because in the piagetian thought the cognitive development occurs from the interior to the exterior, according to the person's maturity. It considers that the environment can influence in the cognitive development, emphasizing the role of the environment in the biological development and the maturity of the development. Coll (2000) understands the cognitive development as the one of balance, from the interaction between the individual and the environment, linked with other factors as experiences, genetics, biological maturation, forming the schemes, the assimilation, the accommodation, the adaptation.

Coll (2000, p.255) points out that from the genetic theory the mistakes are interpreted as indicators of an organizing and assimilator activity essential to progress, even so insufficient. In the author's view, the mistakes reveal the point of view of a subject, in a certain development level, overcome with the time. It highlights still that the acquisition of new knowledge implies, in the vision of Piaget, in a succession of unbalances, fittings, new balances, unbalances, etc.

Thus, if Piaget based on consistently the constructivist dimension of the learning, Vygotsky characterized it better in the interactionist conception. The author gave great importance to the relationship and interaction with other people during the learning process.

Vygotsky (1991) emphasizes the construction of the knowledge as an interaction mediated by several relationships, that is, the knowledge is not being seen as an action of the subject on the reality, as well as in the piagetian constructivism, but for the mediation done by other subjects. He also points out that the culture provides to the individual the symbolic systems of representation of the reality, being the universe of significances that allows to construct the interpretation of the real world. That is, the culture provides the place of negotiations in which its members are in constant recreation process and reinterpretation of information, concepts and significances.

In the thought of Vigotsky (1991), the central subject is the acquisition of knowledge through the interaction of the subject with the environment, being always the knowledge mediated. For the author, Living in society is essential for the man's transformation from being biological to human being. He defends that is by the learning in the relationships with the other ones that the subject constructs the knowledge that allows his mental development. He argues that while subject of the knowledge, the man doesn't have direct access to the objects, but mediated access, through pieces of the real, operated by the symbolic systems that he disposes.

According to Coutinho and Moreira (2001), Vigotsky studies the origin and evolution of the human conscience, having as basic axis of his subjects the relationship thought-language. The author distinguishes two forms of mental operation: the elementary mental processes and the superiors. The elementary mental processes are resultants of the genetic capital of the species, of the biological maturation and of the child's experience with her physical environment. The superiors psychological functions are constituted along the man's social history in his relationship with the world, mediated by the instruments and symbols developed culturally. That is, the subject acts in the world and with the world. Therefore, for Vigotsky, the signs and systems of signs that serve as mediators in the superior psychological processes were elaborated along the cultural history of the human species, being from social origin (COLL, 2000, p. 259).

In the understanding of Vigotsky the superior mental processes originate from the social processes - the cognitive development is the conversion of social relationships in mental functions. That process occurs by the mediation of instruments or material tools and by the mediation of the signs: the man acts in the physical and social world knowing it, interacting, learning, and communicating to the other ones his experiences and constructing his own history (COUTINHO and MOREIRA, 2001, p.143). That mediator function happens by the internalization process, internal reconstruction of psychological functions that emerge of the action among subjects.

In the Vigotskyan thought two development levels exist: the real development, formed by the group of information that the person has in her power and the potential development, defined by the problems that the person gets to solve with the another person's help. The distance between those two levels is denominated of zone of proximal development which in turn is constituted for functions that are in maturation process.

Pontes et al (2006, p. 69) affirm that is in the zone of proximal development (ZPD) that can, due to the supports and the help of other, unleash the construction process, modification, enrichment and diversification of the knowledge schemes. It is waited that what the person achieves with another people's help can, later on, to achieve in an autonomous way. For the zone of the proximal development, the authors point out that ZPD doesn't have lineal nor automatic effects on the students; that the teaching cannot provide homogeneous and identical helps for all the cases and students; that that help should be adjusted in the temporary dimension of the process of each individual's learning.

Thus, when promoting interpersonal relationships, the teaching acts as inducer and facilitator of the transition of the interpsychological processes for the intrapsychological processes. And then it transforms the zones of proximal development in real development. It develops the superior psychological functions. In that sense, the individual's potentialities should be

considered during the teaching-learning process. This because, from the contact with an adult or in collaboration with more experienced partners and with the historical-cultural context, the student's potentialities are transformed in situations in that activate in him procedural or behavioral cognitive schemes.

For Vigotsky (1991) learning is not development; however the well-organized learning results in development, for placing in movement several processes that it would be in another way impossible of happening. In that way, learning is an interactive process of construction of the knowledge, an essential and universal aspect of the process of development of the psychological functions culturally organized and specifically human.

The learning place

The conceptions of Piaget and discussed Vigotsky must base the way to be driven by the worried teachers in overcoming the impact of that methodology in what it refers to the experiences of the roles of facilitator/tutor and of privileged speaker for formed teachers in an academic culture marked by the transmission of information. The new role demands significant transformation movements and readiness to learn with the new, assuming place of the orientation, facilitation and listening to the students' arguments (BAPTISTA, 2005 p. 236).

Therefore the docent/tutor of the health course should understand that the construction of the knowledge occurs through the interaction between subject and object. And that the knowledge is born in an intermediary zone between subject and object. The new knowledge generates disturbances and decisive unbalances for the process of conceptual change and should be considered the individual's potentialities during the teaching-learning process. In that place, the contact with a more experienced person and with a differentiated historical-cultural context, the apprentice's potentialities are transformed in situations that activate in him procedural or behavioral cognitive schemes. It can also happen that conviviality produces in the individual new potentialities, in a dialectic continuous process. While teacher should work and challenge the student to construct the knowledge in an investigative process, besides the appearances, perceptions and daily practices.

Besides, it is necessary that the teaching institution is tuned to the retrospective and prospective level of the students' development, going back to the stages that are still dominated by them, providing significant learning. So that that happens the docents should have as starting point the level of each student's real development (related to the content) and as arrival point the objectives that should be reached. That is, to arrive to the potential of each one. Therefore, the teacher has the explicit role of interfering in the zone of the students' proximal development, provoking progresses that would not happen spontaneously, working as an encouraging of new achievements.

According to Pontes et al (2006, p. 69), the teaching should be understood as a necessary help to the learning process. Thus, it should not substitute the student's constructive mental activity. The authors point out that the teaching as help: a) it should consider the initial schemes of the students' knowledge and to take as starting point the meanings and the senses that they have on the content; b) it should provoke challenges that stimulate the questioning of those meanings and senses, favoring modifications. That is, to point for what the student doesn't know.

Therefore, professor of the medical school should be conscientious of the important interlocution between educator-student and that all the learning process goes by a strong interaction between the subject of learning and the object, and that the object symbolize the process as a whole: the professor, the colleagues, the subject, and others. From that complete interaction can say that the individual is constructing new knowledge.

Evaluation could not be excluded of this reflection, because it's unquestionable importance, because in a evaluation critical process the evaluation is a fundamental element to the re-orientation of the actions and generator of new challenges in the learner. So, evaluation must to be emancipator, transparent and honest among all the actors involved in the process. Evaluation is important as to the student as to teacher. It is fundamental, therefore, that docent-tutor involves himself in the evaluation process, taking it like a tool of re-organization of his interactive practice in the process of knowledge construction of his students.

To conclude, we need to understand this learning place involves: the recognition of the man's activity and interactivity in his process of to know, to explain and to intervene in the world; the construction of formation and action proposal that take practice like a reflecting object and knowledge producer; the appropriation of theoretic-methodological references in a reflexive dimension that has in the questions and in the systematic search of answers, fundamental bases; the recognition of the interdisciplinary perspective as nuclear conjecture, demanding attitudes that construct an open to new partnership of manner of questions and intervention in the reality. (BATISTA, 2005 p. 234).

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ABSTRACT

This study argues the teaching and learning process, establishing the relations between development, learning and education in the context of the interactionists theories. It reflects, still, on the aspects of the learning environment that facilitates the professor to go beyond the condition of transmitter of the informations to the condition of the person who facilitates, guides and stimulates the learning. At this time of curricular changes movement and the proposal of Problem-Based Learning (PBL) the training of new health workers demands conceptual and practical changes of the professors, having in the center the student. To play this new role as the person who facilitates and the "arbitrator of learning" educator, it is necessary that the professor understands how does it give the process of construction of knowledge, considering the student as social-historical subject, producer of his own knowledge.

Word-key: knowledge; Teach and learning; Problem-Based Learning; Constructivism.

RÉSUMÉ

Cette étude discute le procès d' enseignement-apprentissage, en disposant les rapport entre le développement, l' apprentissage et l' enseignement dans le contexte des théories interactionnistes. Il réfléchit, encore, sur les aspects du lieu d' apprentissage que contribue afin de que le professeur passe de la condition d' une personne qui transmit les informations à d' une personne qui rendre facile, qui oriente et qui motive l' apprentissage. Dans le changement et dans le propos d' apprentissage basée en problémès (ABP), la formation des nouveaux professionnels de la santé demande changements conceptuelles et pratiques des corps enseignant, en ayant dans le centre l' élève. Pour faire son nouvel rôle comme enseignant qui rendre facile et qui est médiateur d' apprentissage, il faut que l'enseignant comprend comme le processus de construction du connaissance se rendre stable, en considérant l' éléve comme sujet historique-social et producteur de son propre connaissance.

Mots-clé: connaissance, enseignement-apprentissage, apprentissage basée en problémès, constructivisme.

RESUMEN

Este estudio analiza el proceso de enseñanza-aprendizaje, el establecimiento de las relaciones entre el desarrollo, la enseñanza y el aprendizaje en el contexto de las teorías interaccionistas. Refleja, todavia sobre los aspectos del ambiente de aprendizaje que facilitan al profesor pasar de la condición de transmisor de la información para la condición de facilitador, mentor y motivador del aprendizaje. En el movimiento de cambio del plan de estudios y en la propuesta de aprendizaje basado en problemas (ABP) la formación de los nuevos profesionales de la salud exige cambios conceptuales y prácticas de los profesores, teniendo en el centro los estudiantes. Para desempeñar su nueva función como educador facilitador y mediador del aprendizaje es necesario que comprenda el proceso de la construcción del conocimiento, considerando el estudiante como una persona sócio-historico, productor de su próprio conocimiento.

Palabras-clave: Conocimiento; de enseñanza-aprendizaje, aprendizaje basado en problemas, constructivismo.

RESUMO

Este estudo discute o processo ensino-aprendizagem, estabelecendo as relações entre desenvolvimento, aprendizagem e ensino no contexto das teorias interacionistas. Reflete, ainda, sobre os aspectos do ambiente de aprendizagem que facilitam ao professor passar da condição de transmissor de informações a condição de facilitador, orientador e incentivador da aprendizagem. No movimento de mudança curricular e na proposta de aprendizagem baseada em problemas (ABP) a formação dos novos profissionais de saúde exige mudanças conceituais e práticas dos docentes, tendo no centro o educando. Para desempenhar seu novo papel como educador facilitador e mediador da aprendizagem é preciso que o docente compreenda como se dá o processo de construção do conhecimento, considerando o estudante como sujeito histórico-social, produtor do seu próprio conhecimento.

Palavras-chave: Conhecimento; Ensino-aprendizagem; Aprendizagem Baseada em Problemas; Construtivismo.