

# Knowledge and Attitude: Challenges for Continuing Education in Health

André M. Senna, Mary L. G. S. Senna, Rosa M. Machado-de-Sena

**Abstract**—One of the great challenges presented in educational practice is how to ensure the students not only acquire knowledge of training courses throughout their academic life, but also how to apply it in their current professional activities. Consequently, aiming to incite changes in the education system of healthcare professionals noticed the inadequacy of the training providers to solve the social problems related to health, the education related to these procedures should initiate in the earliest years of process. Following that idea, there is another question that needs an answer: If the change in the education should start sooner, in the period of basic training of healthcare professionals, what guidelines should a permanent education program incorporate to promote changes in an already established system? For this reason, the objective of this paper is to present different views of the teaching-learning process, with the purpose of better understanding the behavior adopted by healthcare professionals, through bibliographic study. The conclusion was that more than imparting knowledge to the individual, a larger approach is necessary on permanent education programs concerning the performance of professional health services in order to foment significant changes in education.

**Keywords**—Health education, continuing education, training, behavior.

## I. INTRODUCTION

IN the two last decades, important changes have become prominent in socio-economical, political and cultural fields. Reference [1] highlights that “cultural capital” is a source of distinction, power and more than that, it is for a privileged few. The author presents different manners to have access to general culture through three distinct means, the “incorporated state” which belongs to the family environment and its structure; the “objectivated state” which are the cultural goods – books, paintings etc – and the “institutionalized state” consisting the methodical learning, either in formal or informal institutions. The main purpose of this paper is to create a theoretical discussion about education in the sphere of the “institutionalized state”, not applying in this case the submission to the Research Ethics Committee and Clinical Trials Register, because the research involves neither patients nor any institutional or private funding.

In the information age, [2] states that the future of education has been analysed cautiously. The author analyses briefly the

history of education, touching on topics such as traditional education, its exclusivity for the privileged, as well as the innovations originated from the discussions of Rousseau, the concept of “learn by doing” from Dewey and the current discussions about education.

Reference [3], in a holistic vision to education considers knowledge as a unification principle, valorising the human being quotidian and experiences, these kinds of thoughts have been frequently debated in current discussions about education. In his book “Seven complex lessons in education for the future”, he [3] analyses our perceptions from the retina image point of view, which collects information perceived by the eye, sending it instantaneously to the brain, where it reconstructs the information that has just been captured. The author considers that in this reconstruction lies a risk of a mistake, and also he believes that another possible source of mistake is the differences in human life aspects such as social, cultural and origin influences. From this context, Morin highlights the importance of thinking about the learner “human identity”, considering that each single learner brings histories and experienced facts that should be considered in education.

The popular education, by Paulo Freire’s legacy, brings a notion of learning from the student’s knowledge, taught through words and generative themes, seeing on education the act of knowledge, and consequently, the possibility of social transformation. Independently of the education perspective that will be thought now, [2] claims that it will always be an education that raises objections and overcomes the limits imposed by the State, being more a “social change” than a “culture change”. How is it possible to turn the education social perspective into culture?

Let us analyse the following situation. The situation described happened in a public health centre in the countryside of a Brazilian northern state in January 2006: After a car accident, two young people headed to a public health centre of a small town of the state. They arrived covered in blood, nevertheless, they seemed to have only superficial wounds and apparently no risk of death or permanent injuries, they needed to wait for the doctor who was not at the centre. Once the doctor arrived, he was informed by the nurse about the primary evaluation and next he started examining the patients neglecting the preventive biosecurity measures. As the examination starts, beginning by the patients covered in blood, the voice of the assistant is heard: “Doctor, are you neither washing your hands nor wearing gloves?” No answer was heard from the doctor.

A. M. Senna (Dentistry Professor) is with the Instituto Tocantinense Presidente Antônio Carlos-ITPAC and Centro Universitário Luterano de Palmas-CEULP/ULBRA. Palmas, TO 77016162 BRA (e-mail: amsenna@uol.com.br).

M. L. G. S. Senna (Professor) and R. M. Machado-de-Sena (Professor) are with the Federal Institute of the Tocantins State-IFTO, Doctor of Science of the IPEN/USP, TO 77016162 BRA (e-mail: marysenna@ifto.edu.br e rosa.senna@ifto.edu.br).

Linking this incident to education, it could be understood that either the doctor did not have basic notions of preventive biosecurity measures in his background or maybe he did not know the necessity of wearing Personal Protective Equipment (PPE). From this assumption, it would be easy find ways to correct such problem: Promote training. Nevertheless, it would be a simplistic point of view that possibly would not have greater impacts, because the context was not considered and probably the diagnosis was wrong. It is difficult to believe that a professional doctor does not know basic safety measures.

Probably, if the doctor was asked about the appropriate procedures he would certainly know the right answer. Furthermore, it can be highlighted that these kinds of behaviours are forged throughout years of training and quotidian experiences, starting from university or even before. Therefore, to promote "change in the education system of healthcare professionals due to the inadequacy of the training providers to answer the social requests" [4], the education concerning these procedures should start sooner. Following along that idea, another question arises: If the change should start sooner in the period of basic training of healthcare professionals, what guidelines should a permanent education program follow in order to incite changes in a system that is already consolidated?

"Education is the development in each individual of all the perfection which he is capable" [5], however, even the author raises questions about the idea of perfection. For him, perfection would be a harmonious development of all possible and wished human faculties, but not totally feasible, due to the fact that harmony theory lies in contradiction with the rule of human behaviour.

Education answers, before all, the individual social requests. Reference [2] suggests there is a possibility of mistake between what is perceived by the view and what is reconstructed by the brain. Nevertheless, concerning the problem pointed out above, as it was already stated, it is difficult to believe that they do not either know the biosecurity procedures or that they neglect the procedures because they have realised that a mistake existed and then reconstructed other concepts. The simplistic idea of providing training in order to improve flaws in the current education program, consequently, is completely abandoned when confronted with arguments and more elaborate thoughts. Concerning this subject, [6] approaches the topic biosecurity and risks, stating that risks are social objects related to contexts.

The consideration of a single perspective, in this case the scientific-technical, to analyse and understand such a complex subject when it comes to the risks, the answers can become partial and incomplete, for the reason that the risks global characteristics tend to be lost due to reductionist and out of context orientations offered by one single approach [6].

Perception is a mental interactional process of the individual relating with the environment happening through mechanisms of perception and cognition. The perception mechanisms are triggered by external stimuli using the five senses and the cognition mechanisms comprise the intelligence contributions, considering that the human mind

does not work exclusively with the five senses. "These cognitive mechanisms include motivations, moods, necessities, previous knowledge, personal values, judgments and expectations" [7]. Thus, there are contributions of the individual in the perceptive process that start from the motivation and evolve up to the decision and behaviour.

From there on, when it is correlated with the problem presented in this paper, it will be noticed that the process that leads the individual to behave positively or negatively towards information pass through steps as "motivation", interest or necessity to internalise received messages, which once internalised, pass through steps as "evaluation", which is when the individual compares personal judgements and expectations to eventually define how to behave [8]. Following this perspective, according to reference [8], health education concerns a set of experiences from the individual that influence one's knowledge, attitudes and practices. Still, the author highlights that health education is a process through which people are influenced to change or acquire primordial knowledge, attitudes and practices to the health sector.

Reference [9] considered that more than acquiring knowledge, it is necessary to turn it into something meaningful. When the acquisition of knowledge and technical intellectual aptitude do not influence the creation of a social mental attitude, the ordinary vital experience becomes less meaningful, while in the same proportion, school education creates merely "intellectual" men, namely, selfish specialists.

This mental attitude that [9] mentions is the challenge for the new millennium of education, which is how it would be possible to incite students to not only appropriate knowledge, but also to search for greater meaning, internalise it, and truly experience it. Still, the author emphasizes that more than training actions, the education system should consider the social environment that the individual belongs to, because it is the social environment creates the mental and emotional attitudes forming the individuals' behaviour.

In conjunction with that thought, [9] highlights that the society educational influence acts independently of any intentional purpose. Additionally, [9] states that the role of conscious education is to release the talents that the student has afterwards and to develop them, providing tools that enrich its meaning.

The fundamental importance of recognising the educational process that follows unconsciously is to lead us to notice that the most efficient way to influence the younger population in education is acting on the environment they live, think and feel [9].

Bringing this thought to the problematisation suggested in this paper, it is inferred that the ideas presented are a way to guide educational actions with health professionals, and what that means, is to turn the education practice into a professional practice through field training aimed at reaching a professional awareness in the work environment. However, it is noticeable that this single action by itself could not trigger the health professionals' habits change.

Continuing on the path set by [9], habit is an intelligent attitude which consists in knowledge of work tools and

devices concerning the activity an individual practices, proving that there is an accurate understanding of the situations in which the habit is practiced. Therefore, bringing it to this paper, health professionals who are used to working following the biosecurity procedures generally know what tools are necessary to accomplish a task, and as such, they easily identify the situations requiring safety equipment.

Reference [9] accentuates that the experience can modify the quality of the following experiences, observing that the individual is capable of distinguishing between positive and negative, this is, if a professional has experienced a risky situation without safety equipment while working, certainly this professional will think twice before starting work without the safety equipment again.

Following the analysis of habits, it is clear that “bad” habits are so apart from reasoning that they conflict with conscious decisions. Consequently, the fact that some professionals do not wear Personal Protective Equipment – PPE – shows such an unconsciousness of behaviour that it can become a common practice.

As the habit is analysed as a social reflex concerning an individual behaviour, [9] states:

“If socialisation were an automatic process, the youngest generation of a certain society would be a copy or the perfect reproduction of previous generations. Nevertheless, socialisation manifests through social institutions (family, school, religions, clubs, groups, media etc.) from the environment the individual belongs. Moreover, it is a fact that happens throughout time and influences specific characteristics on each human being, on their bodies, in a simultaneous process to the individualisation. In this regard, the notion of habit seems to be important due to the fact that somehow it considers both aspects, the reproduction of general guidelines (the society influencing the individuals) and the possibility of its variation.”

Thus, it is possible to infer that habits can be forged by the social relations that an individual has, because once someone starts behaving like the people from the social group to which they are belonging, that person would have been influenced by socialisation. For this reason, the professional who does not wear mandatory safety equipment while working might be under some kind of influence, maybe related to the fact that the individual is the only one diverging from the group.

It is necessary to emphasize that habits are not unchangeable, and hence, it is possible to think about a change to the exposed context, observing that permanent education is a mainspring for the effective development of actions capable of opening new horizons for health professionals.

According to this logic, [9] believes that permanent education is a powerful tool to change the practice. The author states:

“Permanent health education is a fundamental strategy to the work transformation in the health sector in order to turn the work environment into a place of critical, reflexive, suggestive, engaged and technically qualified action. There is a need, however, of decentralisation and

expansion of the pedagogic capacity within the sector and among workers; among the managers of actions, services and health systems; among workers and managers with the educators, and among workers, managers and educators as a health social control” [9].

Additionally, the National Policy of Permanent Education in Health guidelines (Política Nacional de Educação Permanente em Saúde) direct the health labourers working in the Sistema Único de Saúde (SUS, Unique Health System, which is the Brazilian public system health care) trainings. The courses practices and health workers development are complex concepts, due to the fact that they influence and are influenced by the way society explains and deals with health and disease. The low capacity of solving problems concerning health towards the population is commonly understood as the health professional’s lack of qualification or a flaw in their training. The result of that is a simplistic suggestion of promoting training and professional development believing it will solve all the matters related to healthcare practices.

For [10], the health workers pedagogical project training “is determined, majorly, by models of ideological elements of hegemonic practices and by the means of production in a certain moment and in a certain society.” Therefore, the pedagogical project of a particular training will reproduce the ideology of the professional practice of most professionals. Still, the author highlights that the workers cannot be seen in a mere reproductive way, by considering them capable of adapting or interacting according to their preferences or ideologies. Thus, it is understood, the negligence of a certain procedure, for instance, can be seen, according to the author, as an option, preference or condition determined by a certain context of work.

Understanding the importance of the permanent development of its professionals the Brazilian Health Ministry created the Secretary of Labor Management and Health Education (Secretaria de Gestão do Trabalho e da Educação na Saúde, SGTES) that searches for solutions to questions concerning the training and development of healthcare professionals and the questions concerning the management and regulation of work in the sector [11]. Another important institution in the implementation of public policies in order to provide an efficient public health service is attached to SGTES, the Department of Health Education Management (Departamento de Gestão da Educação na Saúde, DEGES), which has the fundamental role of suggesting programs and projects relating to education. Within this dimension, [12] considers that the suggestion that in the permanent education of healthcare workers, crews should be created to make articulation and dialogue between workers and knowledge from the clinic possible, the collective health and management department having local needs as a reference. They should also encourage health workers to overcome training limits and traditional clinical practices. Health education should be the space for articulation and integration management of professors and students in the scenario of health service practices following the same logic of cooperation for better public health services.

## II. FINAL CONSIDERATIONS

It is known that education truly capable of transforming the health system is one of the biggest challenges to the professionalism of the healthcare sector. It must be permanently in harmony with the student culture, constructing knowledge continuously, as well, it should truly modify the habits that are not in line with the guidelines of health professional practice.

In order to promote behaviour changes, it should seek, as Morin states, an education that is part of the professional routine, aiming to develop safe healthcare work habits, creating an work environment were most professionals adopt safe working habits, and consequently, it will be easier to determine healthcare workers who do not procedure. It was noticed that progressive and continuous training are necessary.

## REFERENCES

- [1] M. A. Nogueira, A. Catani *Escritos de Educação*, Seleção, organização, introdução e notas. Petrópolis, RJ: Vozes, 1998.
- [2] M. Gadotti. Perspectivas atuais da educação. *Revista São Paulo em Perspectiva*, v. 14, n. 2, 2000.
- [3] Morin, E. *Os sete saberes necessários à educação do futuro*. São Paulo: UNESCO, Cortez, 1999. In: <<http://portal.mec.gov.br/seb/arquivos/pdf/EdgarMorin.pdf>>. Accessed in: January 24, 2008.
- [4] E. G. Cyrino, M. L. Toralles-Pereira. Trabalhando com estratégias de ensino-aprendizado por descoberta na área da saúde: a problematização e a aprendizagem baseada em problemas. *Cad. Saúde Pública*, v.20, n. 3, p.780-788, 2004.
- [5] P. Faconnet. *Educação e sociologia*. Emile Durkheim; com um estudo da obra de Durkheim pelo Prof. Paul Fauconnet. Tradução: Lourenço Filho. 11. ed. São Paulo: Melhoramentos, 1978.
- [6] T.P. Neves, E.A. Cortez, C.O.F. Moreira. Biossegurança Como Ação Educativa: Contribuições à Saúde do Trabalhador. *Cogitare Enferm.* v. 11, n. 1, p. 50-54, 2006.
- [7] V. del Rio. Cidade da Mente, Cidade Real: percepção ambiental e revitalização na área portuária do Rio de Janeiro. In: V. DEL RIO, L. OLIVEIRA (org.) *Percepção Ambiental: a experiência brasileira*. 2ª ed. São Paulo: Studio Nobel, 1999.
- [8] N. M. F. Candeias, R.S. Marcondes. Diagnóstico em educação em saúde. Um modelo para analisar as relações entre atitudes e práticas na área da saúde. *Revista de Saúde Pública*, São Paulo, v. 13, pág. 63-8, 1979.
- [9] C. O. F. Moreira. *Entre o indivíduo e a sociedade: um estudo da filosofia da educação de John Dewey*. Bragança Paulista: EDUSF, 2002.
- [10] E. V. Mendes. *A evolução histórica da prática médica: suas implicações no ensino, na pesquisa e na tecnologia médicas*. Belo Horizonte: PUC-MG/FINEP, 1984.
- [11] Brasil. Ministério da Saúde. *Portaria n. 198, GM/MS, de 13 de fevereiro de 2004*. Institui a Política Nacional de Educação Permanente em Saúde como estratégia do Sistema Único de Saúde para a formação e o desenvolvimento de trabalhadores para o setor e dá outras providências. Brasília: Ministério da Saúde, 2004.
- [12] L. C. M. Feuerwerker. Educação dos profissionais de saúde hoje – problemas, desafios, perspectivas, e as propostas do Ministério da Saúde. *Revista ABENO*. v. 3, n. 1, p. 24-27, 2003.

Tourism, Hospitality and Leisure sectors on campus Palmas. Researches on Environmental Indicators and the Tourism Research Group member NEHTUS - Center for Studies in Education, Tourism and Sustainability CNPQ / IFTO, which possesses articles and the book "Sustainable Development Indicators: an academic view" of Sirius Network publisher, published in this área.

**Rosa Maria Machado-de-Sena** is PhD in Science from the São Paulo University (USP - 2013) and interdisciplinary Master's degree in Environmental Sciences from the Federal University of Tocantins. She graduated in Pharmacy and Biochemistry and Industrial Pharmacy (food and medicine), from Federal University of Juiz de Fora. She was a researcher at the Tropical Medicine Foundation of Tocantins (FMT / TO). Currently she is a professor at the Tocantins Federal Institute of Education, Science and Technology (IFTO) which consists of the Scientific Committee of the Campus and is a referee ad hoc research projects. It operates in the areas of photodynamic therapy and laser therapy, Microbiology, Parasitology and Pharmacology.

**André Machado de Senna** is graduated in Dentistry, MSc in laser area and PhD from the University of São Paulo. He is dentistry professor of CEULP ULBRA Palmas and ITPAC Porto Nacional, both in the state of Tocantins, Brazil. He also works as a dentist in Palmas Public General Hospital.

**Mary Lucia Gomes Silveira Senna**, Brazilian, graduated in pedagogy, Specialist in Tourism from the Catholic University of Brasília (2005), Master in Environmental Sciences from the Federal University of Tocantins / Brazil (2008), PhD in Science from the University of São Paulo Brazil (USP / IPEN). Professor at Instituto Federal do Tocantins. She works in the pedagogical disciplines of Bachelor courses. Currently, teaches subjects of the