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ABSTRACT
Objective: To understand how epistemological world awareness is expressed in the educational practices of healthcare professors.
Methods: A qualitative, descriptive, exploratory, and analytical study. Data were collected through open-end interviews and non-participant observation from May to December 2013, with 10 professors from a public university in southern Brazil. The adopted theoretical framework was the composition of Paulo Freire and Lee Shulman. Data were analysed according to the operative proposal of Minayo.
Results: The emerging category was Epistemological world awareness of healthcare professors.
Conclusions: For professors to understand and reflect on the core knowledge categories required for their practice, they must have an epistemological world awareness that allows them to perceive themselves as unfinished in relation to the world and able to transform their practice.
Keywords: Faculty. Teaching. Education, higher. Knowledge.

RESUMO
Objetivo: Compreender como a consciência de mundo epistemológica se expressa na prática pedagógica de docentes da área da saúde.
Métodos: Estudo qualitativo do tipo descritivo, exploratório e analítico. A coleta de dados ocorreu por entrevista aberta e observação não participante, realizadas entre maio a dezembro de 2013, com participação de 10 docentes de uma universidade pública do sul do Brasil. O referencial teórico utilizado foi à composição de Paulo Freire e Lee Shulman. A análise dos dados ocorreu com base na proposta operativa de Minayo.
Resultados: Emergiu uma categoria: Consciência de mundo epistemológica dos docentes da área da saúde.
Conclusões: Para que o docente consiga compreender e refletir sobre as categorias de conhecimento básico necessárias para sua atuação é importante que ele desenvolva uma consciência de mundo epistemológica, percebendo-se como inacabado em relação ao mundo, sendo capaz de transformar a sua prática pedagógica.

RESUMEN
Objetivo: Entender cómo la conciencia del mundo epistemológico se expresa en las prácticas pedagógicas de profesores de la salud.
Métodos: Estudio cualitativo de tipo descriptivo, exploratorio y analítico. Los datos fueron recolectados por medio de entrevistas abiertas y observación no participante, llevada a cabo de mayo a diciembre de 2013, con la participación de 10 profesores de una universidad pública en sur de Brasil. El marco teórico utilizado fue la composición de Paulo Freire y Lee Shulman. El análisis de datos se basa en la propuesta operativa Minayo.
Resultados: Surgió una categoría: la conciencia del mundo epistemológico de la salud de los profesores.
Conclusiones: Para que el profesor entienda y reflexione sobre las categorías de base de conocimientos necesaria para sus operaciones, es importante que se desarrolle un mundo epistemológico de la conciencia, la percepción de sí mismo como inacabada en relación con el mundo de poder transformar su práctica.
INTRODUCTION

Over the years, the complex scenario of higher education, especially healthcare education, has become the subject of several studies that seek a better understanding of this phenomenon. In view of the challenge imposed by the Unified Health System in Brazil, the theme has also been included in the government agenda and has consequently attracted increasing interest. The premise that professors who dominate specific healthcare knowledge have the capacity to work in the teaching and learning process has been increasingly questioned.

There is a gap in the specific training and knowledge required to teach – a complex and problematic task – in a backdrop of constant global transformations\(^\text{(1)}\). A study\(^\text{(2)}\) points out the scarcity of professors who are prepared to teach in a complex educational setting. Furthermore, specific teacher training is essential for the provision of quality education. This training can broaden the perspective of professors regarding new teaching strategies and promote the critical thinking of future healthcare professionals, which is needed to obtain a differentiated and reflective education.

One of the basic principles of teaching is to reflect on every activity created in the educational process. For this to occur, the professors must reflect and be aware of their world and their competence to modify it. This reflection ensures commitment with their actions and consequently helps them transform their educational practice\(^\text{(3)}\).

This is the desirable outcome of healthcare education since the consolidation of the Unified Health System implies the qualification of a new professional. For professors to reflect, they must first develop epistemological world awareness. This is defined as the understanding that people have of their world, and this world involves the sociocultural context in which they are immersed and the other people who relate within this context to thus express their reality. People can only transform their reality insofar as they become aware of the world through reflection\(^\text{(1-4)}\).

To clarify the understanding of world awareness and self-awareness, we start with a core concept of the educational thoughts of Freire: conscious awareness (“consciência” in Portuguese). This concept is considered the individual’s process of acquiring awareness as a critical and creative capacity. It is the “profound acquisition of awareness, characteristic, in turn, of all immersion”\(^\text{(3,138)}\).

This word conscious awareness or consciousness was not only coined by Freire, but by a group of teachers in 1964. As soon as the author thought about the term, he perceived the complexity of its meaning. Therefore, the author states that “he is fully convinced that education, as the practice of freedom, is an act of knowledge, a critical approach to reality”\(^\text{(8,19)}\).

The awareness process enables the encounter with the subjective world that we become familiar with as we get to know ourselves. This encounter is to transcend the naive view until we reach the apprehension of reality, thus making reality a knowable object and assuming an epistemological stance toward knowledge. Conscious awareness is also a critical admission with the historic compromise whereby reality can suffer reviews and consequently involve practical, theoretical, and ethical aspects toward this meaning\(^\text{(1-4)}\).

For the epistemological world awareness of professors to occur, they must recognise the core knowledge categories of teaching to exercise their pedagogy competently. These categories are content knowledge, pedagogical knowledge, pedagogical content knowledge in general, knowledge of the curriculum, knowledge of the students and their characteristics, knowledge of the educational context, and knowledge of the objectives, purposes, and values of education and its historical and philosophical foundations. These categories come from four sources of knowledge: academic education, teaching resources and structures, specialised bibliography, and the knowledge acquired from the exercise of teaching\(^\text{(1)}\).

Consequently, the aim of this paper is to understand how the epistemological world awareness or consciousness of Freire is expressed in the pedagogical practice of healthcare professors according to the core knowledge categories.

Given the complexity of this problem, this study sought to answer the following question: How is the self-awareness and world awareness of university professors in the field of healthcare expressed in their pedagogical practice according to the core knowledge categories?

METHOD

This research originated from the doctoral thesis\(^\text{(5)}\) entitled “Docente universitário da área da saúde: consciência de si e de mundo para uma prática pedagógica transformadora”. It is a qualitative study based on descriptive, exploratory, and analytical research conducted at a public university in southern Brazil. The criteria to select the participants was the intentional search for healthcare professors with an initial education in nursing, medicine, dentistry, pharmacy, nutrition, speech therapy, and physical education. They teach the following courses: Nursing, Medicine, Dentistry, Pharmacy, Nutrition, and Speech Therapy. The professors
were intermediate faculty members or professors with a 06 to 14-year academic background

Intermediate faculty members are still constructing their profession and they are continuously building and transforming their work, but they still have a long journey ahead before they achieve this objective. They have 6 to 14 years of experience as professors.

The participants were selected using the institutional website of each undergraduate program. Their Lattes curricula were accessed and the faculty department of the member was contacted to obtain further information. Ten faculty members participated in the research. The core category and its subcategories emerged from the interviews and observation of 03 nurses, 03 dentists, 02 pharmacists, 01 speech therapist, and 01 nutritionist.

Data were collected from May to December 2013. The data collection instruments were open-end interviews and non-participant observation.

The guiding question of the open-end interview was "How did you become a professor?" The interviews were fully transcribed and saved in a personal computer. Non-participant observations were scheduled after the interview in the teaching environments, classrooms, laboratory, and clinical practice fields, and the acquired information was recorded in a field journal.

Data were analysed using an operational proposal that consists of three steps: Pre-analysis: repeated and exhaustive reading of the interview transcripts, after which the obtained data are arranged in a Microsoft Office Word file; Exploration of the material: data categorisation with 1st, 2nd, and 3rd encoding of raw data to capture the core ideas, and organisation of this data in a Microsoft Office Excel spreadsheet; Treatment of results and interpretation.

This project was submitted to the ethics committee of the UFSC (CEP/UFSC), as recommended by Resolution 466/12 of the national health council for human research, and approved with number 539.118 of the CEP/UFSC. The professors approved their participation in this study by signing an informed consent statement.

To ensure their anonymity, the participants were assigned code names selected by the researcher. For the observations, the initial code names were maintained followed by the letter O, for example: (Olivia O).

RESULTS

The approximation of the data to the theoretical framework of Freire and Shulman produced the following core category: Epistemological world awareness of healthcare faculty; and the subcategories: Educating is not transferring knowledge, it’s knowing the content; General educational knowledge: being a professor requires the self-perception of being unfinished; Knowledge of the curriculum as a promoter of dialogue; Knowledge of the students and their characteristics: students as autonomous subjects; Knowledge of the curriculum as a promoter of dialogue; The importance of the educational context: education is a political act and freedom. The final categorisation of data and the observations were used to search for elements that attested the interview data.

Epistemological world awareness of healthcare faculty

Epistemological world awareness refers individuals to an action-reflection-action about the world to which they are exposed. Thus individuals understand their world as being a part of it and manage to act in order to transform their reality. The epistemological world of faculty members refers to the setting in which they find themselves and encompasses all the elements of the work process that are available in the educational space, as well as epistemological awareness of the potential uses they attribute to this space.

Educating is not transferring knowledge, it’s knowing the content

Knowing the content refers to the specific knowledge of a discipline or content and its theoretical principles. The subcategory Educating is not transferring knowledge, it’s knowing the content shows the manner in which faculty members develop their specific knowledge of a discipline. It was often found that the professors start with a historical contextualisation of a given content and then advance, thus showing how they structure and articulate themselves in a given field of knowledge.

Professor starts the class and says that the goal is to understand the historical context of health and disease. [...] One of the students asks what the Flexnerian model is, and the professor explains that it was a biomedical model of medicine that focused on curing diseases with all their individual and biological aspects, centred in the hospital in medical specialities, and in the intensive use of technology. Professor follows doing a timeline about the evolution of social medicine. The professor points out that there were many diagnoses and little prevention, and asks why the students find it important to study that part of history. I wonder if anything is happening with today's
health and illness process? What is being proposed in the media? He says that medicine has become a form of capitalism, he mentions a cover of Veja magazine about behavioural control in relation to the problems of [...] and says that today every health professional has to take care of [...], and the media proposes that everyone understands more and more in a fragmentary manner, that people can have happiness in pills, technologies, people are increasingly seeking more intervention, more medicines. He talks about the importance of the broader logic of health [...] (Otávio O).

As noted in the statements above, dominating the content and the professional practice is an important skill for professors, but it is not the only skill. Knowing the content should not be over-rated by teachers in view of the complexity of the domains that are inherent in teaching and learning. Master classes with professors who believe they possess the required knowledge and have great oratory skills no longer meet the needs of the academic community. In additional to dominating the content, pedagogical knowledge and inserting this knowledge in the political and social world of students are highly important tools in the educational process.

Therefore, it is important for professors to ask the class questions during the educational process so they can organise specific knowledge with the previous knowledge they acquired, and arouse the curiosity of students so they can think critically and reflexively to transform reality. To achieve these goals, professors need to go beyond the content and include the students in the professional reality so they can think about the reasons behind the experiences they have, and become aware that education that values memorisation does not educate; it merely trains. Thus, professors must develop an epistemological awareness and remain open to questions and debates to prompt the curiosity of students.

**General educational knowledge: being a professor requires the self-perception of being unfinished**

General pedagogical knowledge is related to knowledge about teaching and educational concepts and principles with the use of pedagogical strategies, and transcending the knowledge of the specific subject. This subcategory presents the statements of the professors on their understanding of the importance of having solid bases on which to support their educational choices. It is also about the awareness of putting knowledge into context and discerning the essentials for the knowledge of students. For this to occur, professors must take ownership of specific teaching methods and benchmarks for the teaching and learning process to be effective.

One of the great differences is that I am worried about the theoretical and methodological framework of the pedagogy that I will use in my practice. This is very clear when you read the book ‘The pedagogy of Care’. Nurses want to teach before becoming professors, the nurses think that by practising care they already know how to teach, and that isn’t it. You need methods to build this new knowledge, and, based on that premise, I have sought the pedagogical tools, whether by reading the methodology of questioning or by the competencies. (Evaldo)

A study conducted with professors revealed the importance of addressing educational aspects during the initial training of nurses/health professionals since the absence of this practice may favour the reproduction of pedagogical models experienced in training. Contact with different methodologies enables professors to solidify new approaches and still promotes the initial process of education that is constructed from the moment in which educators understand what there is to learn and how they need to teach it.

The awareness of the professor as an unfinished person in the world allows him or her to seek ways to better conduct the pedagogical practice. This awareness of their incompleteness awakens restlessness, curiosity, and lovingness in the educational setting, and the search for strategies that better qualify the teaching and learning process, thereby making knowledge significant and maintaining commitment and ethics with the students.

**Knowledge of the students and their characteristics: students as autonomous subjects**

This subcategory concerns the cognitive, social, cultural, and psychological particularities of students, and the interests, needs, knowledge, and skills they bring with them to the learning moment. It also covers the knowledge of students gathered in the classroom, their behaviour in and out of school, their interests and concerns, the things that move them or not, and how they perceive the teaching-learning relationship.

For some professors stated that, in order to direct teaching, they must also understand the profile and context of the class, and be able to work differently with each student and their peculiarities so they can plan and develop unique approaches.
I work a lot with students of dentistry and medicine, but there is a huge difference in raw material, working with medicine, working with dentistry and then there is the work I do with nursing in [...] a stage where I have a lot of classroom hours, where the work is entirely different. I think there are totally different realities, and the fact that you’re working with courses that are so different, so disparate, in my opinion, enriches things a lot, but it requires different approaches, so I act differently for each class, each course, each student. (Otávio)

In this regard, professors must know who their students are and understand the context in which they are inserted since, on the basis of this understanding, the professors have the chance to plan and use unique approaches individually and collectively, which leads to an education that transforms and criticises for each student[10].

Another recurring concern they expressed is the importance of knowing the name of the students, as this shows that the professors are interested in them, establishes empathy, and increases the level of trust and interaction with the students in the educational process. The professors stated that they found it easier to get to know their students when they are giving practical classes, working in groups, and orienting seminars since the vast majority of classes have between 40 and 50 students.

And it also makes a difference [knowing the students], I know my students almost by name and individually, especially if I have to teach practice lessons. I know the first and last name of each student, I know a lot about them and make a point of it, and they feel there is more interaction when the professor calls them by name. They think I’m with them, they feel more inside the system. (Fernando)

I get along well with the students, I think this is a matter of knowing how to work with the alumnus [...]. Because they are actually bases that they have of dialogue, respect, listening, understanding, using examples with students, to bring them closer to reality. One thing I really like is when they participate in the class, they speak, because I think that the intention is not information, it’s that they assimilate the knowledge. (Ester)

The relationship between professors and students has a decisive role in the process of teaching and learning, and the attitudes of professors can be perceived as stimulating or not. Professors can sometimes be role models and examples. A study pointed out that, for the students, other personal characteristics are very important in the relationship process, such as a sense of justice, patience, calm, understanding, sympathy, and ability to act in a friendly manner[11].

A study that analysed the effects of the actions of professors on the education of students concluded that the quality of the professor-student relationship and the existence of personal approaches are considered essential for learning, although they are not isolated from the educational context[12]. In fact, the class is precisely characterised by the relationships between individuals who teach and learn, and their practices seek the intentionalities of the educational projects of the courses and the universities[13].

Therefore, teaching can be observed from the viewpoint of a collaborative process that depends on the subject that is being experienced. In this context, relationship aspects are fundamental. It is essential that faculty and students establish a genuine dialogue where everyone perceives themselves as unfinished and inconclusive beings that are in the process of constructing and sharing knowledge.

**Knowledge of the curriculum as a promoter of dialogue**

Knowledge of the curriculum refers to the organisation of the curriculum, the disciplines and the syllabus, the educational objectives, and an understanding of the materials and programmes that the professors use to teach[10]. For this subcategory, the observations revealed that the professors respect and consider the syllabus important, and understand the importance of the specific content that is being addressed in a given stage of the curriculum. Thus, they consequently establish a reflexive dialogue on the importance of content for qualifying future healthcare professionals.

Professor begins the lesson by thanking everyone and asks how the students are experiencing the phase in relation to the stages, content, group work, tests. Every student talks about the positive and negative points. Professor continues by saying that today the discussion will be about the [...] and asks if the group understands why it is important to work with this content at this time. The students do not provide full answers and the professor briefly puts the content into context and says that the students are expected to understand and work with CARE in all locations [...], the professor writes this on the board. He highlights what he wants, that the students finish this stage knowing how to: think about [...], know how to perform interdisciplinary work with other professions, because a single profession
cannot work decisively, to know about [...] that they are part of the care in [...] he points out that the group needs to see how care is structured in [...] in each reality [...] The students make no objection, and the professor asks them to start reading a text, and says that they will discuss this further during the semester. (Evaldo O)

Another aspect revealed in the observations of the professors was their interest in following the political-pedagogic project (PPP) of the course they are teaching, and how to discuss and illustrate, even if only in a playful manner with the students, what PPP stands for in their qualification.

The statements of the professors also revealed a general lack of support in relation to the presentation of the PPP, the goals, why they were qualifying, and the type of professional the institution wants them to qualify. Only the professor who had worked at more than one higher education institution knew the importance of understanding and thinking about PPP in her daily practice.

When I got here, the first thing I went after was the PPP, they gave me the booklet with the guidelines, they brought me the experience that was occurring, two curricula, but for me it was more customary, because I’d already gone through that. I was course coordinator and I experienced it first-hand. It was an experience that complemented me as a professor, because it helped me to see things that I didn’t see as a professor. For me, I didn’t think it was so different, because I had that experience. I started looking at the macro, which seemed to be seen by the class alone, something specific, my syllabus, and when we discussed things, we discussed the other semesters, but each person in their area, and how the vision is broader, you become more aware of everything, you see the other side of the scale. (Ester)

The professors must be familiar with the PPP they must adopt so that they can better understand the organisation of the curriculum and the characteristics of the course. They can also encourage students to go beyond the programme content and seek new opportunities to expand their view of reality, which will promote the qualification of professionals who are aware of their social context and how to grow in this same setting.

Since the PPP can drive the qualification of future professionals, it must be considered as something that can be changed and transformed as needed regarding the principles and attitudes through critical and reflexive actions that involve faculty and students, and allow the integration of knowledge that is part of the educational context.

Based on the context above, the professors must try to know and structure knowledge before teaching the students, and understand the purpose of the dialogue that will be established with the student since this dialogue starts with the search for programme content.

The importance of the educational context: education is a political act and an act of freedom

Knowing the educational context refers to the location in which the professor practices or works. It encompasses broader issues about the educational field. It is the understanding of the different educational contexts in which the students are inserted, and considering them in the planning and execution of their pedagogical practices or in the process of teaching and learning.

The statements of the professors only revealed the manner or process in which they are introduced in the higher education institution. The professors recognise the importance of the professional insertion programme offered by these institutions when they are hired. However, they consider this support inefficient given the demands they must cope with during their years at the university.

[...] When I joined a year ago, there were no courses [professor insertion/training]. Now in two weeks there is a course I insist on attending to learn the system at this university. But I repeat, one afternoon or two hours do not solve the life of someone who comes here without the slightest notion of how the system works. It definitely helps, I’m not degrading the people who are involved in this [...], but it’s less help than it should be, for someone who has to survive at the university for 30 years or more and to teach, do research, extension. The university’s support for them is minimal. (Fernando)

The educational context rallies inherent aspects of the university as an organisation, like rules, norms, and conceptions built over the years. Professors are expected to understand and insert themselves in several administrative areas, like legislation, the crystallised system of rules, and the social, economic and organisational areas of these institutions, which have broad educational objectives, and deal with the requirements constantly raised by the social, cultural and economic transformations.

This category covers broad aspects with regard to the insertion of professors in a specific higher education institution. However, only references to this institutional insertion were detected in the statements, which shows
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limitations of an understanding of the real meaning of the educational context.

With regard to knowing the educational objectives, purposes and values, and their historical-philosophical foundations, it encompasses the recognition of the education and training goals, their historical construction, and their theoretical and philosophical foundation(1). Thus, the professors manage to clearly understand their skills and competencies in the educational context.

In this subcategory, the professors reported that they understood the profile of the professionals they are qualifying. They also said they knew about the National Curriculum Guidelines (DCNs) and their deployment, and the way this can transform the education of healthcare professionals.

[...]
The education of students [...]

An even greater guide is the student profile that the DCNs advocate, so you have to check and know the types of educational foundations that need work. For this, we have the PPP and then we have the syllabus, and how this syllabus was constructed, then we have the lesson plan, those are the tools I have to guide me until I reach the classroom. [...]

This syllabus is based on a theoretical-methodological framework that is within the general scope of the DCN and of the PPP in particular, which in this case is the problematising methodology, and in nursing it’s by competency. Therefore, our syllabus, it is built by competency, the content I create, and I already know the final competency that I have to create, where I want to go. (Evaldo)

Studies(16-18) stress that professors of healthcare must be attuned with the DCNs of each course in order to plan educational activities and understand the knowledge, skills, and attitudes that need to be developed in the students at every stage of their education.

Professors have educational goals, purposes, and values that must be followed in the institution where they work. However, they also need freedom to work autonomously as they conduct the educational process. Freedom becomes conscious and matures as it is confronted with other forms of freedom, which is why it must be exercised on a daily basis in the educational experience(13-14).

FINAL CONSIDERATIONS

This study stresses the fundamental importance of understanding how epistemological world awareness is expressed in the pedagogical practice as a starting point for a critical and reflexive discussion within the framework of teaching practices in order to make the necessary changes in the world of healthcare.

The data of this study reveal that an epistemological world awareness of the professors in the field of healthcare is fundamental for the differential education of future healthcare workers for the SUS since it helps identify the critical reflection of these professors on their own pedagogical practice and provides different perspectives for the same context: the educational practice of professors.

This study also stresses the importance of reflecting on the articulation of epistemological world awareness, and the specific knowledge required for teaching and a transforming pedagogical practice.

For professors to understand and reflect on the core categories they need to teach, they must develop epistemological world awareness and realise that they are in a relationship with an unfinished and constantly changing world where they can improve and transform their pedagogical practice, without overlooking that each professor has a culture and life context. Thus, the life experiences of each professor legitimise the epistemological world awareness and its reflections.

REFERENCES


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