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## EXPRESSIONS OF PEDAGOGICAL CONTENT KNOWLEDGE OF AN EXPERIENCED NURSING TEACHER<sup>1</sup>

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**ABSTRACT:** The aim in this qualitative study is to analyze the relationship between career training and expressions of Pedagogical Content knowledge of an experienced nursing faculty in the South of Brazil. The data collected through non-participant observation and semistructured interviews were presented, analyzed by the method of constant comparisons. From this process, the categories teacher training trajectory and expressions of pedagogical content knowledge about the contents emerged, and the resulting subcategories teaching practice, teacher training, socialization among peers and mastery of content, organization and management of the group and assessment of student comprehension, respectively. The results indicate that the teacher's search for continuing education, socialization with peers, professional activities beyond teaching experience itself and the choice of an emancipating theoretical and methodological framework in teaching are related to the mastery of content and a more dialogical, problem-solving and critical-creative approach to him-/herself and the students.

**DESCRIPTORS:** Faculty. Education, higher. Education, nursing.

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## EXPRESSÕES DO CONHECIMENTO PEDAGÓGICO DO CONTEÚDO DE UM PROFESSOR EXPERIMENTADO DE ENFERMAGEM

**RESUMO:** Estudo qualitativo com objetivo de analisar a relação entre trajetória de formação e expressões do conhecimento pedagógico do conteúdo, de um docente experimentado de enfermagem da região Sul do Brasil. São apresentados os dados coletados por meio de observação não participante e entrevista semiestruturada, analisados pelo método das comparações constantes. Deste processo emergiram as categorias trajetória de formação docente e expressões de conhecimento pedagógico do conteúdo da qual derivam as subcategorias prática docente, formação pedagógica, socialização entre pares e domínio de conteúdo, organização e manejo do grupo, avaliação da compreensão dos alunos, respectivamente. Os resultados indicam que a busca do professor por formação permanente, a socialização com seus pares, as atividades profissionais que experiência para além da docência propriamente dita e a escolha de referencial teórico e metodológico emancipador no ensino guardam relação com o domínio de conteúdo, postura mais dialógica, problematizadora e crítico-criativa dele mesmo e de seus alunos.

**DESCRIPTORIOS:** Docentes. Ensino superior. Educação em enfermagem.

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## EXPRESIONES DEL CONOCIMIENTO DE CONTENIDO EN LA ENSEÑANZA DE UN PROFESOR EXPERIMENTADO EN ENFERMERÍA

**RESUMEN:** Estudio cualitativo cuyo objetivo fue analizar la relación entre la formación profesional y las expresiones de contenido del conocimiento didáctico de un docente de enfermería experimentado en el Sur de Brasil. Los datos fueron recolectados a través de observación no-participante y entrevistas semiestructuradas; y analizados por el método de comparaciones constantes. Surgieron como categorías: trayectorias de formación docente y expresiones de conocimiento didáctico de contenidos, de las cuales resultaron como subcategorías: práctica docente, formación pedagógica, socialización entre pares-dominio de contenido, organización y manejo del grupo, evaluación de la comprensión de los estudiantes. Los resultados indican que la búsqueda del profesor por la educación continua, la socialización con sus pares, las experiencias profesionales más allá de la docencia y la elección de un referencial teórico-metodológico emancipador en la enseñanza están relacionados con el dominio de contenido y una postura de diálogo, problematizadora y crítica-creativa de sí mismo y sus estudiantes.

**DESCRIPTORIOS:** Docentes. Educación superior. Educación en enfermería.

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## INTRODUCTION

Nowadays, an important movement is ongoing to redirect education in nursing and health in general, strongly driven by the publication of Brazilian curricular guidelines for the courses, as from 2001, focused on the preparation of professionals for the Unified Health System (*Sistema Único de Saúde* - SUS). Since then, a range of initiatives, curricular reformulations, programs and other actions have been triggered, which have made teachers, professionals and students reflect on the characteristics of the professionals they want to prepare and the teaching process they should go through to achieve the competences required.<sup>1</sup>

In the teaching process, not only the school, curriculum, political-pedagogical project and enhancement policies, but also teaching practice, knowledge, postures and possible implications for teaching as important elements for reflection, as it is also a production site.<sup>2</sup>

Although teaching practice is properly and necessarily considered relevant, merely teachers' empirical experience does not guarantee the elements needed to achieve the great success demanded by the challenges of nursing and health education with a view to the consolidation of the SUS. For that purpose, the teachers also need to develop knowledge, skills and attitudes that further the consolidation of disciplinary and pedagogical, curricular and personal knowledge, which enables them for competent teaching practice; which guarantee the particularity of the teaching practice, permitting a distinction between being a teacher and an expert in the subject, going against the naturalization movement of teaching practice, which is so strongly present nowadays.<sup>3-4</sup>

This disciplinary knowledge, resulting from the combination between teachers' educational background and teaching practice, sustains their actions and enhance the quality of teaching, considering that most higher education teachers have limited teacher training, arousing inquiries<sup>5</sup> about who educates and how these teachers graduate, as well as their educational trajectory. In view of the implication of this process in teaching, in view of its constant transformation and the constitution of teaching in nursing and health, mainly based on Brazilian guidelines, which also entail a reflexive teaching perspective, a critical education, which builds autonomy and creativity.

In that sense, in view of the new guidelines, nursing faculty members will have to break away

from the traditional pedagogical posture and should no longer be a mere knowledge transmitter, but turn into a guide, advisor, facilitator or manager.<sup>6</sup> Also, they will need to dedicate an important part of their activities to guide and direct students along their educational, mainly academic, but also professional and personal trajectory, which will demand the adaptation and transformation of their knowledge to a wide range of methods and alternatives that, in combination, will contribute to students' orientation towards new learning objectives.

Therefore, nursing education in Brazil needs to revisit its teaching and learning process, driving teacher's continuing education and pedagogical preparation, with a view to achieving the transformations required, not only by the guidelines, but mainly by society, which lacks reflexive, critical, creative and problem-solving professionals.<sup>7</sup> This movement will not take place automatically though, but in a historical construction process that, among other elements, should address the trajectory of teacher training. That provides the background for this study, which intends to address the relation between the educational trajectory of experienced nursing faculty and the development of their Pedagogical Content Knowledge (PCK).

The PCK is considered as 'baseline' knowledge required from teachers with a view to competent teaching practice.<sup>8</sup> Together with other baseline knowledge categories, i.e. content knowledge, student knowledge, curricular knowledge, general pedagogical knowledge, PCK, knowledge about educational context and knowledge about the objectives, goals, educative values and their historical-philosophical foundations, the PCK is marked by diversity, generally observed in experienced teachers.

This knowledge set required from teachers with a view to competent teaching practice derives from four main sources: academic background, materials and context of institutionalized educational process (curriculum, course organization, university organization, etc.), research and studies about teaching, human learning and other issues that influence teaching practice, besides the empirical experience deriving from teaching practice itself. The latter is the most difficult to code. This articulation between sources and baseline knowledge reveals the teacher's expertise, constructed in a movement called the Model of Reasoning and Pedagogical Action.<sup>8</sup>

According to this model, teachers with a greater or lesser degree of awareness turns the contents into something teachable and understandable for the students. Once the content to be taught has been determined and understood, the teachers transform it by selecting what material they are to use, examples and analogies, explanations and metaphors, with a view to adapting the content to the students, in view of their interests, prejudices, age, among others. This process implies an understanding that is neither exclusively technical nor reflexive, nor does it involve mere knowledge about the contents, nor the mastery of didactical techniques. It is a pedagogically oriented mixture of all of these elements, deriving from the sources listed, which are offered and connected to the teachers because of their educational trajectory.<sup>8</sup>

In this sense, the aim in this research is to analyze, starting from an experienced nursing teacher, the relation between the teacher training trajectory and expressions of Pedagogical Content knowledge, with a view to evidencing its potential<sup>8</sup> to transform the Pedagogical Content knowledge into forms and structures that are understandable to the students.

## METHODOLOGY

Descriptive, exploratory-analytic and qualitative research. Three faculty members participated in the study, who were selected through an intentional sample. A survey was accomplished in which graduates identified whom they considered as good teachers in an undergraduate nursing program at a university in the South of Brazil, considering one novel (up to five years of experience), one intermediary (between six and 14 years of experience) and one experienced teacher (more than 15 years of experience).

The data presented here were collected through non-participant observation and a semi-structured interview with the experienced teacher who, for the sake of guaranteeing anonymity, will be called Margarida in the text. Data collection was divided in three phases: approach of the teacher, non-participant observation and semistructured interview. After being highlighted by the students as the best experienced teacher, Margarida was contacted by the researchers, informed about the study objectives and invited to participate. She agreed to participate verbally and through the signing of the Informed Consent Form.

Next, on a date agreed upon between the researchers and the participant, a four-hour class was observed and video-recorded, and also registered in a field diary. These records helped to conduct the third data collection phase, when Margarida was interviewed, explaining about the intentions, objectives and teaching method she had planned for the class, as well as about her educational trajectory and possible relation with her teaching practice and the expression of her knowledge about the teaching contents.

The analysis of the data collected to understand the relations between the educational trajectory and the expressions of the Pedagogical Content Knowledge involved the field notes about the classes observed, the transcription of the class recorded and the transcription of the semistructured interview, which were submitted to constant comparison.<sup>9</sup> This strategy combines the coding of inductive categories with a simultaneous comparison process of social incidences observed. To the extent that the phenomena are registered and classified, comparisons are made between the distinct categories. Hence, the discovery or generalization of results starts with the analysis of initial observations and continuously improves the process through constant comparisons. By “constantly comparison the detected events or phenomena with other earlier ones, new typological dimensions and new relations can be discovered, producing new knowledge”.<sup>9:188</sup>

Finally, the findings were interpreted and discussed, considering the data in accordance with the teacher trajectory and the theoretical framework of the Action and Pedagogical Reasoning Model.<sup>10</sup>

Thus, two core categories were structured, in accordance with the theoretical background and research objectives. From the first category, the trajectory of teacher training, the subcategories teacher practice, teacher education and socialization among peers derive. The second category, expressions of Pedagogical Content Knowledge contains the subcategories content mastery, group organization and management and assessment of students derive.

The research complied with the ethical principles of National Health Council Resolution 196/96 and received approval from the Ethics Committee for Research involving Human Beings under process n. 184/09.

## RESULTS AND DISCUSSION

### Trajectory of teacher training

This category, constructed based on the interview data the teacher provided, interestingly interweaves the subcategories teacher training, teaching practice and socialization among peers as, on Margarida's trajectory, the construction of her teacher training happened at the same time as she sought professional education and, in both spaces or times, the teacher had the prospect of socialization among peers.

Starting from her teaching practice, Margarida's construction movement of pedagogical knowledge in and for teaching starts. Like many faculty members, Margarida starts her teaching without any specific professional preparation, soon after she finishes her undergraduate program,<sup>11</sup> guided by practical models she experienced and considered successful. In addition, while starting her teaching practice, she begins not only an empirical training movement, but also a search for educational qualification of her practice.

*I took methodology of higher education. I started teaching and taking the course on the same day, which was a specialization course in our same town, which was in our area, and it was through that same specialization course that the way I taught started to bother me (Margarida).*

Margarida's discourse highlights her continuing education, preparing her for teaching, and at the same time exposes the absence of teaching preparation in basic professional education. Therefore, the knowledge source based on the reproduction of pedagogical models experienced in education was one aspect referred, in line with findings from other Brazilian studies,<sup>4,12</sup> justifying the need for specific training in teaching as well, as opposed to what is evidenced more intensely in higher education.<sup>5</sup>

Margarida highlights that it was based on this first course and professional demands and involvements, besides the possibilities built in her teaching career, which started to outline the construction of her educational trajectory, which further on made her take an M.Sc. and Ph.D. in education and also become a researcher in the area.

*When one of the teachers who taught in the teaching diploma program left the university, I was invited to take on the teaching diploma subjects and assumed the task of teaching the subject didactics applied to nursing, teaching methodology in health, fundamental teaching*

*practice, secondary teaching practice, which made me tighten much further the bonds with nursing education, because those subjects were not part of the health or nursing area, but of education, so I started working as a teacher in the education department and participate in meetings, to maintain all bonds there as well, which was a bit difficult, but I am unable to be somewhere half, either I'm there, I'm familiar with everything that is ongoing and I monitor things, or I'm not. So I used to attend the activities frequently, and this involvement made me get elected as the head of the education department [...]. As a result of the same movement, I also looked for graduate programs in education. I took a Master's in education and a Ph.D. (Margarida).*

It is in daily teaching practice that teachers perceive the need for pedagogical training.<sup>13</sup> This trajectory of educational and practical experiences made Margarida reflect on her education more critically, and made her look for permanent recycling, involved in a continuing education movement.

*Many things I saw in the course used to bother me a lot and made me change the way I used to teach. I didn't want that more traditional, vertical kind of work anymore, in short. At the same time as I taught, I took practically all community service courses, seminars, congresses in education available at the university. I was always involved (Margarida).*

The search for education and the demands deriving from her teaching work made Margarida get to know and adopt a theoretical framework for her classes. In this adoption, the socialization with outstanding peers is relevant, who influenced this choice.

*In the course of the master's program, I got affiliated with a more Marxist line of research [...] and, because of the desire to do these teaching activities and all in a more critical manner, I looked for subjects that strongly linked me to Freire's perspective, to the extent that I took classes with Paulo Freire. I took one subject with a professor Balduino Andreola who was his student and things like that, and invited him to teach us in the seminars. It was a meeting, let's say, that was able to calm me down for the classroom, about being able to work within Freire's perspective. I think that is an important aspect (Margarida).*

In this sense, Margarida's readings were also influential, as well as the material resources she had contact with, whether in her continuing education or in her teaching practice.

*[...] the entire discussion that happens in the master's and doctoral programs about the authors in this area, not only Freire, but other authors who discuss*

*this problematizing, reflexive education, critical theory studies and a range of things that encourage us to do so (Margarida).*

As observed, Margarita's report about her teacher training trajectory seems to be closely connected with the construction of her professional trajectory. These trajectories seem to be in line with the sources cited by Shulman with regard to the construction of the baseline knowledge categories. This ranges from the search for academic education that provides elements to teach certain contents to the study of aspects related to teaching, learning, to the appropriation movement of knowledge deriving from her educational context and teaching practice, culminating in this case in the adoption of a theoretical reference framework in her classes, which indicates the development of Pedagogical Content Knowledge and curricular knowledge, as well as a possible particular reading of the context, objectives and goals.

### **Expressions of pedagogical content knowledge**

This category was constructed based on the non-participant observation of a four-hour class in a seminar about alternative therapies, held in the subject taught and coordinated by Margarida, and the semistructured interview held with the teacher after that session. It is noteworthy that Margarida conducted the observed class interactively. During the class, the students remained interested, attentive and engaged. The teacher's mastery and mental organization of the contents represents an important skill. She is capable of perceiving and intervening during the class in a subtle and focused manner. These characteristics are manifested in this study through the subcategories content mastery, group organization and management and assessment of student comprehension.

During the interview, the intentionality of Margarida's practice could be observed when she conducted teaching related to the perceived objectives set for the subject, indicating her mastery of the Pedagogical Content Knowledge not only during the practical manifestation, i.e. the class. During the class, her content mastery was observed through the knowledge she demonstrated about the content of the subject and through the way she conducted it, clarifying doubts, providing examples, developing the theme from the students' perspective, capable of providing a broader

perspective on the theme, so that students would feel more informed.

This is in line with the findings from other studies,<sup>10-14</sup> about the relation between these skills and Margarida's vast teaching trajectory, also resting on her Master's and doctoral degrees in education and on her permanent search for recycling.

*Anything else from the group with regard to these massage practices? There was something else from you, besides anthroposophy, which we will discuss next, I remember that, when we discussed, at the start of the semester, the different therapies we would learn about and discuss, we also mentioned iridology, which the group wanted (Margarida).*

It was interesting to observe that Margarida is also very skilled in conducting the group. Her class is participatory, the students ask, interact, and the teacher guides them, using different didactic resources during the class, including examples, didactic inquiries, as observed.

*Another popular form of using aroma is in the form of sachets or pillows to calm down babies. You put the plant itself inside little pillow to put in the cradle or bed or environment and it also calms down more permanently, let's say and it can help people with insomnia [...]. What can we comment on this observation? What other therapies use this same principle? (Margarida).*

This approach is directly related to the teacher's Pedagogical Content Knowledge and directly affects the teaching style, revealing a greater or lesser degree of security and critical management of the contents, so as to involve students in the teaching-learning process.<sup>15</sup> Didactic inquiries are linked to the acquisition of new knowledge, whether about the didactics or the subject, and requires, among other things, skills to reflect on and learn from experience, an aspect evidenced in the present research.

Margarida's concern with verifying the students' understanding of the content itself needs to be underlined, as well as with the goal of learning. She also takes care to correct possible distortions in the students' understanding.

*Sometimes, at the start of the research, they bring more common sense articles, newspaper articles, then I underline the importance of seeking scientific articles, what databases they are to look in, and they bring very high-quality things for discussion (Margarida).*

During the class, besides attempting to recover contents addressed in the past, she seeks to establish links with professional practice through analogies, making the students reflect on larger

issues and possible implications of the contents addressed.

*I was talking about the research, about all consequences it ends up entailing for the patients, the environment, like the intensive care unit for example. In that environment, the patient does not even perceive the day-night cycle, because he's always in a closed environment, with artificial light, often being manipulated, procedures and medicines, a wide range of noise, and how much stress this produces and how much integrative therapies could help patients to bear this better or with less harm for their health in this environment. If we adopted this perspective of talking more quietly, having less intense light, having a floral aroma or an aromatic oil, music [...] (Margarida).*

During the class, a very respectful and friendly attitude of mutual exchange was observed between students and teacher, as Margarida highlighted during the interview.

*I greatly respect the student, because I consider that, the more I respect him, get him to participate and contribute in the classroom, the more respected I will be, because you are returning, bringing this. I always attempt to have participatory, confident, respectful and at the same time loving teaching activities, seeking what the group wants, their past experiences, what they work with and it has always been very productive (Margarida).*

The relevance of this affective dimension in teaching is highlighted,<sup>16</sup> greatly hampered by the predominance of pedagogical models that recommend that teachers take distance from and remain somehow neutral towards the students. This understanding is further strengthened by the consideration that teaching success is partially linked to teachers' knowledge and affective and pedagogical acknowledgement of their students,<sup>17</sup> as Margarida does.

Concerning the relation between her trajectory and pedagogical practice, Margarida highlights the relation between her trajectory and teaching.

*This concern with what to teach and how to teach, I think it is related to this trajectory, like all histories of course, your way of acting will always be related with your history, with your possibilities to choose and construct, but this relation definitely exists, because of the concern with the way of teaching (Margarida).*

The ability to involve and engage the students in collective discussions and the refined use of teaching strategies adapted to current needs, expressed and perceived by the teacher in the teaching space, provide Margarida with a skill

called expert knowledge and teaching practice.<sup>10</sup> Teachers with this skill tend to be experienced teachers, who have accumulated a trajectory, like Margarida, as their skills and knowledge enable them better to provide their students with satisfactory teaching from the perspective of contents, empathy and professional relevance, and also enables them better to achieve socially agreed upon educational successes, an aspect of particular interest in the context of paradigmatic changes in health education.

## FINAL CONSIDERATIONS

In view of the relation between the teacher Margarida's teacher training trajectory and manifestations of her Pedagogical Content Knowledge, we consider that a movement needs to be constructed to value and orient teacher training in higher education in health, considering that this search movement mainly takes place through the perceived need to equip teachers for their daily practice or to start and keep up their career, instead of a teacher training policy in health. This policy should be focused on socially agreed upon educational objectives, as a necessary element in view of the demands to redirect professional education schools and teachers have been confronted with.

Beyond the continuing education movement of teachers, which is considered in graduate education, it is relevant to highlight the need to encourage socialization among peers, the experience of the university and Brazilian higher education context. In addition, other pertinent spaces and elements are needed that can serve as sources of baseline knowledge, highlighting the importance of the PCK, as a highly distinctive element for the teaching practice of health teachers. This can not only make classes more pleasant and stimulating for the students, but can also encourage autonomous and critical thinking, creativity, teamwork, communication and leadership, which are professional competences listed in the Brazilian curricular guidelines and essential for the consolidation of the SUS.

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