

Communities of practice: influences on pedagogical reasoning and action of nursing professors

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Objective. To analyze how the practice shared in communities of teaching practice in public and private universities influences the pedagogical reasoning and action of nursing professors based on Wenger's concepts of community, negotiation of meaning, and learning.

Methods. Case study conducted with two professors teaching nursing in a public and a private university in Brazil. Data collection included triangulation of sources and was conducted from April 2014 to July 2015. Data were organized in ATLAS.ti and analyzed using the constant comparative method, which generated three meta-categories. **Results.** In both cases the program's project is shared repertoire and grounds negotiation of meaning in the practice that takes place in the pedagogical reasoning and action phases but negotiation is different between communities and cases. Learning is either solitary or has the influence of at least one other member but does not

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occur on an institutional basis. **Conclusion.** Nursing schools could offer more than program's project to the negotiation of meaning and improve learning on practice in their communities as police of teachers education to improve pedagogical reasoning.

Descriptors: higher education; learning; schools, nursing; teacher training; faculty, nursing.

Comunidades de práctica: influencia en el razonamiento pedagógico y en la acción de los profesores enfermeros

Objetivo. Analizar cómo la práctica compartida en comunidades de práctica docente de universidades públicas y privadas influye en la acción y razonamiento pedagógico de profesoras de enfermería a partir de los conceptos de comunidad, negociación de significado y aprendizaje de Wenger. **Métodos.** Estudio de caso realizado con dos profesoras de enfermería de universidades públicas y privadas en Brasil. La recolección de datos incluyó la triangulación de Fuentes, la cual se realizó de abril de 2014 a julio de 2015. Los datos se organizaron en el ATLAS.ti y se analizaron a partir del método de comparaciones constantes, generando tres metacategorías. **Resultados.** En ambos casos el proyecto pedagógico de curso es el repertorio compartido y base para la negociación de significado que ocurre en las fases de la acción y raciocinio pedagógico, pero la negociación es distinta entre comunidades y casos. El aprendizaje ocurre de forma solitaria o por influencia de por lo menos un miembro, no de forma institucional. **Conclusión.** Las escuelas de enfermería pueden ofrecer más que el proyecto pedagógico del curso para la negociación de significado y fomentar el aprendizaje en la práctica en sus comunidades como política de formación docente para promover el razonamiento pedagógico.

Descritores: educación superior; aprendizaje; facultades de enfermería; formación del profesorado; docentes de enfermería.

Comunidades de prática: influências no raciocínio pedagógico e ação de professoras de enfermagem

Objetivo. Analisar como a prática compartilhada em comunidades de prática docente de universidades pública e privada influencia a ação e raciocínio pedagógico de professoras de enfermagem a partir dos conceitos de comunidade, negociação de significado e aprendizagem de Wenger. **Método.** Estudo de caso conduzido com duas professoras de enfermagem de universidades pública e privada no Brasil. A coleta de dados incluiu a triangulação de fontes e foi conduzida de abril de 2014 a julho de 2015. Os dados foram organizados no ATLAS.ti e analisados através do método das comparações constantes, gerando três meta-categorias. **Resultados.** Em ambos os casos o projeto pedagógico de curso é o repertório compartilhado e base para a negociação de significado que ocorre nas fases da ação e raciocínio pedagógico, mas a negociação é distinta entre comunidades e casos. A aprendizagem ocorre de forma solitária ou por influência de pelo menos um membro, não de forma institucional. **Conclusão.** Escolas de enfermagem podem oferecer mais do que o projeto pedagógico de curso para a negociação de significado e fomentar aprendizagem na prática em suas comunidades como política de formação docente para promover raciocínio pedagógico.

Descritores: educação superior; aprendizagem; escolas de enfermagem; capacitação de professores; docentes de enfermagem.

Introduction

Brazilian higher education institutions have two administrative categories: public and private. Public institutions are created, maintained and administered by the State, while private institutions are maintained and administered by individuals or private legal entities. There were 2 391 institutions in 2013: 12.59% of which were public and 87.41% private. Of the total of teaching institutions, 84.31% are colleges, 8.15% are universities, 5.85% are referred to as university centers, and 1.6% is technological education institutions or federal centers.⁽¹⁾ Public institutions are characterized by the integration of teaching, research and extension⁽²⁾ and have at least one third of their faculty members with a Master's degree or PhD, working full-time. These are however, minimum parameters for universities and there are institutions that meet these parameters and others even exceed them, resulting in multiple configurations.

The nursing field follows the country's trend, expanding the supply of undergraduate programs in public and private institutions. There are currently 1 054 undergraduate programs in the nursing field in Brazil, 81.4% of which are provided by private institutions.⁽³⁾ Hence, there is currently a concern regarding the quality of teaching provided by private institutions. Nursing teaching, whether public or private institutions provide it, is regulated by current educational legislation and mediated by professors who reflect upon it during the teaching process. The starting point is, in general, the content embedded within a discipline that makes up the curriculum. Reflection in the practice of professors is addressed by the Model of Pedagogical Reasoning and Action (MPRA). MPRA has six processes: "comprehension, transformation, instruction, evaluation, reflection, and new comprehension".⁽⁴⁾

Even though teaching is based on content, it is not only knowledge of such content that is displayed in the teaching practice seen through MPRA, but also a set of sources and knowledge bases used to teach that suggest the breath and characteristics of such reflection.⁽⁵⁾ There are four sources of knowledge base: "scholarship in content disciplines (academic training in the subject), formal education scholarship, educational material and structures, and wisdom of practice. In addition, there are seven categories of knowledge: content, pedagogical content, general pedagogical, curriculum, educational contexts, purposes, and knowledge of learners and their characteristics".⁽⁴⁾ In summary, we can say that the sources support categories of the knowledge base, which in turn, are connected to the Model's processes. There was particular interest in this study regarding the *educational material and structures* source and the *knowledge of educational contexts* category, because teaching practice is developed within institutions with different administrative and academic formats and within these institutions the professor teaches and learns his/her practice together with other professors.

Wenger⁽⁶⁾ considers a community of practice as a group of people who share a concern or a passion for something they do and learn to do better when they interact

regularly. Three dimensions characterize such community: *mutual engagement*, *joint enterprise* and *shared repertoire*. We understand that there is a powerful analogy to the nursing program and its professors,⁽⁷⁾ because they are responsible for the training of nurses (joint enterprise), work collectively (mutual engagement) to put the program's project (shared repertoire) into practice, also while learning the craft during the process. In a community of practice, having a *mutual engagement* means that practice is not an abstract concept. It exists because members take part. One depends on another for the *common object* to be attained, which is established by the community members and, therefore, reflects mutual engagement.⁽⁸⁾ *Shared repertoire* refers to the community resources that contribute to the achievement of the mutual engagement and joint enterprise.⁽⁹⁾

Even though there are elements of cohesion in a community of practice, practice is different among members and is established in elements that are individually negotiated. These elements are meaning, understanding of community, and learning.⁽⁶⁾ MPRA characterizes the practice of professors at the level of higher education of nursing, unveiling the intrinsic reflection process. Investigating this process would already produce knowledge that is relevant to understanding the teaching practice, but it is the reflection produced by professors inserted in different communities of practice with different formats of mutual engagement, joint enterprise and shared repertoire, negotiated through meaning, understanding of community and individual learning and its potential influence on pedagogical action and reasoning that is the focus of interest in this article.

As the MPRA is seen as the essence of practice, which is differently configured in the communities of teaching practice through negotiation of meaning, community and learning, we assume that the practice in a private university is different from the practice in a public university and that it influences the development of MPRA's processes. Adopting MPRA, considering the nursing programs as communities of practice that negotiate meaning and learning and professors

are its members, we ask: what is the influence of practice in public and private nursing schools on the reasoning and action of nursing professors? The purpose of this aim is to analyze the influence of practice in communities of teaching practice in a public university and a private university on the pedagogical reasoning and action of nursing professors based on Wenger's concepts of community, negotiation of meaning and learning.

Methods

Qualitative case study⁽¹⁰⁾ in which cases cover the pedagogical reasoning and action⁽⁴⁾ of two nursing professors from a public and a private university in the South of Brazil. This design was chosen because case studies are a relevant tool to investigating complex phenomena in their contexts.⁽¹¹⁾ An intentional sample, with criteria for the choice of setting and cases, was used. Criteria for choosing the setting included: same geographic region; with institutions of different administrative categories but the same academic organization; with undergraduate programs having ten or more years of accreditation. The programs of two universities in the south of Brazil were chosen; Community A is a private institution and Community B is a public institution, with undergraduate programs that are 22 and 41 years old, respectively.

After establishing the study setting, we contacted the coordinators of the undergraduate nursing programs to initiate data collection. At our request, based on one criterion, the coordinators identified the subjects of the cases. They were contacted by email and consented to participate in the study. Data were collected from April 2014 to July 2015 and involved the triangulation of sources. Documents, interviews and observation were combined into three phases designed to enable the exploration of concepts of sources of knowledge, knowledge base and MPRA processes. Overall, we analyzed four documents, held 14 interviews and recorded 32 sessions of non-participant observation.

Phase 1 (from April to July 2014) involved the analysis of documents and interviews. The projects of the programs were analyzed and interviews were held with the coordinators, while interviews 1 and 2 were conducted for each case. Phase 2 (from August to December 2014) involved interviews and observations. Interviews 3 and 4 were held for each case, along with other two in-depth interviews. We also observed sessions in the courses. The private case taught an undergraduate course and the public case administered both undergraduate and graduate courses; 17 and 15 sessions were observed, respectively. Finally, phase 3 (from January to July 2015) involved the validation of case analysis, analysis and interview 5 with the cases. Considering the objective of this article, we needed to part of the same basis. So, as the private case only imparted classes at undergraduate nursing school we didn't use on the construction of this article the documents and the observation of the graduate course imparted by the public case. Only the material collected from the undergraduate course was included.

Data were transcribed and validated according to the cases at each phase. After validation, data were entered in Atlas Ti version 7.1 in different hermeneutic units to be analyzed by the constant comparative method.⁽¹²⁾ In the open coding phase, a total of 616 units of meaning were produced in the private case and 1 342 units of meaning were produced in the public case, which were respectively organized into 27 codes and 28 codes. In the selective phase, the codes were grouped into four categories. In this article we mainly present the categories Model of Pedagogical Reasoning and Action and context, though not all codes that compose them are presented. There are eight codes explored in this article, which are linked to Wenger's concepts⁽⁶⁾ of the negotiation of meaning, community and learning in selective coding: 1. comprehension process, 2. transformation process, 3. teaching process, 4. evaluation process, 5. reflection process, 6. new comprehension process, 7. knowledge of the educational contexts, and 8. context interferences.

This link between codes and Wenger's concepts⁽⁶⁾ resulted in the meta-categories presented in this article: community – mutual engagement, joint enterprise, and shared repertoire of communities A and B, MPRA processes, such as negotiation of meaning and reflection and new comprehension as means of learning. The study was approved by the Institutional Review Board of Federal University of Santa Catarina (report No. 711540). The cases were informed of the nature of the study and consented to participate by signing free and informed consent forms. The universities and subjects were given fictitious names. To ensure confidentiality, we denote them community professor A in the case of the private institution and community professor B in the case of the public institution. The recordings presented in the results section refer to community (A or B) or case (public or private), source (interview, observation or document), and order in which they were listed and coded in Atlas Ti.

Results

Cases

Private case has been a professor for 16 years. She acquired a Master's degree in nursing 10 years ago; has worked as a nurse and occupied a management position as a government employee in the State Department. In Community A, a private university managed by a communitarian foundation, nursing school was created in the 90's and has their program's project changed four times. She started working per hour only at the nursing school but now is working also per hour in nursing, dentistry and cosmetology programs. She was not involved in the university with activities beyond those concerning her workload in the classroom. The course observed, First Aid, had a workload of 60 hours and was administered in the second semester. A total of 14 students attended this class. Public case has been a professor for 32 years. She acquired her doctoral degree 20 years ago. In Community B, a federal public university, she is a government

employee, working full time only in the nursing department. Undergraduate nursing school was created in the 70's and was the first school on the state. She developed teaching activities in the undergraduate and graduate programs, worked with educational management, developed research and has established relationships with researchers affiliated with Brazilian and international institutions. She has never worked in nursing care. The undergraduate course observed, Nursing Practice, had a workload of 378 hours, and was administered in the third semester. She coordinated the undergraduate discipline with a total of 11 professors and 36 students.

Community: mutual engagement, joint enterprise, and shared repertoires of communities A and B

Objective and commitment were negotiated in communities A and B based on the instrument provided as shared repertoire, the program's project. The program's project, an institutional document that presents objectives, curricular structure, relationships among courses, teaching methodology, and evaluations, was the starting point the communities provided for the cases, serving not only as a declaration of the joint enterprise, but also through it, mutual engagement is established through practice: *To train nurses committed to the health needs of individuals and of the collective* (Community A, program's objective, document 1); *To train nurses, professionals in the health field, with a generalist education and critical, reflexive and creative abilities. Qualified for the nursing work in the care, management, education and research dimensions based on ethical principles, specific and interdisciplinary knowledge* (Community B, program's objective, document 1).

The communities had different curricular organizations. Community A provided a program with a workload of 4 020 hours distributed in a curriculum linked to fundamental (2 430 hours), complementary (480 hours), elective (60 hours)

and specific (1 050 hours) certifications intended to develop competencies. Each fundamental certification had a set of units of learning with their respective workloads and content. A portion of learning units was administered in a group of other programs to provide students with an interdisciplinary approach. The program curriculum provided by Community B had 4 860 hours of workload linked by a fundamental axis, additional courses, and complementary experiences. The fundamental axis focused on the development of nurses' specific competencies considering different concentrations in human development (child, adolescent, adult, elderly; family, group and community) and different settings in which health and nursing care is provided (home, school, community, primary health care units, hospitals). Additional courses are those provided by different departments within the university and complementary experiences refer to the promotion of experiential learning with an interdisciplinary approach. The cases participated in achieving the joint enterprise by means of the practice of their courses, First Aid, fundamental axis of Community A, and Nursing Practices, fundamental axis of Community B, the objectives of which, program content, and position in the curriculum were previously established by the programs' project.

MPRA processes as negotiation of meaning

Mutual engagement is required for a community to exist. The program's project as the repertoire was the means through which meaning was negotiated for this commitment to become true. Negotiating meaning is an individual process that involves the interaction of the other two processes: participation and reification. Participating means taking part in something, connecting, interpreting and acting. The cases participated when they assumed responsibility for the courses in the community and guided them pedagogically. Reification means converting an abstract concept into something concrete, material, a teaching plan, for instance.

The cases in the communities of practices A and B negotiated meaning through pedagogical reasoning and action, visualized in the *comprehension, transformation, teaching and evaluation* processes. Therefore, each process, but more specifically the comprehension process, shows how the cases negotiated joint enterprises and commitment. The curriculum of communities A and B presented training based on competencies according to the Brazilian curricular guidelines established for nursing undergraduate programs. The cases, however, verbalized comprehension concerning the courses that transcended the curriculum. The cases used the program's project as a repertoire for achieving the objective (competence), but it was through negotiation of meaning that they acted, expanding their comprehension regarding the objective itself and consequently directing the transformation, teaching and evaluation processes: I use content to develop skills, attitudes, values, you know? I use content. "Ah, but what if they don't learn this?" If I manage to arouse responsibility and commitment in the students for when they have an investigation to undertake, they will make do, and won't do without seeking knowledge, they'll learn by themselves (Public Case, Interview 3, 4:125).

Reflection and new comprehension as means of learning

Means of new learning need to be developed for the members for a community to exist. Learning is related to the ability to have mechanisms that enable mutual engagement, help understanding joint enterprises and develop the repertoire⁶. Hence, it is an ongoing process, approximating the cycle suggested by Shulman⁽⁴⁾ in MPRA, in which the processes concerning reflection and new comprehension are highlighted. The reflection process is when the professors revise, reconstruct, represent and critically analyze the experience. New comprehension is the process in which the professor manifests new understanding of objectives, subjects, students and teaching. In these processes, the professor learns or even reconstructs his/her own practice.

We observed that the collective moments within Community A that enabled reflection and new comprehension intended to strengthen joint enterprises and mutual compromise were occasional, while there were situations arising from the organization of work that interfered in this process. Because the private case works per hour, the courses she administers vary considerably, which hinders the establishment of mutual engagement and clarity of joint enterprises of the community of the nursing program. She also only meets with colleagues once in the semester. The program coordinator was her contact whenever she needed anything. In Community B, professors were assigned to the same courses according to semester. There were also teacher forums according to the courses, program and in the department: *I may not even have a course to teach. In 19 years, it will be the first year I won't have a course to teach in the nursing program because my course will no longer be provided in the next semester* (Private Case, Interview 5, 70:71).

Nonetheless, the communities did not make an effort, beyond the meetings, to develop learning so that learning during times of reflection and new comprehension was encouraged by the cases in isolation, a result of their experience over the years or the exchange relationships established with other members in their communities. Little was attributed to the community of practice in institutional terms: *I had this dimension of nursing projection, of the importance of putting nursing in a scenario larger than here, beyond individual things; it was not me; it was not the person, you know? It was the group* (Public Case, Interview 1, 3:144).

Discussion

Communities A and B have the same joint enterprise: train nurses, as well as, given the law regulating nursing programs, the same shared repertoire, which refers to the programs' projects. How the repertoires are structured, however, differs due to the way the pedagogical practice is organized

in each community. Even though the programs' projects follow the same legal framework, namely, the Law of Guidelines and Bases of National Education and the national curricular guidelines for undergraduate programs, the way the curriculum was operationalized differed, suggesting that the negotiation of meaning does not occur only at an individual level during practice, but also occurs prior to that at the community level, among its members. That is, there is a "double layer" of negotiation of meaning in the community. Negotiation of the community with the external environment, which generates different shared repertoires in each community, and between the members and the community, which generates distinct practices among members.⁽⁶⁾

The negotiation of meaning itself expands the community's negotiation of meaning, expressing different forms of practice. Not only do communities have differences, but also their members have differences, as we observed in the cases under study. These differences sometimes seem to be more related to differences in the teaching careers rather than related to the influence of the practice established in the community. We did not observe, from the objective and shared repertoires, any determinism of practice oriented by the community based on the program's project. On the contrary, pedagogical reasoning and action reveals an individualized, personalized practice⁽⁶⁾ in which the cases developed their own ways to establish compromise and contribute to the attainment of the community's joint enterprise. Part of this fact may be explained by the degrees held by the cases, one with a Master's degree and the other with PhD, as well as the different career paths. The cases had distinct educational and professional trajectories, which at least in theory, differ in terms of access to sources, knowledge bases, and consequently, expression of MPRA in teaching practice.⁽¹³⁾

We cannot, however, affirm that the community of practice did not influence the cases' practice. Influence occurs by other means. We have to consider the characteristics of the teaching practice developed by the cases in their communities in the relationship between the

cases and their communities and the potential influence of practice based on MPRA, because these characteristics influence the negotiation of meaning and pedagogical reasoning and action. According to Wenger,⁽⁶⁾ participation and reification in the negotiation of meaning are processes that feed each other and coexist within practice. Thus, it is through participation in a set of activities that the professor learns how to teach in that community and constructs his/her *comprehension*.

⁽⁴⁾ In community A, private case had her workload and courses established every semester according to the enrollment of students. She worked alone and her choice was whether she would teach the course available in a given semester or not. In community B, public case had fixed courses to teach and full-time dedication. There were various professors assigned to the same course and a division of tasks was established among them; they made formal collective agreements and even informal ones. There was apparently a more solid mutual engagement among the members of Community B, who even had more collective opportunities to negotiate.

It is possible to state that the way each of the cases participated in the community was dictated by their university's profile, which in turn signals a teaching profile. The professors of public universities, most working in a regime of full-time dedication, are required to integrate teaching, research and extension, because there is an understanding that quality resides in this integration of activities.⁽¹⁴⁾ In this context, the professor needs to develop teaching activities, research and extension activities, something that can be observed in the public case and her multiple responsibilities in community B. Most professors in this community not only train nurses, but also focus on graduate and extension activities.⁽¹⁵⁾ These activities are not demanded from professors working in private universities, the focus of which is on teaching.⁽¹⁴⁾ Most have a Master's degree and work per hour and have a second job, as shown by private case. She often was not sure whether she would teach the following semester. Continuities and discontinuities in practice are

present in communities represented by frequent changes that imply stability and instability,⁽⁶⁾ which can lead to new comprehension and changes in mutual engagement, objective and repertoire, making them more volatile and fragile.

This can be beneficial to some extent and encourage the professor to grow, as it was possibly beneficial to the pedagogical reasoning and act that the private case worked as a nurse, because it expanded her (re)resources. Nonetheless, if discontinuity and instability predominates due to uncertainty, it may lead the member of the community to have a peripheral or even passive participation because communities work when their members see the value of their participation,⁽¹⁶⁾ otherwise, learning in the practice, harming the community and the professor's pedagogical reasoning and action. Such differences in the characteristics of teaching practice between cases given a distinct dynamic in the division of work may be related to the understanding of cases regarding their courses, because as much as the programs' projects show a path, this path was effectively negotiated by the participation of cases in the community and not by the document. The breadth of the negotiation of meaning displayed in the comprehension, transformation and teaching processes is related to the professors' participation in the community. The more opportunities there are to participate, the broader is the negotiation of meaning and the greater the learning within the community.⁽¹⁷⁾ The location or magnitude of participation, as well different ways to participate in communities, caused the cases to see nursing teaching differently and, in the transformation process, they also had a different view of what would be the best resources to teach in their courses. The reification⁽⁶⁾ of their participation was seen in the discourse and the teaching plans of the courses they ministered. Lesser or excessive socialization among peers regarding decision-making can influence⁽¹⁸⁾ the professor's comprehension, transformation and teaching processes.⁽⁴⁾ It also affects the establishment of dimensions that characterize a community of practice, because pedagogical reasoning and action is developed in solitude. In general,

professors work and make pedagogical decisions by themselves.⁽¹⁹⁾ The creation of perennial learning mechanisms is important for community cohesion, otherwise the program's project may become a mere formality. This does not mean it is an easy task. There are challenges inherent to the attempt to keep and promote heterogeneous groups such as communities of teaching practice.⁽²⁰⁾

Conclusions. The influence of the practice into the communities on pedagogical reasoning and action is based on the program's project, shared repertoire but negotiation of meaning and learning, are based on the characteristics of practice developed during the participation of cases in their communities, mainly expressing the comprehension phase. The way the community organizes itself to establish commitments, objectives and shared repertoire may not only enhance the chances of achieving them but also expand or limit understanding of professors about their roles, of what it means to teach, learn and the ways of doing it, observed through MPRA. It is important to note that the educational context does not always favor or enable learning opportunities for professors such that they are led to reflect on and transform their practices.

Considering the hybrid nature of Brazilian higher education institutions, which are mainly composed of private institutions with faculty members working per hour, and the potential influence of communities on the breadth of pedagogical reasoning and action, we need to recognize this influence and assume that reflection and learning abilities are not only linked to the professors' higher or lower academic degrees. By recognizing this fact, we will be able to intervene in the characteristics of work, establishing communities in nursing schools that enhance learning among its professors through collective spaces and a collaborative relationship among faculty members. Teaching is a solitary act in which knowledge is shared but there is little mutual learning. Changes in the way work is organized can influence the traditional solitude of the teaching practice, forcing professors to negotiate their understanding and learning.

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