

Good professors of nursing, medicine, and dentistry: Perception on the knowledge of learners

Bons professores de enfermagem, medicina e odontologia: Percepção acerca do conhecimento sobre os alunos

Buenos maestros de enfermería, medicina y odontología: Percepción acerca del conocimiento de los alumnos

Jouhanna do Carmo Menegaz¹
Vânia Marli Schubert Backes¹

1. Universidade Federal de Santa Catarina,
Florianópolis, SC, Brazil.

ABSTRACT

Objective: To analyze the knowledge about students and the characteristics of good professors of nursing, medicine, and dentistry in a public university in the southern region of Brazil based on the perception of students. **Methods:** A qualitative study with an exploratory descriptive approach. Data were collected from October 2011 to January 2012 through vignette-focused interviews conducted with 16 students. Thematic analysis of the content and the concept of knowledge about the students and their characteristics was used to process the data. **Results:** It was observed that the knowledge about the students and their characteristics is manifested in the relationship during the learning process. This is perceived in the adoption of a flexible, welcoming attitude and willingness to observe and understand the specific demands of students, when working with them pedagogically. **Conclusion:** According to the students, the professors have poor knowledge about the students and their characteristics, and this category of basic knowledge is relevant for the development of learning.

Keywords: Teaching; Professors; Nursing students; Medicine students; Dentistry students.

RESUMO

Objetivo: Analisar o conhecimento sobre os estudantes e suas características de bons professores de Enfermagem, Medicina e Odontologia de universidade pública do Sul do Brasil a partir da percepção dos estudantes. **Métodos:** Estudo qualitativo com abordagem exploratório-descritiva. Dados coletados de outubro de 2011 a janeiro de 2012 através de entrevista focalizada por vinheta, realizada com 16 estudantes. A análise temática de conteúdo e o conceito de conhecimento sobre os alunos e suas características foram utilizados no tratamento dos dados. **Resultados:** Observa-se que o conhecimento sobre os alunos e suas características se manifesta no relacionamento durante o processo de aprendizagem. Percebe-se na adoção de postura acolhedora, flexível e pela disposição de observar e compreender demandas específicas dos estudantes, atuando pedagogicamente sobre elas. **Conclusão:** A percepção dos estudantes é que é baixo o conhecimento sobre os alunos e suas características que o coletivo de professores possui e que esta é categoria de conhecimento base relevante para que desenvolvam aprendizagem.

Palavras-chave: Ensino; Docentes; Estudantes de Enfermagem; Estudantes de Medicina; Estudantes de Odontologia.

RESUMEN

Objetivo: Evaluar el conocimiento de buenos profesores de Enfermería, Medicina y Odontología sobre los alumnos y sus características a partir de la percepción de los estudiantes de una universidad pública del sur de Brasil. **Métodos:** Estudio cualitativo, exploratorio-descriptivo. Los datos fueron recogidos entre Octubre/2011 y Enero/2012, a través de entrevista con 16 estudiantes. El Análisis Temático de Contenido y el conocimiento sobre los alumnos y sus características fueron utilizados en el procesamiento de los datos. **Resultados:** El conocimiento se manifiesta durante el proceso de aprendizaje. Se percibe a través de una postura más acogedora, flexible y por la voluntad de observar y comprender las demandas específicas de los estudiantes, actuando pedagógicamente en ellas. **Conclusión:** Según los estudiantes, es reducido el conocimiento sobre los alumnos y sus características por parte de los maestros, y esta sería la categoría de conocimiento-base para desarrollar el aprendizaje.

Palabras clave: Enseñanza; Docentes; Estudiantes de Enfermería; Estudiantes de Medicina; Estudiantes de Odontología.

Correspondent author:
Jouhanna do Carmo Menegaz.
E-mail: menegaz.jouhanna@posgrad.ufsc.br

Submitted on 09/25/2015.
Accepted on 02/06/2016.

DOI: 10.5935/1414-8145.20160036

INTRODUCTION

The potentiality of maintaining a good relationship between professor and students in education has been pointed out, particularly a relationship of mutual knowledge instead of a relationship based on a distance imposed by the attribution of roles and hierarchy¹. Positive aspects of a mutual knowledge include the capacity for mobilization, not only to take on curricular commitments but also to learn and develop together. This arrangement becomes particularly interesting in scenarios of changes in educational policies and desired changes in professional profile, such as those we are currently experiencing in health education in Brazil².

According to the current curriculum guidelines for graduate courses in the area of health³, for students to develop the required competencies to work in the Unified Health System it is necessary that the professors have a broader pedagogical understanding that the student is not an object of educational intervention, but rather an historical, active, critical being who is able to think, create, and intervene in their reality. Therefore the student must be considered as an agent, that is, as a constructor of his or her learning process⁴. In turn, the professor must know the student from the human and pedagogical perspectives, supporting their learning and development processes.

To this end it is necessary to further investigate the attitudes and feelings that permeate the relationship between student and professor, as it is a complex reality and there are no unanimous concepts and practices regarding the most appropriate type of relationship to produce a better teaching experience and allow professor and student to know each other⁵.

The goal is a more active, participative student⁶ as well as professors with the capacity for dialogue, flexibility, and the ability to make the student feel that he or she is the author of his or her own path, able to know and be known⁷. In addition to changes in understanding, changes in practice are also necessary, as transmissive, content-based, fragmented pedagogical practices still prevail⁸ in places where there is little knowledge about the students and valorization of individual learning demands. This is possibly due to poor teacher training even in a period in which it was in high demand because of the desire for changes in the students' profile, understanding, and pedagogical practices⁹.

The willingness of the professor to establish a relationship that favors knowledge about students and recognizes its pedagogical value is related to previous teaching experiences, academic training, contact with specialized literature, and the educational context of the professor. All of these sources relate to the development of a knowledge base for teaching¹⁰ that, depending on the level of development, may favor reflection and a choice of approaches and elements that possibly result in distinct perceptions and experiences on the part of the professor about each student¹¹.

These knowledge base for teaching¹⁰ are pointed out as pillars of an effective pedagogical practice; the term "effective" should be understood as the potentiality to educate professionals in accordance with the profile outlined by public policies - in this

case, public health policies. The presence of a particular category of knowledge base called knowledge about students and their characteristics is of paramount importance for the establishment of a relationship between professor and student.

Knowledge about learners and their characteristics consists of both collective and individual knowledge in relation to the students on the part of the professor. Collective knowledge involves the general characteristics of a given class-such as the total number of students, gender, age, sociocultural status, whether they talk a lot or a little, and whether they present good or bad performance in other curricular activities¹⁰.

Individual knowledge consists of the capacity to value and recognize the particularities of each student - the specific way of understanding, what motivates and discourages them, as well as their fragilities and potentialities. It consists of the identification of what makes that student unique and what approximates him/her to the others¹⁰, becoming a knowledge that essentially supports the establishment of an effective pedagogical and interactive resource¹².

Knowledge about students and their characteristics and other categories of knowledge base for teaching increase the chances of achieving an effective teaching performance¹⁰. The relevance for teaching of the existence of a relation of knowledge between professor and student that implies the recognition of the other expressed by the professor can be termed "knowledge about students and their characteristics," according to Shulman¹⁰. This study is based on the guiding question "What is the perception of students of nursing, medicine, and dentistry regarding knowledge about students and their characteristics by those whom the students consider to be good professors?" The goal was to analyze the knowledge about learners and their characteristics of good professors of nursing, medicine, and dentistry in a public university in the southern region of Brazil, based on the perception of students.

METHODS

The present manuscript resulted from a master's thesis in nursing titled "Practices of Good Professors in Nursing, Medicine, and Dentistry in the Perception of Students," and presents data and analyses related to vignettes regarding knowledge about students and their characteristics. It is a qualitative research study with an exploratory descriptive approach that included 16 students who were graduating in nursing (six students), medicine (five students), and dentistry (five students) in a public university in the southern region of Brazil.

The selection of participants was intentional (students who were graduating in each course). Each course had a distinct number of semesters: nursing had eight semesters; dentistry had nine semesters; and medicine had 12 semesters. These courses were chosen because we understood that their professional categories compose the majority of the workforce in health, in addition to their being the object of most governmental training policies. Graduating students were chosen for having a greater knowledge of the course material and the professors.

The identification of the participants was developed from the concept of network sampling¹³ started by the class representative who, following the invitation to participate in the study, was invited to appoint two colleagues and their respective contacts. These, in turn, indicated one or more names, and so on. These new students were contacted and invited to participate in the study. The concept of theoretical saturation of data per course was considered to end the inclusion of new participants. Thus, the inclusion of new participants was suspended when they started to present similar perceptions of what they understood by "good" professors. This explains the different number of participants.

The consent of the participants was obtained upon signature of the free and informed consent form. The document was provided in two copies, one for the researcher and the other for the participant. The participants were individually interviewed through a vignette-focused interview in a place chosen by them between October 2011 and January 2012.

Four vignettes were elaborated to collect data. Each vignette was developed from one of the four categories of knowledge base for teaching—the adopted reference for this study. They consisted of: knowledge of content; general pedagogical knowledge; pedagogical content knowledge; knowledge of learners and their characteristics; and knowledge of educational ends, purposes, and values, and their philosophical grounds. In addition to these categories, the knowledge base for teaching had an additional three: knowledge of the educational contexts; curriculum knowledge; and general pedagogical knowledge, totaling seven categories.

Categories of knowledge base for teaching were elected as the theoretical reference for the study, as these emphasize relevant knowledge for a successful pedagogical practice mobilized through it¹⁰. The vignette knowledge of learners and their characteristics contained a fictitious description of the report of a student about a professor. In the face of this, the student was invited to express himself/herself, relating it to the perception of his/her reality and keeping in mind their examples of good professors. We focused on good professors in order to provide a reflection on the ideal condition perceived by the students, so that it could evidence what they considered as ideal at the same time that they reflected on the gaps perceived in their educational experience.

Data collected in the interviews were analyzed through content thematic analysis including the following stages: pre-analysis; material exploration; treatment of the results; and interpretation¹⁴. The following categories resulted from the process of analysis of the vignette *knowledge of learners and their characteristics*: empathy and establishment of relationship; recognition of the demands of students in teaching environments; and ability to intervene in educational needs.

In order to preserve anonymity the speeches of the interviews are identified in this text by the letters E (nursing), M (medicine), and O (dentistry) followed by the numbers relating to the codification process. The study was approved by the Research Ethics Committee of the Federal University of Santa Catarina

by means of the consolidated opinion 2317/2011. The ethical principles of the study were met in accordance with the guidelines of Resolution 196/1996 of the National Health Council¹⁵ in force during the period of the study.

RESULTS AND DISCUSSION

This section presents the main aspects of the knowledge of learners and their characteristics as perceived by students in their best professors. The word *students* will be used in cases of consensus among students around the three courses in relation to any of the mentioned aspects. The terms *nursing students*, *medicine students*, or *dentistry students* will be used for specific aspects of students in a given course.

It is relevant to justify the use of the substantives "learners" and "students." The word *learner* will be used when the category of knowledge base of Shulman's¹⁰ knowledge of learners and their characteristics is mentioned, as in the terms learners in Spanish is *alumnos* and *alunos* in Portuguese. The word *learners* is also used in some speeches, as it was used by the participant. The word *students* is used to refer to the participants or students in general in order to differentiate from the name of the category knowledge base and due to a preference.

Empathy and establishment of relationship

The students report that the presence and development of knowledge of learners and their characteristics in good professors involves a willingness to develop relationships and interact in the classroom, an ability to empathize and understand the point of view of others (particularly during moments of conflict), as well as seeking to avoid negative judgments.

By observing that good professors present a practice that transcends the formal pedagogical relation and goes beyond the recognition of information concerning what they need to teach certain content, the perception of students about the knowledge of learners and their characteristics goes beyond the definition of this category of knowledge base and presents a relationship with another category: general pedagogical knowledge¹⁰.

General pedagogical knowledge denotes the way teachers understand teaching and learning processes, roles, relationships, and educational spaces¹⁰, eventually presenting a background of their perception on how good professors establish relationships. Therefore this perception presents a demand for a certain type of general pedagogical knowledge, a knowledge supported by the recognition of the student as an author of his or her formation⁵ and a demand that more elements, including subjective ones, are considered in relation to the knowledge of learners and their characteristics, as shown in the speeches below:

Usually they [the professors] do not care about what you feel, and best professors are different. We are health professionals, but we also have to take care of our health, of our well being. Some days we do not feel good, we have a personal problem, a disease-related problem. (O4R163)

Recognizing the other's context, knowing how to work in teams, recognizing that the patient, the individual, is not divided in parts, he/she is a whole, and recognizing this in the students. Also, a student is not just that boy that was late; there is a whole context. We never know what an individual is experiencing, what is going on with a person. (M2R50)

The speeches point out that this empathy and willingness to know and relate to others is poor; it is only perceived in good professors, being possibly poor in relation to the collective of professors. It is interesting to note the existence of distinct perceptions by the students of each course in relation to the level of empathy in the establishment of relationships to develop knowledge of students. For nursing students, the perception of knowledge of learners incorporates the presence of a greater emotional bond, a relation of friendship that goes beyond educational spaces, and goals that go beyond the pedagogical aspects.

Students of medicine reported that the perception of knowledge of learners consists of something more basic, that is, a willingness to broaden perspectives and allow the recognition of the student as a human being in the educational space¹ just as as students are instructed to perceive their patients in the health services. The same element was pointed out by dentistry students. These students point out that good professors perceive them as individuals, and that the recognition of their preferences and state of mind affects the learning process¹⁶.

The indication that good professors know them by their names and personal characteristics represents a seemingly simple example that elucidates the perception of the participants. This practice is highly appreciated; professors presenting this characteristic have considerable recognition by learners. Medicine students pointed out that knowing the name of the students is a basic assumption; however, it is not a common practice among professors.

We see the professors every day, we know all of them; professors that are not interested in knowing the learners are not good. I am talking about a greeting in the streets; some professors do not struggle, they give one, two, three lessons and they do not know any names. (O1R109)

It is valid to consider these aspects perceived about professors by the students, as a relationship between professor and learner leads to recognition and cooperation in the learning process. In this sense, knowing the students and understanding the feelings they experience demonstrate knowledge of these learners and favor a bond, trust, and respect that enhance the quality of education¹⁷. A student who feels respected, motivated, and conscious of his/her role and activities⁵ demonstrates higher levels of satisfaction in relation to the learning process, and will possibly have a better training experience that may affect his/her future professional practice¹⁸.

Recognition of the demands of students in educational environments

In this category the students share the perception that the knowledge of learners and their characteristics in good professors is perceived in the professor's ability to recognize weaknesses and strengths within the educational environment, in both the individual and the collective perspectives, as knowing each individual student as well as all of the students is relevant for choosing educational strategies. Regarding this aspect, we examined the perception of the students' dialogues around the knowledge of learners and their characteristics¹⁰.

According to Shulman¹⁰, it is important that the professor knows the students and the class in order to be able to evaluate which educational methodologies may be the best option. The participants in this study reported that a good professor does not consider single particular situations when knowing the student, but requires a broader follow up.

In this sense, knowledge of the students and their characteristics was observed in the capacity to perceive when the students do not understand or appreciate the adopted pedagogical approach and to adjust it to be more satisfactory¹⁹. These were the perceptions of the students of nursing and dentistry particularly.

This professor that I am talking about, she captured the profile of the group. We used to work in small groups, and she developed the activities based on that profile. That was very important. She observed that we were more extroverted, that we talked more, and based on this she created the dynamics that she deemed appropriate. (E5R376)

The professors' sensibility to perceive, identify, and readjust new educational models according to the profile of the students is considered one of the main characteristics of the presence of knowledge of learners and their characteristics. The implementation of new strategies qualifies the discussions between professor and students, legitimizing and ensuring the learning process. The importance of encouraging others is also pointed out, proposing new challenges for professors and students to build new contexts of reality together²⁰.

This latter aspect particularly denotes a reflection on the actions performed by good professors. This reflection is expressed in what Shulman¹⁰ called a Model of Pedagogical Reasoning and Action. The model represents in six stages the whole process of reflection and articulation of the seven categories of knowledge base for education performed by the professor when teaching. It includes understanding the subject (stage 1), transformation and election of resources (stage 2) for teaching (stage 3), evaluation (stage 4) and reflection (stage 5), consisting in new ways to understand (stage 6) its practice. In simple terms it is possible to affirm that in this example perceived by the students, during the teaching stage the professor adjusted an approach aimed at achieving more success in the educational goals¹⁰ using knowledge of the students and their characteristics.

New expectations in relation to the training of future health professionals committed to the transformation of society² result from horizontal dialogue and the moment when the professor begins to consider the student as an active participant with the capacity to seek and produce knowledge.

The first category points out that the students perceive a knowledge of learners in professors who have a distinct attitude and understanding of how to relate to them, characterized by the fact that knowledge of learners and their characteristics is perceived in professors who are able to recognize the subjectivity of the student and translate it into information for pedagogical use.

A professor that knows his entire class, who does not discriminate against anyone, who does not mistreat a student when he or she cannot meet expectations. Most professors are well focused on the class, but they do not dedicate some time to get to know their learners; they usually establish relationships with a few learners that are more interested in that discipline, but it is complicated. (M4R78)

Medicine and dentistry students also pointed out the fact that the professors know or dialogue with only a few students in the class (those who demonstrate a preference for their discipline or those with higher grades) to the detriment of others; this is a negative aspect and demonstrates absence of knowledge of learners and their characteristics, as it denies the subjectivity of the professor's actions. In addition, students demonstrate discontentment with professors that distinguished them in a pejorative or discriminatory way due to their ability to learn in comparison with colleagues. This type of discrimination (and other similar cases) were reproached by all participants and understood as inappropriate practice. Respect appears again as an essential principle in the relationships between professors and students⁷.

Interventional skills on educational needs

This category presents practices mentioned by the students of examples perceived by them as the professors' having knowledge of the students and their characteristics. It is interesting to note that most of them are related to practical activities developed in health services.

Nursing students report that professors with knowledge of their students are able to anticipate any difficulties that will be perceived and felt by students during their educational process, even if these are unspoken. Moreover, they help in the resolution of conflicts¹⁹ such as those that may occur in the integration of students into internship programs due to adaptation to the environment and the team.

The recognition of aspects that may generate discomfort, insecurity, and even affliction to these students in practical scenarios represents an important characteristic due to their accelerated dynamics. Students usually do not have a specific moment to expose their feelings, a fact that may lead to a

mismatch between professor and students that consequently affects the educational process²⁰.

Medicine students report that a professor that has knowledge of the students and their characteristics (perceived by the students through the recognition of educational gaps) is able to meet educational needs or even to transcend the curricular education.

We who work in the area of health depend on acquiring skills, and sometimes during the class there is no occurrence of interesting things; then, when a procedure will be performed in another place and not during the classes, the professor says "I think you should participate, those who want to go are invited." The professor tells you about what is happening; he invites you. Sometimes it is not part of the schedule, but the professor says "I work in the clinics every day; let's go there, I think it will be interesting for you." (M2R49)

While medicine students claimed that their professors should help them in the development of technical skills, some nursing students pointed out that professors should also support the strengthening of students' self-esteem, thus allowing a boost in the development of relational skills. This is an important finding, as when the student values in the professor not only the technical aspects of the pedagogical intervention but also the human aspects it is possible that his/her training is already assimilating new values²¹. Dentistry students did not express an opinion on this topic.

Students also pointed out that in this process of management of individual and collective fragilities the good professor, with knowledge of his/her learners, is able to create an environment of cooperation among the students, supporting the ability to overcome difficulties and respect (by the group) for the learning needs of each learner.

I think that assuming that they already know us - still talking about professors knowing the students - I think that after they know us they try to align the difficulties of one with the potential of the other. I saw it on many occasions during the internship. Some colleagues presented difficulties in a given aspect, while others were good in such an aspect, so they were usually put to develop activities together. (E4R253)

However, although the students recognize this practice as an interesting strategy, dentistry students emphasized that a good professor is always cautious in relation to this management and when approaching students and their possible difficulties.

It is necessary to be able to encourage or value those who have more skills instead of putting them at the same level as the others because maybe he/she feels underrated and ends up losing his/her function, his/her skill. (O2R132)

An increased number of diversified groups of students was found to present individuals and peculiar needs that may be related to factors such as age, professional expectation, previous experiences, and culture. This requires professors to have knowledge of their students and their characteristics in order to support their development.

The amalgam between sensibility, reflection, and knowledge perceived in the speeches of the students expresses that good professors have not only knowledge of their students and a certain general pedagogical knowledge, but that they use such knowledge to produce a distinct content of pedagogical sample, a category of knowledge base for teaching¹⁰ consisting in the concrete expression of mastering all the other categories by the professor.

This knowledge is like a large tool box from which the professor chooses, adapts, and assesses educational strategies and modalities to provide the best and most effective training experience. It reinforces the understanding that despite the approach to knowledge in an individual manner for educational purposes and to give it due importance in the process, there is a set of knowledge required for an optimum teaching practice that is contingently mobilized by the professor based on his/her reflection process¹⁰.

CONCLUSIONS AND IMPLICATIONS FOR PRACTICE

The perception of the participants about the characteristics of the knowledge of students of their best professors was introduced. The students pointed out that the knowledge of learners and their characteristics of good nursing, medicine, and dentistry professors is expressed through empathy and establishment of a bond, recognition of students and educational environments, and the ability to identify and intervene according to educational needs. However, according to students' perceptions, the collective of professors have a poor knowledge of the students and their characteristics, and this category of knowledge base is relevant for the educational development.

Of the seven categories of base knowledge, it is possible to affirm that two are particularly relevant in relation to relationships between professors and students: general pedagogical knowledge and knowledge of the learners and their characteristics. Therefore it is possible to affirm that lack of knowledge of students and their characteristics interferes in the pedagogical relationship and this fact is perceived by the students.

The desire for attention and the subjective potential that being treated as a human being has in the relationship between professor and student are emphasized in the data. These data go beyond what Shulman¹⁰ presents in the concept of knowledge of learners and their characteristics, as it shows that not only pragmatic elements of teaching-learning such as the knowledge of pedagogical skills and deficiencies are important, but also human subjectivity.

Students perceive and demand that their professors not only be good educational mediators. They should also have the sensibility to help them to avoid being just a professional with technical-scientific skills and be professionals who are able to perceive, understand, and help others. Professors who make the effort to know the individual and collective characteristics of their students foster good experiences and are remembered as the best professors exactly for rescuing the subjective dimension of the pedagogical relationship.

Based on the results of this study, a potential and necessary discussion for the field of health education is perceived. To what extent does the pedagogical relation currently established in undergraduate courses provide this type of experience to students and professors? Are the professors currently trained to recognize these aspects and develop their knowledge of learners and their characteristics like the one described in the present study? To what extent are higher education professors pedagogically prepared to provide a training experience of this magnitude? How much time do they have to approach students in a workplace that has become increasingly crowded with demands and responsibilities?

The analysis of the knowledge of the learners and their characteristics by professors from the perception of students is a limitation of this study. Considering this limitation, the development of further studies with professors to observe the process of construction and expression during the pedagogical practice is suggested.

REFERENCES

1. Rios IC, Schraiber LB. A relação professor-aluno em medicina: um estudo sobre o encontro pedagógico. *Rev. Bras. Educ. Med.* 2012 jul; 36(3):308-16.
2. Lino MM, Backes VMS, Ferraz F, Reibnitz KS, Martini JG. Posturas pedagógicas adotadas no ensino de enfermagem e saúde na região Sul do Brasil. *Rev. Bras. Enferm.* 2011 jan; 64(1):152-59.
3. Pereira WR, Chaouchar SH. Identificação de novas práticas pedagógicas na percepção dos docentes de um curso de enfermagem. *Cienc cuid saude.* 2010 jan; 9(1): 99-106.
4. Menegaz JC, Backes VMS. Formação para o Sistema Único de Saúde: o que fazem bons professores na percepção dos estudantes. *Inves. Educ. Enferm.* 2015 set; 33(3):500-08.
5. Bagnato MHS. Recontextualização curricular no ensino de enfermagem. *Currículo sem Fronteiras.* 2012 jul; 12(3):173-89.
6. Souza NVDO, Penna LHG, Cunha LS, Baptista AAS, Mafra IF, Mariano DCA. Perfil socioeconômico e cultural do estudante ingressante no curso de graduação em enfermagem. *Rev. Enferm. UERJ.* 2013 mar/abr; 21(2):718-22.
7. Menegaz JC, Backes VMS, Cunha AP, Francisco BS. O bom professor na área da saúde: uma revisão integrativa. *Rev enferm UFPE on line [Internet].* 2014 out [citado 2010 Jun 15]; 8(4):[aprox. 9 pp.]. Disponível em: <http://www.revista.ufpe.br/revistaenfermagem/index.php/revista/article/view/3958>
8. Backes DS, Marinho M, Costenaro RS, Nunes S, Rupolo I. Repensando o ser enfermeiro docente na perspectiva do pensamento complexo. *Rev. Bras. Enferm.* 2010 jan/fev; 63(1):421-26.
9. Lima MM, Reibnitz KS, Prado ML, Kloh Daiana. Integralidade como princípio pedagógico na formação do enfermeiro. *Texto Contexto Enferm.* 2013 jan/mar; 22(1):106-13.

10. Shulman L. Conocimiento y Enseñanza: Fundamentos de la nueva reforma. *Revista de currículum y formación del profesorado*. 2005 maio/ago; 9(2):1-30.
11. Domenéch-Betoret F, Gómez-Artiga A. The relationship among students and teachers thinking styles, psychological needs and motivation. *Learning and Individual Differences*, 2012 Jan; 29(1):89-97.
12. Beyer CJ, Davis EA. Learning to critique and adapt science curriculum materials: Examining the development of preservice elementary teachers pedagogical content knowledge. *Science Education*. 2012 Jan; 96(1):130-57.
13. Flick U. *Introdução à Pesquisa Qualitativa*. Porto Alegre: Costa EJ; 2009.
14. Minayo MCS. *O desafio do Conhecimento*. São Paulo: HUCITEC, 2010.
15. Ministério da Saúde (BR). Conselho Nacional de Saúde. Resolução nº 196/96 de 10 de outubro de 1996. Brasília (DF): Ministério da Saúde; 1996.
16. Cavaca AG, Esposti CDD, Santos-Neto ET, Gomes MJ. A relação professor-aluno no ensino da Odontologia na Universidade Federal do Espírito Santo. *Trab. educ. saúde*. 2010 abr; 8(2):305-08.
17. Skogs J. Subject line preferences and other factors contributing to coherence and interaction in student discussion forums. *Comput. Educ.* 2013 Jan; 60(1):172-83.
18. Alves EATD, Cogo ALP. Percepção de estudantes de enfermagem sobre o processo de aprendizagem em ambiente hospitalar. *Rev. Gaúcha Enferm.* 2014 jan/mar; 35(1):102-09.
19. Moya JLM, Borrasca BJ. Análisis del conocimiento didáctico del contenido de tres profesores universitarios. *Rev. de Educación* 360. 2013 Ene/Feb; 9:1-17.
20. Bicalho RNM, Oliveira MCSL. O processo dialógico de construção do conhecimento em fóruns de discussão. *Interface: Comunic., Saúde e Educação*. 2012 abr/jun; 16(41):469-83.
21. Teixeira GBT, Silva CA, Teixeira LB, Monteiro AI. Compreendendo o princípio da integralidade na visão de discentes da graduação em enfermagem. *Esc. Anna Nery*. 2013 out/dez; 17(4): 764-71.