



Validation of professors' competences in the area of nursing administration

Riciana do Carmo Calixto¹, Danielli Rafaeli Candido Pedro², Juliana Helena Montezeli³,
Maria do Carmo Fernandez Lourenço Haddad⁴, Aida Maris Peres⁵

ABSTRACT

Objective: to validate a set of professors' competences in the area of nursing administration. **Method:** quantitative methodological study, whose data was collected using the Delphi technique. It was operationalized by sending a preliminary version of a set of teaching competences, description and indicators that lead to maintaining and/or developing them via electronic mail. A total of 22 nursing administration professors participated in the study. A descriptive analysis was used, as well as the Index of Agreement, for final analysis of the instrument items. **Results:** A total of 29 competences were validated and the technical, academic, didactic-pedagogical and ethical-political competences were outlined as domains. The general agreement of the items was 92.14%, evidencing a high level of agreement in the validated items. **Conclusion:** the validation of teaching competences in nursing administration allowed to highlight the profile of this professional in the fields of nursing training and professional practice, integrating theoretical knowledge with practical experience.

Keywords: Professional Competence; Nursing Professors; Organization and Administration; Validation Study; Nursing Education.

¹ Enfermeira. Mestre em Prática Profissional de Enfermagem. Enfermeira da Secretaria de Estado da Saúde do Paraná. Curitiba, Paraná, Brasil. E-mail: rici_calixto@yahoo.com.br. ORCID iD: <https://orcid.org/0000-0001-9603-7358>.

² Enfermeira. Mestre em Enfermagem pela Universidade Estadual de Londrina. Londrina, Paraná, Brasil. E-mail: danirafaeli@hotmail.com. ORCID iD: <https://orcid.org/0000-0003-4141-1220>.

³ Enfermeira. Doutora em Enfermagem. Docente adjunto no Departamento de Enfermagem da Universidade Estadual de Londrina. Londrina, Paraná, Brasil. E-mail: jhmontezeli@hotmail.com. ORCID iD: <https://orcid.org/0000-0003-4522-9426>.

⁴ Enfermeira. Doutora em Enfermagem. Docente Sênior do Departamento de Enfermagem da Universidade Estadual de Londrina. Londrina, Paraná, Brasil. E-mail: carmohaddad@gmail.com. ORCID iD: <https://orcid.org/0000-0001-7564-8563>.

⁵ Enfermeira. Pós doutora em Enfermagem. Docente Associada da Universidade Federal do Paraná. Curitiba, Paraná, Brasil. E-mail: aidamaris.peres@gmail.com. ORCID iD: <https://orcid.org/0000-0003-2913-2851>.

Corresponding author

Danielli Rafaeli Candido Pedro

Address: Rua Sidrack Silva, 116, Londrina, Paraná, Brasil.

Phone: (45) 999482707.

E-mail: danirafaeli@hotmail.com.

Submission date: 17/02/2020

Approval date: 16/10/2020

How to cite this article:

CALIXTO, R.C. et al. Validation of professors' competences in the area of nursing administration. *Advances in Nursing and Health*, v. 2, p. 34-47, Londrina, 2020.

INTRODUCTION

The training of nurses goes through moments of political articulation, definition of health care models and, based on the National Curriculum Guidelines (NCG) published in 2001, must have Alumni with a professional profile based on generalist, humanistic, critical and reflective qualifications⁽¹⁾.

In order for these guidelines to be applied in each undergraduate nursing course, it is necessary to reflect on how professors develop their pedagogical practice, by employing necessary competences in the teaching-learning process. The competences of nursing professors refer to the deepening of their concept, since this term represents one of the indicators for the evaluation processes in the organizational, educational and individual fields⁽²⁾.

Some authors claim that competence is the ability to articulate and mobilize knowledge, skills and attitudes, putting them into action to solve problems and face unpredictable situations⁽³⁾. Other authors state that the meaning of competence is knowing how to do well, with theoretical knowledge, abilities to build this

knowledge and in attitudes to make the management of the teaching-learning process easier⁽⁴⁾. In addition, competence can be considered as the essence of teaching, as it is the most basic and the most important characteristic of someone or something⁽⁵⁾.

For this study, the field of teaching practice was delimited for the area of nursing administration, which includes the study of nursing care management, planning, organization, direction, execution, control, evaluation, leadership, coordination and other inherent activities to the nursing management process⁽⁶⁾. The choice is due to the fact that nurses are responsible for the administrative performance in health services and need to mobilize competences for the managing dimension.

Therefore, the guiding question of this study was: What are the competences for professors in the area of nursing administration? And to respond it, the objective was to validate a set of competences for professors in the area of nursing administration, which can impact the training of competent and qualified professionals to develop qualified, safe and humane nursing administration. Revealing

these competences allows us to demonstrate the professional profile to be developed in the search for high-level nursing education.

METHOD

This is a methodological study with a quantitative approach, carried out with the participation of Brazilian expert professors. Experts are defined as a person who has a particular interest and care for a certain study, in addition to having special competence or practice in a certain activity⁽⁷⁾

The inclusion criteria for expert professors were: having PhD in nursing; professors in the area of nursing administration; having published studies on the object of study in the last five years. Professors who were retired or who were away from their work activities and electronic addresses that did not exist or were unavailable on the Internet were excluded.

Data collection took place using the Delphi online technique, between May and June 2013. This technique is an appropriate

strategy to establish the content validity of instruments, as it allows listening and analyzing the opinions of experts, with the possibility of generating a validated product in the end of the analysis⁽⁸⁾.

The selection of professors took place through research on the Lattes Platform, in the directories of research groups registered with the National Council for Scientific and Technological Development (CNPq), searching for the term "Nursing Administration". The e-mail address of the expert professors was obtained by searching the websites of the Universities to which these professors were part of and when not available, a general search on the internet was made.

Thus, a total of 50 professors were invited to participate in the study, as they met the eligibility criteria. The deadline for reply was 15 days, and if there was no return, the referral was made and an additional of 15 days were added, totaling 22 professors who filled out the instrument. There was no second round of evaluations. A form for the participants' characterization was sent to the professors with data referring to the variables of the professor's time in the nursing area and specifically in nursing

administration.

After the characterization of the judges, the stage to verify the agreement that the experts attributed to the items of the competences set began. At that time, each judge analyzed the nomenclature assigned to each competence, its description, elucidating what it referred to and its indicators in each dimension, that is, they expressed and enumerated the attributes of each competence.

The construction of this set of competences was based on the scientific literature, with a wide reading, review and reflection on the theme. Thus, the dimensions of each competence were listed, being supported by conceptual approaches^(3, 9-11): a) *technical dimension*; b) *academic dimension*; c) *didactic-pedagogical dimension*; d) *ethical-political and interpersonal dimension*. Responses on the nomenclature of the competences and the descriptions of each competence and the indicators for each dimension were judged using the Likert scale, with levels ranging from 1 (not fully agree), 2 (not partially agree), 3 (neither agrees nor disagrees), 4 (partially agrees) and 5 (totally agrees). The nomenclatures and descriptions were

presented and the judges judged whether or not they agreed with the statements, and they could also suggest changes.

The results were analyzed using statistical treatment, using descriptive analysis. It was considered that the minimum percentage for the Agreement Index among the experts was 80%.

The investigation was conducted in accordance with the required national ethical standards, and approved by the Research Ethics Committee under registration No. 120112611 08/2013.

RESULTS

Regarding the experts, the time of teaching activity corresponded to 68.0% (n=15) over 20 years. As for the teaching performance in the area of nursing administration, it was found that 77.0% (n=17) had 10 to 30 years of experience in this activity.

Table 1 shows the agreement findings for nomenclature and description of the four dimensions of the set of teaching competences.

Table 1 – Agreement for the nomenclature and description of the four dimensions of the professors’ competences in the area of nursing administration validated by experts. Parana, Brazil, 2013.

Competence Dimensions	Agreement Index	
	Nomenclature (%)	Description (%)
Technical	63.6	95.5
Academic	59.1	86.4
Didactic-pedagogical	59.1	81.8
Ethical-political and interpersonal	59.1	90.9

The nomenclature assigned to each competence had the lowest agreement index, considering that of the total of 22 participating experts, eight of them stopped responding, which may represent the lack of understanding to validate the proposed name for each competence. Thus, there were 36.4% of the agreement responses for all domains, among the 14 experts who responded.

For each competence dimension, indicators that expressed and enumerated the attributes of each competence were built. For the technical dimension, four indicators were developed, and six for the academic dimension. Box 1 shows the agreement attributed to the items.

For *didactic-pedagogical competence*,

a total of nine indicators were developed and three of them showed 100.0% agreement: indicators 1, 2, 3, as shown in Box 2.

For the didactic pedagogical, ethical-political, and interpersonal dimensions, nine and two indicators were constructed, respectively. Box 2 shows the agreement that the expert professors scored for each topic.

For general evaluation of the items, the Agreement Index was calculated, which analyzed the twenty-nine topics of the instrument in a global way, obtaining a general level of agreement of 92.14%, indicating high agreement among the experts.

At the end of this study, it was observed that the set of 29 Initial items

Competence	Indicators	% Agreement index
Technical	1. Managerial professional practice prior to teaching activities in the knowledge area.	100.0
	2. Professional experience (training time in care and/or managerial functions).	95.40
	3. Managerial professional practice simultaneously with teaching activities in the area of knowledge.	81.90
	4. <i>Lato sensu</i> specialization in the areas of Administration and Management in Health and Nursing.	77.30
Academic	1. Participation in research group (s) in the area of knowledge.	100.0
	2. Courses (seminars, congresses, short courses) in the area of Administration and Management in Health and Nursing.	95.50
	3. Having a master's degree in the areas of concentration in Nursing, Administration and/or Education.	90.90
	4. Having scientific production (articles in indexed journals; expanded abstracts; simple abstracts; books and book chapters) related to the contents of the Nursing Administration area.	90.90
	5. Having a PhD in the areas of concentration in Nursing, Administration and/or Education.	86.40
	6. Experience in administrative positions, commissions and/or committees in a Higher Education Institution.	81.90

Box 1 – Indicators of the dimensions of the technical and academic competence of professors in the area of nursing administration. Parana, Brazil, 2013.

referring to the *professors' competences in the area of Nursing Administration* remained in the experts' evaluation. There were changes only in the writing of the contents, in the descriptions and indicators of competences, as well as in grammatical agreement. No items were excluded from the final set. The word *interpersonal* from the *ethical-political and interpersonal* dimension

was discarded and the nomenclature of this dimension was named only *ethical-political*, as can be seen in Box 3.

Competence	Indicators	% Agreement index
Didactic-Pedagogical	1. Participation in the preparation and updating of the teaching plans of the subjects in their area of knowledge.	100.0
	1. Participation in the discussions of the course syllabus.	100.0
	1. Use of active/significant/participatory methodologies by the professor.	100.0
	1. Having <i>lato sensu</i> and/or <i>stricto sensu</i> postgraduate course in Education Methodologies and/or Higher Education.	90.90
	1. Participation in teacher training workshops, offered by their Higher Education Institution.	90.90
	1. Teaching experience in the area of Administration and Management in Health and Nursing.	90.90
	1. Participation in teacher training workshops, carried out by other Higher Education Institutions.	86.40
	1. Update on the use of educational technologies (audiovisual and digital media) by the professor.	86.40
Ethical-political and interpersonal	1. Having a Nursing Degree.	77.30
	1. Participation in social, ideological and political issues in the undergraduate course, in the institution and in the profession.	95.40
	2. Use by the professor of communication, leadership, teamwork, conflict management and negotiation in work relationships and in the teaching-learning process.	90.90

Box 2 – Indicators of the dimensions of didactic pedagogical, ethical political and interpersonal competence of professors in the area of nursing administration. Parana, Brazil, 2013.

Competence	Description	Indicators
Technical	It consists of the professional knowledge of nurse-professors; appropriate knowledge about the contents and practices of their work in Health and Nursing Management procedures and techniques. Professional experience of professors in management functions.	<ol style="list-style-type: none"> 1. <i>Lato sensu</i> specialization in the areas of Administration and Management in Health and Nursing. 2. Professional management practice simultaneously with teaching activities in the area of knowledge. 3. Managerial professional practice prior to teaching activities in the area of knowledge. 4. Professional experience (training time in care and/or managerial functions).

Continue

Academic	Permanent theoretical-scientific development to support teaching activities. Courses, improvements, training on Health and Nursing Administration and Management content.	<ol style="list-style-type: none"> 1. Master's degree in the areas of concentration in Nursing, Administration and/or Education. 2. PhD in the areas of concentration in Nursing, Administration and/or Education. 3. Participation in courses (seminars, congresses, short courses) in the area of Administration and Management in Health and Nursing. 4. Having scientific production (articles in indexed journals; expanded abstracts; simple abstracts; books and book chapters) related to the contents of the Nursing Administration area. 5. Participation in research group (s) in the area of knowledge. 6. Experience in administrative positions, commissions and/or committees in a Higher Education Institution.
Didactic-Pedagogical	It consists of knowing how to do in the teaching-learning process. Ability to reflect and promote reflection on the management process in health and nursing in students.	<ol style="list-style-type: none"> 1. Nursing Degree Course. 2. <i>Lato sensu</i> and/or <i>stricto sensu</i> postgraduate course in Education Methodologies and/or Higher Education. 3. Participation in teacher training workshops, offered by their Higher Education Institution. 4. Participation in teacher training workshops, carried out by other Higher Education Institutions. 5. Participation in the preparation and updating of the teaching plans of the subjects in their area of knowledge. 6. Participation in the discussions of the course political project. 7. Update on the use of educational technologies (audiovisual and digital media) by the professor. 8. Use of active/significant/participatory methodologies by the professor 9. Teaching experience in the area of Administration and Management in Health and Nursing.
Ethical-political	Professors' ability to attract and add value to students and professors. Articulation of the ethical and political dimensions in the teaching work process.	<ol style="list-style-type: none"> 1. Use by the professor of communication, leadership, teamwork, conflict management and negotiation in work relationships and in the teaching-learning process. 2. Participation in social, ideological and political issues in the undergraduate course, in the institution and in the profession.

Box 3 – Final set of the professor's competences in the area of nursing administration validated by experts. Parana, Brazil, 2013.

DISCUSSION

The Delphi Technique is a method widely used in nursing research, especially in the last decade, which was used in content validation studies⁽¹²⁾. The most investigated themes permeate nursing diagnoses and interventions in the areas of child and adult health, as well as in the area of administration and management, study of the managerial and professional competences of nurses⁽¹³⁻¹⁴⁾.

The fact that the participants agreed and validated indicator 3 (professor with managerial professional practice prior to the teaching activities in the area of knowledge) for technical competence with 100% agreement represents that the participants agree and validate that the previous managerial work and experience represents promising performance in the professor career.

A study that explored managerial competences in the work environment highlights the need to articulate them in the professional practice of nurses, emphasizing that it is necessary to expand educational processes to prepare nurses for the management activities necessary for the

current work environment⁽¹⁵⁾.

The changes that occurred at work caused changes in the nurse's managerial function and the competences required for this function are dynamic⁽¹⁶⁾. This dynamism, in particular, of technical competence and managerial professional practice must be articulated in the role of the professor in reflections with the students in the re-elaboration of new competences for the exercise of the function.

A Brazilian study reaffirms the need to fill the gap of the old concern, which is the incorporation of the components of the practice in its academic curriculum. In addition, this issue reflects on the quality of the mobilization of competences in the nurse's performance⁽¹⁷⁾.

The numbers from the *academic competence* dimension represent the importance of professors actively participating in the referred research groups in their institution, observing the impact of this in the scientific productions in nursing. In Brazilian nursing, research groups emerged in the 1970s, their growth and form of organization have been expanding significantly⁽¹⁸⁾. The investigative

competence is entrusted to the professor for socio-political and technological development in health and is essential in the training⁽¹⁸⁾.

Active participation in research groups allows the professors to study and reflect critically so their knowledge is reorganized, producing texts that represent their contribution to the subject, which can be read and discussed by students and other professors/researchers⁽¹⁰⁾. Professors' involvement in studies enriches the domain of their knowledge, and also increases the scientific and intellectual production of a profession⁽⁹⁾.

With regard to *didactic-pedagogical competence*, in which indicator 5 (professors with participation in the preparation and updating of teaching plans for the subjects in their area of knowledge) obtained an average score of 1.91, it represents the importance of professors preparing and updating teaching plans for the subjects for which they are responsible. When preparing and updating these plans, professors are dedicated to maintaining pertinent themes and inserting new ones and reviewing the subjects planning, as it is through it that the objectives are outlined so that the learning process happens⁽¹⁰⁾.

Indicator 6 of *didactic-pedagogical competence* (professors with participation in the discussions of the course syllabus) obtained 1.73 in the central tendency measurement score, in line with the desideratum of other researches. The syllabus of undergraduate nursing courses is considered a guiding element of educational action. It must express a communication strategy, of interaction of subjective and objective aspects, of reflexivity and creativity⁽¹⁹⁾. Even with 100.0% of agreement validated by the experts in this regard, the issue of incorporating an interdisciplinary practice by the professors of undergraduate courses in the orientation of the training process is still evidenced in a laconic way in most processes of implementation of the syllabus⁽¹⁹⁻²⁰⁾.

Thus, the National Curricular Guidelines (NCG) for undergraduate nursing allow reflections on the role of professors in the discussions of the pedagogical project of their course in integrated curriculum, making it essential that the professors are prepared both for the specific skills of their area, as well as for relational ones⁽¹⁾.

Indicator 8 (use of active/significant/participatory methodologies

by professors) *didactic-pedagogical competence* also had a high score, with 1.86 of central tendency measure. It is necessary to rethink the teaching and learning models during the training of nurses, considering that the progressive change in teaching and assessment methods will guide new teaching and student work processes.

In the nursing area, there is a need to equip professors to use active methodologies, in a meaningful and qualified way, in order to be committed to health care⁽²¹⁾. Thus, the fact that indicator 8 has a high score allows us to affirm that there is a gradual increase in educational processes, which are increasingly distant from traditional/transmissional education.

The result shown in *ethical-political and interpersonal competence*, in which indicator 2 (professors with participation in social, ideological and political issues in the undergraduate course, in the institution and in the profession) had 95.4% agreement among the experts, can be inferred from the understanding that professors, as citizens and professional trainers, must have a broader view of people, the world, society, culture, education that will direct their options and actions more or less

consciously⁽²²⁾. This finding related to indicator 2 is important when understanding nursing as a social practice, in addition to mentioning the fact that, for professors to contemplate the political-social perspective in their work practice, training and development conditions must be offered to them⁽²³⁾.

Due to the dynamics of the competences, this study demonstrates limitations, since four dimensions of teaching competence were validated, totaling 29 evaluated items. Thus, this may not reflect all the required competences, therefore, new studies are necessary to list, replace and refute other teaching competences that become relevant. Another limitation is that there was no participation of professors from all regions of the country, which can cover up local and regional specificities.

As a limitation, we had the low level of agreement reached for the competence names, considering that of the 22 participating experts, only 14 responded to the item, which may indicate a fragility of the results presented.

CONCLUSION

A total of 29 competences were validated and the following ones were outlined as: technical, academic, didactic-pedagogical and ethical-political domains. The general agreement of the items was 92.14%, showing itself as high agreement index for the validated items.

These findings identified the competencies and skills required for professors in the area of nursing administration, leading to reflection on the teaching and development of nursing students on the practice of nursing administration with quality, revealing the need for association between management of care and nursing care provided.

REFERENCES

1. Ministério da Educação (BR). Conselho Nacional de Educação. Câmara de Educação Superior. Resolução CNE/CES N. 3/2001. Institui Diretrizes Curriculares Nacionais do Curso de Graduação em Enfermagem [Internet]. Brasília; 2001 [citado 2020 out. 08]. Disponível em: <http://portal.mec.gov.br/cne/arquivos/pdf/CES03.pdf>.
2. Fleury MTL, Fleury A. Construindo o conceito de competência. *Rev Adm Comtemp*. 2001; 5(n.esp):183-96. Doi: <http://dx.doi.org/10.1590/S1415-65552001000500010>.
3. Perrenoud P. Dez novas competências para ensinar. Porto Alegre: Artes Médicas Sul; 2000.
4. Leal LA, Camelo SHH, Santos FC. O docente de administração em enfermagem: formação e competências profissionais. *Rev Enferm UFPE on line*. 2017; 11(6):2329-38. Doi: <http://dx.doi.org/10.5205/reuol.10827-96111-1>.
5. Ferreira FRM, Nunes ACP. Ongoing training in the development of nursing teacher skills. *Rev Gaúcha Enferm*. 2019; 40:e20180171. Doi: <http://dx.doi.org/10.1590/1983-1447.2019.20180171>.
6. Mororó DDS, Enders BC, Lira ALBC, Silva CMB, Menezes RMP. Concept analysis of nursing care management in the hospital context. *Acta Paul Enferm*. 2017; 30(3):323-32. Doi: <http://>

6. dx.doi.org/10.1590/1982-0194201700043.
7. Dalla NCR, Zoboli E, Vieira MM. Validation by experts: importance in translation and adaptation of instruments. *Rev Gaúcha Enferm.* 2017; 38(3): e64851. Doi: <http://dx.doi.org/10.1590/1983-1447.2017.03.64851>.
8. Faro ACM. Técnica Delphi na validação das intervenções de enfermagem. *Rev Esc Enferm USP [Internet]*. 1997 [citado 2020 out 08]; 31(1):259-73. Disponível em: <http://www.ee.usp.br/reeusp/upload/pdf/415.pdf>.
9. Gil AC. Didática do ensino superior. 2ª ed. São Paulo: Atlas; 2018.
10. Cardoso MRG. O professor do ensino superior hoje: perspectivas e desafios. *Cad Fucamp [Internet]*. 2016 [acesso 2020 out. 08]; 15(23):87-106. Disponível em: <https://www.fucamp.edu.br/editora/index.php/cadernos/article/viewFile/837/596>.
11. Leal LA, Soares MI, Silva BR, Bernardes A, Camelo SHH. Clinical and management skills for hospital nurses: perspective of nursing university students. *Rev Bras Enferm.* 2018; 71(Suppl 4):1514-21. Doi: <http://dx.doi.org/10.1590/0034-7167-2017-0452>.
12. Massaroli A, Martini JG, Lino MM, Spenassato D, Massaroli R. The delphi method as a methodological framework for research in nursing. *Texto Contexto Enferm.* 2017; 26(4):e1110017. Doi: <http://dx.doi.org/10.1590/0104-07072017001110017>.
13. Barbiani R, Nora CRD, Schaefer - R. Nursing practices in the primary health care context: a scoping review. *Rev Latino-Am Enferm.* 2016; 24:e2721. Doi: <http://dx.doi.org/10.1590/1518-8345.0880.2721>.
14. Oliveira NJ, Cardoso KE. O papel do enfermeiro frente à auditoria hospitalar. *Rev Adm Saúde.* 2017; 17(68):1-15. Doi: <http://dx.doi.org/10.23973/ras.68.52>.
15. Costa ACB, Paiva KCM, Mageste GS. Competências gerenciais de enfermeiros de um hospital de Belo Horizonte (MG): o ideal e o real. *Rev Adm Hosp Inov Saúde.* 2017; 14(4):73-86. Doi: <http://dx.doi.org/10.21450/rahis.v14i4.4813>.
16. Luz MAP, Oliveira JLC, Tonini NS, Maraschin MS. Competências gerenciais: opinião de enfermeiros no contexto hospitalar. *Rev Eletr Gest Saúde [Internet]*. 2017 [citado 2020 out. 08]; 8(3): 521-38. Disponível em: <https://periodicos.unb.br/index.php/rgs/article/view/10325>.
17. Leal LA, Soares MI, Silva BR, Souza Brito JL, Bernardes AB, Henriques SH. Professional competencies for hospital nurses: a documentary analysis. *Rev Enf Centro-Oeste Min.* 2019; 9:e3249. Doi: <http://dx.doi.org/10.19175/recom.v9i0.3249>.
18. Erdmann AL, Peiter CC, Lanzoni GMM. Brazilian research groups in nursing: comparison of 2006 and 2016 profiles. *Rev Gaúcha Enferm.* 2017; 38(2):e69051. Doi: <http://dx.doi.org/10.1590/1983-1447.2017.02.69051>.

19. Magalhães SMF, Gabrielloni MC, Sanna MC, Barbieri M. Nursing Education: conceptualizing a pedagogical project from the view of professors. *Acta Paul Enferm.* 2017; 30(3):247-53. Doi: <http://dx.doi.org/10.1590/1982-0194201700038>.
20. Padovani O, Corrêa AK. Currículo e formação do enfermeiro: desafios das universidades na atualidade. *Saúde Transform Soc [Internet]*. 2017 [citado 2020 out. 08]; 8(2):112-9. Disponível em: <http://incubadora.periodicos.ufsc.br/index.php/saudeetransformacao/article/view/3841/4990>.
21. Macedo KDS, Acosta BS, Silva EB, Souza NS, Beck CLC, Silva KKD. Active learning methodologies: possible paths to innovation in health teaching. *Esc Anna Nery.* 2018; 22(3):e20170435. Doi: <http://dx.doi.org/10.1590/2177-9465-EAN-2017-0435>.
22. Barton G, Bruce A, Schreiber R. Teaching nurses teamwork: integrative review of competency-based team training in nursing education. *Nurse Educ Pract.* 2018; 32:129-37. Doi: <http://dx.doi.org/10.1016/j.nepr.2017.11.019>.
23. Zlatanovic T, Havnes A, Mausethagen S. A research review of nurse teachers' competencies. *Vocat Learn.* 2017; 10(2):201-33. Doi: <http://dx.doi.org/10.1007/s12186-016-9169-0>.