

# Application of empathy map on educational actions carried out by nursing professionals

*Aplicação do mapa de empatia sobre as ações educativas realizadas pelos profissionais de enfermagem*  
*Aplicación del mapa de empatía en acciones educativas realizadas por profesionales de enfermería*

**Cíntia Eliane Costa Corrêa<sup>I,II</sup>**

ORCID: 0000-0003-0848-2457

**Giovana Puchalski Lopes<sup>II,III</sup>**

ORCID: 0000-0003-1102-2275

**Caroline Barbosa da Silva<sup>I</sup>**

ORCID: 0000-0002-1527-2506

**Julyhe Nunes Paulin<sup>II</sup>**

ORCID: 0000-0002-6417-5833

**Nathália Dias Oliveira<sup>I</sup>**

ORCID: 0000-0003-1294-2321

**Murilo dos Santos Graeff<sup>I</sup>**

ORCID: 0000-0002-7161-0864

**Ana Amélia Antunes Lima<sup>II</sup>**

ORCID: 0000-0001-8328-6902

**Adriana Aparecida Paz<sup>II</sup>**

ORCID: 0000-0002-1932-2144

<sup>I</sup>Rede Hospitalar Divina Providência. Porto Alegre,  
Rio Grande do Sul, Brazil.

<sup>II</sup>Universidade Federal de Ciências da Saúde de Porto Alegre.  
Porto Alegre, Rio Grande do Sul, Brazil.

<sup>III</sup>Santa Casa de Misericórdia de Porto Alegre,  
Rio Grande do Sul, Brazil.

## How to cite this article:

Corrêa CEC, Lopes GP, Silva CB, Paulin JN, Oliveira ND, Graeff MS, et al. Application of empathy map on educational actions carried out by nursing professionals. Rev Bras Enferm. 2022;75(4):e20210478. <https://doi.org/10.1590/0034-7167-2021-0478>

## Corresponding author:

Cíntia Eliane Costa Corrêa  
cintiaecorrea@gmail.com



EDITOR IN CHIEF: Antonio José de Almeida Filho  
ASSOCIATE EDITOR: Hugo Fernandes

**Submission:** 07-28-21    **Approval:** 01-13-22

## ABSTRACT

**Objective:** to apply an empathy map to assess nursing professionals' needs, desires, frustrations and aspirations regarding educational actions. **Methods:** a cross-sectional study, carried out in a hospital institution with 164 nursing professionals, who responded to the empathy map, which clarified their participation in institutional educational actions, which were collected from 2019 to 2020, and analyzed using descriptive statistics. **Results:** when using the empathy map, educational actions focused on routines predominated, with the sharing of knowledge; promotion of improvements in care; agreement of commitment with proposed actions; insufficient compliance; little incentive to participate; dispersed guidelines among professionals; increased labor demand; and educational activity during the working day. **Conclusions:** the empathy map, applied as an instrument for assessing the institutional educational process, qualified as appropriate educational actions or opportunities to improve significant learning for professional nursing education.

**Descriptors:** Nurse Practitioners; Education, Continuing; Education, Nursing; Education Department, Hospital; Nursing.

## RESUMO

**Objetivo:** aplicar o mapa de empatia para avaliar as necessidades, desejos, frustrações e aspirações dos profissionais de enfermagem sobre as ações educativas. **Métodos:** estudo transversal, realizado em uma instituição hospitalar com 164 profissionais de enfermagem, que responderam o mapa de empatia, que elucidou sobre a participação em ações educativas institucionais, sendo esses colhidos de 2019 a 2020, e analisados pela estatística descritiva. **Resultados:** no uso do mapa de empatia, predominaram ações educativas voltadas às rotinas, com o compartilhamento de conhecimento; promoção de melhorias na assistência; pactuação de compromisso com as ações propostas; adesão insuficiente; pouco incentivo para participação; orientações dispersas entre os profissionais; demanda de trabalho aumentada; e atividade educativa durante a jornada de trabalho. **Conclusões:** o mapa de empatia, aplicado como instrumento de avaliação do processo educativo institucional, qualificou em ações educativas adequadas ou de oportunidade para melhoria de uma aprendizagem significativa para a formação profissional da enfermagem.

**Descritores:** Profissionais de Enfermagem; Educação Continuada; Educação em Enfermagem; Serviço Hospitalar de Educação; Enfermagem.

## RESUMEN

**Objetivo:** aplicar el mapa de empatía para evaluar las necesidades, deseos, frustraciones y aspiraciones de los profesionales de enfermería con respecto a las acciones educativas. **Métodos:** estudio transversal, realizado en una institución hospitalaria con 164 profesionales de enfermería, que respondieron al mapa de empatía, que clarificó su participación en las acciones educativas institucionales, que fueron recolectadas de 2019 a 2020, y analizadas mediante estadística descriptiva. **Resultados:** en el uso del mapa de empatía predominaron las acciones educativas enfocadas en las rutinas, con el intercambio de conocimientos; promover mejoras en la atención; acuerdo de compromiso con las acciones propuestas; adherencia insuficiente; poco incentivo para participar; pautas dispersas entre los profesionales; aumento de la demanda laboral; y la actividad educativa durante la jornada laboral. **Conclusiones:** el mapa de empatía, aplicado como instrumento de evaluación del proceso educativo institucional, calificado como acciones u oportunidades educativas adecuadas para mejorar los aprendizajes significativos para la formación profesional de enfermería.

**Descriptores:** Enfermeras Practicantes; Educación Continua; Educación en Enfermería; Servicio de Educación en Hospital; Enfermería.

## INTRODUCTION

Achieving occupational safety and qualified care makes it imperative that educational actions at work be present and continuous, so that they help in the technical-scientific improvement of health professionals. Such actions need to lead to the resolution of situations inherent to the work process and on-site transformation<sup>(1-2)</sup>. Education in the work environment needs to be significant for the professional, to enable the transformation based on their doing, being, learning and undertaking of interprofessional and personal relationships that are established in the work environment, transcending the institution's mission and values<sup>(3)</sup>.

The Brazilian National Policy for Permanent Education in Health (PNEPS - *Política Nacional de Educação Permanente em Saúde*) guides and encourages the training and development of health workers in the health service, through actions for permanent health education (PHE). It is advocated that learning focuses on the work process, from the sharing of knowledge and experiences, to find alternatives or solutions in the face of work problems. PHE actions for health professionals are strategic to strengthen skills to the extent that they generate change and support, progressively and systematically, training and professional improvement<sup>(3-4)</sup>.

The insertion of PNEPS in hospital services is extremely necessary when it is due to the diversity of the technical and academic training process in Brazil. A considerable number of nursing professionals do not have previous work experience, and they are only responsible for teaching-learning experiences in assisted or supervised practices in health institutions. The potentiality and fragility of these experiences depend on pedagogical projects, curricular components, workload, quantitative staff of teachers and number of students by experience proposed by educational institutions and agreed with health services. It is corroborated by the literature that educational institutions need to take responsibility for training professionals, so that they develop critical thinking and clinical reasoning to act in accordance with the reality of services, the population served and the appreciation of the professional category itself<sup>(5-8)</sup>.

Therefore, this responsibility also needs to be shared with health services, so that these future professionals can experience and perceive the valorization of PHE for workers' and patients' safety. Moreover, a study concluded that it is up to the education program in a university hospital to sensitize professionals so that they feel co-responsible for their learning process<sup>(9)</sup>.

In the setting of this study, an integration program is carried out for new employees with different levels of training, occupation and sector. The integration takes place in two days and totals 16 hours, in which the mission, values and processes are approached. The institution also carries out specific educational actions, with themes that emerge from management for nursing professionals. The actions are not systematized in the premises of PHE, nor planned for the monitoring or sharing of previous knowledge. Finally, they are evidenced in the processes of selection and integration of professionals with little preparation, experience or practical experience to deal with patients' and family/caregivers' needs.

Design Thinking (DT) is a framework that has been incorporated into the areas of business management, entrepreneurship, education and health, for the agile and incremental development

of products, processes, services or solutions. The empathy map is a tool used for the purpose of knowing, understanding, observing and understanding people (end user). It is characterized as a visual map containing six axes: thinks and feels; sees; hears; says and does; gains; and pains. The adaptation of the questions on the empathy map is necessary according to the focus on the product, process, service or solution, provided that it maintains the direction of each axis<sup>(10-12)</sup>. The current study adapted the empathy map to assess institutional educational actions, with the intention of strengthening professional education.

Management needs to consider education as a driver for the development of the institutional ecosystem, requiring the implementation of PHE to achieve institutional goals and contribute to the improvement of professionals' skills. It is considered that these professionals need support and support for the practice, consolidation of scientific knowledge and, even, improvement of skills in line with the demands required of the new work scenario, emerging the research question: how do nursing professionals assess the educational actions performed by the hospital institution?

## OBJECTIVE

To apply empathy map to assess nursing professionals' needs, desires, frustrations and aspirations on educational actions.

## METHODS

### Ethical aspects

The project was approved by the Research Ethics Committee, meeting the guidelines and regulatory standards of research with human beings.

### Study design, period, and location

This is a cross-sectional study, with a quantitative and descriptive approach, respecting the stages of STrengthening the Reporting of OBservational studies in Epidemiology (STROBE), to ensure quality<sup>(13)</sup>. It occurred in a medium-sized private hospital in the city of Porto Alegre, Rio Grande do Sul (RS), Brazil, from 2019 to 2020. This hospital setting of this study is the home of a hospital health network, consisting of a total of five hospitals, distributed in the capital and countryside of RS.

### Sample, inclusion and exclusion criteria

The population consisted of 667 nursing professionals in the institution. The sample was calculated, adopting the proportion parameter of 50%, because it considered great heterogeneity in the responses about the assessment of educational actions by nursing professionals. Up to 6.5% of error and 5% of significance were admitted. Knowing the totality of professionals in the institution, the minimum sample calculated and added of 20% of losses totaled 203 professionals.

The selection of participants for the sample was performed through a random systematized draw, according to the professional category proportionality and by the time of admission to

the institution, being established groups ( $\leq$  seven days, 8 to 30 days, 1 to 3 months, 3 months to 12 months, 1 to 5 years, 5 to 10 years, and more than 10 years of experience in the institution). The draw was carried out by groups, using the web application, called Sorter\* (<https://sorteador.com.br>). Participants were approached in their work sector and invited to participate in a private room meeting.

Nursing professionals working in the study setting were included. Invited nursing professionals who, after three appointments, did not attend the scheduled meetings, on vacation, or on maternity or health leave were excluded.

### Study protocol

Data to elucidate the needs and difficulties of educational actions in the institution were collected by a questionnaire containing 24 questions, which were elaborated by the researchers and adapted in the empathy map, composing three dimensions: a) sociodemographic aspects; b) occupational situation; c) empathy map of institutional education. Empathy map was the tool used, aiming at knowing the needs, desires, frustrations and aspirations in relation to the institutional educational process.

The main element is empathy, being defined as the act of understanding the problem when putting ourselves on other's shoes, feeling what it would feel if it were in the same situation and circumstances experienced by the other person<sup>(10-12,14-15)</sup>. Thus, it is understood that empathy is a multidimensional construct that requires the ability to perceive and understand the other's perspective. It has an affective component that promotes the sharing of emotional states of those involved in a situation. At the same time, it presents the cognitive and behavioral components that have the ability to differentiate and reason about the mental states of the people involved and decide support, communication and care actions<sup>(14)</sup>.

Empathy map is a technique employed by DT, which places people (end user) at the center of the process, to creatively generate products, processes, services and/or educational solutions<sup>(15)</sup>. It has been adopted to solve complex problems that make it possible to generate innovations that have emotional, as well as functional, meaning for people, especially in the area of management, entrepreneurship, technical, higher and professional education and health<sup>(12,15)</sup>.

More concretely, using an empathy map seeks to understand the situation in depth and observe the context and behavior of the people involved so that they express their problems, needs and individual and collective expectations. The empathy map application can be individual or in groups, and the results can be analyzed in a quantitative or qualitative manner, or by consensus of the group<sup>(15)</sup>. In this study, the map questions were adapted to assess needs, desires, frustrations and aspirations about the educational actions that are offered to nursing professionals in the institution:

What do you THINK AND FEEL? What do you understand as important educational actions for your work? What are your main aspirations related to professional training at work? Here, it is important for you to understand your main concerns and what really matters for your training and professional practice.

What do you SEE? How do you perceive (see) about the education and development guidelines in the area and in the institution? In this respect, it is important to see the environment in which you act in relation to educational actions and how it is provided to the nursing team.

What do you HEAR? What do co-workers and supervisors say in the area and institution about educational and development actions? Here, it is important for you to describe about the existing comments of what you hear about participation, involvement and quality of educational actions.

What do you SPEAK AND DO? When educational or development actions occur in your area, how is your participation and involvement? In this respect, it is important that you understand and know your attitudes in public and behavior with other members of the nursing team.

PAINS? What are your frustrations or obstacles to participate in educational actions in the institution? This issue will allow to identify the main difficulties so that you can participate and join the institutional educational process.

GAINS? What are your wishes and needs with regard to educational actions in the area and in the institution? This aspect understands everything you want to accomplish to seek proper professional training, success and satisfaction with your work.

### Analysis of results, and statistics

The answers to the questionnaires were coded and tabulated in Microsoft Excel®, with double entry by independent digitizers, and the disagreements were reviewed and corrected. Statistical Package for the Social Sciences® (SPSS), version 21.0, was used for analysis of descriptive statistics, observing trends and patterns. Continuous and discrete variables, which were presented by means of mean, standard deviation, median, percentiles 25 and 75, and categorical variables were expressed by means of absolute and relative frequency.

### RESULTS

This study included a final sample of 164 participants, recruited by admission time and professional category. We obtained 29 (17.7%) nurses and 135 (82.3%) nursing technicians. Of the sample calculation (n=203), 39 (19.2%) participants were considered as losses that occurred in the following situations: 17 (45.6%) prolonged absences; 12 (30.7%) during vacation; 8 (20.5%) per shutdown; and 2 (3.2%) for refusal to participate in this study. Table 1 presents the sociodemographic and occupational characteristics of nursing professionals in the hospital institution.

The predominance of females remains a representative data in nursing. The participants were on average young adults. The prevalent age group was 20 to 39 years, composed of 111 (67.7%) participants. Regarding the complete years of study, it was observed that the average obtained was characterized by the representativeness of nursing technicians, among whom 21 (12.8%) have completed higher education. Regarding participants' residence, some lived in the Metropolitan Region of Porto Alegre, namely: Viamão 11 (6.7%), Canoas 8 (4.9%), Cachoeirinha 6 (3.6%), Eldorado do Sul 4 (2.4%), Alvorada 3 (1.8%), Gravataí 2 (1.2%) and Guaíba 1 (0.6%).

**Table 1** - Sociodemographic and occupational characteristics self-reported by nursing professionals (N=164), Porto Alegre, Rio Grande do Sul, Brazil, 2020

Variables	n(%)
Sex (female)	136(83.4)
Age (complete years)	36.3(7.31)*
Study time (complete years)	15.9(5.03)*
Education (High School)	109(68.6)
Municipality of residence (Porto Alegre)	112(68.3)
Other professional training (yes)	30(18.3)
Time working in the area of health (years)	10(6-15) <sup>†</sup>
Time working at the institution (years)	4(1-7) <sup>†</sup>
Weekly workload (hours)	36(0.66) <sup>†</sup>
Work at another institution (yes)	38(23.2)
Workload (hours)	29.7(11.2)*
Participate in educational actions (yes)	142(86.6)
Interest in expanding knowledge in educational actions (yes)	156(95.1)

\*Mean (standard deviation); <sup>†</sup>Median (25th-75th percentiles).

**Table 2** - Understanding nursing professionals' importance, aspirations and interests on educational actions (N=164), Porto Alegre, Rio Grande do Sul, Brazil, 2020

Variables	n(%)
Understanding the importance of educational actions	
Aim at excellence for qualified care (yes)	134(81.7)
Opportunity for improvements in work quality (yes)	40(24.4)
Standardization of processes based on specialized knowledge (yes)	22(13.4)
Proposals on a continuous and motivational level (yes)	17(10.4)
Knowledge about people management, leadership development, financial resources, materials and qualified care improvements (yes)	16(9.7)
Aspirations and interests in relation to educational actions	
Improved quality of care and problem solving in the area (yes)	50(30.4)
Expansion of the offer and obtaining of specific nursing knowledge and techniques (yes)	48(29.6)
Provision of on-site activities with implementation of protocol feedback and follow-up (yes)	29(17.7)
Approach to professional posture and work ethics (yes)	18(10.9)
Effective participation of all professionals through team encouragement and involvement (yes)	16(9.7)

Only one professional with a leadership position was randomly selected, and he was a nurse with more than ten years in the institution. For 129 (79.1%) and 64 (39%) participants, the time spent in the health area and at the institution was 5 to 10 years, respectively. Thirty-four responses were obtained about another professional training, and four participants had one to three different degrees. The average weekly workload is 36 hours. Among participants, 1/4 declared having two jobs. Of these, eleven professions were observed in other settings: 25 (65.6%) work as a nursing technician; 2 (5.2%) are caregiver, nurse or driver; and 1 (2.7%) works as an acupuncturist, entrepreneur, nurse auditor, beautician, surgical technologist, teacher or technical manager. For these professionals, the average weekly workload that adds to the existing one in the study's institution is 29.7 hours.

Regarding the participation of nursing professionals in the educational actions proposed by the institution, it was found that they marked positively, as well as almost all of them expressed interest in expanding knowledge.

The application of empathy map explored the educational actions from participants' perspective, through descriptive questions. The results are expressed by categories, which were aggregated by meanings of the context described by participants.

Table 2 presents the categorized results of nursing professionals about how they think about the educational actions promoted in the institution. So, all participants answered the questions: what do you understand as important educational actions for your work? What are your main aspirations related to professional training in your work?

We obtained 262 understandings of the importance of educational actions described by 164 participants, being extracted up to five distinct meanings, which were organized into 11 categories. It was observed that most professionals understand that educational actions refer to routine training to update knowledge, including lectures, courses and training focused on routines, institutional protocols, followed by actions directed to excellence of qualified care. Moreover, it was emphasized that educational actions can be promoters of excellence of care, quality of work, standardization of processes and knowledge of topics related to professional practice. Furthermore, it was found, although in a lesser expression, that 12 (7.3%) professionals reported the need to make up, with the supervisors, the indications of educational actions in the institution; 7 (4.2%), in relation to availability, flexibility of schedule and offer; 5 (3%) considered it a moment to clarify doubts and provide guidance; 5 (3%), to guide ethics, attitude and behavior in the work environment; 3 (1.8%), important for professional development and training; and 1 (0.6%) on the relevance of routine training to update knowledge.

Regarding aspirations and interests, there were 206 descriptions, which were distributed into 12 categories. Of the 164 responses of the participants, up to four different meanings were found. As aspirations, it prevailed to seek improvement in care and in solving the problems faced on a daily basis, as well as being able to expand knowledge and skills in the area of action, with the sharing of knowledge, considering each professional's experience. For continuous improvement of professional performance, it was evidenced as fundamental practices with feedback and

monitoring in professional care, after carrying out educational activities, especially for new employees.

Still in the same category, with less expression, professionals have the interest and aspire to take educational actions on patient safety (13; 7.9%); have appreciation of professionals and good relationship in the work environment (12; 7.3%); carry out educational activities during working hours with flexible days and hours, including the night shift (7; 4.2%); maintain qualified and humanized care (7; 4.2%); perform in the opposite shift from work (4; 2.4%); express the opinion in the meetings, so that there are improvements in the sector; and share knowledge among nursing teams (1; 0.6%).

In Table 3, professionals expressed how they see, hear, speak and do. Therefore, they build their perceptions about educational actions in the institution, while developing the participatory attitude and complying with the educational process. For this, they answered the following questions: how do you perceive (see) the education and development guidelines in the area and in the institution? What do co-workers and supervisors say in the area and institution about educational and development actions? When educational or development actions occur in your area, how is your participation and involvement?

According to the results of the seeing sense, it was observed in the 164 responses the stratification of up to four distinct meanings, which totaled 214 perceptions that were arranged in 15 categories. Among them, it was identified that the educational actions performed have quality and are necessary for work, being perceived as important learning opportunities for its improvement, assisting in the alignment and engagement of changes and goals established through a standardized language, as well as demonstrating the concern and importance with education for its professionals, in order to carry out a safe and excellent work.

On the other hand, professionals described that they do not occur in a standardized way between teams, with scattered and misaligned information. They also perceive the need for more educational actions, such as the development of leaders and actions with realistic simulations, which favor the sharing of knowledge and hearing, focused on the real needs faced in daily life and in line with the specificity of the care area.

A total of 8 (4.9%) nursing professionals also perceived the lack of quality and preparation of educators in educational actions, the need to approach the management area with encouragement and participation of managers, and traditional training and lectures, requiring dynamic actions such as realistic simulation. Another 7 (4.2%) professionals reported few educational actions in the area and lack of specific themes, but 5 (3%) reinforce that they promote safe and excellent work, and that they use all the knowledge acquired in practice in search of better results. Furthermore, 4 (2.4%) professionals declared the absence of hearing to themes suggested by the team and repetitive actions, and of the need for language standardization for alignment of processes; 3 (1.8%), the approach to goals and indicators of the areas; and 2 (1.2%), the absence of leadership development and no incentive from managers, and that actions should take place in person and mandatory. Such notes are seen as an opportunity for improvement, for the institution to assess the feasibility of greater participation and the qualification of approach to educational actions.

In the dimension about what nursing professionals hear from their peers about institutional educational actions, 198 records were appreciated, contained in 164 responses, organized into 13 categories by the meanings presented. From these answers, up to two distinct meanings were extracted per participant. Positively, participants heard that educational actions are moments to debate and share ideas and knowledge, allowing the continuity of humanized work and professional development, as well as providing process alignment, aiming at improving learning and enhancement at work, keeping the team updated.

However, they described that they hear to co-workers that there is low participation and resistance by professionals, which can be configured in educational actions considered by them to be dispersed between work shifts and not very effective (7; 4.2%); little dissemination of the offer of educational actions; and few incentives and motivation of professionals to participate and obtain new knowledge, with 5 (3%) professionals each; approach to inappropriate content, poor in content and poorly designed 4 (2.4%); lack of results and materials available 3 (1.8%); need to offer it to all professionals and focus on processes (2; 1.2%); and 1

**Table 3** - Nursing professionals' perceptions in relation to educational actions in the institution related to seeing, hearing, speaking and doing senses (N=164), Porto Alegre, Rio Grande do Sul, Brazil, 2020

Variables	n(%)
Perception (see) on education and development guidelines	
Proposals with quality, well elaborated and important for work (yes)	67(41.9)
Scatters that do not contemplate all professionals and shifts (yes)	41(25.6)
Important for performance aimed at improving processes (yes)	33(20.6)
Need to provide more educational actions (yes)	17(10.4)
Perception (hears) on education and development guidelines	
Time for debate, sharing and acquisition of new knowledge (yes)	55(33.5)
Practice that does not agree with the educational action proposed in theory (yes)	33(20.6)
Low compliance and resistance to participation (yes)	33(20.6)
Important for continuity of humanized work and professional development (yes)	27(16.9)
Need to offer more educational actions (yes)	14(8.8)
Necessary for process alignment (yes)	9(5.4)
Perception (speaks and does) about participation and involvement	
Likes to participate, making commitment to action (yes)	98(60.9)
Participates when possible, considering the parallel activities and demands of the area (yes)	55(34.2)
Actively participates, aiming at providing a good service (yes)	19(11.8)
Participates effectively in distance and on-site educational actions (yes)	10(6.1)

(0.6%) described that institutional courses could be made available or have partnerships with educational institutions, for discounts on external courses. Such circumstances generate the delay for completion of the prescribed care, due to service and emotional overload of the institution's own employee. In this regard, these notes generate doubts and flaws in the institutional processes and care practices of employees in the care areas.

We found 192 descriptions about the participation and involvement of professionals in education actions, which were classified into 9 categories. From the answers obtained, it was possible to stratify up to three distinct meanings. The results reveal the predominance of nursing professionals committed to educational actions and who participate effectively, in order to improve knowledge and acquire others, which can be implemented in the care area for continuous improvement in patient care. It was observed that they seek to disseminate actions, are involved and collaborate with the changes and adjustments in care and management practice, because they understand the importance of actions for their development. With lower expression in the results, 4 (2.4%) professionals reported that they have not yet had the opportunity to participate in educational actions so far, and 2 (1.2%) reported that they dedicate themselves to affinity actions and that they are relevant to the area of activity, encouraging team professionals to participate.

However, one aspect pointed out by only 1 (0.6%) professional was the fear of exposing their opinion during educational actions, for perceiving a punitive policy in the institution. This fact aroused attention, as it is desired that the teaching-learning process be guided by the active participation of employees, which requires managers and supervisors in the care area to demystify the understanding of current employees in the face of what they consider to be a punitive act. Also, among the participants, 1 (0.6%) stressed that they do not participate in the actions proposed by the institution.

The empathy map explored nursing professionals' pain through frustrations and obstacles related to educational actions in the institution. To highlight participants' pain, the question was asked: what are their frustrations or obstacles to participate in educational actions in the institution? Table 4 presents the frustrations and obstacles described by nursing professionals.

Nursing professionals characterized 196 frustrations and obstacles, which were distributed in ten conditions, categorized into up to three distinct meanings in the response. The main

professionals' complaint who participated in the study was the performance of educational actions during working hours, not having the flexibility to participate on another day and/or time. For professionals allocated at night, the complaints refer to the lack of equal coverage of the approach to educational actions.

As obstacles, participants described the lack of knowledge of actions that are made available, observing professionals' lack of interest. Furthermore, they recognize that there are few incentives and there is a lack of a better organization of the care area to enable participation. However, it is reinforced that the themes of educational actions do not focus on real needs, are of low quality and do not instigate interaction and discussion, as well as the lack of follow-up to assess the effectiveness of improving care practice.

Regarding the desires and needs that were described by nursing professionals, according to the empathy map, gains were considered as future perspectives of educational actions in the institution. In this regard, participants answered the question: what are their desires and needs with regard to educational actions in the area and institution? The answers are in Table 5.

In this dimension of gains, in which the desires and needs related to educational actions were explored, 210 meanings were stratified, which were grouped into 17 categories. The constitution of these categories occurred through the participation of 164 responses from nursing professionals, characterizing up to three distinct meanings. The prevalence of the desire to have the opportunity to participate more in the proposed educational actions was evidenced, aiming at the learning, growth and improvement of employees, which reflects improvements in patient care. They requested the offer of more educational actions and with different modalities, especially distance, as well as with a prior dissemination of schedule.

Summing up the results by applying the empathy map, most professionals considered the education actions to be adequate, elaborate and of quality, which need to have a direction in the routines and techniques for the updating of knowledge, process standardization and alignment in the institution and in specific areas. As a frailty, participants manifested that educational actions are not consistent with care and/or management practices, which require a continuity process, with proper follow-up, to assess actions' effectiveness. Another important issue is the availability and schedule for offering actions, as they occur during the work shift, making adherence and participation difficult due to care demands and/or management area.

**Table 4** - Frustrations and obstacles described by nursing professionals in relation to educational actions in the institution (N=164), Porto Alegre, Rio Grande do Sul, Brazil, 2020

Variables	n(%)
Offer of educational actions during working hours (yes)	101(63.1)
There are frustrations or obstacles (no)	28(17.5)
Cannot participate because it is not released due to sector demands or due to lack of organization and management of the nursing department (yes)	15(9.4)
Lack of interest of professionals, demotivation and little encouragement by the institution (yes)	11(6.7)
Need for more actions, distance courses and better dissemination (yes)	11(6.7)
Topics addressed are not interesting, they do not have monitoring and assessment of effectiveness of actions (yes)	10(6.1)
Need to pay for a course (yes)	9(5.4)
Unable to participate due to management activities that have deadlines (yes)	5(3)
There is no good use of educational action in practice (yes)	5(3)
Nursing participation in on-site courses is higher than in distance courses (yes)	1(0.6)

**Table 5** - Desires and needs of nursing professionals in relation to educational actions in the institution (N=164), Porto Alegre, Rio Grande do Sul, Brazil, 2020

Variables	n(%)
Acquire new knowledge and have good support for educational actions (yes)	50(31.8)
Have more options for educational actions such as on-site and distance activities (yes)	38(24.2)
Have educational actions for all shifts and working hours (yes)	24(15.3)
Address issues in the area of management (yes)	22(14.0)
Address specific topics for the area of activity (yes)	18(11.5)
Increased participation and contribution by professionals (yes)	13(8.3)
Acquire and improve knowledge to provide qualified care (yes)	7(4.2)
Standardize actions for process alignment (yes)	6(3.6)
Share knowledge for work team update (yes)	6(3.6)
Offer continuing and scheduled education actions (yes)	5(3)
Provide more motivation for knowledge search and leadership development (yes)	5(3)
Value professionals' knowledge (yes)	4(2.4)
Offer in reverse shift and outside the unit of work (yes)	3(1.8)
Participate without burdening co-workers and harming care (yes)	3(1.8)
Offer distance activities and on the institution's systems (yes)	2(1.2)
Offer quality and better prepared actions (yes)	2(1.2)
Structure a teaching hospital with specialization courses (yes)	2(1.2)

## DISCUSSION

Nursing professionals are the main actor in the process of change and improvement for excellence and qualification of practice in the service, insofar as PHE promotes significant learning. In this perspective, PHE contributes, by instigating institutions to transpose the traditional education methodology so that workers reflect on their doing<sup>(6)</sup>.

Among the characteristics that involve the nursing profession, females predominated and the distribution of the nursing team's workforce, represented by nursing technicians. It supports the results of the nursing profile in Brazil, carried out between 2015 and 2016 by the Federal Nursing Council (COFEN - *Conselho Federal de Enfermagem*) and the Oswaldo Cruz Foundation (FIOCRUZ - *Fundação Oswaldo Cruz*), which revealed that 85.1% of nursing professionals were female and 77% were nursing technicians<sup>(16)</sup>. Regarding the mean age, two studies found data similar to that of this current study, which evidenced young adults working in the nursing workforce<sup>(4,17)</sup>.

In this study setting, the search is constant for improvement, which confers nursing staff qualification. There are nursing techniques graduated and in the process of academic training in different areas of knowledge as well as nurses with and in *lato* and *stricto sensu* training. In one study, 92 (33.5%) nursing professionals, who assessed PHE in a public hospital, reported that they were taking some update, improvement and undergraduate course<sup>(18)</sup>.

In relation to the city of residence, 1/4 of the sample resides in municipalities in the Metropolitan Region, which requires a longer time for displacement. An investigation, conducted with 75 nursing professionals from a hospital in the state of Paraná (PR), pointed out that professionals take about ten minutes to move to work, ranging from 5 to 60 minutes<sup>(19)</sup>.

The nursing working time found was greater than five years, reaching 79.1% of participants. In the study that built an array of skills, participants had approximately three years of experience, considering other previous employment relationships<sup>(4)</sup>. Two other studies conducted with nursing professionals on the performance found a similar time with the current study<sup>(17,20)</sup>.

The work regime was 36 hours per week, and the amount of workload was the same in another study, carried out with 35 nursing professionals from a public university hospital in PR<sup>(21)</sup>.

In a study conducted in Portugal, nurses (n=218) have a different weekly workload of 35 to 55 hours<sup>(22)</sup>. The working length day occurs for approximately 1/4 of the sample of participants, around 65 hours per week. In the study conducted with 30 nursing professionals with two jobs, evidence was found, such as negativity, restrictions and suffering experienced by participants, reinforced by socioeconomic factors and working conditions<sup>(23)</sup>. Nursing professionals seek to improve income by expanding their working hours, which expose them to a greater degree to the risks of work accidents due to sleep and rest impairment<sup>(24)</sup>.

It was found that 86.6% of participants attended the institutional educational actions, showing the category engagement. In a public hospital in the countryside of Minas Gerais, 161 (59.3%) nursing professionals reported participating in PHE activities<sup>(18)</sup>. Another study, with 283 nursing professionals, observed that 69.26% had participated in three or more qualifications<sup>(25)</sup>.

The interest in participating in a continuing education program was mostly highlighted by participants. Research conducted at a university hospital in Bahia with 17 nursing professionals revealed that continuing education presents several positive points, such as improvement in quality of care, clarification of daily doubts and updating correct practices<sup>(26)</sup>.

Another investigation with seven nurse educators from a university hospital in the capital of Rio Grande do Sul considered that the existence of an education program in the hospital context allowed for the construction of strengthened collectives, as it promotes significant learning through the sharing of experiences<sup>(9)</sup>.

Studies have used the empathy map tool in different management, entrepreneurship, education and health scenarios<sup>(27-30)</sup>. In health education, it presents itself as a great educational potential, to the extent that it encourages critical reflection in the development of empathy for students by assisting patients<sup>(27)</sup> in non-care situations<sup>(28)</sup> and in the proposition of products, processes, services and solutions in the area of health, nursing and entrepreneurship<sup>(29-30)</sup>. A study conducted with medical students to adapt the empathy map to care practice in patient care indicated the need for use by other health professionals<sup>(27)</sup>.

Using an empathy map allowed nursing professionals to reflect on institutional educational actions, positively presenting the needs, problems and expectations<sup>(15,29-30)</sup>. Thus, it made it

possible to broaden the view of the institution's teaching center to develop coherent strategies, to meet the process of training at work and to expand quality of care and patient safety.

The recognition and appreciation of educational actions were identified by nursing professionals with the application of an empathy map. This tool showed important ideas, reasons, suggestions, considerations and recommendations. Although the sample was stratified, it was possible to observe that the answers were similar among participants, regardless of time of admission and professional category.

The institution's educational actions were considered by participants, as conducting training or training, important and necessary to achieve qualified care. The content approach, aligned with the process and practical applicability, lacks further discussion with the institution management. In an education program of a hospital in southern Brazil, it was revealed that it is still very common for nursing education to follow the traditional modality, with punctual and vertical training<sup>(9)</sup>. Continuing education is paramount for institutions in the face of significant changes, and PHE enables reflection, interaction, exchange of experiences and the construction of knowledge<sup>(31)</sup>.

The implementation and development of permanent educational actions are essential for improving professionals and the institution's processes. This premise was investigated, concluding that improvements arise when it occurs with the constant development for team knowledge improvement and acquisition<sup>(32)</sup>.

Quality is a powerful aspect of educational action, and nurses confirmed in research that it is necessary to plan and define the materials needed for educational actions. They understand that they need to be motivating and attractive to those involved, in order to achieve the support and the initial objective, for improvements in the work process<sup>(33)</sup>.

Among participants' responses, we highlight the approach of educational actions directed to attitude and ethics in the work environment, as well as to provide educational actions for all sectors and work shifts, encouraging participation and contribution so that everyone feels co-responsible and instigated to improve. Nursing professionals aspire to educational actions focused on routines; this was also based on the needs to develop specific technical skills in the area of activity. In this same context, PHE demands for nursing (n=150) were investigated in a hospital in southern Brazil, and it was found that the greatest need was updating on technical skills and specific care routines<sup>(34)</sup>.

The emphasis on the importance still in education was observed by 14 nurses, in addition to the need to develop skills that articulate ethics and moral sensitivity, so that strategies are widely explored, in different scenarios, for the discussion of situations of ethical dilemmas that can affect quality of care<sup>(35)</sup>. These aspects were similarly observed in the present study, in which 11.8% of participants revealed the need for themes with an ethical focus and attitude.

The updating of techniques and processes and the approach to humanization and teamwork were evidenced as essential in the insertion of new employees, which includes in the process of embracement, monitoring and adaptation to institutional values. Spanish nurses pointed out the need for education in hospital areas with greater emotional exhaustion, for better management

of complex situations of daily work routine<sup>(36)</sup>. The insertion of a new employee in the work environment, considering hospital complexity, can generate several learning opportunities for the team by adapting the work process. In terms of continuing the monitoring of professionals and the feedback of educational actions, a research portrayed that participants considered as essential the constant and significant educational activities, especially since their insertion in the workplace<sup>(37)</sup>.

In this study, they highlighted ambivalence, for the offer of educational actions in reverse shift and during labor practice so that it is for all employees, making days and times more flexible, in addition to continuity in monitoring and feedback, for those who put into practice actions recommended and instituted by institutional processes. They stressed that topics more focused on the care area of action should be addressed, according to their peculiarities, to expand participation and significant learning.

The schedule of education actions is essential, as long as they can be scheduled in advance to participate at different times. This same debate was found in the conclusions of two studies, which assessed nurses' skills, and another factor, which influence participation in PHE. Both studies reinforce the rethinking of PHE strategically to serve the entire team in its various work shifts<sup>(18,38)</sup>.

Another aspect revealed by participants was the need to provide distance and on-site actions. The use of distance education is evidenced as relevant for a significant, dynamic, intuitive and flexible learning, in the face of technological advances and professional leading role, for the improvement of processes<sup>(39)</sup>. As for the on-site modality, it is understood that meetings strengthen contact, the sharing of experiences and the construction of significant knowledge in the community. In the scientific literature, it was evidenced that the modalities of on-site and mixed teaching are well assessed by professionals, compared to the distance modality<sup>(40)</sup>.

Frustrations and obstacles in the participation of educational actions prove to be important in the face of barriers, such as overload, work demands, available place and schedules, scattered orientations, insufficient motivation and interest to generate membership. These same arguments were described in a study conducted with nursing professionals, who often did not consider the themes as relevant for: professional development; lack of interest in training; the deficiency of human resources; work overload; clinical complications during the shift; interruptions in continuity of care; and unavailability of schedules. However, it is necessary to encourage, involve and cover the entire team in the institutional PHE, in order to recognize educational practices as essential for the achievement of satisfactory care and management indicators<sup>(34)</sup>.

Improvements in work processes are achieved when engagement by active and collaborative participation is associated with understanding how co-responsible for the very development of work, individual and collective skills. Thus, hearing to professionals promotes the plurality of ideas, which can be assertive or not, establishing a certain understanding about the institution's educational actions. However, proactivity, aligned with professionals' collaborative practice, becomes important for the construction of meaningful learning, with teams hearing about contents necessary for professional development, promoting, synergistically, the leading role in the educational process and the construction of skills<sup>(4,41)</sup>.



The use of active methodologies, such as realistic simulation, was a possibility pointed out by participants. The practice of realistic simulation provides knowledge, self-confidence, communication skills, development of technical skills, teamwork and clinical decision making, demonstrating a significant improvement for qualification of care<sup>(42-43)</sup>.

The application of an empathy map, in fact, allowed participants to reflect on educational actions, so that the assessment valued and recognized institutional efforts. In one study, the elaboration of an infographic for referrals of users in the care network was based on PHE, which made it possible to hear to professionals clarifying doubts and anxieties about the object of the study<sup>(44)</sup>. It is understood that the empathy used by participants allowed them to recognize and understand the other's experiences, taking into account their perspective. Thus, this study demonstrated the relevance of the point of view of hearing to nursing professionals through the description of observations, feelings and perceptions of institutional educational actions.

### Study limitation

The limitations found were the manifestations of some participants, who expressed shyness, apprehension and fear of negatively affecting work, even though anonymous participation was highlighted and without influence in work activities. Forgetfulness and difficulty in absent work during the agreed hours were identified, due to the exhaustive demand for their activities in the care area. To contingency the situation, a new appointment was made. Regarding the closed care areas, the questionnaires were delivered to participants and the completed questionnaire was expected to return according to availability.

### Contributions to nursing

This study contributes to the science of nursing care and education programs in hospital institutions, as it provided support to plan strategies and decision-making based on proven evidence, which demonstrate that: educational actions promote the qualification of care; schedule, dissemination and continuity of

the offer of educational actions are essential; sharing knowledge and knowledge for care and management practice is considered a daily and continuous action; planning of educational actions in the community of all those involved incorporates co-responsibility and encourages leading role in proactive participation.

### CONCLUSIONS

The incentive for the development and improvement of nursing professionals' skills is necessary and immediate. It is admitted that professionals planned and scheduled actions of appreciation are powerful to plan the changes in process alignment, resulting in the achievement of indicators and institutional goals. The results, obtained through an empathy map, showed that the educational actions developed in the study scenario qualify educational actions as adequate, and others indicate the opportunity to improve the educational process, with an increase in active methodologies for professional training based on meaningful learning. Thus, this study showed the importance of applying an empathy map to professionals' reflection-action, and the rethinking of the planning of educational actions more assertive by the institution. Above all, it proved to be relevant as a permanent practice, considering the sharing of experiences and knowledge, as well as the valorization given by the participants themselves, for professional training.

It is recognized that PHE can provide meaningful learning to professionals, offering a space for socialization and sharing of knowledge so that professional training and improvement are constantly complemented and updated. This condition, when recognized by institutional management, can define strategies and monitor indicators to promote safe care for patients and for professionals' work exercise.

### SUPPLEMENTARY MATERIAL

Paz AA, Corrêa CEC, Lopes GP, Antunes AAA, Silva CB, Paulin JN, Oliveira ND, Graeff MS. Aplicação do mapa de empatia na avaliação de ações educativas pelos profissionais de enfermagem [dataset]. 2020 Jun 07 [cited 2021 Set 26] Revista Brasileira de Enfermagem Dataverse. doi: <https://doi.org/10.48331/scielodata.4AFTEO>

### REFERENCES

1. Koerich C, Erdmann AL, Lanzoni GMM. Professional interaction in management of the triad: permanent Education in Health, patient safety and quality. *Rev Latino-Am Enfermagem*. 2020;28:e3379. <https://doi.org/10.1590/1518-8345.4154.3379>
2. Lavich CRP, Terra MG, Arnemann CT, Mello AL, Raddatz M. Health education and permanent education: actions integrating the educational process of nursing. *Rev Baiana Enferm*. 2018;32:e24719. <https://doi.org/10.18471/rbe.v32.24719>
3. Ministério da Saúde (BR). Política Nacional de Educação Permanente em Saúde: o que se tem produzido para o seu fortalecimento[Internet]. Brasília: Ministério da Saúde; 2018 [cited 2020 May 11]. Available from: [http://bvsmis.saude.gov.br/bvs/publicacoes/politica\\_nacional\\_educacao\\_permanente\\_saude\\_fortalecimento.pdf](http://bvsmis.saude.gov.br/bvs/publicacoes/politica_nacional_educacao_permanente_saude_fortalecimento.pdf)
4. Leal LA, Henriques SH, Castro FFS, Soares MI, Bragança C, Silva BR. Construction of the matrix of individual nursing competences in surgical units. *Rev Bras Enferm*. 2020;73(6):e20190584. <https://doi.org/10.1590/0034-7167-2019-0584>
5. Almeida RO, Ferreira MA, Silva RC. Intensive care in non-critical units: representations and practices of novice graduate nurses. *Texto Contexto Enferm*. 2020;29:e20190089. <https://doi.org/10.1590/1980-265x-tce-2019-0089>
6. Kleba ME, Hoefle N, Oliveira GM, Rodrigues OCC. Strengthening the leadership of the Commission on Education-Service Integration for permanent health education. *Rev. Gaucha. Enferm*. 2017;38(4):1-9. <https://doi.org/10.1590/1983-1447.2017.04.2016-0008>

7. Araújo MS, Medeiros SM, Costa EO, Oliveira JSA, Costa RRO, Sousa YG. Analysis of the guiding rules of the nurse technician's practice in Brazil. *Rev Bras Enferm.* 2020;73(3):e20180322. <https://doi.org/10.1590/0034-7167-2018-0322>
8. Fernandes JD, Silva RMO, Teixeira GAS, Florêncio RMS, Silva LS, Freitas CM. Nursing education: mapping in the perspective of transformation. *Rev Bras Enferm.* 2020;73(3):e20180749. <https://doi.org/10.1590/0034-7167-2018-0749>
9. Flores GE, Oliveira DLL, Zocche DAA. Permanent education in the hospital context: the experience that brings new meaning to nursing care. *Trab Educ Saúde.* 2016;14(2):487-504. <https://doi.org/10.1590/1981-7746-sip00118>
10. Nakagawa M. Ferramenta: mapa de empatia para empreendedores[Internet]. São Paulo: Instituto de Ensino e Pesquisa; 2019[cited 2021 Jan 25]. Available from: [http://business.org.br/businessApps/conteudos/10ferramentas/Estrategia/Mapa\\_de\\_empatia\\_para\\_empreendedores.pdf](http://business.org.br/businessApps/conteudos/10ferramentas/Estrategia/Mapa_de_empatia_para_empreendedores.pdf)
11. Gray D, Brown S, Macanufu J. *Gamestorming. A playbook for innovators, rulebreakers, and changemakers.* Massachusetts: O'Reilly Media; 2010.
12. Brown T. *Design Thinking: uma metodologia poderosa para decretar o fim das velhas ideias.* Rio de Janeiro: Altas Books Editora; 2017.
13. Cheng A, Kessler D, Mackinnon R, Chang TP, Nadkarni VM, Hunt EA, et al. Reporting guidelines for health care simulation research: extensions to the CONSORT and STROBE Statements. *Simul Healthc.* 2016;11(4):238-48. <https://doi.org/10.1097/SIH.000000000000150>
14. Thompson NM, Uusberg A, Gross JJ, Chakrabarti B. Empathy and emotion regulation: an integrative account. *Prog Brain Res.* 2019;247:273-304. <https://doi.org/10.1016/bs.pbr.2019.03.024>
15. Cavalcanti CC, Filatro A. *Design thinking: na educação presencial, a distância e corporativa.* São Paulo: Saraiva; 2017.
16. Machado MH, Oliveira ES, Lemos WR, Wermelinger MW, Vieira M, Santos MR, et al. Pesquisa perfil da enfermagem no Brasil: relatório final[Internet]. Rio de Janeiro: Conselho Federal de Enfermagem; Fundação Oswaldo Cruz; 2017[cited 2020 Nov 21]. Available from: <http://www.cofen.gov.br/perfilenfermagem/pdfs/relatoriofinal.pdf>
17. Bordignon M, Monteiro MI. Predictors of nursing workers' intention to leave the work unit, health institution and profession. *Rev Latino-Am Enfermagem.* 2019;27:e3219. <https://doi.org/10.1590/1518-8345.3280.3219>
18. Tibola TSA, Cordeiro ALPC, Stacciarini TSG, Engel RH, Costa DG, Haas VJ. Factors that influence the participation of nursing professionals in permanent education in public hospital. *Enferm Foco.* 2019;10(2):11-6. <https://doi.org/10.21675/2357-707X.2019.v10.n2.2044>
19. Souza VS, Silva DS, Lima LV, Teston EF, Benedetti GMS, Costa MAR, et al. Quality of life of nursing professionals working in critical sectors. *Rev Cuid.* 2018;9(2):2177-86. <https://doi.org/10.15649/cuidarte.v9i2.506>
20. Carvalho PCF, Januário GC, Monteiro DAT, Toffano SEM. Nursing staff knowledge and attitudes about safe device catheters in a Brazilian hospital. *Rev Enferm UFSM.* 2019;9:1-17. <https://doi.org/10.5902/2179769234767>
21. Girardi C, Feldhaus C, Oliveira JLC, Schran LS, Luz MP, Tonini NS et al. Sizing of nursing staff in hospital emergency room. *Rev. Adm Saúde.* 2018;18(71):71-95. <https://doi.org/10.23973/ras.71.95>
22. Silva CINP, Potra TMFS. Job satisfaction of nurses in a local health unit: determinants of satisfaction. *Rev Enf Ref.* 2019;IV(20):117-28. <http://doi.org/10.12707/RIV18077>
23. Soares SSS, Lisboa MTL, Queiroz ABA, Silva KG, Leite JCRAP, Souza NVDO. Double working hours in nursing: difficulties faced in the labor market and daily work. *Esc Anna Nery.* 2021;25(3):e20200380. <https://doi.org/10.1590/2177-9465-ean-2020-0380>
24. Lopes SS, Batista KM, Bringuente MEO, Luciano LS. Consecutive 24-hour working day and implication for the office of nursing. *Ciênc Cuid Saúde.* 2018;17(3):e37244. <http://doi.org/10.4025/ciencucidsaude.v17i3.37244>
25. Mota RS, Silva VA, Costa JCB, Barros A, Gomes BP, Araújo RPA. Participation in continuing education activities and changes in nursing care practices. *Rev Baiana Enferm.* 2018;32:e26485. <https://doi.org/10.18471/rbe.v32.26485>
26. Jesus MC, Silva VA, Mota RS, Costa JCB, Mendes AS, Oliveira MJ. Repercussions of permanent education in the assistance practices of nursing professionals. *Rev Baiana Enferm.* 2019;33:e27555. <https://doi.org/10.18471/rbe.v33.27555>
27. Peixoto JM, Moura EP. Health empathy map: creation of an instrument for empathy development. *Rev. Bras. Educ. Med.* 2020;44(1):e030. <https://doi.org/10.1590/1981-5271v44.1-20190151>
28. Sousa LUR, Moura EP, Peixoto JM, Aredes JS, Said CC. The health empathy map as an instrument of reflection in a non-care teaching scenario. *Rev Bras Educ Med.* 2021;45(4):e195. <https://doi.org/10.1590/1981-5271v45.4-20210224>
29. Guerrero CAZ, Pabón DMR. Design thinking as a tool to prevent gender-based violence among university students. *Rev Guillermo Ockham.* 2021,19(2):293-306. <https://doi.org/10.21500/22563202.5316>
30. Paiva ED, Zanchetta MS, Londoño C. Innovation in thinking and scientific action: the method of Design Thinking for nursing. *Esc Anna Nery.* 2020;24(4):e20190304. <https://doi.org/10.1590/2177-9465-EAN-2019-0304>
31. Cardoso RB, Paludeto SB, Ferreira BJ. Continuing education program for the use of health technologies: perception of health professionals. *Rev Bras Ciênc Saúde.* 2018;22(3):277-284. <https://doi.org/10.22478/ufpb.2317-6032.2018v22n3.35054>
32. Santo IME, Santo PME, Fontes FLL, Santos MCSP, Freitas EP, Silva Neta AS, et al. Nurses' knowledge about the working process in the Central Sterilization Material. *REAS.* 2019;20:e403. <https://doi.org/10.25248/reas.e403.2019>
33. Aguiar VFF, Barros AKR, Barral DM, Silva JA, Cardoso TTS, Lima FC, et al. An educational experience in health with health-care professionals to identify vulnerable elderly groups. *REAS.* 2019;28:e932. <http://doi.org/10.25248/reas.e932.2019>

34. Sade PMC, Peres AM, Brusamarello T, Mercês NNA, Wolff DG, Lowen IMV. Continuous nursing education requirements in a teaching hospital. *Cogitare Enferm.* 2019;24:e57130. <https://doi.org/10.5380/ce.v24i0.57130>
  35. Moreira DA, Ferraz CMLC, Costa IP, Amaral JM, Lima TT, Brito MJM. Professional practice of nurses and influences on moral sensitivity. *Rev Gaucha Enferm.* 2020;41:e20190080. <https://doi.org/10.1590/1983-1447.2019.20190080>
  36. Sanclemente-Vinue I, Elboj-Saso C, Iñigues-Berrozpe T. The voice of nurses as a means to promote job engagement. *Rev Latino-Am Enfermagem.* 2019;27:e3208. <https://doi.org/10.1590/1518-8345.3193.3208>
  37. Andrade BRP, Barros FM, Lúcio HFA, Campos JF, Silva RC. Training of intensive care nurses to handle continuous hemodialysis: a latent condition for safety. *Rev Bras Enferm.* 2019;72(1):105-13. <https://doi.org/10.1590/0034-7167-2018-0013>
  38. Soares MI, Leal LA, Resck ZMR, Terra FS, Chaves LDP, Henriques SH. Competence-based performance evaluation in hospital nurses. *Rev Latino-Am Enfermagem.* 2019;27:e3184. <https://doi.org/10.1590/1518-8345.3173.3184>
  39. Sade PMC, Peres AM, Zago DPL, Matsuda LM, Wolff LDG, Bernardino E. Assessment of continuing education effects for nursing in a hospital organization. *Acta Paul Enferm.* 2020;33:1-8. <http://doi.org/10.37689/acta-ape/2020ao0023>
  40. Muñoz-Castro FJ, Valverde-Gamero E, Herrera-Usagre M. Predictors of health professionals' satisfaction with continuing education: A cross-sectional study. *Rev Latino-Am Enfermagem.* 2020;28:e3315. <https://doi.org/10.1590/1518-8345.3637.3315>
  41. Silva LAA, Soder RM, Oliveski CC, Frizzo MN. Program for improvement and revitalization of knowledge in nursing & health. *Interface Comun Saúde Educ.* 2019;22(65):517-26. <https://doi.org/10.1590/1807-57622016.0629>
  42. Linn AC, Caregnato RCQ, Souza EN. Clinical simulation in nursing education in intensive therapy: an integrative review *Rev Bras Enferm.* 2019;72(4):1061-70. <https://doi.org/10.1590/0034-7167-2018-0217>
  43. Cogo ALP, Lopes EFS, Perdomini FRI, Flores GE, Santos MRR. Building and developing realistic simulation scenarios on safe drug administration. *Rev Gaucha Enferm.* 2019;40:e20180175. <https://doi.org/10.1590/1983-1447.2019.20180175>
  44. Dorneles LL, Martins VP, Morelatoc CS, Goes FSN, Fonseca LMM, Camargo RAA. Development of an animated infographic on Permanent Health Education. *Rev Latino-Am Enfermagem.* 2020;28:e3311. <https://doi.org/10.1590/1518-8345.3536.3311>
-