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BLOG NO ENSINO DA RESSUSCITAÇÃO CARDIOPULMONAR: UMA FERRAMENTA PARA A FORMAÇÃO DO ENFERMEIRO

BLOG IN THE TEACHING OF CARDIOPULMONARY RESUSCITATION: A TOOL FOR THE NURSE'S EDUCATION

BLOG EN LA ENSEÑANZA DE LA REANIMACIÓN CARDIOPULMONAR: UNA HERRAMIENTA PARA LA FORMACIÓN DE LA ENFERMERA

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RESUMO

Objetivo: Desenvolver e validar um *blog* para o ensino e a aprendizagem da ressuscitação cardiopulmonar do adulto voltado à formação do enfermeiro. **Método:** Pesquisa aplicada, de produção tecnológica, que abordou o desenvolvimento de um *blog* sobre a ressuscitação cardiopulmonar do adulto no ambiente intra e extra-hospitalar para enfermagem. Na elaboração, cumpriram-se as fases de análise; *design*; desenvolvimento, implementação e avaliação do *blog.* A validação desse ambiente virtual de aprendizagem envolveu 11 profissionais enfermeiros da área de urgência e emergência e três especialistas de informática, totalizando 14 participantes. **Resultados:** Elaborou-se uma ferramenta virtual pedagógica de ensino e aprendizagem, denominada "*Blog* da Ressuscitação Cardiopulmonar". A avaliação dos três especialistas em informática abordou os domínios; tempo de resposta, qualidadede, interface e ferramentas e recursos, abrangendo 33 critérios, considerados excelentes pela maioria. Os *experts* em enfermagem avaliaram 32 critérios entre aspectos educacionais, a interface do ambiente virtual e os recursos didáticos, apontados, predominantemente, como excelentes. **Conclusão:** Neste estudo, elaborou-se e validou-se um *blog* para o ensino da ressuscitação cardiopulmonar de adultos, representando um arcabouço de evidências científicas atualizadas, fidedignas, interativas e tecnológicas para a enfermagem, que poderá ser replicado em outros ambientes de aprendizagem. **Descritores:** Reanimação Cardiopulmonar; Educação em Enfermagem; Estratégias; Aprendizagem; Blog.

ABSTRACT

Objective: To develop and validate a blog for the teaching and learning of cardiopulmonary resuscitation of the adult focused on the nurse's education. **Method:** Applied research, of technological production, which addressed the development of a blog about the cardiopulmonary resuscitation of adults in the intra and extra-hospital environment for nursing. The elaboration followed the stages of analysis, design, development, implementation and evaluation of the blog. The validation of this virtual learning environment involved 11 nurses from the area of urgency and emergency and three experts of informatics, totaling 14 participants. **Results:** A virtual educational tool was created for teaching and learning, called "Blog of Cardiopulmonary Resuscitation". The evaluation of three experts in informatics approached the fields: response time, quality, interface and tools, and resources, covering 33 criteria, considered excellent by the majority. The experts in nursing evaluated 32 criteria among educational aspects, the interface of the virtual environment and the teaching resources, pointed out, predominantly, as excellent. **Conclusion:** In this study, a blog for the teaching of cardiopulmonary resuscitation of adults was elaborated and validated, representing a framework of updated scientific, reliable, interactive and technological evidence for nursing, which can be replicated in other learning environments.

Descriptors: Cardiopulmonary Resuscitation; Education, Nursing; Strategies; Learning; Blog.

RESUMEN

Objetivo: Desarrollar y validar un blog para la enseñanza y el aprendizaje de la resucitación cardiopulmonar del adulto centrado en la educación de la enfermera. **Método:** Investigación aplicada, de producción tecnológica, que abordó el desarrollo de un blog acerca de las maniobras de resucitación cardiopulmonar de adultos en el medio ambiente intra y extra-hospitalario de enfermería. En la elaboración, cumplieron las fases de análisis, diseño, desarrollo, implementación y evaluación del blog. La validación de este entorno virtual de aprendizaje envolvió 11 enfermeras en el área de urgencia y emergencia, y tres expertos de la informática, con un total de 14 participantes. **Resultados:** Se elaboró un instrumento educativo virtual de enseñanza y aprendizaje, llamado "Blog de la resucitación cardiopulmonar". La evaluación de tres expertos en informática se acercó a los campos; el tiempo de respuesta, la calidad, la interfaz y las herramientas y recursos, cubriendo 33 criterios, considerados excelentes por la mayoría. Los expertos en enfermería evaluaron 32 criterios entre aspectos educativos, la interfaz del entorno virtual y los recursos didácticos, señalando, predominantemente, como excelente. **Conclusión:** En este estudio, se elaboró y validó un blog para la enseñanza de la resucitación cardiopulmonar de adultos, lo que representa un marco de evidencia científica actualizada, confiable, interactiva y tecnológica para la enfermería, que pueda ser replicada en otros entornos de aprendizaje.

Descriptores: Reanimación Cardiopulmonar; Educación en Enfermería; Estrategias; Aprendizaje; Blog

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INTRODUCTION

The current days are permeated by a social technological revolution from the mass use of new resources to propagate information, especially through the internet in the daily life of individuals, the proliferation of social networks and educational blogs⁽¹⁻²⁾.

The blog is considered a virtual environment structured into small blocks, called "posts", which cover texts, images and media objects, as well as the presence of links for user navigation.³ This digital tool can contemplate the process of teaching and learning, and represent an attractive and easy-access cross-sectional pedagogical axis for students and professionals⁽¹⁻²⁾

Also emerging in health education, the blog is represented by a disruptive technological innovation model, i.e., an educational product simple, convenient and accessible for the user, which promises to accompany and overcome the books produced in mass and the traditional lectures for health education⁽⁴⁾.

Specifically in nursing, among the challenges for the rupture of the traditional paradigm of education still in force, there is the adaptation to the demands of a new generation of students, with expectations of differentiated learning, characterized as "Net generation", and the difficulty of appropriation, by the faculty, of technology involved in the teaching and learning process⁽⁵⁾.

In this perspective, adopting the use of blogs as a complementary tool for teaching in nursing can cause significant changes in how, where and when students have access to educational materials relevant to the development of clinical skills, mainly for elucidation of complex issues, such as the cardiopulmonary resuscitation (CPR)⁽⁶⁾.

In the process of teaching and learning of the CPR for nursing, the adoption of courses and training that do not address innovative strategies and technology is frequent, impacting negatively on the development of knowledge, skills and attitudes and retention of learning for nursing students and professionals⁽⁷⁾.

Despite the use of blogs for the teaching of the CPR be recommended by the literature and by the American Heart Association (AHA), main entity focused on the dissemination of knowledge about cardiovascular diseases and CPR, scientific studies, well prepared methodologically, intending to develop blogs are still incipient⁽⁸⁻¹⁰⁾.

Considering the potential of the blog as educational resource and innovative virtual tool to facilitate the learning of the CPR in nursing, this study aimed to develop and validate a blog for the teaching and learning of the CPR in adults focused on the nurse's education.

METHOD

This is an applied research, of technological production, which addressed the development of a blog about CPR in adults, in the intra and extrahospital environment, for the teaching and learning process of nursing undergraduate students.

The research was developed in the Nursing School of Ribeirão Preto of the University of São Paulo (USP), and its population was 11 nurse practitioners, experts in the area of urgency and emergency and/or nursing professors, who teach contents of this nature, for the evaluation of the blog virtual learning environment (VLE), and three experts in the area of informatics, totaling 14 participants.

The experts were identified by the Lattes Curriculum Platform, based on the criteria of Fehring⁽¹¹⁾ for selection, which consider: 4 points for Master's Degree in Nursing; 1 point for Master's Degree in Nursing, with a dissertation on the area of interest in the study; 2 points for a doctoral thesis in the area of study; 1 point for clinical practice for at least 1 year in the area of interest; 2 points for a certificate of clinical practice (specialization), in the area of interest; 2 points for publication of research relevant to the area of interest; 2 points for publication of article about the topic in a journal of reference. The inclusion criteria were: being a nurse, specialist in the area of urgency and emergency or professor of this theme, and/or professional specialist in the area of informatics with an emphasis on creation of VLE, and a minimum sum of 5 points, as the criteria of Fehring⁽¹¹⁾.

Exclusion criteria were professionals who were on vacation or leave in the period defined by the researcher for the evaluation of instruments and those who did not attend the assessment within the specified period of 15 days after receiving the instruments and accepting the evaluation.

The VLE was produced by a team composed of a system programmer and web designer, and by the researcher. In this way, the following phases were accomplished: analysis, design, development, implementation and evaluation⁽¹²⁾.

In the first stage, of analysis, there was a review of the literature, in the period from March to June 2018, on databases PubMed®/MEDLINE®, Latin American and Caribbean Health Sciences Literature (LILACS), Scopus, Cumulative Index to Nursing and Allied Health Literature (CINAHL) and Web of Science, and in the documents relating to the international guidelines for CPR and emergency cardiovascular care (ECC) The American Heart Association (AHA)(8) to prepare de guide relevant to the content of the blog proposed, based on scientific evidence.

Then, the content was divided into sequential and complementary modules, settling the following structure: content of the module; references; links/material for directed study; forum/chat and e-mail. Subsequently, there was the creation of the educational goals, from Bloom's taxonomy, which considers the cognitive, affective and psychomotor domains for learning. (13)

The following learning goals related to the cognitive domain were adopted: permanent update of CPR guidelines; understand the definition and the mechanisms of cardiorespiratory arrest (CRA); know the anatomy the respiratory and cardiocirculatory physiology; know the risk factors for CPR; understand the rhythms of CPR; understand the intra and extra-hospital chain of survival; identify and understand the materials and equipment used in the CPR (emergency cart, devices for airway and defibrillator); and understand the science of realistic simulation.

The learning objectives that comprised the psychomotor domain were: educate to acquire skills and knowledge acquisition on CPR in adults; and cause changes in the behavior of the leaner, for the high quality care of CPR in adults. The affective domain addressed the following intentions: realize the importance of the study of the theme for the professional life; influence the favorable attitude to seek and acquire knowledge; share respect in interpersonal relationship, always responding to other participants when questioned contributions and receiving from other participants analytically; provide bior multidirectional communication with the interaction student-content, users-content and experts on the subject.

In the second phase, of design, there was the reformulation and expansion of all didactic material determined for the VLE, selecting the following modules: what is CPR; pathophysiology of CPR; risk factors for CPR; rhythms of CPR; chain of survival (intra and extra-hospital); defibrillator; materials and devices for the care of CPR (medicines, emergency cart and airway devices); registration of CPR; simulated environment care (intra and extra-hospital environment) and content folders.

In this stage, there was also the creation of a storyboard to define the primary elements of screen, which comprised the Blog of CPR, aiming to guide the development process by a professional web designer, considering the following elements to the layout: source ("Libre Franklin", "Helvetica Neue", "Helvetica", "Arial" and "Sans-Serif"); font size 14; color scheme of white, gray and red; device-adaptive screen size; average size of video files (videos allocated - on demand - on YouTube platform); size of image files (image files with resolution of 72dpi, in .JPG and .PNG - compressed - with a maximum size of 200 KB); elements of layout used (CMS Word Pressver are free, using free template Twenty Seventeen, version 2.2); location of the horizontal menu at the top of the page; vertical scroll bar.

In the third phase of development, the content for the teaching and learning process of CPR in adults was structured, associating images, videos of CPR intra and extra-hospital call, conducted by researchers from the postgraduate program, at the Nursing School of Ribeirão Preto, USP and photographs belonging to the researcher's personal file, in addition to the provision of useful links, in the intention of making the blog dynamic, interactive and based on reliable scientific evidence.

In the fourth phase, implementation, there was the development of the web-based VLE and the blog in Word Press version, configured as a platform used as a basis for the construction of blogs, with versions of hosting and free and paid upgrades. Finally, the last stage of preparation of the blog, the evaluation, was performed by specialists in computer technology and experts in nursing, using two validated instruments⁽¹⁴⁾.

The instrument intended for experts in informatics¹⁴ comprises three areas analyzed in a Likert scale with a score from 1 to 3, meaning unsatisfactory (1 point), satisfactory (2 points) and excellent (3 points). In the topics assessed as unsatisfactory, they were guided to comment or justify in the field "Considerations", aiming to implement improvements and adaptations in the CPR VLE blog.

The first area of this instrument referred to

the response time, used to assess issues of cyberworthiness, accessibility, system feedback to the user. The second area covered the quality of interface to evaluate the visual aspects or design of the VLE, such as colors, menu, buttons and other elements. The third area, tools and resources, evaluated the type, the presentation and the functioning of the system tools, such as forum, e-mail and links.

The second instrument⁽¹⁴⁾ was intended to nursing experts and divided into three domains. The first, called "educational aspects", aimed to evaluate the proposed theme; the coherence of educational goals, texts and hypertexts; the user's autonomy; and the teaching resources employed. "interface second domain, of the environment", focused on evaluating items such as cyberworthiness, accessibility and design for the environment. The third domain, "teaching resources", evaluates the interactivity of the system, the functionality of didactic resources and screen resources. For online submission of forms of evaluation, the virtual application Google Docs

was used.

The data obtained were organized by evaluator and issues in absolute numbers and percentages, exported as a spreadsheet to Microsoft Excel® 2013, with dual typing, by two different researchers, analyzing them through descriptive statistics on the program Statistical Package for Social Sciences (SPSS), version 23.

For compliance with ethical precepts, this study was submitted to and approved by the Research Ethics Committee at the Nursing School of Ribeirão Preto, USP, protocol CAAE: 99791118.4.0000.5393, following the Resolution 466/2012 of the National Health Council (NHC), as accepted by the participants' online Informed Consent Form.

RESULTS AND DISCUSSION

The VLE was as a blog, called CPR Blog (http://www.blogdarcp.com.br). After typing the VLE address, the user had access to the home page of the blog, as shown in Figure 1.

Figure 1 – Initial screen of the CPR Blog. Ribeirão Preto-SP, 2019.



Source: data obtained from the study, 2020

The menu of the blog was exposed, horizontally, in the upper part of the screen, comprising the following buttons: Presentation, Highlights, Modules, Useful links, Tips for study, Courses and events, and Contact.

The proposal of the first screen, the presentation of the blog, was to allow for a visual call that corresponded to the identity of the subject. The button "Highlights" assured access to posts

published by the coordinators of the blog, with themes and updates on the science of CPR.

In the contents present in "Modules", the user developed the knowledge on the call of CPR in adults, providing, in each unit, information based on the guidelines of the American Heart Association⁽⁸⁾ and educational videos on the call of a CPR. At the end of the contents of each module, a list of updated references on the subject studied and external links were made available, to support

and validate the information. The buttons "useful links" and "tips for study" gathered all the external links selected for study of CPR.

The button "courses and events" covered courses and events that happen along the year. National and international congresses of relevance in the area would be listed for that users could be in constant update. The button "Contact" set up a dynamic way for users to contact the authors of the blog, containing the name, e-mail address, subject and message content that would be sent to the e-mail blogrcpusp@gmail.com.

Regarding the evaluation and validation of the CPR VLE Blog for layout and content, firstly, the profile of selected experts was identified, according to their training area, length of professional experience in the field, greatest degree and main current activity.

The experts in informatics presented distinct training and current activity, namely: Bachelor's Degree in computing, system analysis

and information technology, exercising, currently, consulting functions, systems analysis and development, and web development. The shortest time of experience was 8 years and the highest was 20 years, and the largest degree was specialist.

Concerning the profile of nursing experts, the shortest length of professional experience was 7 years and the longest, 36 years. The smallest degree was Masters and the highest, Post-Doctorate, with the majority PhD in the area of urgency and emergency, and the current main activity exercised was nursing teaching.

Table 1 exposes the evaluation of the blog proposed by the experts in informatics, in relation to the domains "response time", "interface quality" and "tools and resources", pointing to the number and percentage of professionals who considered unsatisfactory, satisfactory or excellent each criterion approached.

Table 1 – Evaluation of the CPR Blog, according to the experts in informatics, considering its domains. Ribeirão Preto-SP, 2019. (n=3)

Domains and criteria	<u>Evaluation</u>		
	Unsatisfactory	Satisfactory	Excellent n (%)
	n (%)	n (%)	ν.
Domain 1: response time			
Cyberworthiness	0	1 (33.3)	2 (66.7)
Accessibility	0	0	3 (100)
Boot process	0	0	3 (100)
Display next screen	0	1 (33.3)	2 (66.7)
Display previous screen	0	1 (33.3)	2 (66.7)
Domain 2: interface quality			
Simulation	0	1 (33.3)	2 (66.7)
Use of space	0	0	3 (100)
Screen format	0	1 (33.3)	2 (66.7)
Ease of use	0	0	3 (100)
Design	0	1 (33.3)	2 (66.7)
Navigation buttons	0	2 (66.7)	1 (33.3)
Color scheme	0	0	3 (100)
Figures	0	1 (33.3)	2 (66.7)
Photos	0	2 (66.7)	1 (33.3)
Videos	0	2 (66.7)	1 (33.3)
"Sounds	0	2 (66.7)	1 (33.3)
Texts	0	0	3 (100)
Error messages	0	1 (33.3)	2 (66.7)
Menu (layout)	0	1 (33.3)	2 (66.7)
Menu (sequence)	0	1 (33.3)	2 (66.7)
Identification of pages	0	1 (33.3)	2 (66.7)
Sound button	0	2 (66.7)	1 (33.3)
Internal links	0	2 (66.7)	1 (33.3)
External Links	0	2 (66.7)	1 (33.3)
Buttons (highlight)	0	1 (33.3)	2 (66.7)
Font	0	1 (33.3)	2 (66.7)
Headers	0	1 (33.3)	2 (66.7)
Icons	0	0	3 (100)
Informational density	0	1 (33.3)	2 (66.7)
Home	0	1 (33.3)	2 (66.7)

Domain 3: tools and resources			
Forum (chats)	1 (33.3)	1 (33.3)	1 (33.3)
E-mail	0	0	3 (100)
Links	0	1 (33.3)	2 (66.7)

Source: data obtained from the study, 2020.

The experts in informatics assessed 33 criteria of the CPR VLE Blog. The domain of response time encompassed five criteria, considered excellent by most evaluators. No criterion was regarded unsatisfactory. The quality of the interface covered 25 criteria, and most evaluators considered excellent. In the tools and resources domain, composed of three criteria, most evaluators considered it excellent; however, the item "forum" was considered unsatisfactory

and could be improved. The experts in informatics suggested, especially, the improvement of the cyberworthiness for internal links, the improvement of accessibility displaying the next screen and previous screen, and the incorporation of forum postings. The evaluation of the CPR Blog, by nursing experts, involved educational aspects, interface of the environment and didactic resources, shown in table2.

Table 2 - Evaluation of the CPR Blog, according to nursing experts, considering its domains. Ribeirão Preto-SP, 2019. (n=11).

Domain 1: Educational aspects	Unsatisfactory n (%)	Satisfactory n (%)	Excellent n (%
Theme relevance	0	0	11 (100)
Goals	0	2 (18.2)	9 (81.8)
Texts/ hypertexts			
Depth of approach	1 (9.1)	2 (18.2)	8 (72.7)
Clarity	0	1 (9.1)	10 (90.9)
Coherence	0	0	11 (100)
Relevance of vocabulary	0	2 (18.2)	9 (81.8)
Concept update and accuracy	0	2 (18.2)	9 (81.8)
Relevance of links	0	1 (9.1)	10 (90.9)
Updated and pertinent references	1 (9.1)	1 (9.1)	9 (81.8)
Autonomy	0	0	11 (100)
Consistency of resources	0	1 (9.1)	10 (90.9)
Relevance of resources	0	1 (9.1)	10 (90.9)
Resource types	0	0	11 (100)
Domain 2: Environment interface			
Cyberworthiness	0	4 (36.4)	7 (63.6)
Accessibility	0	2 (18.2)	9 (90.9)
Menu	0	4 (36.4)	7 (63.6)
Icons	0	1 (9.1)	10 (90.9)
Buttons	0	1 (9.1)	10 (90.9)
Screen design	0	3 (27.3)	8 (72.7)
Colors	0	2 (18.2)	9 (81.8)
Font	0	2 (18.2)	9 (81.8)
Informational density	0	4 (36.4)	7 (63.6)
Domain 3: Didactic resources			
Interactivity	0	4 (36.4)	7 (63.6)
Presentation of resources	0	0	11 (100)
Figures	0	3 (27.3)	8 (72.7)
Sounds	0	3 (27.3)	8 (72.7)
Photos	0	1 (9.1)	10 (90.9)
Simulation	0	3 (27.3)	8 (72.7)
Videos	0	1 (9.1)	10 (90.9)
External links	0	1 (9.1)	10 (90.9)
Internal links	0	2 (18.2)	9 (81.8)
Hypertexts	0	1 (9.1)	10 (90.9)
Forum (chats)	3 (27.3)	0	8 (72.7)
E-mail	0	1 (9.1)	10 (90.9)

Source: data obtained from the study, 2020.

Of the 32 topics assessed by nursing

experts, the majority was considered excellent.

The educational aspects domain presented unsatisfactory notes on the criteria "depth of approach" and "relevant updated references", making the appropriate adjustments, both in the field "teaching resources" and, more specifically, in the criterion "forums and chats", also signaled as unsatisfactory and revised for the excellence of the CPR blog.

The nurses performed considerations about the depth of the approach of the subject, relevance of vocabulary, updated references, figures and the use of the forum, which also generated new evaluation and suitability by the researcher.

The nurse's primary role is health education, which should be guided in attractive and innovative pedagogical approaches⁽¹⁵⁾ In this perspective, the adoption of educational blogs is an option of easy employability and access, pleasant interface, didactic, which allows posting from a simple text until complex constructions⁽¹⁶⁾.

In the nursing area, technological strategies of teaching and learning are in a great development, although the production on the existing educational technologies, and the construction and validation of virtual learning objects became significant only from the year 2008⁽¹⁶⁻¹⁷⁾.

The quality presented in innovative educational tools for the teaching of the CPR enables self-directed learning, without time, place or personal restrictions, which are the main challenges of the current traditional nursing courses, which makes the blog a promising virtual learning object in the development of digital education⁽¹⁸⁾.

The experts in informatics responsible for evaluating the blog in question presented training and professional degree in line with the proposal and a sufficient experience length, demonstrating a broad knowledge and grasp of the subject.

The experience of experts in informatics to evaluate the layout and the content of web platforms and blogs of scientific dissemination, as virtual learning space, allow maintaining the quality of their drafting process, allowing for the construction of a trustworthy and reliable tool⁽¹⁸⁾.

With the same intent, the nursing experts selected also demonstrated length of professional experience consistent with the proposal, and the fact that most of them are nursing professors contributed to the ease and accuracy in the evaluation process of this educational tool.

The use of computational tools in the

teaching and learning process occurs in an expressive manner in nursing undergraduate courses, opening the doors for use of technologies and indicating statistically significant results, supporting the adoption of this educational resource⁽¹⁹⁾.

Quantitative study of exploratory and descriptive nature carried out with 14 students from the eighth semester of a nursing course, in a regional university, located in northwestern Rio Grande do Sul, aimed to identify the influence of a blog on the teaching of mechanical ventilation. The blog contributed positively to the teaching and learning construction and process for nursing, increasing students' knowledge and motivating them⁽²⁰⁾.

Concerning the effectiveness and the motivation of the use of blogs to the nursing teaching of study, an experience report, performed in a public university in the state of Ceará, involving professors and students of Masters in Health, on the elaboration and implementation of an educational blog, in this context, evidenced the participants' satisfaction in the use of this tool, recommending it as current educational practice, contextualized and interdisciplinary⁽²¹⁾.

CRP is an event that demands from nursing professionals the scientific knowledge and technical ability to act in such a situation, being recommended constant updates and the scientific deepening on the subject, which can be facilitated by technological and innovative educational tools, such as the blog^(8,22).

A research conducted on the hybrid teaching of CPR with support of educational blog at University of Rio Grande do Norte, open to the population, identified the use of this pedagogic resource, used in the online modality, as important, comprehensive and impactful, before the reports identified by participants, considering the mechanism practical and attractive for the dissemination of knowledge⁽²³⁾.

Thus, the highlight is the viability of blogs to the nursing teaching and learning process and in the teaching of the CPR towards the technological digital society, which demands subjects and knowledge that cooperate, mutually, to solve complex problems, in this world of almost immediate access to information⁽²³⁻²⁵⁾.

CONCLUSION

A virtual educational tool was obtained for teaching and learning called CPR Blog, about the

science of cardiopulmonary resuscitation in adults, developing the stages of analysis, design, development, implementation and evaluation, in addition to the validation of layout and content of this contemporary learning object.

The main limitations were the lack of evaluation of the blog by Nursing students and the scarcity of studies aiming to develop and validate educational blogs for nursing, especially regarding the CPR.

More experimental researches should be developed, well delineated, intending to test the effectiveness of blogs on the teaching and learning process of cardiopulmonary resuscitation for nursing.

This research contributes to science, assistance and education in nursing, by presenting a tool for the teaching of CPR, constituting as a new and important aspect in this context, demonstrating the methodology of elaboration and validation, which can be replicated in other learning environments.

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