



## Development of an online nursing management course: successful experience between Brazil and Portugal

Desenvolvimento do curso de gerenciamento em enfermagem  
on-line: experiência exitosa entre Brasil e Portugal

Desarrollo de la gestión de curso online de enfermería:  
experiencia de éxito entre Brasil y Portugal

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### ABSTRACT

**Objective:** To describe the experience of planning and developing online refresher courses in nursing management for nurses in the contexts of Brazil and Portugal. **Method:** The instructional design was based on meaningful learning theory, andragogy, and dialectical methodology, so it valued interaction between the actors, emphasizing the scenarios of practice and applying the concepts covered. The course structure is divided into nine theoretical units, four case studies, and an essay exam. **Results:** The course was positively evaluated by the participants, who reported opportunities for acquisition of new knowledge, interaction and exchange of experiences, motivation to study the topics, and self-learning. **Conclusion:** It is expected that description of this experience will stimulate proposals for new courses and programs in distance education modalities, improving the processes of teaching and learning so as to give support to future analyses of their impact on the development and enhancement of management skills in nursing.

### DESCRIPTORS

Staff Development; Nursing Education; Distance Education; Nursing Informatics.

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## INTRODUCTION

In all areas of knowledge, the search for educational processes to accompany professionals and promote improvements in the workplace has been a constant. In the health sector, this is a continuing concern because of the need to ensure quality care for people, groups, and populations, since there is a consensus that fostering continuous opportunities for updating has a favorable impact on the skills and ethical-political and technical-scientific competencies that are necessary for workers in this sector.

The labor market is unstable and flexible, and increasing demands for productivity and quality increase the qualification requirements for health care workers, while the implementation of training and management models based on professional competencies becomes increasingly widespread<sup>(1)</sup>.

Health care professionals have found in online courses and training an active and timely way to stay up-to-date. Health institutions see in them prospects for continuing education with cyclical training programs, developing and training of human resources, amplifying the possibilities of providing continuously updated information through planned hypermedia that can be reused when necessary.

The technological resources and media employed in training provide data and information it was previously not feasible to measure, providing new knowledge to teachers and researchers in the area of education. These environments provide the means for evaluating metacognitive skills, learning strategies, and the changes that take place in the performance of students throughout the course, providing evidence of the processes involved in educational activities in digital spaces and evidence about what is effective in educational technologies<sup>(2)</sup>.

For professionals and students in the health field, the use of online teaching methodologies and Information and Communication Technologies (ICT)<sup>a</sup> has brought positive contributions; they facilitate the acquisition and the understanding of technical and scientific information available almost in real time, which improves and changes professional practice, allowing improvement and upgrading processes while providing direct changes in care practices. The literature reveals growing interest in the use of these resources for teaching health care professionals<sup>(3-7)</sup>.

A systematic review article<sup>(8)</sup> showed that in the last decade studies have deepened the theme of technologies applied to technical training, preparation, and updating of health professionals and begun to demonstrate the ability of online courses in a virtual learning environment to bring about changes in their care practices.

Currently, distance education has a full media arsenal<sup>b</sup>, such as videos, games, animations, and illustrations, that provides interaction and communication in the virtual en-

vironment through online courses and training. With this perspective, the aim of this article was to describe the experience of planning and developing an online refresher course in nursing management for nurses in the contexts of Brazil and Portugal.

## THEORETICAL ASSUMPTIONS OF THE TEACHING-LEARNING PROCESS: PEDAGOGICAL PERSPECTIVES AND ONLINE TEACHING

An analysis of the main theoretical approaches to the teaching-learning process and their correlation with the development of strategies for distance education puts in check the different paradigms that pervade education, since in this context even mutually exclusive theories co-exist simultaneously.

One author defends the idea that a distance education didactic should not be based on a single theory to the exclusion of others, since we live in a pluralistic and post-modern society; it should instead be based on the use of empirical, scientific, and philosophical theories and points of view. This approach values the internal consistency of each theory and the points of intersection between them to provide best practices, experiences, and improvement in the teaching-learning process<sup>(9)</sup>.

This intersection between pedagogical perspectives is easily identified in the courses and learning objects available on the internet. Collaboration and interaction among participants are encouraged through forums, chats, wikis (collective texts), group work, and reality simulation environments. The construction of knowledge and the valuing of previous knowledge can be seen in the simulations, the learning objects, and the structuring of the learning environments that support and manage online courses and training.

Cognitive-constructivist theories of learning impose a decisive character on students' preconceptions in which the focus is on learning to think and learning to learn. Two important dimensions of the learning process stand out in these theories: the way in which the knowledge to be learned is made available to students (for reception or discovery); and how students incorporate this information into their existing cognitive structures-mechanical or significant<sup>(9-10)</sup>.

Meaningful learning occurs when students come in contact with new information and process it as part of new knowledge as it relates in a non-arbitrary and substantive way (not literal) to their cognitive structure. It is based on a dynamic model in which all the knowledge and mental interconnections of students play a central role, and they are able to (re)build knowledge and develop solid concepts about what is being dealt with, enabling them to act and react to this reality<sup>(9-12)</sup>.

Discussions and theoretical reflections about ICT and various teaching and learning methodologies should sup-

<sup>a</sup> ICT: This is the use of information technologies as a vehicle for transmitting, disseminating, transforming, and creating content that may or may not be associated with a teaching methodology.

<sup>b</sup> Media is a term used to refer to a vast and complex system of expression and communication. Literally, "media" is the plural of the Latin word "medium." Today, media is a term applied to the propagation and carrying of information (radio, TV, newspapers) to generate information (cameras and camcorders)<sup>(13)</sup>.

port the development of online training programs in order to promote pedagogical practice congruent with the current context, based on interaction in collaborative processes in innovation and promotion of student autonomy capabilities. Meaningful learning is intertwined with andragogy and dialectical methodology.

Andragogy seeks to understand the process of adult learning, taking into account psychological, biological, and social aspects. It is based on four basic assumptions related to how adults learn<sup>(13)</sup>: 1) They need to know why certain content and concepts should be learned; 2) They learn best by experimenting; 3) They view learning as problem solving; and 4) Their motivation to learn is enhanced if it is internal (individual need) and if the content to be learned can be applied immediately.

Dialectical methodology is based on the idea that knowledge is not “transferred” or “deposited” by another, nor is it “invented” by the subject, but is built by the subject in relationship with others and the world. This means that content presented by teachers needs to be worked, reflected, and re-elaborated by students to become their own knowledge<sup>(10)</sup>.

Based on these theoretical assumptions, the Department of Professional Orientation (ENO) of the School of Nursing at the University of São Paulo (EEUSP), recognizing the importance of management work in nursing and considering the need to provide opportunities for nurses who work in different care scenarios to expand their capacity in relation to this field, prepared the Online Refresher Course in Nursing Management in 2011.

In 2012, an academic agreement was established with the Nursing School of Porto (ESEP), Portugal, which made it possible to offer the course to Portuguese and Brazilian nurses simultaneously. The course has been held annually and is in its fourth edition, which shows its acceptance by the target audience. It is believed that the success of this experience is due to the partnership between EEUSP and ESEP, considering the mostly positive assessments by both teachers and students.

#### PLANNING METHODOLOGY AND DEVELOPMENT OF THE ONLINE COURSE IN NURSING MANAGEMENT

Care is the central focus of the nursing work process. Therefore, the management activities of nurses should aim at quality of nursing care, bringing together the dimensions of management and care in order to ensure quality and avoid conflicts in nursing work, whether in their own practice or in relation to nursing staff and health teams<sup>(14)</sup>.

Meaningful learning theory, andragogy, and dialectical methodology were adopted as a pedagogical foundation, given that in the articulation of these dimensions for planning and developing the course, it was necessary to consider the necessity that nurses show adequate performance. A free and open instructional design was used that valued interaction among peers and tutors and enhanced contextualization with practice scenarios for

learners and practical application of the concepts discussed, in order to didactically support the project and allow the theoretical assumptions to interact and complement each other<sup>(15)</sup>.

The course is organized into nine theoretical units, four case studies, and one essay exam. The theoretical units include the following content: 1) Power and Culture in Organizations; 2) Mission, Vision, and Organizational Policies; 3) Organizational Structures; 4) Management Models in Health Organizations; 5) Nursing Work Processes; 6) Management Instruments in Nursing; 7) Quality of Care; 8) Ethics in Management; and 9) Economics and Cost Management in Health. Synchronous activities for the theoretical units are conducted via webconference. Asynchronous activities use the forum and messaging system of the virtual learning environment MOODLE (Modular Object-Oriented Dynamic Learning Environment), which is a virtual learning environment based on an open source course management system (CMS) that has been developed collaboratively by designers and programmers, based on social constructivist concepts. The use of this environment requires the support of a specialized technical team for installing and adjusting the database. The theoretical content is presented through interactive lessons, video classes, and reading material.

The theoretical units are available for students in MOODLE at predetermined times in the course schedule. Some permanent forums are available, such as a forum for introducing the staff, a news forum, and a forum for discussion of clinical cases. There is also an ongoing collaborative glossary in which students and teachers can work on terms and keywords that are perceived and recognized during the course.

The interactive classes were developed with support from the basic bibliography for the course and by materials developed by teachers, such as *PowerPoint*® presentations and texts written by them specifically with the aim of corroborating in the development of the interactive material. This material was organized and scripted in an interactive classroom format available on the Web and developed using *Articulate Storyline*® software. The interactive lessons include the presence of a female avatar who looks like a young adult, wearing clothes that resemble the typical uniform of Brazilian nurses (navy blue jacket and white clothes), so as to create a dialogue with students while creating a sensation of monitoring and contextualization and also reinforcing and highlighting concepts and key information to understanding of the content (Figure 1).

All the classes seek to support students in identifying concepts and knowledge that may already be stored in their cognitive structure. To this end, strategies such as reviews, comparisons of problem situations with other everyday problems, simple games, and animated videos are used. For example, in initial theoretical unit 1 - Power and Culture in Organizations, a children's



This discussion will help us understand the basis upon which the philosophies of institutions and companies are built, which is known as ORGANIZATIONAL PHILOSOPHY.

**Figure 1** - Female avatar used in the interactive lessons of the Online Refresher Course in Nursing Management. Sao Paulo - October 2014.

video is used, where the characters live in a community expressing the elements that make up the culture and power of a particular social group in order to introduce the discussion of the subject. The aim of this strategy is to make the students recognize the presence of these elements in their daily interactions and their meanings and forms of presentation, and thus establish the subsumers<sup>c</sup> needed to build the new knowledge.

Within this same perspective, the students are asked to organize a birthday party and discuss aspects of normative planning, or help a group of professionals identify problems and critical nodes during a Leptospirosis crisis in a community and, therefore, examine issues related to situational strategic planning. In other classes, historical review is used to contextualize the topic or the exploration of complex concepts, relying on cartoons and comic strips in order to facilitate the understanding of the issues presented. Figure 2 illustrates some of the screens of the interactive material produced for the course.

The same content is also covered by using recorded video classes with teachers in charge for each of the theoretical units (Figure 3). The strategy adopted for the production of this material was using a tool that allows video and *PowerPoint* presentations synchronized. The purpose of this material is to enable the teacher to deepen discussion of the subject addressed in the interactive class while presenting details and new information, and analyzing the topic in depth, as advocated by meaningful learning theory, which calls for the presentation of content to begin in a general and comprehensive form and then take a path of specification and increased complexity<sup>(5)</sup>.

The theoretical units also offers support texts for further reading, such as scientific articles and chapters in books. Virtual meetings take place at the end of each unit via web conference. These meetings aim to provide direct, real-time contact between students and teachers in order to discuss their doubts and questions as a group. Web conference is a synchronous communication tool that can be done using voice and image and allows the classes to

be recorded and made available as a video that can be accessed by course members if needed.

In the course, the web conferences are attended by two teachers, one from Brazil and one from Portugal, in addition to the teacher who is responsible for the content of the theoretical unit. Students participate using a chat tool to direct their questions and comments to the unit teacher, who in turn prepares a compilation of the material and presents it to the web conference teacher, who leads the live discussion by using the tool's voice and sound resources. These virtual meetings are one hour and are recorded and made available to students soon after the end of the chat. It should be pointed out that the participation of Brazilian and Portuguese students provides sharing of local and specific experiences of their areas and contexts of operation, allowing interaction between professionals who experience entirely different realities.

The formative assessment of students is done by resolving four case studies that are developed in group on topics covered in class and experienced in professional practice. The case studies are corrected by the teachers in partnership with the teacher responsible for the content, and both give a grade and feedback on the correction and clarify their doubts. The final grade is the arithmetical mean of the case studies and the essay exam that is given in the last week of the course.

It is important to mention that the course has been continuously evaluated since its inception in order to subsidize investments in the improvement and development of the educational strategies used, so as to achieve excellence in online education.

The evaluations by most of the Brazilian and Portuguese nurses participating in the course in the last three years (2011-2013), in relation to the planning and implementation of the educational activities and support in the online environment, evidenced favorable and positive evaluations in relation to clear instructional presentation of the objectives; coherence of tasks requested in relation to the objectives proposed; relevance of the content for exercising management functions at work; agreement that the readings proposed resulted in discussion that helped in the learning process; sufficiency of time allotted to carry out the tasks; and use of compatible equipment. As for their self-assessment, most of the participants mentioned acquisition of new knowledge; opportunities for interaction and exchange of experiences; awakening of interest in nursing management; and organizational skills for personal time in order to complete the course as intended.

<sup>c</sup> Subsumer - broader idea, concept, or proposition that acts as subordinating other concepts in the cognitive structure and as an anchor in the process of assimilation. The process of inclusion of new material (potentially significant) in the cognitive structure of the individual through the relationship of this material with some relevant, more inclusive element of its structure is understood as Subsumption.

A evolução dos modelos gerenciais acompanha as culturais e sociais vigentes.

<b>Era da produção em massa 1920</b> 	<b>Era da eficiência 1950</b> 	<b>Era da qualidade 1970</b> 	<b>Era da competitividade 1970</b> 	<b>Era...2000</b> 
<b>Modelos tradicionais de gestão</b>	<b>Novos modelos de gestão</b>		<b>Modelos emergentes</b>	
- Administração científica - Administração das relações humanas	- Administração burocrática - Outros modelos tradicionais da administração	- Administração japonesa - Administração participativa - Administração empreendedora - Administração holística		- Empresa virtual - Gestão do conhecimento - Modelos biológicos / Quânticos / Teoria do caos / complexidade

O trabalho da enfermagem sofre influência direta deste processo evolutivo.  
O Modelo racional influenciou muito a forma como o serviço de enfermagem se constituiu.

The evolution of the managerial models follows the current cultural and social models.

Mass production era - 1920	Efficiency era - 1950	Quality era - 1970	Competitiveness era - 1970	Era...2000
Traditional management models		New management models		Emerging models
- Scientific administration - Human resources administration	- Bureaucratic administration - Other traditional models of administration	- Japanese administration - Participatory administration - Entrepreneurial administration - Holistic administration		- Virtual company - Knowledge management - Biological/Quantic models / Theory of Chaos / complexity

Nursing tasks are directly influenced by this evolutionary process.  
The rational model has greatly influenced the way nursing services have been established.

**Antes de 1930**  
- Contábil: Mão de Obra era comprada.

**1930 - 1950**  
- Legal: Surgimento das leis trabalhistas

**1950 - 1965**  
- Técnico: Treinamentos, recursos humanos, cargos, salários, higiene, segurança no trabalho e benefícios.

**1965 - 1985**  
- Administrativo: Indivíduos e as suas relações: Sindicatos, sociedade.

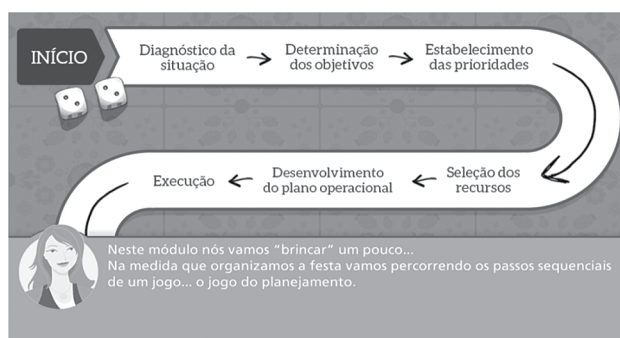
**1985 - 2000**  
- Integração: Aumentar o envolvimento de colaboradores e redes de suporte.

**1990 - 2000**  
- Int. Aut. env. de col. e red. sup. "As que"

**POLÍCIAS:** Regras estabelecidas para governar funções e assegurar que sejam desempenhadas de com os objetivos desejados.  
**POLÍCIAS DE RECURSOS HUMANOS:** Maneiras pelas quais a organização pretende lidar com se e, por intermédio deles, atingir os objetivos organizacionais, permitindo condições para o alcance d

Before 1930	1930 - 1950	1950 - 1965	Before 1930	1930 - 1950	1950 - 1965	1965 - 1985	1985 - 2000
- Accounting - Labor was bought	- Legal - Rise of labor laws	- Technical staff - Training in human resources, positions, salaries, hygiene, occupational safety, and benefits	- Accounting - Labor was bought	- Legal - Rise of labor laws	- Technical staff - Training in human resources, positions, salaries, hygiene, occupational safety, and benefits	- Administr. - Individuals and their relations - Unions, society	- Integration - Increase the involvement of employees and support networks.

**POLÍCIAS:** Rules put in place to oversee functions and make sure that they are carried out.  
**HUMAN RESOURCE POLICIES:** Ways by which the organization intends to deal with personnel issues.



Start	Diagnose the situation	Determine the objectives	Establish the priorities
	Execute	Develop the operational plan	Select the resources

In this module we are going to "play" a little bit...  
As we organize the party we are going to follow the steps of these games in order...the planning game.

Figure 2 - Screens of interactive classes produced for the Online Refresher Course in Nursing Management. Sao Paulo - October 2014.



**Figure 3** - A screen from a video class produced for the Online Refresher Course in Nursing Management. Sao Paulo - October 2014.

## CONCLUSION

The Online Refresher Course in Nursing Management, which was prepared based on theoretical-methodological assumptions and carried out through an academic partnership between the School of Nursing of the University of São Paulo and the Nursing School of Porto, Portugal, is in its fourth year,

and has shown positive results and evaluations by the students and teachers involved, showing that it attained its goals and justifying its continuing maintenance and improvement.

It appears that during these years this experience has become a successful educational resource for giving nurses (students and teachers) training and development opportunities, as well as allowing exchange of personal and professional experiences in nursing management in different realities and cultural contexts.

It should be noted that the Brazil-Portugal partnership established through this course has resulted in other academic-scientific activities, such as co-orientations of graduate students, technical visits to Portugal, and the dissemination of scientific papers at international events.

Finally, it is expected that this successful experience will stimulate proposals for new distance education courses and programs, improving the processes of teaching and learning so as to give support to future analyses of their impact on the development and enhancement of managerial skills in nursing.

## RESUMO

**Objetivo:** Descrever a experiência no planejamento e desenvolvimento de um Curso de Atualização On-Line em Gerenciamento em Enfermagem destinado a enfermeiros nos contextos Brasil e Portugal. **Método:** O desenho instrucional do Curso fundamentou-se na Teoria da Aprendizagem Significativa, na Andragogia e na Metodologia Dialética, valorizando a interação entre os atores e privilegiando os cenários de prática e a aplicação dos conceitos abordados. **Resultados:** O Curso está estruturado em nove unidades teóricas, quatro estudos de caso e prova dissertativa. Foi avaliado positivamente pelos participantes, os quais referiram oportunidades de aquisição de novos conhecimentos; interação e intercâmbio de experiência; motivação em estudar os temas e autoaprendizagem. **Conclusão:** Espera-se que a experiência descrita estimule a proposição de novos cursos e programas na modalidade de Educação a Distância, incrementando os processos de ensino e de aprendizagem para subsidiar análises futuras do seu impacto no desenvolvimento e no aprimoramento de competências gerenciais em enfermagem.

## DESCRITORES

Desenvolvimento de Pessoal; Educação em Enfermagem; Educação a Distância; Informática em Enfermagem.

## RESUMEN

**Objetivo:** Describir la experiencia en la planificación y desarrollo de un Curso de Actualización Online de Gestión de Enfermería para las enfermeras en los contextos Brasil y Portugal. **Método:** el diseño de instrucción del Curso está basado en la Teoría del Aprendizaje Significativo, en la Andragogía y la Metodología Dialéctica, valorando la interacción entre los actores y privilegiando los escenarios de práctica y la aplicación de los conceptos tratados. **Resultados:** El curso se estructura en nueve unidades teóricas, cuatro estudios de casos y prueba disertativa. Fue evaluado positivamente por los participantes, que informaron de la posibilidad de adquirir nuevos conocimientos; la interacción y el intercambio de experiencias; la motivación para el estudio de los temas y el autoaprendizaje. **Conclusión:** Se espera que la experiencia descrita estimule la proposición de nuevos cursos y programas en la modalidad de Educación a Distancia, mejorando los procesos de enseñanza y aprendizaje para subsidiar los futuros análisis de su impacto en el desarrollo y mejora de las capacidades de gestión en enfermería.

## DESCRITORES

Desarrollo de Personal; Educación en Enfermería; Educación a Distancia; Informática Aplicada a la Enfermería.

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