The virtual environment of a research group: the tutors' perspective

ESPAÇO VIRTUAL DE UM GRUPO DE PESQUISA: O OLHAR DOS TUTORES

ESPACIO VIRTUAL DE UN GRUPO DE INVESTIGACIÓN: LA VISIÓN DE LOS TUTORES

Cláudia Prado[1], Christiane Pereira Martins Casteli[2], Tania Oliveira Lopes[3], Rika M. Kobayashi[4], Heloísa Helena Ciqueto Peres[5], Maria Madalena Januário Leite[6]

ABSTRACT

The *Grupo de Estudos e Pesquisas de Tecnologia da Informação nos Processos de Trabalho em Enfermagem* (Study and Research Group for Information Technology in the Nursing Working Processes, GEPETE) has the purpose of producing and socializing knowledge in information technology and health and nursing communication, making associations with research groups in this field and promoting student participation. This study was performed by the group tutors with the objective to report on the development of the virtual learning environment (VLE) and the tutors' experience as mediators of a research group using the *Moodle* platform. To do this, a VLE was developed and pedagogical mediation was performed following the theme of mentoring. An initial diagnosis was made of the difficulties in using this technology in interaction and communication, which permitted the proposal of continuing to use the platform as a resource to support research activities, offer lead researchers the mechanisms to socialize projects and offer the possibility of giving advice at a distance.

DESCRIPTORS
Research Groups
Nursing research
Education, distance
Preceptorship
Technology

RESUMO

O Grupo de Estudos e Pesquisas de Tecnologia da Informação nos Processos de Trabalho em Enfermagem (GEPETE) visa produzir e socializar o conhecimento na área de tecnologia da informação e comunicação na saúde e enfermagem, articular a integração com grupos de pesquisas desta área e propiciar a participação de alunos. O estudo realizado pelos tutores teve como objetivo relatar a construção do ambiente virtual de aprendizagem (AVA) e a experiência dos tutores como mediadores de um grupo de pesquisa na plataforma *Moodle*. Para tanto, foi construído um AVA, realizada a mediação pedagógica sob a temática tutoria e o diagnóstico inicial em relação às dificuldades na utilização da tecnologia na interatividade e na comunicação, o que permitiu a proposição da continuidade da utilização da plataforma como um recurso para apoiar as atividades de pesquisa, oferecer aos líderes pesquisadores mecanismos para socialização dos projetos e possibilidades de orientação à distância.

DESCRITORES
Grupos de Pesquisa
Pesquisa em enfermagem
Educação a distância
Tutoria
Tecnologia

RESUMEN

El Grupo de Estudios e Investigaciones de Tecnología de la Información en Procesos de Trabajo de Enfermería (GEPETE) apunta a producir y socializar conocimiento en el área de tecnología de información y comunicación en salud y enfermería, articular la integración con grupos de investigación del área y facilitar la participación de alumnos. El estudio realizado por tutores objetivó relatar la construcción del ambiente virtual de aprendizaje (AVA) y la experiencia del tutor como mediador de un grupo de investigación en plataforma *Moodle*. Para ello se construyó un AVA, realizándose la mediación pedagógica bajo la temática tutoría y el diagnóstico inicial en relación a las dificultades de utilización de tecnología en interactividad y comunicación, lo que permitió la proposición de continuidad de utilización de la plataforma como recurso de apoyo a las actividades investigativas, ofreciendo a los líderes investigadores mecanismos para socialización de proyectos y posibilidades de orientación a distancia.

DESCRIPTORES
Grupos de Investigación
Investigación en enfermería
Educación a distancia
Tutoria
Tecnología

INTRODUCTION

The Information Technology in Nursing Working Processes Research Group (GEPETE) at the University of São Paulo, School of Nursing (EEUSP), registered in the National Council for Scientific and Technological Development (CNPq) on September 4th 2006, has the following lines of research: *Education and management of human resources in nursing and health* and *Management of nursing actions and service.*

A Virtual Learning Environment (VLE) was envisioned by GEPETE, which recognized the need to create a space to share scientific and technological knowledge, socialize information and encourage academic activities and disseminate production, as well as to enable collective construction of knowledge in the field.

VLE are computer systems available on the Internet to support activities mediated by information and communication technologies. They permit integrating multiple media, languages and resources, presenting information in an organized manner, interaction among people and knowledge objects and they assist in developing and socializing productions aiming to achieve predetermined objectives[1].

In January 2009, aiming to create a platform able to meet such needs, we opted for using the Modular Object-Oriented Dynamic Learning Environment (Moodle) because in addition to suiting the group's aspirations, it is an open and free software available at the university.

The GEPETE participants initially attended face-to-face training courses on the Moodle platform offered by the university and promoted by the group itself. The virtual environment enabled the creation of a space of interaction, participation and cooperation among the group's leaders and participants. Hence, a virtual environment was created using Moodle for GEPETE and multiple possibilities of mentoring emerged in this environment.

The mentoring system comprises a set of educational actions that develop and enhance students' basic skills, guiding them to grow intellectually and to become autonomous, helping them making decisions given their performance and participation as students[2].

Mentors have the function of guiding the learning process of students, ensuring they achieve the teaching objectives. Mentors are supposed to propose activities and help to complete them, suggesting—when necessary—additional sources of information[3].

The role of mentors is essential in Distance Education (DE) to ensure the personalized continuous inter-relation-

ship of students in the system and enable the cooperation required among the elements in the process and performance of the proposed objectives. The professor-mentor has a relevant role in this process as mediator, working as an interpreter of content, clarifying students' doubts, encouraging them to keep working and, at the same time, participating in learning evaluation[2].

It is desirable that mentors have some very specific competencies, skills, and attitudes to perform this role. Among many of these, we highlight assertive communication, interpersonal relationships, leadership, dynamism, initiative, enthusiasm, creativity, ability to encourage teamwork, and promoting an environment conducive to education[4], in addition to technological competence, providing regular feedback, having the ability to manage teams and people, and master the content and communication and mediation skills, which are competencies found in their educational program[5].

> The role of mentors is essential in Distance Education (DE) to ensure the personalized continuous inter-relationship of students in the system and enable the cooperation required among the elements in the process and performance of the proposed objectives.

Reporting this experience is relevant given the previous discussion and also because we believe the use of a VLE for a group of studies and research to be a space to promote collaborative learning and research in the field of information and communication technologies in nursing.

METHOD

This is an experience report of GEPETE's members developed at the University of São Paulo, School of Nursing in the second semester of 2009 concerning the process of structuring, implementing, evaluating and mediating the virtual environment of GEPETE in the Moodle platform.

RESULTS

The development of the GEPETE virtual environment in Moodle allowed the creation of a space for interaction, participation and cooperation among the directors and members of the group as well as the inclusion of past material (minutes and attendance lists for meetings, photos, papers read and recommended to the remaining members of the group, abstracts, and posters submitted to scientific meetings).

The social process was virtually intensified in GEPETE's VLE structure through tools such as a forum, chat, member contact list, as well as profiles of members, which included personal and professional aspects and pictures. Another space for relaxation and communication is the cultural area for people to send tips about interesting places to go and programs to attend, messages for holidays and special occasions, birthdays and celebrations.

Other areas were also created to include guidance and information concerning the purpose, objectives, goals and standards concerning participation in GEPETE, including the registration of the history of the group and pictures of events promoted by the group, papers presented by its members in national and international congresses and minutes of face-to-face meetings.

The group was also encouraged to interact through a 'news and announcements' page and an area for scientific dissemination. The virtual library and glossary were used for intellectual activities and permitted depositing papers, master's theses and doctoral dissertations of interest for the group members. Aiming to broaden and intensify the collective reflective process, the scientific material is posted in a virtual environment with brief summaries prepared by members, discussed in forums or thematic chat rooms.

We also highlight the area for presentation and evaluation of projects of a technological nature within the dimension of research developed by the group members. These are posted with the aim to socialize the projects and identify the suggestions of members through the forum.

Over the course of the VLE development, reorganization was required for classifying the various activities and roles required from mentors in four fields: pedagogy, management, technique, and socialization[6].

The leaders of the group assigned these areas to four mentor-members to act as mediators for the virtual environment, together with the group members, from June to September 2009.

The mentors defined the central theme to be worked during this period as *The role of Mentors in Distance Learning* through various possibilities available in the VLE. The objectives of each mentorship were defined so specific support would be provided to the group members during the period of implementation and monitoring of the platform, which were:

1. Pedagogical Area: This area is composed of glossary, discussion forum, agenda, and activities schedule, recommended and complementary literature, collective construction of the daily *wiki* of participants and videos. The role of mentors in this area was to mediate the educational process among the group members, encouraging them to explore the material available and giving opportunities for them to reflect and discuss.

2. Social Area: This area was different from the other areas because its main focus was to develop human relationships in the virtual environment mediated by a forum, a news and announcements page, members' opinions, the dissemination of events, contacts, a cultural area, happy hour, birthday dates, and a photos gallery. It allowed mentors to share information in order to establish and strengthen bonds among the participants.

3. Managerial Area: The Managerial Area is composed of member information, GEPETE's history, schedule of monthly meetings and respective minutes. This mentor was responsible for monitoring the participants in the virtual environment and disseminating the initial guidelines concerning the appropriate use of the platform.

4. Technical Area: The Technical Area was comprised of mentor-initiated activities guiding the development of the virtual environment and helped the participants to navigate through the platform, clarifying doubts that emerged during its use.

Experience of mentors as mediators: Activities were proposed in the pedagogical area through the recommendation of two scientific papers, one concerning the *Role of Mentors and Distance Learning* and one video addressing the *Anxiety of Professors in Distance Learning.* The group members were invited to participate in a chat on this subject.

This material aroused significant interest among the participants, especially the video, which served as a starting point for a discussion concerning the role of mentors in a VLE. A forum using the Moodle platform and chat through Skype were tools used as technological resources complementary to the VLE to initiate the discussion on the theme. In the synthesis stage, the results were elaborated and presented as described:

Participation of the group members from the perspective of mentors: The mentors invited the GEPETE members to read two papers addressing *The role of mentors in Distance Learning* and then to chat about the theme.

A chat was held via Skype and mediated by one of the research group's directors. Seven (21%) of the 33 members participated. Despite the small number of participants, the discussion was pleasant and lively, while the communications concerned the content of the papers read, the participants' experience reports and suggestions on how to renew pedagogical practice. Hence, due to the low adherence and the relevance of the subject as indicated by the participants, the mentor agreed on the need to open a forum to proceed with the discussion.

Because the forum is an asynchronous tool, a larger number (13/39%) of researchers were able to participate in the forum due to time flexibility.

Subjects addressed via forum and chat: During the chat and forum, various subjects were addressed. In the chat, the difficulty using the tool and the need for greater interactivity and communication was highlighted, considering the specificities of the forms of languages, the "pedagogical seduction process" in which the student is involved in the teaching-learning process, and the posture of mentors and students in the face of the learning process.

The topics most frequently discussed in the forum concerned interaction/relationships, communication, and the qualifications of faculty members, including the need for various skills and competencies in students and professors to work with distance learning.

The virtual environment of a research
group: the tutors' perspective
Prado C, Casteli CPM, Lopes TO, Kobayashi RM,
Peres HHC, Leite MMJ

Rev Esc Enferm USP
2012; 46(1):237-41
www.ee.usp.br/reeusp/

239

In relation to the difficulty of using tools in a virtual learning environment, the members themselves posted tutorials and suggested readings and used the technological tutorial to clarify doubts solving technical difficulties; some of the users enjoyed a smooth and safe navigation throughout the platform.

Managing the use of the platform: Some members accessed the platform more frequently than others.

The experience of mentors: The mentors kept a journal concerning the organization and development of the project of constructing and managing a VLE involving a research group, in which some relevant issues were highlighted:

Interaction: The reports show the mentors' concern to standardize work and being attuned, while at the same time keeping efficacious and efficient communication. Interactivity was the main focus of the mentors, who aimed to establish a continuous communication flow for themselves and for the group members.

· *Technological capacity:* Difficulties of a technical nature concerning the use of the platform were solved by the mentors through technical support, clarifying doubts, offering technical information and tutorials. Hence, mastering technology is one of the basic and primary competencies required to proceed with projects involving the use of technological tools and resources.

· *Sensitization and Mobilization:* These were constant concerns among mentors seeking to meet the group's expectations, defining strategies to sensitize and mobilize the participants together with the group's coordinators.

For that, the mentors put extra effort into the promotion of scientific meetings as a mechanism to encourage the improvement of researchers as well as planning and organizing face-to-face workshops focusing on the technological qualification of the group's members, also open to other nurses.

It was thus that the group members spontaneously participated in the period designated for the study's project at their own speed and rhythm, contributing with texts, links, and articles of interest, as well as suggesting readings on the tools used in the platform. The contributions emerged and showed many good and safe possibilities toward the proposed construction.

DISCUSSION

The results from the development of a VLE for a research group are in consonance with the literature that describes the importance of this environment in encouraging scientific production in the field of technology, considering that research addressing technology development is still incipient[7].

This tool also enabled collective and cooperative learning to reinforce and encourage the participation of the individuals in the learning process, making them coauthors of an active and effective process[4].

Interactivity expresses the need for a new task consisting of observation, conception, and evaluation of communication modes that occur among a group of people, reinforcing cooperation. It is more than a simple and unambiguous characteristic attributable to a specific system, thus it is not limited to digital technologies but to the communication fluency existent among the individuals[8].

Members of research groups can mobilize networks of people around the same situations, share challenges and take areas of responsibility, characteristics that should be incorporated, from our point of view, by group researchers[9].

In this context, we share the view that holds a research group to be a set of hierarchically organized individuals in which the organizing bases of this hierarchy are experience, prominence and leadership in the scientific and technological fields. Hence, there is professional and ongoing involvement of the group with research activities and the work is organized around common lines of research[10].

It was also possible to observe the importance of training and qualifying mentors. Further, there is a lack of studies addressing the evaluation of Distance Learning quality applied to nursing and the existence of indicators in the field.

Mentoring in a virtual environment requires mentors to develop some competencies such as the ability to manage a team, to create and keep the interest of the group, managerial skills to coordinate discussion and group work and promote a collaborative environment. Therefore, mentors are articulators of distance learning processes, emphasizing the elements necessary for the participants' development[11].

A series of skills is required from mentors with regard to technological knowledge, among them: technical mastery sufficient to act naturally, and with agility and skill in regard to the environment in use, use the network resources, know search engines, use email, know the etiquette related to participation in discussion lists and forums, and have experience as a mediator in some e-group. Mentors should have good equipment and up-to-date resources including video and audio plug-ins, a good internet connection, and have attended at least one mentor training program or online program, preferably using the same environment in which their own mentorship will be developed[12].

Specifically in the field of distance learning, new challenges are focused on the qualification of those involved in the use and creation of technologies in the work process of assisting, managing, and training of nurses, as well as research regarding them, as tools that create new dimensions in professional practice, delineating limits and possibilities[9-10,13].

Research and the production of knowledge in this field is a world priority. When performed collectively, in groups, it becomes an effective way to incorporate the results of studies into professional practice, broaden scientific production, give nursing more visibility, integrate different levels of education into one common objective to advance knowledge, and broaden and develop the ability to generate multidisciplinary scientific production[14].

CONCLUSION

In this study we provide evidence for the importance of the mentor's role in a research group permeated by technology, aiming to establish interaction, sensitization and mobilization of the group's members, as well as to enable technological qualification.

It is worth noting that in light of this experience, the virtual environment for the Information Technology in Nursing Working Processes Research Group (GEPETE) was reformulated and an area for Research was included where each research coordinator included their projects, aiming to make available tools to collectively follow and develop research to the research group.

The use of GEPETE's virtual environment is designed to support research activities, especially to offer the group directors and researchers mechanisms to socialize projects and possibilities to advise at a distance. Communication among the group's members can be improved to facilitate monitoring of research activities fomented in GEPETE, facilitating the observation and development of groups and sub-groups formed in the research projects.

REFERENCES

1. Almeida MEB. Educação à distância na Internet: abordagens e contribuições dos ambientes digitais de aprendizagem. Rev Educ Pesq. 2003;29(2):327-40.

2. Souza CA, Spanhol FJ, Limas JCO, Cassol, MP. Tutoria na educação à distância [Internet]. São Paulo: Associação Brasileira de Educação a Distância (ABED); 2004 [citado 2009 fev. 26]. Disponível em: http://www.abed.org.br/congresso2004/por/htm/088-TC-C2.htm

3. Maggio M. O Tutor na educação a distância. In: Litwin E, organizadora. Educação à distância: temas para o debate de uma nova agenda educativa [Internet]. Porto Alegre: Artmed; 2001 [citado 2010 jul. 2010]. Disponível em: http://www.diaadia.pr.gov.br/ead/arquivos/File/Textos/tutor_ead.pdf

4. Bruffee K. Collaborative learning. Baltimore: The Johns Hopkins University Press; 1993.

5. Maia C. Guia brasileiro de educação a distância. São Paulo: Esfera; 2002.

6. Collins M, Berge Z. Facilitating interaction in computer mediated online course [Internet]. 1996 [cited 2009 May 3]. Available from: http://members.fortunecity.com/rapidrytr/dist-ed/roles.html

7. Erdmann AL, Silva IA, Rodrigues RAP, Fernandes JD, Vianna LAC, Lopes MJM, et al. Teses produzidas nos programas de Pós-Graduação em Enfermagem de 1983 a 2001. Rev Esc Enferm USP. 2005;39(n.esp):497-505.

8. Lévy P. Cibercultura. São Paulo: Editora 34; 1999.

9. Hayashi MCPI, Hayashi CRM, Silva MR. Competências em ciência, tecnologia & inovação: um estudo exploratório no portal inovação. Pesq Bras Ciênc Inf Biblio [Internet] 2006 [citado 2010 jul. 7]; 11(2). Disponível em: http://revista.ibict.br/pbcib/index.php/pbcib/article/view/524

10. Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPQ). Diretório de Grupos de Pesquisa no Brasil. Perguntas freqüentes [Internet]. Brasília; 2010 [citado 2010 maio 3]. Disponível em: http://dgp.cnpq.br/diretorioc/html/faq.html#g1

11. Mercado LPL, Oliveira CLAP, Lima JEO. Tutoria online: a experiência do programa de formação continuada em mídias na educação In: Virtual Educa Brasil; 2007; jun.18 a 22; São José dos Campos, SP, Brasil [Internet]. [citado 2010 set. 15]. Disponível em: http://ihm.ccadet.unam.mx/virtualeduca2007/pdf/205-LML.pdf

12. Fernandes MS, Spagnol CA, Trevizan MA, Hayashida M. A conduta gerencial da enfermeira: um estudo fundamentado nas teorias gerais da administração. Rev Latino Am Enferm. 2003;11(2):161-7.

13. Trevizan MA, Mendes IAC, Lourenço MR, Melo ARAC. A busca da competência do cuidado segundo Boff: uma nova perspectiva de conduta ética da enfermeira gerente. Rev Latino Am Enferm. 2003;11(5):652-7.

14. Barbosa SFF, Sasso GTMD, Berns I. Enfermagem e tecnologia: análise dos Grupos de Pesquisa cadastrados na Plataforma Lattes do CNPq. Texto Contexto Enferm. 2009; 18(3):443-8.