

CONCEPT MAPS OF THE GRADUATE PROGRAMME IN NURSING: EXPERIENCE REPORT

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ABSTRACT

The conceptual map is considered a strategy that enables the development of critical thinking skills. The aim of this article was to evaluate concept maps produced by students to obtain an understanding of research projects. This is an experience report based on the Special Topic: concept map of the Graduate Program in Nursing/Federal University of Paraíba in February/2012. Methodology comprised interactive reading of concept maps, installation and use of Cmap Tools® software and construction of concept maps. Concept evaluation included coherence, propositions, clarity of ideas and logical relation between concepts. This evaluation of maps revealed consistency among concepts, significant relationships, clarity of ideas and logical relationship between the stages of a research project. Results showed that the concept map is a valid strategy to evaluate the learning-teaching process and can be used for education, research and reflection in the nursing practice.

Descriptors: Nursing. Education, nursing. Concept formation.

RESUMO

O mapa conceitual é considerado uma estratégia que possibilita o desenvolvimento de habilidades de pensamento crítico. O objetivo deste estudo foi avaliar mapas conceituais elaborados por discentes para compreensão de projetos de pesquisa. Trata-se de um relato de experiência oriundo do Tópico Especial: Mapa Conceitual, do Programa de Pós-Graduação em Enfermagem da Universidade Federal da Paraíba, em fevereiro de 2012. Desenvolveram-se leituras interativas sobre mapas conceituais, instalação e manuseio do software Cmap Tools, e construção de mapas conceituais. A avaliação considerou coerência entre conceitos, visualização de proposições, clareza de ideias e relação lógica entre conceitos. Como resultado, mapas foram evidenciados com coerência entre conceitos, relações significativas, clareza de ideias e relação lógica entre as etapas de um projeto de pesquisa. Salienta-se que o mapa conceitual pode ser uma estratégia de avaliação do processo de ensino-aprendizagem e pode ser utilizado no ensino, na pesquisa e em reflexões sobre a prática clínica em enfermagem.

Descritores: Enfermagem. Educação em enfermagem. Formação de conceito.

Título: Mapas conceituais no ensino de pós-graduação em enfermagem: relato de experiência.

RESUMEN

El mapa conceptual se considera una estrategia que permite el desarrollo de habilidades de pensamiento crítico. El objetivo de trabajo fue evaluar mapas conceptuales elaborados por estudiantes para comprensión de proyectos de investigación. Se trata de relato de experiencia que viene de Tema Especial: Mapa conceptual del Programa de Postgrado en Enfermería/Universidad Federal de Paraíba en febrero/2012. Desarrollando lectura interactiva sobre mapas conceptuales, instalación y manejo de software Cmap Tools, construcción de mapas conceptuales. Para la evaluación, se consideró la coherencia entre conceptos, proposiciones visión, claridad de ideas y relación lógica entre conceptos. Como resultado de ello, con mapas mostraron consistencia entre conceptos, relaciones significativas, claridad de ideas y relación lógica entre etapas de un proyecto de investigación. Debe tenerse en cuenta que el mapa conceptual puede ser una estrategia para evaluar el proceso de enseñanza-aprendizaje y se puede utilizar en docencia, investigación y reflexión sobre la práctica de enfermería.

Descriptores: Enfermería. Educación en enfermería. Formación de concepto.

Título: Mapas conceptuales en la escuela de postgrado en enfermería: relato de experiencia.

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INTRODUCTION

The capacity to think critically and make decisions requires nurses to use strategies that facilitate the organization of knowledge. Critical thought is defined as careful, deliberate reasoning that focuses on results and is motivated by the needs of the patient, the family and the community⁽¹⁾. It is an intentional process of judgement that considers evidence, contexts, conceptualization, methods and criteria⁽²⁾.

Cognitive abilities are defined as: analysis, or the separation of whole into parts to reveal the nature, function and relationships; application of standards, which means to judge according to social, personal and professional rules; discernment, which is the capacity to recognize differences and similarities among things or situations and distinguish in order to categorize; search for information, which is to seek evidence, facts and knowledge by identifying pertinent sources and data collection; logical reasoning is defined as reaching conclusions supported by evidence or justified by this evidence; prediction, which indicates line of thought to visualize a plan and its consequences⁽³⁾.

The Concept Map (CM) is a strategy that allows the development of critical thinking skills and a teaching tool that requires flexibility, curiosity, active participation and experience, and the capacity to analyse and summarize⁽⁴⁾. It is a diagram of meanings, significant relationships and conceptual hierarchies, and is considered a knowledge organization tool⁽⁵⁾ that facilitates meta learning based on the possibility of learning to learn⁽⁶⁾.

In Nursing, concept maps are used to evaluate critical analysis, promote reflexive thought, support problem solving and concepts synthesis, enable care planning, and synthesize and evaluate nursing actions^(7,8).

In this context, the use of innovative strategies for the Graduate Programme in Nursing/Federal University of Paraiba (PPGENF/UFPB) is considered necessary to develop skills for the elaboration of research projects based on the organization of ideas and the evaluation of research execution stages. Consequently, the aim of this study is to evaluate concept maps created by the student body to obtain an understanding of research projects.

METHOD

This study is an experience report drafted during the Special Topic: concept map of the PPGENF/UFPB. Cmap Tools[®] software version 5.03^(9,10) was used to create the concept maps. Figure 1 shows the methodological study stages.

RESULTS AND DISCUSSION

The 10 concept maps used for this study observed aspects related to adequacy of concepts, articulation between different concepts and indicated an understanding of the research project by means of elucidation of theoretical and methodological aspects (Figure 2).

The student body created concept maps showing two or more concepts connected by linking verbs and/or prepositions to give meaning and generate a proposition. Propositions are semantic or significance units that enable understanding of ideas portrayed on the concept map⁽⁵⁾. This tool enabled an understanding of research projects because it helped to visualize study planning by showing enhancement possibilities of projects and the promote exchanging of ideas among the students. In light of the usefulness of this tool to develop critical thinking skills⁽⁷⁾, in nursing programmes, the concept map can favour the organization of ideas because the hierarchical linking of concepts allows evaluation of broad and specific concepts and demands reflection and coherent relationship of situations and concepts.

There are different types of concept maps with a series of graphic distributions, so there is no single model that is considered more appropriate or correct than the others. This study was based on the employment of a hierarchical concept map. This type of map is an adequate instrument to structure knowledge that is being constructed by the student and can be used by specialists to explain this knowledge. It is an enabling tool of meta learning through which the student learns to learn and visualizes gaps in the understanding of a given topic, which, in turn, favours the search for additional information to clarify concepts⁽⁶⁾.

In terms of Nursing programmes, the concept map strategy allows the development of critical thought based on deductive reasoning^(7,8). The definitions of cognitive abilities of critical thought⁽³⁾

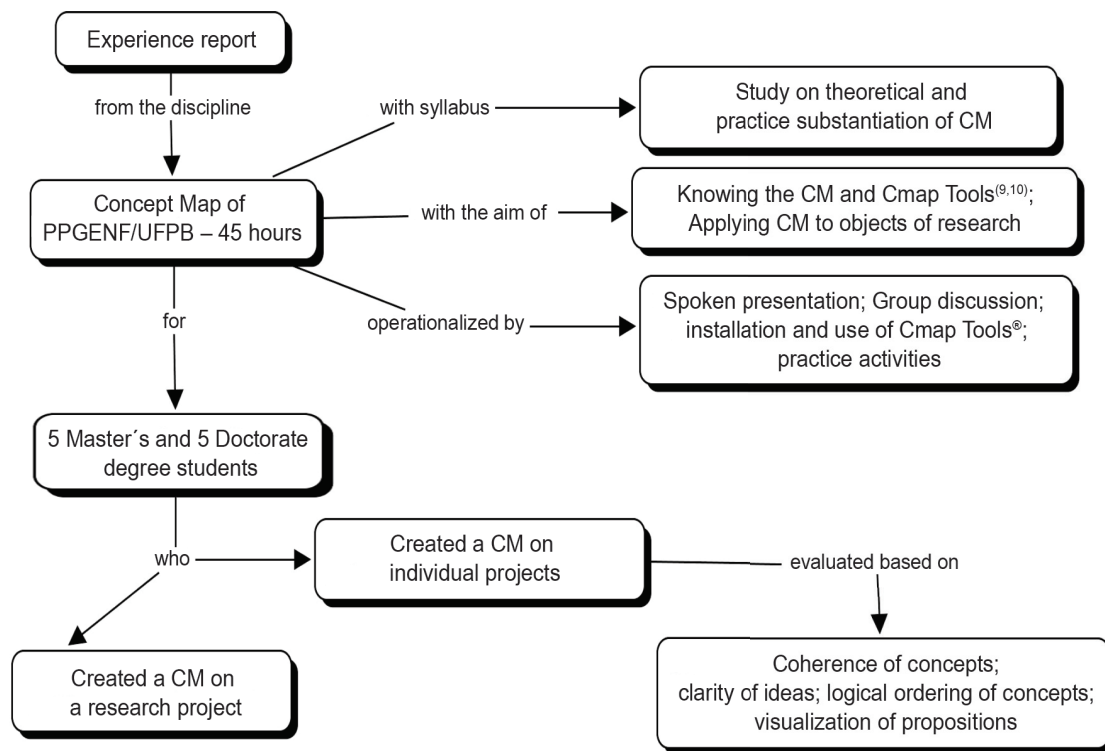


Figure 1 – Methodological study stages. João Pessoa, PB, 2012.

lead to the determination that the creation of concept maps instigated, in master's and doctorate degree students, the capacity to analyse, the need to search for information and develop logical reasoning skills to understand the relationship between concepts and the coherent sequence of a research project, showed by the capacity to synthesis elucidation of concepts and their relationships.

The opportunity to use a concept map triggered the organization of information by means of prior knowledge of previous subjects; the curiosity to know more about building concept maps using Cmap Tools^{®(9)} and to insert additional resources to explain the concepts and their relationship; the creativity to organize concepts clearly and coherently, and the flexibility of ideas through the discussion of different points of view and discoveries in relation to use of the software.

The concept map can also be a tool to develop metacognition in students of the undergraduate nursing programme. The learning-teaching process with the use of concept maps can stimulate expansion of the knowledge abstraction level of students, based on the evaluation of critical thinking⁽¹¹⁾.

An evaluation of concept maps created by graduate students⁽¹²⁾ revealed cognitive, attitudinal and procedural aspects of the student, considering that the concept map creation process involves motivational aspects integrated to the capacity to think and act. The capacity to isolate and compare concepts to select content that is considered meaningful, and to establish relationships between previous concepts and knowledge were observed.

In Nursing, the strategy to create concept maps is adequate to solve clinical cases given the potentiality of identifying cognitive processes of students in relation to the capacity to generate answers to solve problems. This strategy may lead to changes in the manner of teaching, evaluating and learning because it promotes significant education and grants new meanings to the concepts of teaching, learning and evaluation⁽¹³⁾.

CONCLUSION

The concept map strategy was evidently well accepted by master's degree and doctorate degree students, and considered a tool that enabled the development of critical thinking skills. The evaluated maps showed the development of the capacity

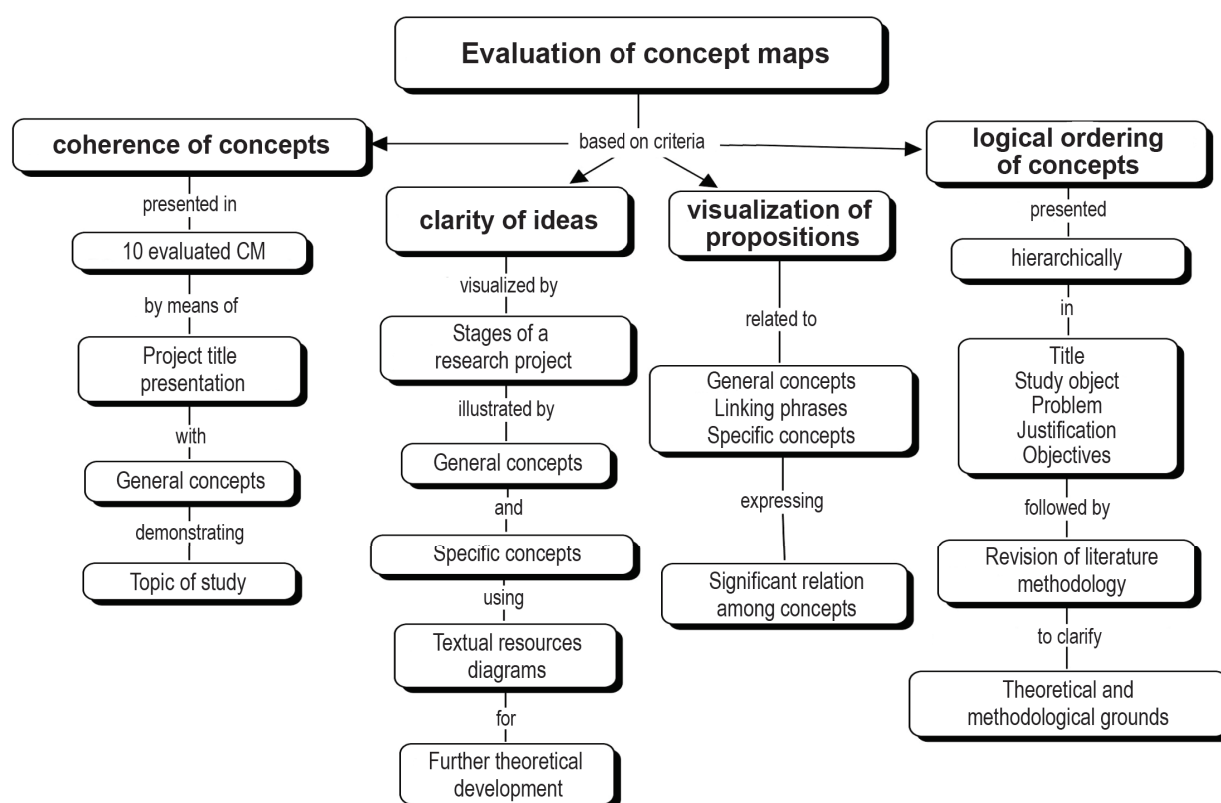


Figure 2 – Characteristics of evaluated concept maps. João Pessoa, PB, 2012.

for critical analysis and synthesis of ideas. They additionally triggered perception of the need for additional information to explain concepts, and logical reasoning to determine coherent relationships between these concepts. Curiosity, creativity and flexibility of ideas to discuss the possibility of using concepts maps during the development of learning and research activities was also detected.

These results justify the use of concept maps to support visualization of concepts and relationships learned by the students during research planning. Moreover, the concept map can instigate perception of knowledge gaps during research project execution and integration of knowledge by means of conceptual inter-relations. From this perspective, it is possible to determine that concept maps as a learning-teaching strategy can be used for education, research and thought development on the clinical practice of Nursing.

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