

Constructing a Gowin's V diagram to analyze academic work in Nursing*

CONSTRUÇÃO DE UM V DE GOWIN PARA ANÁLISES DE PRODUÇÕES ACADÊMICAS DE ENFERMAGEM

CONSTRUCCIÓN DE UNA V DE GOWIN PARA ANÁLISIS DE PRODUCCIONES ACADÉMICAS DE ENFERMERÍA

César Cavalcanti da Silva¹, Ana Karla Sousa de Oliveira², Emiko Yoshikawa Egrý³, Eufrásio de Andrade Lima Neto⁴, Ulisses Umbelino dos Anjos⁵, Ana Tereza Medeiros Cavalcanti da Silva⁶

ABSTRACT

The paper presents a meaningful learning tool known as Gowin's V and highlights the possibility of using it in the process of *unpacking* academic work in nursing. Our study aims to propose an amendment to this tool using the elements that comprise the procedural trajectory of the Theory of Nursing Praxis Intervention in Collective Health (TIPESC) and to analyze a dissertation produced in this field. This descriptive and exploratory study presents Gowin's V and proposes changes to its methodology. It thus shows the possibility of using this heuristic instrument to analyze academic work in nursing. Gowin's V has already proven to be useful in supporting teaching and learning processes and analyzing academic work in the area through its ability to capture and interpret any phenomenon articulated in the processes of social production and reproduction.

DESCRIPTORS

Education, nursing
Nursing research
Learning

RESUMO

O artigo apresenta uma ferramenta de Aprendizagem Significativa denominada *V de Gowin* e a possibilidade de seu uso em um processo de *desempacotamento* de produções acadêmicas de Enfermagem. Objetiva construir uma proposta de alteração da ferramenta com a utilização dos elementos que compõem a trajetória processual da Teoria da Intervenção Prática da Enfermagem em Saúde Coletiva (TIPESC) e analisar uma dissertação produzida nesta área de conhecimento. Trata-se de um estudo descritivo e exploratório que apresenta o *V de Gowin*, propondo alterações no seu domínio metodológico. Constatou-se a possibilidade de utilização para análises de produções acadêmicas de enfermagem deste instrumento heurístico que já se mostrou útil para apoiar processos de ensino e aprendizagem e analisar produções acadêmicas na área, pela capacidade de captar e interpretar qualquer fenômeno articulado aos processos de produção e reprodução social.

DESCRITORES

Educação em enfermagem
Pesquisa em enfermagem
Aprendizagem

RESUMEN

El artículo presenta una herramienta de Aprendizaje Significativo denominada *V de Gowin* y su posible utilización en un proceso de *desempaquetado* de producciones académicas de Enfermería. Objetiva construir una propuesta de alteración de la herramienta con la utilización de los elementos que componen la trayectoria del proceso de la Teoría de la Intervención Práctica de Enfermería en Salud Colectiva (TIPESC) y analizar una disertación generada en tal área cognoscitiva. Estudio descriptivo-exploratorio, que presenta la *V de Gowin*, proponiendo alteraciones de su dominio metodológico. Se constató la posibilidad de utilización para el análisis de producciones académicas de enfermería de este instrumento heurístico, que ya fue útil como apoyo de procesos de enseñanza-aprendizaje y para analizar producciones académicas en el área, en razón de que permite captar e interpretar cualquier fenómeno articulado al os procesos de producción y reproducción social.

DESCRIPTORES

Educación en enfermería
Investigación en enfermería
Aprendizaje

* From the dissertation "Modelos de atenção à saúde em processos de trabalho profissional: conhecendo a realidade dos distritos sanitários III, IV e V de João Pessoa – PB" Graduate Program in Decision and Health Models at the Federal University of Paraíba, 2011. ¹Nurse. Professor of the Graduate Program in Decision and Health Models at the Federal University of Paraíba. João Pessoa, PB, Brazil. profccs@yahoo.com.br ²Nurse. Master's degree student of the Graduate Program in Decision and Health Models at the Federal University of Paraíba. João Pessoa, PB, Brazil. annahkarla@yahoo.com.br ³Nurse. Full Professor of the Department of Community Health at the São Paulo University Nursing School. São Paulo, SP, Brazil. emiyegry@usp.br ⁴Statistician. Professor of the Graduate Program in Decision and Health Models at the Federal University of Paraíba. João Pessoa, PB, Brazil. eufrasio@de.ufpb.br ⁵Statistician. Professor of the Graduate Program in Decision and Health Models at the Federal University of Paraíba. João Pessoa, PB, Brazil. ulisses@de.ufpb.br ⁶Nurse. Professor of the Graduate Program in Decision and Health Models at the Federal University of Paraíba. João Pessoa, PB, Brazil. anatmc8@yahoo.com.br

INTRODUCTION

It is impossible to speak of Gowin's V, the Epistemological V, or even the V Diagram without understanding the notion of meaningful learning, a central concept in Ausubel's theory:

Meaningful learning is a process in which new information is related to a relevant aspect of an individual's knowledge structure. This process involves the interaction of new information with a specific knowledge structure, which Ausubel defines as subsumption theory, or simply subsumption, existing in the learner's cognitive structure⁽¹⁾.

In other words, meaningful learning is a mechanism that facilitates the acquisition and retention of new information, since existing knowledge in the learner's cognitive structure acts as a kind of *anchor* for new knowledge. Existing knowledge is thus called an *advance organizer* and acts as a cognitive bridge.

David Ausubel was an American educational psychologist who died in 2008. Dissatisfied with his early education, he conducted studies on the learning process, arguing that new knowledge needed to make sense to those who received it. He based his educational system on the principle that teachers need to discover what their students already know in order to anchor new learning to this knowledge.

Although meaningful learning regards the cognitive aspect of the teaching-learning process with greater vigor, it still considers the emotional side of this process:

Meaningful learning requires *that* the learning material be potentially significant and *that* the learner express a willingness to relate the new material, in a *substantive* and non-arbitrary way, to their knowledge structure⁽¹⁾.

In composing his theory, Ausubel did not fail to consider the importance of the emotional domain. However, it was Joseph Novak who gave a humanistic touch to meaningful learning by examining its refinement, testing, and dissemination. For Novak, any educational event is an action aimed at changing the meanings and feelings between the learner and the teacher, and the purpose of this exchange is meaningful learning of contextually-accepted new knowledge⁽¹⁾.

The action of switching between meanings and feelings in an educational event also involves a third element, namely the educational material: by using these materials, students and teachers collectively analyze and contextualize the structure of the knowledge production process⁽¹⁾.

To help students understand knowledge structure and the ways in which humans produce it, Novak and Gowin proposed a heuristic method involving five questions and a scheme to *unpack* knowledge in a particular field. They called this method the Epistemological V or Gowin's V. The five questions used are as follows:

- What is(are) the focus question(s)?
- What are the key concepts?
- Which method(s) was(were) used to answer the focus question(s)?
- What are the knowledge claims?
- What are the value claims?⁽²⁾

The Epistemological V described by Ferracioli⁽³⁾ and presented below shows the interaction between the conceptual and methodological domains as well as each one of the five dimensions proposed using for the tool in its original format.

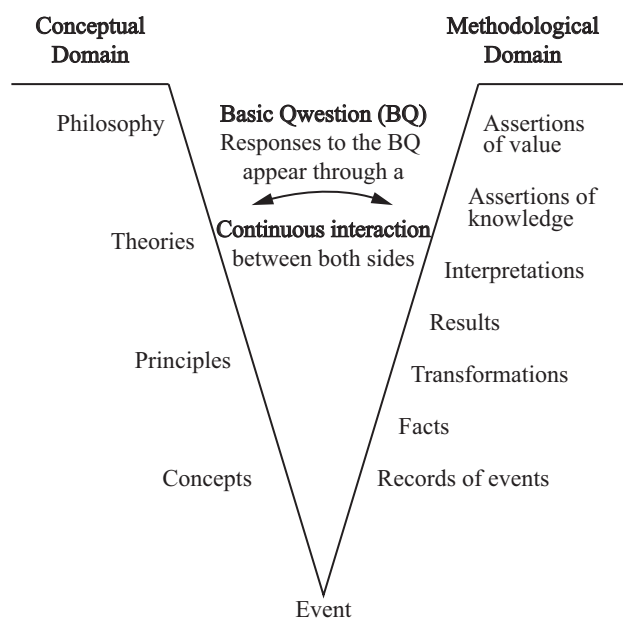


Figure 1 – The Epistemological V described by Ferracioli

Adopting this model, we have subsequently proposed changes that replace the five questions used in the original tool with the items that comprise the procedural trajectory of the Theory of Nursing Praxis Intervention in Collective Health (TIPESC)⁽⁴⁾. The revised model may be represented as follows:

Our study thus aimed to develop a proposed amendment to the model suggested by Moreira and Buchweitz⁽¹⁾ by using the elements that comprise the TIPESC⁽⁴⁾ procedural trajectory and analyzing a dissertation written in this knowledge area.

METHOD

This descriptive and exploratory study aims to present the heuristic instrument entitled Gowin's V or the Epistemological

V, while proposing changes to the methodological domain by replacing the five questions used in the original tool with the items that comprise the TIPESC⁽⁴⁾ procedural trajectory. This study was approved by the Ethics Committee according to the CEP/CES Protocol No. 148/2010.

Using on the tool thus formed, we analyzed the dissertation entitled *Alternatives Strategies and Tactics in the Modeling of Health Services: Seeking New Knowledge for Health Promotion Processes*⁽⁵⁾. This study was

conducted in 71 Family Health Units from the third, fourth, and fifth health districts in the municipality of João Pessoa, Brazil.

RESULTS

The following diagram represents the proposed construction of the model of Gowin's V adapted to the *unpacking* of academic work in nursing.

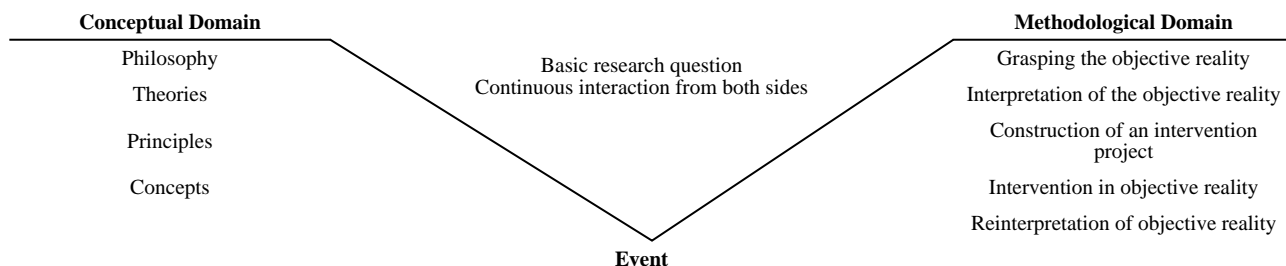


Figure 2 – Proposed Gowin's V to analyze academic work in nursing

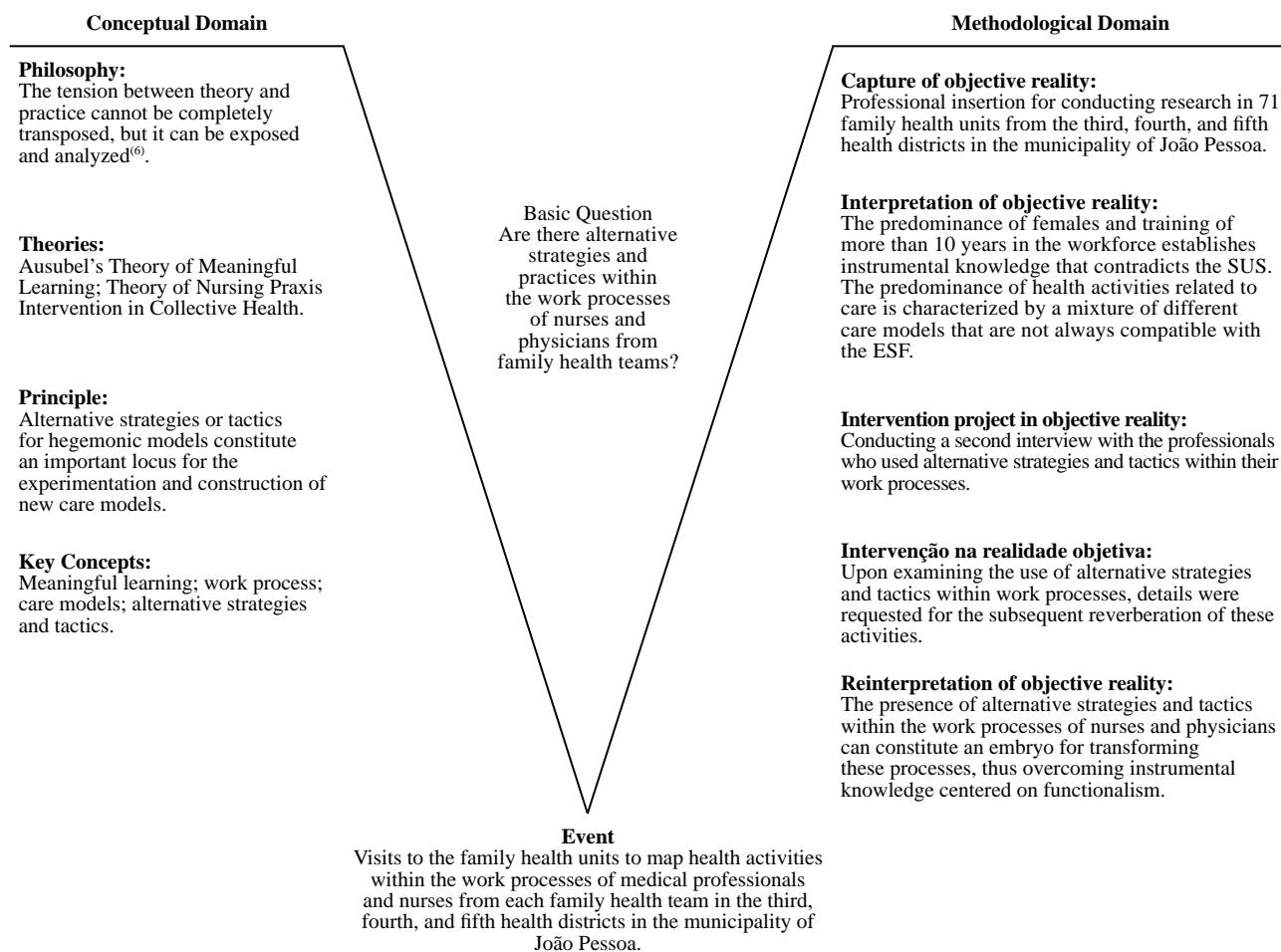


Figure 3 – The Theory of Nursing Praxis Intervention in Collective Health as decoded by Godwin's V

DISCUSSION

Explanation of Godwin's V to analyze the unpacking of the academic production of Nursing

Basic Research Question

The research consisted of mapping the health activities used in the work processes of medical professionals and nurses from family health teams in the third, fourth, and fifth health districts in the municipality of João Pessoa. It attempted to highlight the foundations of the care being used and the characteristics of the assistance model being employed. While trying to identify any significant changes in health care practices, the following question was asked: Are alternative strategies and practices being used within the work processes of nurses and physicians from family health teams?

Associated research questions

- 1) Can the possible alternative strategies and tactics identified within the work processes of nurses and physicians change the axis of health actions that are hegemonically centered on professional procedures?
- 2) Can the possible alternative strategies and tactics incite changes in the process of decision making at the local level of basic health units as well as at the central level of the Municipal Department of Health?

Event

At the apex of the V diagram is the event, which corresponded to the visits to family health units in this study. Both the visits and the questionnaires exploring the health activities performed by nurses and physicians provided information about the work process and the characteristics of care models used.

Left side of Gowin's V

The left side of the diagram contains the conceptual domain of knowledge, which is to be *unpacked*. This corresponds to the theoretical part of the study, which comprises most of its references.

Philosophy

The basic inspiration motivating the study's construction was the conflict between theory and practice, which was represented by the confrontation between the existing care models and the resultant work processes.

Theories

Ausubel's theory of meaningful learning, which supports the heuristic instrument proposed by Novak and Gowin and their goal to *unpack* knowledge in any particular field, is complementary to the TIPEESC, which captures and interprets phenomena articulated in the processes of social production and reproduction and functions in the environment and structure of any given historically-determined social context. While the former

brings knowledge to the fore, unveiling it as the set of information, the latter seeks its determinants, revealing its essence beyond appearances.

Principle

The major principle is the possibility and necessity of change. Given that theory and practice can be exposed and analyzed, the existence of alternative strategies or tactics in hegemonic models must be addressed, as they are an important locus for the experimentation and construction of new care models.

Key Concepts

Meaningful learning; work process; care models; alternative strategies and tactics.

Right side of Gowin's V

This side of the diagram contains the study's procedural aspects and in the proposal, it follows the steps used in the TIPEESC in terms of its ability to capture and interpret phenomena, function in their environments and structures, and reinterpret them once again in order to interpose the intervention instruments.

Capture of objective reality

Health activities within the working process of physicians and nurses from the teams at 71 family health units in the third, fourth, and fifth health districts in the municipality of João Pessoa were thus captured. The foundations of the care provided were uncovered, as was the care model being employed from the perspective of singular, particular, and structural dimensions⁽⁵⁾.

The singular dimension refers to the direct intervention of phenomena in their objective and subjective aspects (meaning). The particular dimension comprises the processes of social reproduction articulated in the hegemonic modes of production. Finally, the structural dimension refers to the political and ideological forms derived from the production relationships⁽⁴⁾.

In the nursing study analyzed using Gowin's V, the singular dimension refers to the health activities of nurses and doctors who are part of the ESF in developing alternative strategies and tactics. These health activities or actions are operationalized within the limits established by the health care levels (primary, secondary, and tertiary), with the activities being related to the administrative, educational, or purely care domains: this thus constitutes the phenomenon's particular dimension. These activities are anchored in philosophical and organizational principles adopted by the SUS, the main public health policy in force in the country, and they are considered to be the structural dimension⁽⁵⁾.

Interpretation of objective reality

Among the 180 family health teams in João Pessoa's five health districts, a sample based on statistical models⁽⁷⁾ was extracted, which resulted in the selection of 71

teams from the third, fourth, and fifth health districts. The health teams had a predominance of females and training of more than 10 years. The workforce uses instrumental knowledge in opposition to the principles of the SUS, and the predominance of health activities related to the care dimension are characterized by a mixture of Privatized and Sanitarian/Campaign care models, which are not always compatible with the ESF.

Intervention project in objective reality

Having confirmed the use of alternative strategies and tactics within the work processes of nurses and physicians from the sampled teams, all the professionals were revisited and a second interview was conducted at a time and place determined by the professionals.

Intervention in objective reality

In reality, the intervention maintained two entry criteria for participating in the study: 1) all nurses and physicians who implemented health activities or actions that were not reflected or contained in the known care models (Privatized, Campaign, and ESF); 2) all nurses and physicians who practiced health activities or actions guided by the Municipal Department of Health, but using a particular rationale or skill to render it different from the usual or standardized manner. The cut-off criteria were thus applied to all professionals who performed activities or actions within their work process that were already reflected or contained in the known care models⁽⁵⁾.

Reinterpretation of objective reality

The presence of alternative strategies and tactics was verified within the work processes of the nurses and doctors interviewed. The study concluded that these individuals could constitute an embryo for the transformation of these processes, by overcoming instrumental knowledge centered on functionalism.

The possibility of using Gowin's *V* model derived from Ausubel's pedagogical concept of meaningful learning was also verified using the elements that comprise the TIPESEC procedural trajectory, which resulted in enhancing the knowledge produced in the field of nursing.

The lack of depth in the knowledge produced was imposed as a limit for this tool's use, since its purpose was to help learners understand the knowledge structure and the ways in which it are produced⁽⁸⁾.

CONCLUSION

Gowin's *V* or the Epistemological *V* is a heuristic tool that is not, strictly speaking, an innovation for interpreting material for instructional technologies. However, the possibility of the model providing a visual synthesis for academic work has not yet fully been explored. The application of the TIPESEC's procedural elements in the model in order to uncover the methodology of academic work is an example of the possibilities that this instrument offers researchers and educators, particularly in the field of nursing.

The use of TIPESEC takes into account the specific academic work in this knowledge field, as it captures and interprets any phenomena articulated in the processes of social production and reproduction, thus promoting a wider range of issues to be considered in the research.

The involvement of students, teachers, and educational materials in Gowin's *V* is characterized by the sharing of meaning, which, if not achieved, should be restated so that the learner can build their own learning path, with the idea of learning to learn.

Gowin's *V* is an instrument that facilitates human *empowerment* by encouraging an open relationship between learners, teachers, and educational material for sharing meaning. It can be an excellent tool to assist teaching, research, and learning processes in training the nursing workforce.

REFERENCES

1. Moreira MA, Caballero MC, Rodriguez ML. Aprendizagem significativa: um conceito subjacente In: Actas del Encuentro Internacional sobre el Aprendizaje Significativo; 1997; Burgos, España [Internet]. [citado 2011 abr. 25]. Disponível em: <http://www.if.ufrgs.br/~moreira/apsigsubport.pdf>
2. Santos ACK. A construção de um Vê de Gowin para o trabalho em modelagem: o caso do Sistema Semiquantitativo VISQ [Internet]. Fundação Universidade Federal do Rio Grande; 2011 [citado 2011 abr. 25]. Disponível em: http://www.api.adm.br/GRS/referencias/v_gowin.pdf
3. Ferracioli L. OV epistemológico como instrumento metodológico para o processo de investigação. Rev Didática Sistemica [Internet]. 2005 [citado 2011 abr. 25]. Disponível em <http://www.seer.furg.br/ojs/index.php/redis/article/view/1191>
4. Egry EY. Saúde coletiva: construindo um novo método em enfermagem. São Paulo: Ícone; 1996.
5. Oliveira AKS. Estratégias e táticas alternativas na modelagem dos Serviços de Saúde: buscando novos saberes para os processos de promoção da saúde [dissertação]. João Pessoa: Universidade Federal da Paraíba; 2011.
6. Silva CC, Egry EE. Constituição de competências para intervenção no processo saúde-doença da população: desafio ao educador de enfermagem. Rev Esc Enferm USP. 2003;37(2):11-6.
7. Silva NN. Amostragem probabilística: um curso introdutório. São Paulo: EDUSP; 2004.
8. Moreira MA. Teorias de aprendizagem. São Paulo: EPU; 2011.