



QUALITATIVE ORIGINAL ARTICLE

COMPETENCES AND PROFESSIONAL FULFILLMENT FROM MEDICAL EDUCATION

COMPETENCIAS Y DESEMPEÑO PROFESIONAL DESDE LA EDUCACIÓN MÉDICA

Authors: Susana Solís Solís,¹ Yaíma Pupo Poey,² Aixa Rodríguez Gómez,³ Vilma Silenia Hernández Muñiz,⁴ Geovanis Olivares Paizán,⁵ Ana López Banteurt⁶

¹Bachelor Degree in Nursing. Specialist in Hygiene and Epidemiology. Philosopher Doctor in Medical Education Sciences. Full professor. School of Health Technology. University of Medical Sciences of Havana. Havana. Cuba. Email: susanasolis@infomed.sld.cu

²Bachelor Degree in Health Technology, Podology. Philosopher Doctor in Medical Education Sciences. Assistant Professor. School of Health Technology. University of Medical Sciences of Havana. Havana. Cuba. Email: ypupo@infomed.sld.cu

³Bachelor Degree in Defectology. Master in Psychology of the Health. Assistant Professor. School of Health Technology. University of Medical Sciences of Havana. Havana. Cuba.

⁴Bachelor Degree in Physical Therapy and Rehabilitation. Instructor Professor. University of Medical Sciences of Havana. Havana. Cuba. Email: silenia66@nauta.cu

⁵Bachelor Degree in Administration and Economy. Master in Health Economy. Associate Professor. University of Medical Sciences of Havana. Havana. Cuba.

⁶Doctor in Stomatology. Second degree specialist in Comprehensive General Stomatology. Master in Stomatological Urgencys. Associate Professor. University of Medical Sciences of Santiago de Cuba. Cuba.

ABSTRACT

Introduction: the skills and performance of health professionals have been a permanent concern of health systems to increase the quality of services and medical universities to provide the professional world with a professional with adequate capacity and mode of action. *Development:* the positioning of the authors allowed, through systematization, to make an assessment of the foundations and background of the training of competences and their relationship with the quality of professional performance in health. *Conclusions:* the training of professional competences have their foundations of cognitive and motivational nature permanently integrated, which regulate professional performance to be inextricably linked to performance and develop during professionalization for its constant improvement, with a committed and consistent action with decisions taken by the professional in his daily work that contributes to raising the quality of health services provided to the population.

Keywords: competence, performance, professional

RESUMEN

Introducción: las competencias y el desempeño de los profesionales de la salud han constituido una preocupación permanente de los sistemas de salud para incrementar la calidad de los servicios y de las



QUALITATIVE ORIGINAL ARTICLE

universidades médicas, con el fin de aportar al mundo laboral, a un profesional con adecuada capacidad y modo de actuación. *Desarrollo:* el posicionamiento de los autores permitió mediante la sistematización, realizar una valoración de los fundamentos y antecedentes de la formación de competencias y su relación con la calidad del desempeño profesional en salud. *Conclusiones:* la formación de competencias profesionales tienen sus fundamentos de índole cognitivo y motivacional integrados de forma permanente, que regulan la actuación profesional, al estar indisolublemente unidas al desempeño y se desarrollan durante la profesionalización para su constante perfeccionamiento, con una actuación comprometida y consecuente con las decisiones tomadas por el profesional en su quehacer diario, que contribuye a elevar la calidad de los servicios de salud que se brindan a la población.

Palabras claves: *competencia, desempeño, profesional*

INTRODUCTION

Every day humanity demands the formation of professionals capable of solving, from their professional practice, the health problems of society and guaranteeing the necessary changes for their sustainable development. ⁽¹⁾

At the global level, the evaluation of the competences and the performance of health professionals have constituted, in the last three decades, a permanent concern of the health systems to increase the quality of the services and of the medical universities to contribute to the labor world, to a professional with adequate capacity and mode of action.

There have been numerous projects, meetings, events, declarations and models that have been carried out in the world to address the issues of competencies in the field of medical training and its relationship with assistance and the world of work. Several countries have adopted competency-based training in their universities, and organizations and centers dedicated to the study of skills and work performance have been created. ⁽²⁻³⁾

In the Cuban strategy for the creation and consolidation of its health system, the policy of human resources development has been a factor of maximum relevance. The development of these resources has been in turn the essential capital for the promotion of scientific research and the search for technological independence in everything that is within reach, according to the possibilities of each moment, by applying the scientific achievements to all that requires it, both in the field of promotion and prevention, and in diagnosis, treatment or rehabilitation. ⁽⁴⁾

It is important from the field of Medical Education, to take into account the role played by the training and development of skills, as these prepare professionals to face the challenges that arise in working life. Given the great complexity of current times, characterized by unequal economic situations, dizzying technological changes and wide social and cultural diversity, universities face the challenge of expanding their capacity to respond to social demands, the growing demand for professionals that are capable of being inserted competently in the socioeconomic, political, cultural, science, technology and social insertion processes.

To the above, it obeys the need to work on the relationship between competence and performance. The conception of this process must be flexible, comprehensive and contextual. It is necessary to develop professional competences systematically and permanently from the exercise of professional functions, qualification or performance towards a competent job. ⁽⁵⁾

When taking into account these arguments, this article presents an assessment of the foundations and background of the training of competencies and their relation to the quality of professional performance in health.



QUALITATIVE ORIGINAL ARTICLE

DEVELOPMENT

Professional competences: approaches, definitions and trends

When entering the background of the term competence, it is identified that it begins to be used in the field of psychological science at the end of the fifties by the theorists of the new cognitive psychology, when Noam Chomsky introduces the concept of linguistic competence to refer to a formal and abstract knowledge about the rules and principles that regulate the linguistic system, attributing an innate and universal character.

The term "competition", in the 70s recovers a boom applied to the work environment, which responded to the needs of an era where there was a great revolution in production and left aside the satisfaction and development of workers. Thus begins the application of the concept in spheres outside the language, mainly in developed countries, related to the productive processes in companies. At first it emerges as labor competence. With a more integrating and holistic vision, the concept of labor competency is changed to that of professional competence from a stage of human talent management and training based on a competency approach based on the work of David McClelland.⁽⁶⁾

In the 1980s, the industrialized countries have given great impetus to education and competency-based training, with successful results mainly in Australia, Canada, France, the United States and the United Kingdom. This concept of competences involves two important elements: education and training.⁽⁷⁾

The concept of competence arises from the need to assess not only the set of appropriate knowledge (knowledge) and skills and knowledge (know-how) developed by a person, but to appreciate their ability to use them to respond to situations, solve problems and unwrap in the world. Similarly, it implies a look at the conditions of the individual and the dispositions with which he acts, that is, the attitudinal and evaluative component (knowing how to be) that affects the results of the action.⁽⁸⁾

In today's society there is a tendency in different regions, cultures and in all labor spheres, related to the competences of labor resources, for an updated control of the markets. Cuba is not immune to this process and works to ensure a better performance of its professionals and provide a better service, especially if it is related to the health and quality of life of the population.

There are numerous classifications of the types of labor competencies. For the purposes of the Cuban National Health System, they are classified as:

Generic competences: those that, formed in Higher Medical Education, are those of greater generality and need for a university graduate to be inserted successfully in the professional field. They are fundamental in the formation of skills and knowledge, and in aspects related to their essential formation, which are expressed in the fulfillment of ethical, moral, political and ideological principles, motivations, attitudes and values.⁽⁹⁾

Specific competences: those that the professional requires for the proper exercise of their profession and are determined for each area, service or specialty. They are based on the progressive acquisition of knowledge, specific skills and the achievement of greater expertise. They are not easily transferable from one service to another in different specialties.⁽⁹⁾

The conceptual diversity in terms of criteria and projections about the term competences is wide. If it is true that in many universities of the world, training based on competences or a competency-based approach has been generalized in others, the development of the skills of its already graduated professionals, favors an improvement of their professional performance, and guarantees from the permanent and continuous improvement, the professionalization process.

The competences are also called "competence units". And they have a clear and concrete meaning in the work process and, therefore, have value in the exercise of their work activities and also includes any requirement



QUALITATIVE ORIGINAL ARTICLE

related to health, safety, quality and labor relations, among others. The grouping of different competency units shapes the occupational qualifications. The competences or units of competences are structured in "elements of competence".⁽¹⁰⁾

The element of competence is the description of an accomplishment that must be achieved by a person in the scope of his occupation. It refers to an action, behavior or result that the worker must demonstrate. The elements of competition are the basis for standardization. It is what a person must be able to do to fulfill their job functions.

The competences allow to articulate all subsystems of human resources management to global results, conserving each one of its components, its dynamics and its own internal characteristics: selection, training, evaluation, promotion, recognition and certification.⁽¹⁰⁾ It is important to mean that competences are not the heritage of a job, but are attributes of the worker and incorporate individual and social elements in a way that in each case is unique.

Multiple have been the definitions of competences made from different conceptions; However, many institutions and authors agree that they are the set of knowledge, skills, attitudes and values that are put into operation in a specific work context, in order to solve a concrete problem of social practice, where various capacities intervene, and they have been associated with quality, efficiency, effectiveness, relevance, responsibility, excellence and actions to achieve satisfaction.⁽¹¹⁾

The Cuban Ministry of Labor and Social Security specifies that they are used by the worker in the performance, in correspondence with the technical, productive and service requirements, as well as those of quality, which are required for the performance of their functions.⁽¹²⁾ In Cuba, several researchers who work in the context of Medical Education have deepened the study and definition of the term competences; among them:

Urbina Laza O. in 2007⁽¹³⁾ defines them as: the integration of knowledge, skills, behaviors, attitudes, aptitudes and motivations that lead to an adequate performance in diverse contexts, respond to the functions and tasks of a professional to develop ideally in his work and is the result of a process related to experience, training and qualification.

Perdomo Victoria IT. in 2007⁽¹⁴⁾ grouped as common elements: knowledge, procedures and attitudes that combined, coordinated and integrated are needed for effective professional practice; that are only definable in action and in practice, with a dynamic and flexible character; that can be acquired throughout the active life and includes the capacity for development, improvement and adaptability; that cannot be understood outside the context, time, social, economic and labor environment; and implies a relationship between the internal and the external of the person.

Salas in 2009⁽¹⁵⁾ stated that professional competence in health integrates the set of skills (knowledge, skills and abilities) developed through educational processes (academic training and continuing education) and work experience achieved, based on values and attitudes; which are applied for the identification and solution of the daily problems that you face in your work practice in a certain area or health service.

The researcher Martínez. JA in 2011,⁽¹⁶⁾ proposes the definition of Specialized Professional Competence: "identified from the behaviors associated with knowledge, skills and values, related to technical training, linked to the quality of services from the workplace, with a productive language or function and a reflection of the demands of society by virtue of the quality of life of human beings.", in correspondence with the cultural historical approach.

PhD Sixto in 2014,⁽¹⁷⁾ in his doctoral thesis assumes the definition of PhD Santos and refers that professional skills are "a system of knowledge, skills, values and qualities of personality that are they mobilize according to individual and social needs, as well as the motives, interests and attitudes of the professional, which allow satisfactory performance in the exercise of the profession; and that can only be evaluated through performance, considering social demands."



QUALITATIVE ORIGINAL ARTICLE

PhD González in 2017, ⁽¹⁸⁾ assumes the research competencies with an interdisciplinary approach for teachers of Health Technologies as "Potentiality of the human being with teaching functions in Health Technologies, which is expressed in the framework of all process of scientific research in the context of medical education and that allows from the integration, cooperation and enrichment of knowledge, the resolution of professional and pedagogical problems, the construction of new knowledge of the sciences involved and the actors involved with the researcher. "

Regularities are recognized in these authors when referring to the term of competition between them, which are:

- Necessary for the exercise of a profession
- Update of knowledge according to the exercise of the profession.
- Strengthening of values
- Ability to adapt
- Procedure techniques in a specific context
- Uninterrupted development according to the individual and social needs, motives, interests, attitudes, aptitudes of the professional.
- Development in the practical activity during the professional training with skill and abilities of it, before the demand of the exercise of their profession.
- They can be observable, measurable and evaluable based on the ideal professional performance.

According to these researchers, they agree that competence is the knowledge, skills and values associated with a specific professional context. Competencies are valued as a tool capable of providing a conceptualization, a way of doing and a common language for the development of human resources, they constitute a systematic vision and organization, they have been expressed as a certification system legally established in several regions of the world, it is a link between work, education and training.

Process of identification of professional competences

The identification, definition or construction of competencies is the process followed to establish, based on work and performance, the skills that are mobilized to perform the activity satisfactorily, a labor analysis is carried out to determine the competencies that are necessary to achieve the objectives that the occupation pursues. ⁽¹⁹⁾

It is the starting point for the study on competences and is carried out through a participatory process, involving specialized workers, employers, technicians and methodologists; and when they are not identified in the workplace, it is up to the academic institutions to carry out this process. ⁽¹²⁾

There are three methodologies to identify competences, which are: occupational, functional and constructivist analysis. ⁽²¹⁾

Occupational analysis is the process of collecting, ordering and evaluating information related to the activities and tasks of the occupation to be studied, both in terms of the characteristics of the work performed, the requirements that are needed for the worker have a satisfactory performance, as well as the technical and environmental factors of it. ⁽²¹⁾

This type of analysis corresponds to three other methods developed and applied in various regions, countries and institutions, which are:



QUALITATIVE ORIGINAL ARTICLE

a. Developing a Curriculum, (DACUM) of fast application and low cost. Through the technique of brainstorming, workers, supervisors, instructors and teachers describe their occupations, identify tasks, functions, competencies and sub competences. It is very useful to design objectives and contents of technical education and vocational training programs, and specifies the tools with which the worker interacts, to facilitate practical training. ⁽²¹⁾

b. A model, in English (AMOD) is an agile application and low cost, it is a variant of the DACUM aimed at identifying competences and sub competences of a family of occupations, and allows these to be organized in training modules that can be taught in sequentially, in an order of increasing complexity.

c. Systematic Development of an Instructional Curriculum (SCID) is a deepening of the DACUM, it carries out a more detailed analysis of the tasks of the occupation, related to safety standards, execution standards, instruments, work materials and information management, among others. It is used to design didactic guides that are used in personalized education programs and facilitates the modular structure of teaching. ⁽²¹⁾

Functional analysis is a method that is used to identify the competences required for a productive function or services, follows an analytical process that goes from the general to the particular, it consists in disaggregating the functions into increasingly specific sub functions and these, in turn, they can be subdivided into minor tasks, until the identification of the elementary actions that a worker can perform, under the logical problem-solution. It produces flexible descriptions to be applied in different work contexts and includes the conditions of quality, safety and health at work. ⁽²²⁾

The function, as a conscious and goal-oriented activity, is the type of work activity that characterizes and identifies the socially useful work that man performs to achieve a specific objective. It constitutes the set of activities, tasks, duties and responsibilities that determine the exercise of a profession, position or employment, which must reflect the problems that the professional must be able to face, analyze and solve. ⁽¹⁴⁾

This type of analysis is an experimental process, because there are no exact procedures to carry it out, it is built with the contributions of the participants through a deductive strategy, it is a process of work analysis in its integrating functions, which is developed with experts from the activity labor, employers and workers, according to methodological guidelines. Being a method of analysis that enables reflection, it has a formative character, which produces new knowledge.

The main purpose identified and its successive disaggregation to achieve more elementary functions that are performed by individuals, gives rise to the different branches that determine the units and elements of competence, which are expressed in a functional map or tree of functions and that can be transferable between different labor contexts. ⁽¹⁴⁾

The constructivist analysis has its origin and greater development in France. It is a method focused on the behavior of workers, which consists of a face-to-face interview, from which their attitude to various work situations and critical incidents is examined, specific data is obtained about the way in which they behaved in the past to establish the type of behavior that differentiates efficient people from less efficient ones. ⁽²²⁾

A fundamental principle in the interviews is that "past behavior is the best predictor of future behavior". For this reason, incidents that occurred in the past allow us to determine how he would behave in the present, now that he knows what happened and its consequences. The constructivist analysis is the most participatory, since it is oriented from the dysfunction in the productive process and includes the people of lower level.

The authors of this article agree with what is stated by the Center for Academic Development in Health of the University of Medical Sciences of Havana (CADH), ⁽²³⁾ which considers that the three methods are overlapping



QUALITATIVE ORIGINAL ARTICLE

and that when the functions in the undergraduate and postgraduate programs in the country, emphasis is placed on functional analysis as a starting point for the identification of competences.

According to Irigoin and Vargas, ⁽²⁴⁾ the steps for the construction of competences, according to the functional analysis, can be:

1. Form the group of experts.
2. Establish the purpose and scope of the analysis to be carried out.
3. Develop the functional map.
4. Identify the units and define the elements of competence.
5. Select the system of knowledge and key skills, as well as the values and attitudes required.
6. Identify the performance criteria.
7. Establish the field of application.
8. Identify the evidence of performance.
9. Establish the evaluation guide.

For some authors, the first four steps are those relating to the identification process and those from five to nine are within the normalization of competencies.

The evaluation of competence and professional performance

The performance has a close relationship with the competences since these can only be defined and obtained through a specific professional performance, which are cataloged as: satisfactory, suitable, efficient, adequate, among other terms. ⁽²⁵⁾ Therefore, the competences identify, first of all, concrete results in a specific work area.

Competencies are not only manifested, they are also built based on performance. In effect, the competence-building process is not conceived as a phase of conceptual acquisition, followed by a phase of "practical" application, but competencies are also constructed in the practice itself, and diverse knowledge is developed.

The performance, as expressed in the dictionary of the Royal Spanish Academy, "is the action and effect of performing or perform" while performing means "fulfill a responsibility, perform an action that has been accepted as an obligation. As a service by which a satisfaction is obtained; the word extends to the set of actions that are carried out to achieve an objective." ⁽²⁶⁾

In the area of pedagogical sciences, the researcher Añorga and collaborators in 2008, ⁽²⁷⁾ in the glossary of terms of advanced education express that it is the "capacity of an individual to carry out actions, duties and obligations inherent to his position or functions. Professionals that demands a job. This is expressed in the behavior or real behavior of the worker in relation to the other tasks to be fulfilled, during the exercise of his profession. This term designates what the professional really does and not only has what he known how to do."

This same researcher in her thesis in option to the scientific degree of philosopher doctor, in second grade in 2012, states that "it is the process where the suitability of the subject is manifested to execute the actions of their functions, where their domain is reflected. technical-professional, political behavior and human qualities, that



QUALITATIVE ORIGINAL ARTICLE

allow you to know how to be in line with the priorities of work in the sector, according to current demands, demonstrating it in the evaluation of the concrete results of your center."⁽²⁸⁾

In the area of health sciences, Fernández Sacasas in 1999 defines professional performance as: "the attitude or ability of a professional to proficiently develop the duties or obligations inherent to a work position. It's what the aspirant actually does."⁽²⁹⁾

Salas Perea in 2009, defined as: "the behavior or real behavior of workers, both in the technical order, and in the interpersonal relationships that are created in the care of the health process -disease of the population, where In turn, the environmental component has an important influence."⁽¹⁵⁾

In the area of health technologies, the researcher Ramos Suárez in 2014 defines the professional performance of the technologist in mammography techniques such as: the behavior demonstrated by the technologist in Imaging in the execution of the technological procedures of the techniques of mammography, in the process of training and obtaining medical images, for the early detection and presumptive diagnosis of breast cancer, with the fulfillment of its functions (care, teaching, research and management), with humanism, scientificity, communication and ethics, through interaction in the multidisciplinary health team, for the sake of the quality of life of patients, family members and their environment.⁽³⁰⁾

On the other hand, Solís, S in 2017, defines the professional performance of the Bachelor of Hygiene and Epidemiology as: the capacity (understood as intelligence, talent, preparation, sufficiency), that this professional has to identify, evaluate and contribute to solve the hygienic - epidemiological problems, by applying its 38 pedagogical, scientific - research, managerial and assistance functions, in close relation with the health team, which guarantees the obtaining of quality results in the health services.⁽³¹⁾

From the analysis of the definition of professional performance that is assumed by the afore mentioned researchers, the following are identified as common elements:

- Capacity, behavior.
- Suitability of the professional.
- Carry out the actions, duties, obligations of their professional duties.
- What the professional actually does and not only what he knows how to do.
- Real action and domain.

Therefore, the direct relationship of performance with the modes of action where the nuclei or basic pillars of learning are articulated in a coherent and continuous way: learning to know, to do, to live and to be. Therefore, it is considered that professional performance is multidimensional and implies in its dialectical interrelation the integration of knowledge, skills, attitudes and values. It also manifests: orientation, organization and supervision.

Therefore, in order for there to be good work performance, it is necessary first of all to be competent and also to take into account the state of existing personal and work conditions.

The quality of performance, united and integrated to the quality of services, leads to postulate the evaluation of professional performance as a continuous process of evaluation of the quality of health care, which breaks the purely academic frameworks, and links it with the institutional responsibility and social commitment, as a response to the needs of the population; in an active and participative process of constant problematization, which directs the actions to be developed in the permanent processes of training and improvement in health.

QUALITATIVE ORIGINAL ARTICLE

The evaluation of the performance includes in itself the evaluation of the competences, in conjunction with the labor and personal conditions required for its performance in a certain job. For a professional to have a good job performance requires being competent; but the fact of being competent, by itself, does not always guarantee a good professional performance, since it will depend on the other existing conditions. ⁽³²⁾

Several techniques and procedures for the evaluation of competences and professional performance are described, among the most used are direct observation, self-evaluation, interviews (managers and the population), medical audits, and examinations, among others. ⁽³³⁾ In the opinion of the authors of this article, the combination of several techniques in the evaluation process leads to greater reliability of the results.

The evaluation of competence and professional performance in health is the driving and motivational axis of the development of professional improvement processes, contributes to the development of permanent and continuous education, has a transforming character (influences the evaluated, the institution where he works and the community, is the basis for the certification of labor competency, makes it possible to improve the design of jobs and contributes to raising the quality of health services.

CONCLUSIONS

The training of professional competences has its foundations of cognitive and motivational nature permanently integrated, which regulate the professional performance to be linked in an indissoluble way to the performance, and develop during the professionalization for its constant improvement, with a committed and consistent action with the decisions taken by the professional in his daily work that contributes to raising the quality of health services provided to the population.

BIBLIOGRAPHICAL REFERENCES

1. Pérez Campdesuñer R, Leyva Del Toro C, Bajuelo Páez A, Pérez Granados T. The evaluation of individual performance, a tool for decision making. Ccm. Holguin 2015 Oct.-Dec; [4]: 19.
2. Hernández Castellanos GR, Cisneros Álvarez Y, Carrasco Feria M, Osorio Serrano M, Hernández Castellanos G. The clinical method: evaluation of actions to strengthen it from the subject Community Medicine in the Medicine career. Ccm. 2013 [cited 1 June 2015]. Available at: <http://www.revcocmed.sld.cu/index.php/cocmed/article/view/432/253>
3. Salas Perea RS. Proposed strategy for the evaluation of the work performance of doctors in Cuba. Medical Education Journal. Havana. 2011 Jul.-Sep; [24]: 3.
4. Viera Valdés R. Methodology for the Evaluation of Performance based on Labor Competencies in the Oral Liquid Pharmaceutical Laboratory Company "Medilip". Thesis in Option to the Degree of Master of Science. University of Havana, 2016.
5. Rosa de la Rosa J, Rosales Casabielles Y, Velásquez Hechavarría N. Quality of higher medical education in the training of health professionals. Ccm. 2012 [cited 11 April 2015]. Available at: <http://www.revcocmed.sld.cu/index.php/cocmed/article/view/>
6. Ortiz García M, Vice Tome Tomey A, González Jaramillo Z, Recino Pineda U. The multiple definitions of the term "competence" and the applicability of its approach in medical sciences. EDUMECENTRO [Internet]. 2015 July 1, 2015; 7 (3): [2031.pp: available at: <http://www.revedumecentro.sld.cu/index.php/edumc/issue/view/33>.
7. Véliz Martínez P, Jorna Calixto A, Berra Socarrás E. Identification and standardization of the specific professional skills of the specialist in Intensive and Emergency Medicine. Higher Medical Education [Internet]. 2015 June 8, 2016]. Available at: <http://ems.sld.cu/index.php/ems/article/view/582>
8. Tejada Fernández J, Ruiz Bueno C. Significance of the practicum in the acquisition of professional skills that allow the transfer of knowledge to areas of the teaching activity. Teaching staff [Internet]. 2013 January 7, 2016; 17 (3): [91-110. pp.]. Available at: http://ddd.uab.cat/pub/artpub/2013/123080/Tejada_2013_rev173ART5.pdf
9. Salas Perea RS, Salas Mainegra A. Formative model of the Cuban doctor. Editorial sciences madic. Havana, 2017, pp. 63-65.



QUALITATIVE ORIGINAL ARTICLE

10. Ministry of Public Health of Cuba. Methodological guidelines for the identification, design and standardization of the labor competencies system in the National Health System, (2012).
11. Villalobos-Pérez A, Quirós-Morales D, León-Sanabria G. Some theoretical and methodological considerations for the development of a critical competencies model (CCM): an operating approach. *Av Psicol Latinoam* [Internet]. 2011 [cited 7 Nov 2015]; 29 (1): [approx. 19 p.]. Available at: http://www.scielo.org.co/scielo.php?script=sci_arttext&pid=S179447242011000100006&lng=en&tlng=en
12. Cuba. Ministry of Labor and Social Security. Ministerial Resolution No. 21/1999. City of Havana: MTSS; 1999.
13. Urbina Laza O. Methodology for the evaluation of labor competencies of nursing professionals who work in neonatology services [thesis]. Havana: National School of Public Health; 2007
14. Perdomo Victoria IT. Methodological strategy to evaluate professional competences in hygiene and epidemiology specialists [thesis]. Havana: National School of Public Health; 2007 [cited 7 Nov 2015]. Available at: http://tesis.repo.sld.cu/74/1/Perdomo_tesis%2828.1.08%29.pdf
15. Salas Perea RS. Proposed strategy for the evaluation of the work performance of doctors in Cuba [thesis]. Havana: National School of Public Health; 2009
16. Martínez Isaac JA. Design by competences of the diploma in clinical - surgical nursing [thesis]. Havana: Enrique José Varona University of Pedagogical Sciences; 2011 [cited 21 May 2016]. Available at: <http://tesis.repo.sld.cu/431/1/MartinezIsaacJA.pdf>
17. Sixto Pérez A. Pedagogical Strategy for the preparation of Graduates in Nursing in research competences [Doctoral thesis]. Havana: Enrique José Varona University of Pedagogical Sciences; 2014.
18. González García T. Model for the development of research competencies with an interdisciplinary approach in Health Technology [Thesis in option to the Scientific Degree of Doctor of Medical Education Sciences]. Havana: University of Medical Sciences of Havana; 2017
19. Oramas González R, Jordán Severo T, Valcárcel Izquierdo N. Skills and pedagogical professional performance towards a model of the professor of Medicine. *Educ Med Super* [Internet]. 2013 [cited 26 Apr 2016]; 27 (1): [approx. 22 p.]. Available at: <http://www.ems.sld.cu/index.php/ems/article/view/122/78>
20. Rodríguez Camacho S, Sánchez Tarragó N. Identification and standardization of informational competences: a case study. *ACIMED* [Internet]. 2006 Dec [cited 14 Oct 2015]; 14 (6): [approx. 22 p.]. Available at: http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S102494352006000600002&lng=es
21. Salas Perea RS, Díaz Hernández L, Pérez Hoz G. Normalization of labor competencies of medical specialties in the national health system. *Educ Med Super* [Internet]. 2013 Jun [cited 14 Oct 2015]; 27 (2): [approx. 10p.]. Available at: http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S086421412013000200015&lng=es
22. Irigoín M, Vargas F. Labor competence: manual of concepts, methods and applications in the health sector [Internet]. Montevideo: Cinterfor / ILO; 2002 [cited 2 May 2012]. Available at: http://www.ilo.org/public//spanish/region/ampro/cinterfor/publ/man_ops/index.htm
23. Ortiz García M, Cires Reyes E. Curriculum design by competences. Application to the macro curriculum. *EDUMECENTRO* [Internet]. 2012 [cited 14 Oct 2015]; 4 (1): [approx. 10 p.]. Available at: http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S2077-28742012000100003
24. Irigoín M, Vargas F. Labor competence: manual of concepts, methods and applications in the health sector [Internet]. Montevideo: Cinterfor / ILO; 2002 [cited 2 May 2012]. Available at: http://www.ilo.org/public//spanish/region/ampro/cinterfor/publ/man_ops/index.htm
25. Tejada Díaz R. The evaluation and accreditation of professional competences in higher education. *University and Society* [Internet]. 2011 [cited 1 Oct 2015]; 3 (1): [approx. 11 p.]. Available at: <http://rus.ucf.edu.cu/index.php/rus/article/view/216/81>
26. Cervantes. Spanish dictionary. Santiago de Cuba: Editorial Oriente; 1979.
27. Añorga Morales J. (et al). Glossary of Advanced Education Terms. Havana. UCPEJV; 2010
28. Añorga Morales J. Advanced Education and Professional and Human Improvement. Thesis in option to the Scientific Degree of Doctor in Sciences, for the second time, ISPEJV. Havana; 2012
29. Fernández Sacasas J.A. Higher Medical Education. Realities and perspectives at the doors of the new century. Bibliographic material of the Master in Medical Education. CENAPEM; 1999.
30. Ramos Suárez V. The professional performance of the technologist in Imaging in the techniques of mammography. *Cuban Journal of Health Technology*. Havana. 2015 Oct.-Dec; [6]: 3.
31. Solís Solís S. Model of evaluation of the professional performance of the graduate in Hygiene and



QUALITATIVE ORIGINAL ARTICLE

Epidemiology [Thesis presented in Option to the Degree of Doctor in Sciences of Medical Education]. Havana, Cuba: Faculty of Health Technology; 2017

32. Salas Perea RS, Díaz Hernández L, Pérez Hoz G. Evaluation and certification of labor competencies in the National Health System in Cuba. Medical Education Journal. Havana. 2014 Jan-Mar; [28]: 4.

33. Aspillada Bridge A. Performance Evaluation Proposal by Competences of the Senior Specialist in Human Resources Management in the Ministry of Labor and Social Security. Thesis in Option to the Master's Degree in Sciences. University of Havana; 2015

QUALITATIVE ORIGINAL ARTICLE

Carta de declaración del autor o de los autores

La Habana, 07 de febrero de 2019

Dirigido a: Editora Ejecutiva de la RCTS

A continuación, le anexamos los datos relacionados con la declaración del autor o los autores del trabajo titulado: "LAS COMPETENCIAS PROFESIONALES COMO GARANTÍA DEL DESEMPEÑO".

Enviado a la sección de la revista: "Artículo original"

El trabajo no ha sido enviado simultáneamente a otra revista: Si ___ No

	El trabajo es original e inédito: Si <input checked="" type="checkbox"/> No ___
Los autores ceden los derechos de publicación a la Revista Cubana de Tecnología de la Salud: Si <input checked="" type="checkbox"/> No ___	Existe conflicto de interés entre los autores: Si ___ No <input checked="" type="checkbox"/>

Novedad científica, aporte a la ciencia o importancia de esta publicación:

De manera general se contribuye a la rama de la ciencia relacionada con la epistemología de las Ciencias de la Educación Médica a través de la valoración de la formación y desarrollo de competencias profesionales como garantía de un desempeño ético y responsable en los profesionales de la salud.

¿Cuál es la **contribución** de esta publicación a las bases epistémicas de **Tecnología de la Salud**?

Se aportan definiciones y se realizan valoraciones a tomar en consideración en la formación y desarrollo de competencias profesionales en el área de las Tecnologías de la Salud.

Esta investigación es una salida de proyecto de investigación: Si No ___

Contribución como autoría	Nombre de los Autores
Contribuciones sustanciales para la concepción o el diseño del trabajo.	Susana Solís Solís
Adquisición, análisis o interpretación de datos.	Susana Solís Solís
Ha redactado el trabajo o ha realizado una revisión sustancial.	Susana Solís Solís Yaima Pupo
Aprobó el envío de la versión presentada (y cualquier versión sustancialmente modificada que implica la contribución del autor para el estudio).	Todos los autores
Traducción de título y resumen	Susana Solís Solís

Todos los autores están de acuerdo con ser personalmente responsables de las propias contribuciones y las de los autores y garantizan que las cuestiones relacionadas con la precisión o integridad de cualquier parte del trabajo, incluso en las cuales el autor no estuvo personalmente involucrado, fueron adecuadamente investigadas, resueltas y la resolución fue documentada en la literatura: Si No ___

Todos los autores están de acuerdo con la versión final de la publicación: Si No ___

Todos los autores garantizan el cumplimiento de los aspectos éticos de la investigación y de publicación científica, así como de la bioética: Si No ___

Fecha de recibido: 12 de febrero de 2019

Fecha de aprobado: 20 de febrero de 2019



Este obra está bajo una [licencia de Creative Commons Reconocimiento-NoComercial-CompartirIgual 4.0 Internacional](https://creativecommons.org/licenses/by-nc-sa/4.0/).