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Methodological strategy for the development of the professionalization of medical education teachers

Estrategia metodológica para el desarrollo de la profesionalización de los docentes de la educación médica

Estratégia metodológica para o desenvolvimento da profissionalização do professor de educação médica

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ABSTRACT

The process of professionalization of the education professional of the Higher Education in Cuba is a matter that charges particular importance in the context of current development in the world. In this sense, it was identified as objective to propose a methodological strategy to contribute to the process of professionalization of the educational ones of the departments of Technology of the health and Normalization, metrology and administration of the quality. For their execution it was carried out the investigation with 26 educational professionals of these departments of the University Of Medical Sciences Of Santiago from Cuba. By means of the employment of theoretical methods as the analytic-synthetic one and the inductive-deductive one to carry out the approach to the study object. The empiric methods used consisted on the observation, documentary analysis, interviews to education professionals, and the application of the scale of attitude or differential semantic of Osgood. This was directed to measure the affective component (acceptance-rejection) of the educational sampled toward the methodological strategy for the verification of their viability. As a result of the investigation of the thesis of granting a doctorate on professionalization was designed and it implemented a methodological strategy to perfect this process that contributed to their professional development.

Keywords: methodological strategy; professionalization of the education professional; Higher Education.

RESUMEN

El proceso de profesionalización del docente de la Educación Superior en Cuba es un asunto que cobra particular importancia en el contexto de desarrollo actual en el mundo. En este sentido, se identificó como objetivo proponer una estrategia metodológica para

contribuir al proceso de profesionalización de los docentes de los departamentos de Tecnología de la Salud y Normalización, Metrología y Gestión de la Calidad. Para su cumplimiento se realizó la investigación con 26 docentes de estos departamentos de la Universidad de Ciencias Médicas de Santiago de Cuba, mediante el empleo de métodos teóricos como el analítico-sintético y el inductivo-deductivo, para realizar el acercamiento al objeto de estudio. Los métodos empíricos empleados consistieron en la observación, análisis documental, encuesta a docentes y la aplicación de la escala de actitud o diferencial semántico de Osgood. Esta estuvo dirigida a medir el componente afectivo (aceptación-rechazo) de los docentes muestreados hacia la estrategia metodológica para la constatación de su viabilidad. Como resultado se diseñó e implementó una estrategia metodológica para perfeccionar este proceso, la que contribuyó a su desarrollo profesional.

Palabras clave: estrategia metodológica; profesionalización de los docentes; Educación Superior.

RESUMO

O processo de profissionalização do professor do Ensino Superior em Cuba é uma questão que assume particular importância no contexto de desenvolvimento atual do mundo. Nesse sentido, objetivou-se propor uma estratégia metodológica que contribuisse para o processo de profissionalização dos docentes dos departamentos de Tecnologia e Normalização em Saúde, Metrologia e Gestão da Qualidade. Para a sua realização, a pesquisa foi realizada com 26 docentes destes departamentos da Universidade de Ciências Médicas de Santiago de Cuba, através da utilização de métodos teóricos como o analítico-sintético e o indutivo-dedutivo, para fazer a aproximação ao objeto de estudo. Os métodos empíricos utilizados consistiram na observação, análise documental, inquérito aos professores e aplicação da escala de

atitude de Osgood ou diferencial semântico. Objetivou-se mensurar o componente afetivo (aceitação-rejeição) dos professores da amostra em relação à estratégia metodológica para verificar sua viabilidade. Como resultado, uma estratégia metodológica foi desenhada e implementada para aperfeiçoar esse processo, o que contribuiu para o seu desenvolvimento profissional.

Palavras-chave: estratégia metodológica; profissionalização de professores; Educação superior.

INTRODUCTION

Vocational training constitutes a strategic alternative for the development of the country, which aims to evolve towards a better future, in accordance with the economic and social conditions prevailing today. However, current times require that the work of the teacher be characterized by levels of professionalization, in correspondence with the multiple situations typical of instructional and educational management; For this reason, the criterion that considers that basic abilities and skills are enriched by the training and development of others is consistent (Caballero & Bolívar, 2015; Miranda *et al.*, 2017 and Olivares, Solís & Travieso, 2017).

The analyzes carried out confirm, as a basic idea, that the training and development of the professionalization of teachers in medical education is an imperative in these times. Ruiz, Sánchez, Bodes, Fernández, Díaz & Vilaplana (2016); Solís, Lazo & Valcárcel (2018). Teaching professionalization as a pedagogical process encourages their continuous and ascending development and has been approached by consulted authors such as Caballero

(2015); Cedeño (2017); Sánchez (2017) and Tosar (2018).

Due to the continuous nature of this process, expressed above, various alternatives are necessary for its improvement. Despite having developed a model for the evaluation of professionalization at the University of Medical Sciences of Santiago de Cuba, the following problematic situations still exist: insufficient scientific-research production related to the results of pedagogical research in the departments of Health Technologies and that of Standardization, Metrology and Quality Management; shortcomings related to the dimensions of the professionalization of teachers that promote the development of their professional performance on an ongoing basis.

These problematic situations made it possible to identify the scientific contradiction that arises between the professional performance of teachers and the need for systematic and ascending professional development of these teachers of the medical sciences.

Among the aspects that educational science researchers are concerned with are the one referred to the conceptualization of professionalization, not only in the search for the theoretical definition of the concept, but also in taking a position to adapt the development of this process training, of great importance for education personnel in the 21st century and in those to come (Añorga, 2014 and Columbié, 2018). Currently, the context of Medical Education in Cuba places ethical, spiritual and social aspirations within the professionalization of man as the center of the problem (Garriga & Xiangxi, 2016). Other authors relate it in some way to humanism (Marrero, 2016; Rubio, Palacios and Rodríguez, 2018; Pérez and Travieso, 2019). These words endorse the relationship of bioethics with professionalization as part of man in a given environment. Solís (2018) states that the professionalization process is the one demanded by the groups of

professional knowledge that are built and rebuilt thanks to the verification of the applicability of theoretical knowledge to the formation of knowledge that arises from practical action. This author shows how professionalization, as a process, requires the continuous development of the practical application of the theory. Valiente P., cited by Tosar (2018) refers to the fact that professionalization must be understood as the set of capacities that, with an organization and systemic functioning, make possible the harmonious conjugation between "knowing", "knowing how to do" and "knowing to be" in the subject, manifested in the execution of their tasks with great attention, care, accuracy, speed and a high degree of motivation.

For the aforementioned, professionalization implies the organization and integral functioning of the person who performs a profession, as well as the combination of knowledge in the requirements for its execution. It alludes to the relationship between the professional development obtained by the subjects and the requirements of the entity's social order. Therefore, it can be said that it is an educational process related to the acquisition and / or development of the basic skills and abilities demanded by the professional model, manifesting itself in its performance (Herrera & Horta, 2016) and Santos & Cedeño, 2017).

The professionalization process, according to the 2019 Medical Education doctoral specialty program, takes into account the professional training functions, which could be considered dimensions; in medical education it points to four aspects: teaching, research, care and management. For the articulation of the application of these four functions in working life, in the context of the professionalization process, it is necessary to prepare to assume ethical principles and moral values in social and professional life (bioethics) that allow them to interact with the problems and solving them

appropriately. Assuming these aspirations will promote commitment to society.

For all the aforementioned, the continuous and ascending development of teacher professionalization is justified as one of the ways for the medical education teacher to achieve the systematic improvement of a pertinent pedagogical professional performance. On the basis of the identification of their main problems, the need they have to increase and perfect their preparation, based on the demands of Medical Education, is evident. That is why this article aims to propose a methodological strategy to contribute to the development of the professionalization process of teachers in the departments of Technology and Standardization, Metrology and Quality Management of the University of Medical Sciences of Santiago de Cuba.

MATERIALS AND METHODS

The research was carried out with the universe consisting of 26 teachers from the Departments of Health Technologies and that of Standardization, Metrology and Quality Management, as a study unit of the Faculty of Nursing-Health Technology of the University of Sciences Doctors of Santiago de Cuba. The research protocol was approved by the Faculty Ethics Committee.

For the execution of the research, methods of the theoretical level were applied such as: analytical-synthetic, which was used to identify the links and relationships that are established between the contentive elements of the strategy, seen as a system and the professionalization of teachers of the Health Technologies and Standardization, Metrology and Quality Management departments, through the determination of the basic parts that comprise it and the investigation carried out in the work of several authors from the scientific community who dealt with the

thematic. The inductive-deductive method was also used, which allowed a transition from general to particular knowledge by exploring and describing aspects related to the professionalization of teachers in the departments under study.

Observation was used as empirical level methods, which made it possible to assess the professionalization of teachers in the departments used as a unit of study, as well as its transformation from the application of the methodological strategy. The documentary analysis allowed identifying useful elements for the investigation, delineating the object of study, constructing starting premises and establishing relationships between the documents, in order to establish similarities and differences that promote accurate information.

The survey of teachers of the departments was used in order to identify the current state and the evaluations and interests of the teachers, as well as the elements of the level of professionalization for the diagnosis of the object; with the support of Microsoft Excel software, the results of the applied survey were processed.

The 26 teachers from the two departments studied participated in the implementation of the methodological strategy. They were present in at least one of the organizational forms of planned postgraduate teaching. This participation allowed them to be in a position to assess the proposed methodological strategy from their lived experience.

Within this assessment of the application of the methodological strategy, taking into account the results, the attitude scale or also called Osgood's semantic differential was used. This was aimed at measuring the affective component (acceptance-rejection) of the sampled teachers, towards the object of attitude: use of the methodological strategy.

For the application of this instrument, the teachers' assessment of this attitude object was appreciated: (theoretical value of the normal distribution) when $\alpha = 0.05$ (95%) and the positive expected value is $\mu = 1.645$.

The qualitative assessment of the information, obtained from the application of these methods, made it possible to identify the regularities of the strategy and the professionalization of the teachers of the Health Technologies and Standardization, Metrology and Quality Management departments as a unit of study and elaboration of the methodological strategy for the development of the professionalization of these teachers.

RESULTS

From the observation carried out for the assessment of the current state of the aspects related to the professionalization of Nursing and Health Technology teachers, it can be verified that there are problems in the process of professionalization of the teacher of the departments under study of the Faculty of Nursing-Technology regarding the non-existence of an adequate level of application of the functions as teachers. Teachers have limited responsibility for the activities they carry out, a limited degree of professional autonomy, and a limited capacity to make management decisions.

Similarly, the documentary review was carried out. In the minutes of class evaluations of 96.14% of the total evaluated, 30.76% of the teachers were evaluated as excellent, 61.54% as good, and 3.84% as fair. Although the scientific rigor is recorded in the technical, methodological, political-ideological contents and the application of ethical principles in their professional performance of those who achieved the qualification of excellent, it was not possible

to verify written evidence of the manifestations of the development of professionalization. Similarly, 59 minutes of the Health Technologies and Standardization, Metrology and Quality Management departments were reviewed. It was possible to verify that the methodological activity and the progress of the teaching-educational process are systematically evaluated. However, evaluations of scientific research are not carried out to provide solutions to scientific-teaching problems.

These documents do not show strategies at the level of the departments for the professionalization of teachers or the coordinated work between teachers from different departments who teach the same careers. On the other hand, when examining the improvement plans of the Faculty of Nursing-Technology, in the last three years 79 improvement actions are listed, of which only 7.59% of the total planned are related to professional problems.

In the review carried out on the 26 files belonging to the teachers of the departments under study in the last three years, it was found that 59.73% of the teachers received excellent evaluations consecutively during the last three years. There is a relationship of the insufficiencies of the teachers who were evaluated as good 23, 48% with the recommendations. In the body of description of the sections to be evaluated, no reference is made to objective or non-objective manifestations in relation to their professional actions. The main problems in the evaluations were related to scientific-technical work and technological innovation and professional improvement work. In the case of those evaluated as regular, 3.35% did not show specific recommendations to overcome the shortcomings indicated.

78 individual development plans corresponding to three years of the 26 teachers were reviewed, in which it was confirmed that not in all cases they are based on the identification of learning

needs. Planning is frequent with the change of categories of assistant and supporter, it is not for the holder and the condition of consultants. The planned actions related to scientific-technical work and technological innovation and professional improvement work are limited; of the total, only 58.98% of teachers take it into account. Of 242 planned activities, only 3.88% correspond to the problems detected in the teacher's evaluation.

From a survey of teachers, it can be seen that there are problems in the professionalization process of the teacher of the Faculty of Nursing-Technology in: insufficient periodicity with which they participate in the improvement courses; insufficient periodicity of publications; insufficient periodicity with which research is carried out to provide solutions to scientific-teaching problems; insufficient capacity to make decisions of management functions.

In the same direction, it could be verified in the etymological analysis of the word strategy that is derived directly from the Greek word *strategos*, General of the Army, that it does not have the modern connotation. The use and application of this term began to develop in educational processes, as well as in other branches - economics and management- from the twentieth century.

The following are found as regularities in the definitions of pedagogical strategies: they are established from the foundations of science, for the case that this research occupies, within the Sciences of Medical Education. It establishes a structure through stages or phases. It enables the identification of results over time. It is linked to a certain level of professionalization (worker, technician and graduate). It has a flexible and contextualized nature based on the institution that executes it.

For the design of the methodological strategy for the development of the professionalization of teachers in the Departments of Health Technologies and Standardization, Metrology and Quality Management, it was based on the antecedents and situations identified that made it possible to establish the contradiction: between the need for systematic and ascending professional development of Health Technology and Standardization teachers and the insufficient results of the evaluation process of these medical science teachers. In correspondence with this, the criteria of the department heads and their teachers were taken into account, whose elements manifested were:

- There was no professionalization strategy until then defined for the teachers of these departments at the University of Medical Sciences of Santiago de Cuba.
- Insufficiencies in the relationship between professional problems and the teaching, care, managerial, bioethics and professional performance dimensions.
- Need to raise the quality of the teaching-educational process, through the development of professionalization, which makes it possible to respond to the growing needs of Medical Education.

It is necessary to point out that the shortcomings indicated had not been overcome in the actions conceived in the improvement process, in light of the learning needs identified in the teacher evaluation process. That is why the need for an option that would promote the modification of that reality through a strategy was evidenced. This strategy is specified in proposing an alternative solution to the problem related to the development of the professionalization of these teachers in their continuous training, while promoting modifications that may favor their professional development.

The results of the application of the documentary analysis, the observation and the teacher survey made it possible to identify a group of problems and potentialities in the process of characterizing the state of professionalization of teachers in the Health Technology and Standardization departments. Metrology and Quality Management of the University of Medical Sciences of Santiago de Cuba.

The following problems arise from the above description:

- Limited integration to design, organize, plan and execute undergraduate and postgraduate teaching programs in Higher Education.
- Limitations in meeting the requirements for effective internal and external, horizontal and vertical communication, in relation to professionalization.
- Limited ability to carry out organizational and structure evaluations based on the relationship between the macro and micro curricula.
- Lack in the integration of skills in solving problems related to teaching, care, research and management endorsed by bioethics and professional performance.

However, the following potentialities could be identified:

- Political will of the managers of the departments to promote the preparation and improvement of teachers and managers.
- Teachers with years of experience in educational activity.
- High social commitment that will allow them to improve contextualized pedagogical professional performance in Higher Education.

It was found that the indicators of the four dimensions are affected; that is, the teaching, research, care and management. The problems and potentialities identified endorse the need to develop the professionalization of teachers in these departments of Health Technology and Standardization, Metrology and Quality Management, through a methodological strategy for the development of professionalization.

The authors Ramos & Lescaille (2016); Bada, López & Vergara (2017); Martínez (2019); Sotomayor & Águila (2021) agree that a strategy is understood as the integrated sequence of actions and procedures selected and organized for the implementation of its foundations, which are directed to the pedagogical direction. For this reason, it was considered pertinent as an objective to design a methodological strategy to develop the continuous process of teaching professionalization of medical education teachers in Santiago de Cuba.

However, based on the previous results, the selection of which variant to use within the existing classification is of singular importance: didactic strategies, educational strategies, pedagogical strategies, among others, taking into account the basic elements related to the object of the research. . The methodological conception of the research has its foundations in the materialist dialectical conception, recognized as the general methodology of scientific knowledge, and assumed as a theoretical position, which will allow the comprehensive study of the research object.

Based on the above, the authors of the research define the methodological strategy for the development of the professionalization of teachers in the departments of Technology and Standardization, Metrology and Quality Management. It is the set of actions and operations that, carried out by certain premises, requirements and requirements,

are exposed as to proceed for the development of the professionalization of teachers in Higher Education, whose purpose is aimed at contributing to the improvement of the teaching-pedagogical practice.

The relevance of the proposed methodological strategy, the result of a scientific research process, resides in the theoretical conception that supports it and in the need to contribute to effectively solve the difficulties and dissatisfactions that are manifested in the teacher's performance. In the same way, it contributes to promoting the improvement of the pedagogical practice of the university teacher, in line with the current challenges that modern society imposes on Higher Education.

Methodological strategy for the development of the professionalization of medical education teachers

For the design of the methodological strategy for the development of the professionalization of teachers in the departments of Technology and Standardization, Metrology and Quality Management, we started from the antecedents and identified situations that made it possible to establish the contradiction.

The methodological strategy for the development of the professionalization of teachers in the departments of Technology and Standardization, Metrology and Quality Management is characterized by its: contextualization, since it responds to the specific needs of the teachers identified; flexibility, as it adjusts to the needs and interests of professionalization and its development; open, by enriching itself with the experiences of the participants in the process, teachers and heads of departments; humanistic, because it prioritizes the continuous and ascending training of trainers of human resources for health, and transformative, for its

contribution to the improvement of teachers and the improvement of pedagogical practice.

Fundamentals

To form the structure of the strategy, the theoretical foundations are assumed from the philosophical, sociological, pedagogical, psychological and science of Medical Education points of view, which allow to give coherence, scientific character and organization to the methodological strategy that is proposed.

Objective of the methodological strategy

Improve the professionalization of Nursing and Health Technology teachers, through orderly and interrelated improvement actions, which favor their development in accordance with the current demands of Higher Education, as an educational alternative for the solution of teaching problems.

In determining the elements that make up the methodological strategy, the mission and vision are first defined as:

- **Mission.** The development of the professionalization of teachers in the departments of Technology and Standardization, Metrology and Quality Management for the improvement of professional performance, which makes it possible to achieve the professional knowledge, skills and values necessary according to socialist society.
- **Vision.** Professionalized Nursing and Health Technology teachers, those who manifest in their professional performance, the necessary skills and values according to the socialist society.

- **Premises, requirements and methodological requirements.** For the implementation of the methodological strategy for the development of the proposed professionalization that is presented, the premises that allow the development and deployment of the following strategy actions are taken into consideration: they are aimed at the transformation of Nursing and Technology teachers of Health, makes it possible to update the contents, it is conceived from the development of a system of actions, collects the theoretical-practical experience of the participants, it goes to the transformation of professional performance.

In the implementation of the proposed strategy that is presented, the requirements that allow the development and deployment of the following actions are taken into consideration: learning methods of active participation, stimulating talent, creativity and independence. The participants will be teachers of Nursing and Health Technology. The implementation must be preceded by the evaluation of the professionalization of the teachers who will participate in the different actions of the proposed strategy; formation of flexible thinking and the stimulation of authenticity; respect for the personal dignity of teachers; objective and subjective conditions that establish the most general, favorable and unfavorable premises; communication conditions, need to confront their points of view, their self-image with the valuation of others.

For the elaboration of the methodological strategy for the development of the professionalization that is proposed, the following methodological requirements are taken into consideration:

a) Respect for the personal dignity of teachers, which endorse the dimensions:

teaching, managerial, investigative, bioethical and professional performance.

b) Conditions of communication need to compare their points of view with others that ratify and strengthen the dimensions: teaching, care, managerial, research, bioethics and professional performance.

c) Formation of self-awareness through assessment and self-assessment that confirm the dimensions: teaching, care, managerial, research, bioethics and professional performance.

d) Active participation learning methods stimulate creativity and independence that confirm the dimensions: teaching, care managerial, research, bioethics and professional performance.

e) Formation of aspirations and interests that improve the dimensions: teaching, care, managerial, bioethics and professional performance.

F) Active training, experimenting in the subject to improve the dimensions: teaching, care and professional performance.

g) Training of flexible thinking that improves the dimensions: teaching and professional performance.

h) Stimulate the sense of authenticity confirmed by the dimensions: teaching, care, managerial, investigative, bioethical and professional performance.

- **Planning of activities for the development of professionalization.** For the planning of activities for the development of professionalization, the inventory of problems and potentials obtained as a result of the diagnosis was taken into account. The forms of organization of postgraduate teaching and the topics of the

methodological strategy for the development of professionalization are summarized in: four specialized conferences and six workshops.

- **Evaluation.** For the evaluation, the same instruments that were applied to evaluate professionalization will be used. The assessment of the results of the application of the professionalization strategy will encourage feedback in the process.

In general, the proposed methodological strategy presents the relationships between self-improvement tasks and the development of professionalization with the areas of knowledge of performance of the Higher Education teacher and provides guidance for their continuous and ascending development in other training contexts. These relationships with the environment allow feedback on the professionalization process of teachers, in a closed cycle.

The authors of this research agree with Cardero F. (2020) when he refers in his research, related to the importance of management and postgraduate studies, that Higher Education is required that the consolidation of its programs encourages its graduates to be people "Able to redefine what they have to do, re-learn, re-enter knowing how to do new tasks." It is assumed that the importance that Higher Education institutions confer on postgraduate studies is the result of an understanding of the development processes that, on the other hand, are a consequence of the processes of social and intentional appropriation of professional culture in the academic and social sphere, where the development of teacher professionalization is inserted.

Querts M. (2008) reaffirms the importance of strategy when in his research "Pedagogical strategy for bio anthrop-social professional training in Biomedical Sciences" he refers that man is a complex, social being with conscience, transforming capacity and spirituality, that expresses its essence and its

human condition in a specific historical, social, economic and cultural space and time in which it lives and develops fully. In correspondence with the above, the dynamics of professional training is interpreted as a process aimed at the development of potentialities, continuous development, improvement, creativity and innovation; in this case, the professionalized teacher, based on their collaboration.

The proposed methodological strategy was structured and implemented through specific actions, aimed at perfecting said process. The stages in which the strategy has been organized are described below:

Initial Stage. Objective: to analyze the variable and indicators evaluated in the empirical inquiries, applied to determine the insufficiencies or weaknesses and potentialities or strengths of teachers that limit the development of professionalization.

Proposed activities:

a) Discussions with the evaluators, where previous experiences are referenced, the objectives pursued with the strategy, definition and their relationship with the professionalization of teachers.

b) Identification of problems and potentialities of teachers for the development of their professionalization.

c) Assessment of the results of the surveys carried out to evaluated and evaluators of the organizational forms to be used, the contents to be treated and the objectives to be achieved.

d) Information processing and socialization of the results.

e) Preparation of the methodological strategy for the development of professionalization.

F) Planning of the organizational forms to be used, according to the results of the diagnosis and the conditions in the different contexts.

g) Socialization of the strategy with the evaluators.

h) Develop specialized workshops and conferences that make possible, from the organizational point of view, the development of the professionalization of Nursing and Health Technology teachers.

Development stage

Objective: to develop the professionalization of Nursing and Health Technology teachers, through the implementation of the activities of the strategy, enabling them to understand and transform the scope of action.

Proposed activities:

a) Assurance of the human resources responsible for applying the system of actions of the strategy.

b) Application of the actions of the strategy and of the organizational forms of improvement.

c) Implementation of workshops and conferences.

Final stage. Objective: to assess the results of the implementation of the activities of the methodological strategy for the development of professionalization, this contributes to the improvement of the professional performance of Nursing and Health Technology teachers.

Proposed activities:

a) Evaluation of the development of the strategy actions.

b) Assessment of the development of teacher professionalization.

c) Execution of the necessary arrangements for its improvement.

d) Discussion of the results achieved.

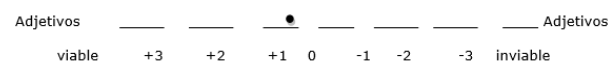
Assessment of the relevance and feasibility of the methodological strategy for the development of the professionalization of teachers of the Health Technologies and Standardization, Metrology and Quality Management departments of the University of Medical Sciences of Santiago de Cuba.

In the results of the application of the methodological strategy for the development of the professionalization of the teachers of the Departments of Health Technologies and that of Standardization, Metrology and Quality Management of the University of Medical Sciences of Santiago de Cuba, the attitude scale or also called the Osgood semantic differential; shown in the following table:

Table 3- Result of the application of the Osgood semantic differential method

Adjective pairs	Average by scales	Outcome
Viable-unviable	+2.15	Very viable
Negative positive	+1.69	Something positive
Essential-expendable	0.99	Undefined or neutral
Unwanted-wanted	+1.63	Something desired
Necessary-unnecessary	+1.99	Something necessary
Factor rating	+1.69	Something suitable

Location on the scale, of the result of the sum of the average of each one:



We proceeded to the tabulation of the indicated scale of the proposed attitude object that appear in the questionnaire, which made it possible, based on the statistical processing carried out, to

determine the factorial rating of the group and, consequently, to draw conclusions from the results obtained in relation to this analysis.

Both objects declared in the questionnaire were valued by the teachers as "something viable", according to the average resulting from the statistical processing of said scales, which implies, taking as a reference other elements analyzed, that a large part of the teachers shows an attitude of need rather than not necessary due to the methodological strategy for the development of professionalization in a general sense, to which the highest value given by the teachers' assessment of this attitude object corresponded: (+2.15).

The selection of the binomials behaved in the same direction: Negative-positive (+1.69), Unwanted-desired (+1.63), Necessary-unnecessary (+1.99). This attitude varied slightly with respect to the binomial: essential-dispensable, where the resulting value on the scale is characterized by being undefined or neutral (0.99): neither essential-nor dispensable.

The object declared in the questionnaire was valued by the teachers as "something viable", according to the average resulting from the statistical processing of said scale, which implies, taking as a reference other elements analyzed, that a large part of the teachers shows an attitude of acceptance rather than rejection for the implementation of the proposed methodological strategy on the appreciation of relevance and feasibility, in a general sense, being the highest value given by the teachers' assessment of this attitude object: +1.69. (Theoretical value of the normal distribution) when $\alpha = 0.05$ (95%) and the positive expected value is $\mu = 1.645$.

DISCUSSION

Professional development responds to the demands of society, the developing University and the challenges of the social context in which the academic institution is inserted, a context where the professionalization of its teachers takes place. The latter must contribute to the transformation of each one of the action scenarios, from considering it at the center of the process, and to the recognition of problems and their solution based on their potentialities. The aforementioned becomes important when it is considered that the teachers of the studied departments have certain singularities, which distinguish them from other professionals, an idea that is shared with the author Olivares (2020), who states:

[...] they were not trained as university teachers or under professionalization strategies for it. They are not professionals with basic training in all the careers to which they teach. They are responsible for the identification, evaluation and control of deficiencies related to the teaching, research, care and managerial functions in students, for which they need to be prepared. They are obliged to apply the scientific method in solving problems arising in the professional performance of their teaching, research, care and managerial functions for the improvement of academic processes. They direct the acquisition, development and / or improvement of students' skills to help improve their future professional performance. [...] (p. 312).

In this sense, Oliveros' ideas are shared, by recognizing singularities that distinguish him from other professionals for whom the development of professionalization, in addition to a duty and responsibility, becomes a challenge. It is the development of this complex process that enables these teachers, not only to overcome the singularities, but to manifest in their professional performance the projection of the objectives of the teaching activity based on the needs of the students, the solution of problems as a result of research, process management and correct healthcare practice with a strong ethical component, which demands a higher level of preparation and personal dedication. His work justifies the need to seek alternatives to develop professionalization in a continuous and ascending way, an element that the authors of this article took into account.

The professional development of the teacher of medical education constitutes a strategic alternative for the improvement of the country, which aims to evolve towards a better future, in accordance with the economic and social conditions prevailing today. However, current times require that their work be characterized by levels of professionalization, in correspondence with the multiple situations of their own disciplines in instructional and educational management.

That is why the authors agree with Céspedes (2021), who states that:

[...] the professionalization intertwines the attention to the particularities of this process, the interdisciplinary character oriented towards the modes of action declared in the professional model in which the diagnosis, modeling, simulation and design, the attention to the socio-historical context and the dynamics and development of

the profession with coordinated work. [...] (p. 180).

According to the author's criteria, although related to another object of research, professionalization is binding. This intertwines, in this case, the teacher's prior knowledge as part of their initial training and their development based on self-improvement activities in their academic setting. Professional performance and the social context point to another characteristic of this process, namely its dynamism. Under this argument, professionalization is a goal for the teacher, but it is not the end, because always, while his working life lasts, he will need something new, to adjust to the requirements to interpret his scenario with suitability and innovation that enables continuous improvement.

In a particular way, the development of teacher professionalization constitutes an important aspect of analysis in the scientific community; however, some specialists agree that it is necessary and persistent. This constitutes a true projection of change in the face of the old ways of dealing with the position of the teacher in the face of another challenge that is globalization, where medical education, as part of Higher Education, needs it as an important tool in its professional practice. In this sense, the author Llano (2021), referring to the university, expresses:

[...] globalization has positive and negative effects on society and any subject under study, from a cultural, social, political and economic point of view. The challenge for universities lies precisely in developing the capacity to recognize these effects, and thus generate internationalization practices that guarantee the improvement in university

processes, in the face of the excellence that is aspired [...] (p. eleven).

This author stands as a tool of great value for the exercise of Higher Education teachers to develop the ability to recognize the positive and negative effects of globalization, for which they need progress in their professionalization. This holds them accountable for successfully meeting personal and professional challenges. The authors agree with the author Llano when she states that, in this way, internationalization practices that guarantee improvement in university processes are generated.

Modern trends on the development of professionalization, together with the ideas expressed above, defend the idea that this process is of great value. For this, the contexts, the levels of development of each teacher must be defined to solve the problems that arise in the exercise of the profession and how it manifests in their professional performance.

The theoretical study carried out allowed to identify some characteristics for the development of the professionalization of the teachers of the Departments of Health Technologies and that of Standardization, Metrology and Quality Management as a study unit of the University of Medical Sciences of Santiago de Cuba, which could be considered for any Higher Education teacher, such as:

- It responds to the demands of society, the developer Higher Education and the challenges of the social context in which the academic institution in charge of the professionalization of its teachers is inserted.
- Its binding and dynamic character.
- Its continuous and ascending development expressed according to the context.

- It enables the solution of teaching problems based on scientific research.
- It contributes to the transformation of each one of the action scenarios from considering it at the center of the process and the adequate recognition of the problems and potentialities of its professional performance.

It is in this sense; this article shows the need for the development of the professionalization of teachers in the departments of Health Technologies and Standardization, Metrology and Quality Management of the University of Medical Sciences of Santiago de Cuba, in the particular, and of the teachers of Higher Education in general. In relation to this thought, a methodological strategy is proposed as an alternative to the development of professionalization. This takes into account the problems and potentialities identified where the participating teachers are promoters of change by enabling this, both in the object and in the subjects and their actions influence both the individual and social order.

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