

ORIGINAL

Pedagogical conception of the professional development process in Contactology

Concepción pedagógica del proceso de superación profesional en Contactología

Anileidys Muñoz Lazo¹  , Juan Alberto Mena²  , Medardo Rodríguez López¹  

¹Hospital General Docente “Abel Santamaría Cuadrado”. Pinar del Río, Cuba.

²Universidad de Pinar del Río “Hermanos Saíz Montes de Oca”. Pinar del Río, Cuba.

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Corresponding author: Anileidys Muñoz Lazo 

ABSTRACT

Introduction: professional development constitutes a pedagogical process of postgraduate studies, which also enables exchanges among health professionals, generating future collaborations and inter-institutional networks.

Objective: to develop a pedagogical conception that perfects the professional development process in Contactology for Optometry and Optics graduates in the province of Pinar del Río, based on its systemic, contextualized, and integrative character.

Method: the research was conducted using a dialectical approach, with the general dialectical and historical materialist method as the basis of the entire process. Theoretical methods such as historical-logical, modeling, analysis and synthesis, induction and deduction, and the systems approach were used to obtain and process information. Empirical methods such as document analysis, interviews, and scientific observation were also employed. In addition, the expert criterion (Delphy) and the pre-experiment as an experimental design model for its validation.

Results: a pedagogical conception was established and structured, that favors this process based on a new systemic, contextualized, and integrative approach, enabling the incorporation and coordination of Contactology through different levels of care within the National Health System.

Conclusions: the systemic, contextualized, and integrative character constitutes new qualities for the professional development process in Contactology. These are expressed in the pedagogical conception proposed through a system of ideas, which in turn served as an organizing framework for perfecting the process, leading to comprehensive technical and professional development within the specific conditions of the contact lens service.

Keywords: Concept; Contactology; Professional Development.

RESUMEN

Introducción: la superación profesional constituye un proceso pedagógico del posgrado, que en los profesionales de la salud posibilita también el intercambio donde se generan futuras colaboraciones y redes interinstitucionales.

Objetivo: elaborar una concepción pedagógica que perfeccione el proceso de superación profesional en Contactología del Licenciado en Optometría y Óptica de la provincia Pinar del Río desde su carácter sistémico, contextualizado e integrador.

Método: la investigación se desarrolló bajo el enfoque dialéctico y el método general materialista dialéctico e histórico como base de todo el proceso. En la obtención y procesamiento de la información se usaron

métodos teóricos como: histórico-lógico, la modelación, el análisis y la síntesis, la inducción y la deducción y el enfoque de sistema, también se emplearon métodos empíricos como: análisis de documentos, la entrevista y la observación científica. Además, el criterio de expertos (Delphy) y el prexperimento como modelo de diseño experimental para su validación.

Resultados: se fundamentó y se estructuró una concepción pedagógica, que favorece dicho proceso a partir de una nueva visión desde un carácter sistémico, contextualizado e integrador que permite la incorporación y coordinación del tránsito de la Contactología por los diferentes niveles asistenciales del Sistema Nacional de Salud.

Conclusiones: El carácter sistémico, contextualizado e integrador, constituyen nuevas cualidades para el proceso de superación profesional en Contactología, expresadas en la concepción pedagógica propuesta mediante un sistema de ideas, que a su vez sirvieron de marco organizador para el perfeccionamiento del proceso; lo cual conduce al desarrollo técnico-profesional integral en las condiciones propias del servicio de Contactología.

Palabras clave: Concepción; Contactología; Superación Profesional.

INTRODUCTION

Professional development (PD) is conceived as a pedagogical process aimed at complementing, updating, and deepening professionals' knowledge related to performance, thereby generating changes and transformations in the formation of technical and professional competence, as evidenced in professional performance.⁽¹⁾ Likewise, this pedagogical process of postgraduate study for health professionals also enables exchange, where best practices and experiences are adopted, and future collaborations and inter-institutional networks are formed.⁽²⁾

Based on these criteria, it can be assumed that CP influences the dynamics of health care at different levels, supported by CP's role in preparing professionals with a culture and a comprehensive vision of health processes for the integration of care, management, teaching, and research. This requires a systemic, integrative, and at the same time differentiated nature of PC, which enables professionals to perform effectively at different levels of medical care.

From this perspective, there are gaps in the theoretical understanding of the current conception of the SP process in contactology. This service treats ametropia and other visual diseases and is also provided by optometrists and opticians specializing in secondary (ASS) and tertiary (ATS) health care. A study conducted by Muñoz Lazo et al.⁽³⁾ showed that primary care in contactology has not been designed to deliver quality primary health care (PHC), which is now the domain of ASS and ATS.

These characteristics that typify the current SP in Contactology are caused by a group of epistemological inconsistencies identified in the study, namely:

- The lack of systematization, decontextualization, and lack of integration of the process limits the appropriation of contact lens content, mainly by PHC graduates, which prevents the subspecialty from moving through the different levels of the National Health System (NHS).
- Limitations in the conception of the SP based on the potential of postgraduate education organizational forms for the theoretical and practical training of Contactology content based on working with professional problems.
- The current SP does not take into account the levels of development that graduates must achieve in relation to the levels of medical care in which they work.
- The conception of SP in Contactology limits the dynamics and logic of the care process as it moves through the levels of medical care, as the preparation of the Graduate in Optometry and Optics at the APS level does not condition it.

Taking these shortcomings into account, the article proposes developing a pedagogical concept to improve the SP process in Contactology for graduates in Optometry and Optics in the province of Pinar del Río, grounded in its systemic, contextualized, and integrative nature.

METHOD

The research was conducted using a dialectical approach and the general dialectical and historical materialist method as the basis for the entire process. Theoretical, empirical, and mathematical-statistical methods were used to obtain and process the information.

Among the theoretical methods used was the historical-logical method in determining its essential trends. Modeling, analysis, synthesis, induction, and deduction were used in developing the pedagogical concept for

the SP process in Contactology, as well as in determining the theoretical foundations of the proposal and in processing and interpreting the results. Likewise, the systems approach was used in shaping the pedagogical concept, based on the relationships established therein.

Empirical methods include document analysis to obtain official information from sources such as regulatory documents, individual work plans, and consulted bibliography, among others. Interviews were conducted with optometry and optics graduates, teaching administrators, and ophthalmology service managers to obtain information about the SP process in contactology. Scientific observation in consultations to verify the theoretical and practical preparation in contact lens practice of graduates in optometry and optics. The theoretical and practical validation of the pedagogical concept was possible through the use of expert criteria (Delphy) for the theoretical evaluation, which preceded the practical validation via a pre-experiment as the experimental design.

RESULTS

The proposal offers a new perspective on the process in the province of Pinar del Río, systematizing fundamental theoretical, methodological, and practical aspects by introducing new elements and perspectives that enable SP to be understood as a process in its entirety. It expresses, in the system of scientific ideas that comprise it, pedagogical laws that underpin the process in a comprehensive and contextualized manner, ensuring the relevance of said process.⁽⁴⁾

Its pedagogical nature stems from the fact that, given its characteristics, the projection of the SP process in Contactology in the Bachelor's Degree in Optometry and Optics involves changes in other dimensions of the process.⁽⁵⁾ Among these are organizational changes, as the process takes place in the context of traditional classroom conditions and new medical service processes, each with a different school organization.

Likewise, in the didactic and methodological order, it requires new conditions to develop eminently practical teaching activities, such as those that occur in the contactology consultation itself, which imply a different didactic vision, associated with methods contextualized in the service process. With this, the educational influences on students change, with the inclusion of professionals who act as teachers and the collective of ophthalmology service workers themselves.

All these criteria make it possible to consider the pedagogical conception of the CP process in Contactology for the Bachelor's Degree in Optometry and Optics as a set of scientific ideas that underpin the process under study and support, explain, and energize it based on systems of categories, principles, and relationships characterized by the contextualization, diversity, and systematic nature of its components.

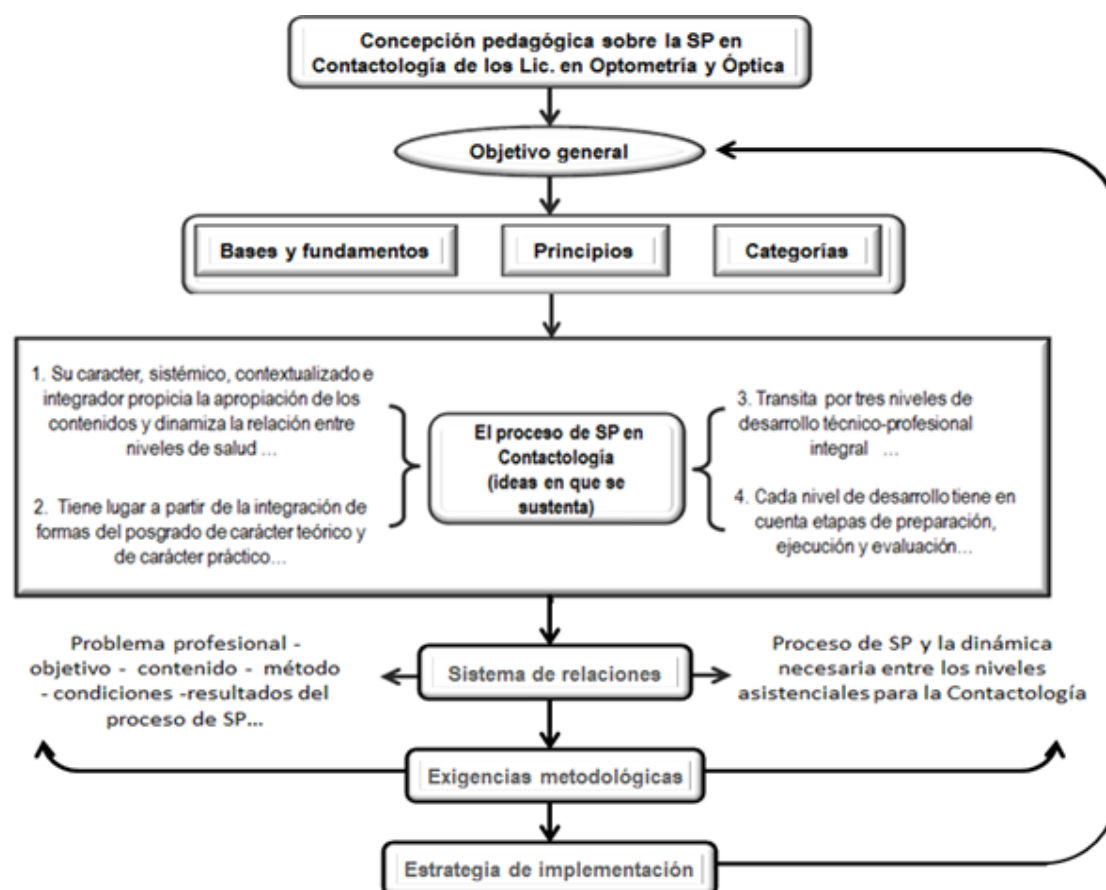


Figure 1. Modeling of the pedagogical concept

The conception of the SP process in Contactology is based on a general objective aimed at contributing to the preparation for the improvement of professional performance in Contactology of the Bachelor's Degree in Optometry and Optics from its SP, in accordance with current demands and real possibilities for the solution of professional problems at different levels of care in the province.

Once the general objective was established, as part of the structure of the concept, a group of components was identified that serve as a basis, explain, and energize the ideas of the pedagogical concept, consisting of bases and foundations, principles, categories, relationships, and methodological requirements (figure 1).

Bases and foundations

It was based on the materialist dialectical and historical philosophy of education, from a sociological, psychological, didactic, medical, general professional pedagogy, and technical and professional education perspectives. In line with these foundations, the CP process in Contactology, which takes place primarily in hospital health services, was conceived as an essential context.

PRINCIPLES GOVERNING THE PEDAGOGICAL CONCEPTION OF THE PROFESSIONAL DEVELOPMENT PROCESS IN CONTACTOLOGY FOR THE BACHELOR'S DEGREE IN OPTOMETRY AND OPTICS IN PINAR DEL RÍO

These were determined based on empirical evidence of the manifestations of the object of study in the context of its development and the theoretical systematization carried out in the research. It therefore represented the starting points and fundamental bases of the components of the conception and establishment of its internal interactions. In this sense, the principles of the pedagogical conception are:

- The system approach to the SP process in Contactology and its territorial and community expressions.
- Education at work.
- The relationship between forms, technologies, their credibility, and the contextualization of the SP process in Contactology.
- The differentiated nature of the CP process in Contactology, in relation to the level of complexity of professional problems.

Ideas underpinning the pedagogical conception of the professional development process in Contactology for the Bachelor's Degree in Optometry and Optics

1st idea. The professional development process in Contactology, which is systemic, contextualized, and integrative, promotes the appropriation of these contents and energizes the relationship between the different levels of health through the comprehensive management of the service process carried out by the Bachelor of Optometry and Optics of the APS

The idea takes into account, first and foremost, the role of continuing education in Contactology, starting with the training of APS professionals, so that this service becomes more effective and efficient. Secondly, the idea considers the importance of SP in the logical relationship and the necessary dynamics of healthcare systems to promote healthcare.

Here, a fundamental category stands out: *comprehensive management of the contact lens services process*, in which the APS graduate serves as the primary manager overseeing the patient's transit through the system. Therefore, a group of essential healthcare functions for PHC is defined and established, such as: constituting the gateway to the healthcare system; designing, organizing, negotiating, and coordinating the patient's possible itinerary within the system; summarizing the diagnosed problems and knowing the appropriate treatment for the proper management of the patient once they return to their usual environment; among others. In addition, the systemic, contextualized, and integrative nature of the process is explicitly stated and explained, which ensures its general conception and conditions the professional content.

Based on the professional issues identified within the scope of the profession across different levels of care, the relationship between initial training and continuing education, the material and technological characteristics of the region, and the functions of care, the professional content of the SP in Contactology was determined. A classification was established that proposes the professional content for the first level of comprehensive technical-professional development (APS), the second level (ASS), and the third level (ATS).

Taking this into account, it can be said that this idea allowed the process to be redesigned based on the new qualities proposed: systemic, contextualized, and integrative-; establishing the logic for determining the problems, functions, and professional content of the postgraduate program which, based on the fundamental nature of the undergraduate program, requires taking into account the needs of each level of care and territory, their diverse and contextual nature in terms of the sustainability of the process.

Second idea. The process of professional improvement in Contactology takes place through the integration of theoretical and practical postgraduate forms, following the logic of the transition from the object of science to the object of the profession and assuming as an integrating axis the professional problems and their development at different levels of health care

Considering that the purposes of the SP are aimed at achieving adequate practice at different levels of care with an emphasis on PHC, the conception of the SP assumes the transition from the logic of the object of science to the object of the profession. Based on this assumption, two primary organizational forms are proposed: the diploma course with on-the-job training. Starting from the integration of traditional university classroom settings with teachers in this professional pedagogical area and contactology consultation settings, with professionals working in healthcare institutions.

Due to its characteristics, the diploma course responds to the need to update, deepen, and integrate general theoretical content, which must be transferred to the solution of professional problems in contactology. In turn, it is combined with other theoretical forms such as courses, seminars, and specialized conferences, among others. It also enables distance learning, where information and communication technologies play an essential role.

On the other hand, in addition to the theoretical training provided by the diploma course and its forms, SP must allow for the development of skills based on work activity; therefore, the concept assumes training and *the method of training in the professional service activity*, contextualized in the service activities provided in the consultation. The essence of this method is based on learning in the work context, strictly oriented and limited by the logic of work, the demands themselves, and the working conditions that are part of this process.

In summary, this idea establishes the direction of CP activities by integrating classroom and healthcare teaching contexts, promoting the use of various theoretical and practical methods, and contextualizing *the training method within the professional service activity* (figure 2).

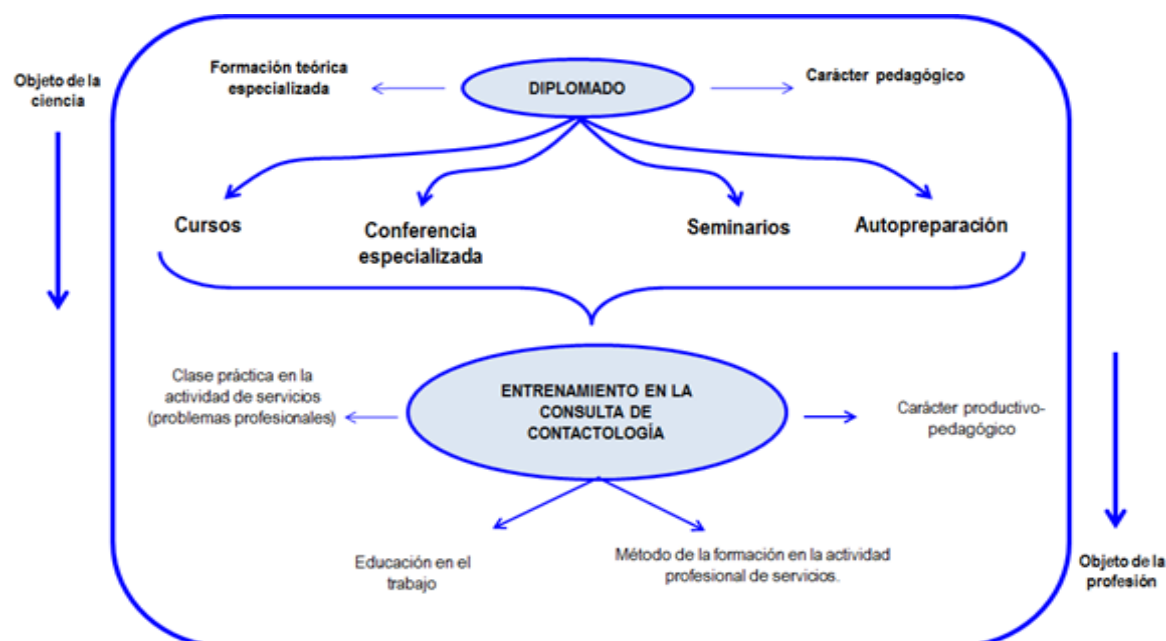


Figure 2. Graphical representation of the integration of theoretical (diploma) and practical (training) forms of postgraduate study in the CP process in Contactology, based on the transition from the object of science to the object of the profession

Third idea. The process of professional development in contactology progresses through three levels of comprehensive technical and professional development for the graduate, which are closely related to the complexity of the problems they experience.

This idea is based on the premise that the comprehensive technical and professional development achieved by graduates in professional development depends mainly on working with professional problems in contactology, with a tendency towards increasing degrees of complexity. Thus, students acquire theoretical and practical knowledge by facing and solving professional problems, starting with the simplest and progressing to the most complex.

Based on this, the SP process is methodologically organized into three levels of development that correspond to the healthcare system, each with graduates who work in it. In each case, the professional content to be worked on during the SP activities is determined according to two criteria:

- The least complex professional problems in technical terms are found in PHC and increase in

complexity to medium and high levels as they move through ASS and ATS.

- At each level, regardless of the above classification (simple, medium, and complex), there are also problems with the three degrees of complexity, and the process is directed according to this characteristic (figure 3). Therefore, simple, medium, and complex professional problems are established for each level from a technical standpoint.

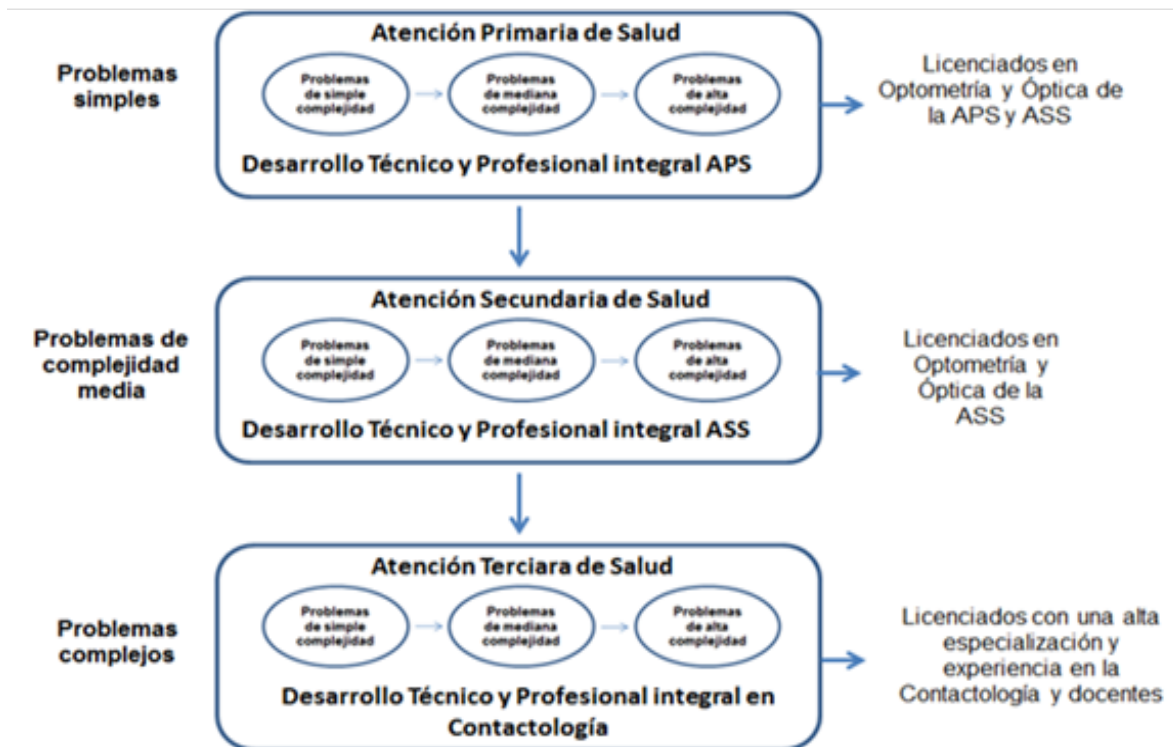


Figure 3. Graphical representation of the comprehensive technical-professional development process by levels that occurs in SP graduates, based on the confrontation of professional problems with different degrees of complexity

Fourth idea. The process of professional development in Contactology for graduates in Optometry and Optics at each level of comprehensive technical-professional development takes into account the stages of preparation, execution, and evaluation that address the complexity of the comprehensive management of Contactology services

To achieve the comprehensive technical and professional development aspired to by graduates, the SP process, at all levels, must also be prepared, implemented, and evaluated. These three functions will guide the organizational methodological projection of the SP, conceived in stages:

- A first stage of preparation: this includes indicators regardless of the level of comprehensive technical and professional development, always based on a diagnosis.
- A second stage of implementation of the SP activity system, addressing the three levels of comprehensive technical and professional development: this involves indicators that broadly describe the establishment of the relationship between theory (diploma) and practice (training). Therefore, part of the development of the diploma course and its organizational forms; the process of familiarizing students through consultation; the development of training for PHC conditions through the treatment of professional problems according to the degree of complexity for this level of development, which involves PHC and ASS graduates, and subsequently for ASS conditions with graduates who work at this level of care and for ATS (specialized graduates with experience in this area or teachers), theoretical and practical teaching activities are developed that allow for the updating of content (diploma and its forms), exchanges with other ATS professionals or professors from different universities through any modality of study, and the development of training in ATS scenarios, among other indicators.
- The third stage of evaluation of the CP process in Contactology: its indicators are aimed at evaluating the results achieved by graduates in improvement and their impact on the Contactology service during the system of activities that make up the CP.

In short, these last two ideas describe the direction of the CP process in Contactology, following the logic of transition through systemic stages, conceived based on professional problems of varying levels of complexity,

depending on comprehensive technical and professional development.

System of relationships in the pedagogical conception of the professional improvement process in Contactology for graduates in Optometry and Optics in Pinar del Río

- Relationship between professional problem - objective - content - method - conditions - results of the CP process in Contactology for the Bachelor's Degree in Optometry and Optics.
- Relationship between the professional development process and the necessary dynamics between the levels of care for contactology.

Both relationships are essential for preparing teaching activities, grounded in social demand and the profession's purpose. A meaningful way to effectively prepare, organize, and execute the teaching-learning process (TLP) is to consider the professional problem as the starting point and guiding framework for the TLP, based on specific situations at each level of care. This directs and conditions the remaining components based on existing conditions to achieve the expected results. In addition, it enables contextualized preparation at the existing levels of technological development in healthcare, mobilizing potentialities for the transition of contactology across the different levels of health.

Methodological requirements of the pedagogical conception of the process of professional improvement in Contactology for the Bachelor's Degree in Optometry and Optics in Pinar del Río

1. Integration between the university and healthcare areas for the implementation of working agreements.
2. Initial preparation of the faculty that will participate in the CPD on theoretical and methodological aspects.
3. The technical and methodological preparation of the CP process in contactology must be organized and directed by both university professors and healthcare teachers.
4. Practical activity in the healthcare context must be the focus of attention.

These requirements guarantee the new qualities proposed for the process.

STRATEGY FOR THE IMPLEMENTATION OF THE PEDAGOGICAL CONCEPTION OF THE PROFESSIONAL DEVELOPMENT PROCESS IN CONTACTOLOGY FOR THE BACHELOR'S DEGREE IN OPTOMETRY AND OPTICS IN PINAR DEL RÍO

Structure of the proposed strategy:

- I. Introduction - Rationale: This establishes the strategy's foundations.
- II. Diagnosis: This applies specific techniques to identify existing strengths and weaknesses to implement the pedagogical concept of the CP process in Contactology through the strategy, taking into account the subjects involved.
- III. General objective: This section focuses on the development of the SP process in Contactology for the Bachelor's Degree in Optometry and Optics in Pinar del Río.
- IV. Strategic planning and implementation: This stage consists of three phases, each with its own specific objective, which guide actions for developing the SP process in Contactology. The aim is to ensure that it is systemic, integrative, and contextualized, enhancing mastery of modes of action across different levels of care: phase 1 (SP actions for PHC); stage 2 (PS actions for ASS); and stage 3 (PS actions for ATS).
- V. Evaluation. The development of the PS process is evaluated according to the variables and indicators identified in the research.

DISCUSSION

The research agrees with Bustamante López⁽⁶⁾ that SP in Contactology should allow for the updating and consolidation of knowledge and skills for the execution of procedures in line with technological developments. However, neither training nor continuing professional development has followed a logic based on the functions of each level and their importance.^(1,3) Therefore, the proposed pedagogical concept offers another perspective, grounded in a systemic, contextualized, and integrative approach.

Following this philosophical-logical basis, a group of proposals by various authors in the field of education in general and scientific-pedagogical results related to the training process of professionals were studied: Herrera Miranda⁽⁷⁾, Rojas Valdés et al.⁽⁸⁾, Silvia Vázquez et al.⁽⁹⁾, Hernández Estrada et al.⁽¹⁰⁾, among others. These studies align with the concept's vision, grounded in a scientific, systemic construction, supported by basic ideas, essential relationships, and categories, as well as principles regarding an aspect, phenomenon, or process of educational reality, or of its entirety, and its respective methodological consequences.

Among the novel aspects proposed in the pedagogical conception is a system of ideas that enriches and perfects pedagogical theory by contributing new knowledge regarding the logic for determining professional problems of varying degrees of complexity according to the characteristics of the levels of care. This aligns with Vega Prieto⁽¹¹⁾ in its guiding role over the other components.

Another distinctive element is the determination of the critical, necessary, significant, and valuable professional content for these professionals according to the levels of care where they work⁽¹³⁾ and the organizational forms of teaching work,⁽¹²⁾ taking into account the approach of Professional Pedagogy, where classroom and care pedagogical contexts are integrated and the training method is contextualized in the professional activity of services.⁽¹³⁾

Likewise, the proposal describes the direction of the SP process in Contactology, following the logic of transition through systemic stages. In this sense, it aligns with Cordero Escobar⁽¹⁴⁾, who states that every SP process consists of steps or stages that include the identification of learning needs, the educational process itself, and its evaluation.

CONCLUSIONS

The theoretical positions adopted in the research allowed for the development of a pedagogical concept for the SP process in Contactology, focused on principles, categories, ideas, relationships, methodological requirements, and a strategy for its implementation, which leads to the preparation of the Bachelor of Optometry and Optics for the comprehensive management of the contact lens services process based on the new qualities incorporated into the process, namely its systemic, contextualized, and integrative nature. The assessment carried out by the experts and the pre-experiment confirmed the relevance and scientific validity of the proposal.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

AUTHOR CONTRIBUTION

Conceptualization: Anileidys Muñoz Lazo, Juan Alberto Mena Lorenzo, Medardo Rodríguez López.

Data curation: Anileidys Muñoz Lazo, Juan Alberto Mena Lorenzo, Medardo Rodríguez López.

Formal analysis: Anileidys Muñoz Lazo, Juan Alberto Mena Lorenzo, Medardo Rodríguez López.

Research: Anileidys Muñoz Lazo, Juan Alberto Mena Lorenzo, Medardo Rodríguez López.

Methodology: Anileidys Muñoz Lazo, Juan Alberto Mena Lorenzo, Medardo Rodríguez López.

Project management: Anileidys Muñoz Lazo, Juan Alberto Mena Lorenzo, Medardo Rodríguez López.

Resources: Anileidys Muñoz Lazo, Juan Alberto Mena Lorenzo, Medardo Rodríguez López.

Software: Anileidys Muñoz Lazo, Juan Alberto Mena Lorenzo, Medardo Rodríguez López.

Supervision: Anileidys Muñoz Lazo, Juan Alberto Mena Lorenzo, Medardo Rodríguez López.

Validation: Anileidys Muñoz Lazo, Juan Alberto Mena Lorenzo, Medardo Rodríguez López.

Visualization: Anileidys Muñoz Lazo, Juan Alberto Mena Lorenzo, Medardo Rodríguez López.

Writing - original draft: Anileidys Muñoz Lazo, Juan Alberto Mena Lorenzo, Medardo Rodríguez López.

Writing - revision and editing: Anileidys Muñoz Lazo, Juan Alberto Mena Lorenzo, Medardo Rodríguez López.