

DIDACTIC ACTIONS TO STRENGTHEN THE TEACHING-LEARNING PROCESS IN PEDIATRICS

ACCIONES DIDÁCTICAS PARA FORTALECER EL PROCESO DE ENSEÑANZA APRENDIZAJE EN PEDIATRÍA

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ABSTRACT

In this research, a design of an action plan was proposed from the teaching and learning process of pediatrics that favors the development of clinical skills in fourth-year medical students. There were used theoretical methods, such as: analysis-synthesis, historical-logical, and induction-deduction; and for processing empirical information: observation guides for the teaching-learning process, document review, surveys, and pedagogical tests for students; as a mathematical-statistical method: percentage analysis. The results assess the feasibility and coherence of the proposed actions since it constitutes a reference document and teaching material. In this sense, it addresses the deficiencies evidenced in the initial diagnosis and includes knowledge, motivations, and levels of commitment according to the demands that identify and enhance the Cuban health system.

KEYWORDS: teaching-learning; pediatrics; medicine; students

RESUMEN

En la presente investigación se propuso el diseño de un plan de acción desde el proceso de enseñanza aprendizaje de pediatría que favorezca el desarrollo de habilidades clínicas en estudiantes de cuarto año de la carrera de Medicina. Se emplearon como métodos teóricos: análisis-síntesis, histórico-lógico e inducción

deducción y para el procesamiento de la información empírica: la guía de observación al proceso de enseñanza-aprendizaje, la revisión de documentos, encuesta y prueba pedagógica a estudiantes; como método matemático-estadístico: el análisis porcentual. En el resultado se valora la factibilidad y coherencia de las acciones propuestas ya que constituye un documento de consulta y material docente. En tal sentido, responde a las insuficiencias evidenciadas en el diagnóstico inicial y abarca conocimientos, motivaciones y niveles de compromiso de acuerdo con las exigencias que identifican y enaltecen al sistema de salud cubano.

PALABRAS CLAVE: enseñanza aprendizaje; pediatría; medicina; estudiantes

INTRODUCTION

Education is a process intended to develop human capacities for understanding one's environment, culture, and society, and also provides tools for a dignified and productive life. Since the emergence of universities in the Americas through the Spanish empire, which founded the first colleges on this continent, they have become one of the oldest institutions that have endured throughout history.

The Cuban university faces the challenge of training young people as strategic actors for the country's development; therefore, it plays a primary role in this regard. This institution projects itself towards a higher stage, characterized by extending Higher Education across the island and thus achieving, in the shortest possible time, the incorporation into these centers of all citizens with a completed upper secondary education level who so desire, without limits or barriers.

By the 1990s, the number of Higher Education institutions increased, following the idea of Commander in Chief Fidel Castro Ruz to create them in the provinces and municipalities. Consequently, in 2002, university campuses emerged with the objective of enabling students to attain a university degree from their area of residence.

Thus, the Cuban Medical University directs its work towards the training of a well-rounded professional, who responds to the humanist ideal of the Cuban social project and quality purposes. This professional is defined as a more humane, revolutionary doctor, capable of providing services anywhere and under

the most difficult conditions, responsible for his constant self-preparation, committed to the ethical principles of the profession and the society demands.

To achieve this purpose, the teaching-learning process in the Medical major must continue to be perfected; therefore, it is imperative to act upon its components by incorporating the most advanced trends in contemporary pedagogy to achieve qualitatively superior levels in the process and results of knowledge appropriation, skill development, and value formation in students, in accordance with the demands of today's society.

From the beginning of their medical studies, students develop specific professional skills, which must be consolidated during the medical internship and evaluated throughout the respective degree program.

Currently, curricular reforms in the Medical major are vital as contemporary pedagogy faces new paradigms. This is why substantial changes are being made in study programs at Latin American universities, including Cuban ones, with particular attention given to dominant health problems, meaningful learning, curricular flexibility, elective courses, the incorporation of new advanced technologies, and the desired new ethical values.

In the case of Pediatrics, a subject within the Main Integrative Discipline (Comprehensive General Medicine), it provides students with the theoretical and practical tools to begin applying the scientific method to the study of the health-disease process in children and adolescents. It encompasses the diagnostic process, which ranges from recognizing symptoms, signs, psychomotor development, nutritional status, and socioeconomic factors, to the identification of the disease.

Over 15 weeks, this subject provides students with the essential tools for developing the clinical skills necessary for the child comprehensive management. This involves identifying, interpreting, and studying symptoms and signs through the use of laboratory and imaging diagnostic means, as well as linking clinical knowledge with that acquired in the basic sciences.

In this way, it contributes to the general objectives of the major through the different curricular strategies. Therefore, its curriculum responds to the basic learning needs of the general practitioner. The focus of the subject's projection is based on the biopsychosocial integration, through an educational process founded on the application of knowledge and skills acquired during the teaching-learning process (henceforth TLP).

The TLP must guarantee a doctor capable of applying the essential knowledge of the causes and basic determinants of the health-disease process to identify its biological, psychological, and social aspects. This is achieved through the detection and evaluation of alterations in growth and development, morphological alterations, dysfunctions, and insufficiencies of the organism in an integral manner, as manifestations of structural, functional, and sociobiological changes.

In this perspective, García (2011), Sacasas (2013), and Esquivel et al. (2013) have contributed specifically to the teaching-learning process in medical training and ensure the significance and importance of this process today, as the training of doctors is directed towards benefiting human development with the already designed functions: to promote, prevent, treat, and rehabilitate human beings.

Regarding the teaching-learning process of the Pediatrics subject, Hernández-Sosa (2010) considers that within medical training, pediatric teaching plays an important role because Pediatrics constitutes the axis of preventive medicine, as a healthy adult depends on the care received in childhood; furthermore, the child is not a miniature adult but responds to different stages that give a special character to pediatric semiology.

In this sense, Hernández et al. (2016); Llaudi & González (2021) and Goic (2020) state that Pediatrics distinguishes pediatric semiology as essential content, defined as the branch of this science that studies the identification of the diverse manifestations of an apparently healthy or evidently ill child and adolescent, how to search for them, group them into syndromes, and interpret them to decide the health condition of the minor in order to get a diagnosis.

The teaching-learning process of the Pediatrics subject is a dynamic system that integrates, among other aspects, professional activities related to the comprehensive care of children, the family, and the community; therefore, the student, during his professional training process, internalizes and appropriates a diversity of knowledge for his performance.

Given the importance of this topic and based on the deficiencies detected in practice, the following problem arises: How to foster the development of clinical skills from the teaching-learning process of Pediatrics in Medical students?

Therefore, this research proposes as its objective: To design an action plan to foster clinical skills from the teaching-learning process of Pediatrics in Medical students.

MATERIALS AND METHODS

A descriptive observational study was done at the Mártires de Mayarí Teaching Hospital in Holguin province. The universe, which coincided with the sample, consisted of 37 fourth-year Medical students and five specialist-professors.

Theoretical methods were applied: analysis-synthesis, historical-logical, and induction-deduction. Empirical methods included: an observation guide for the teaching-learning process (for professors and students) validated by specialist criteria, document review of programs and lesson plans from professors and pediatric medical records, surveys and pedagogical tests for students. Percentage analysis was used as a mathematical-statistical method.

The use of the specialist criteria method enabled the assessment of the relevance, feasibility, and coherence of the implemented actions for the formation and development of skills in the fourth-year Medical students of the Mayarí Medical Sciences School. The students and professors selected for this study were previously informed, and the characteristics were explained based on the ethical principles governing scientific research.

DEVELOPMENT

Researches related to the teaching-learning process, such as that by Klimberg (1978), Álvarez (1996), Silvestre & Zilberstein (2000), and Addine (2004), highlight the study object of Didactics. In this sense, both Oramas & Toruncha (2002) and Zilberstein (2002) propose the scientific theory of teaching and learning (...) with the function of preparing human beings for life, so they can respond to their specific socio-historical conditions.

The authors Morris & Martín (2004) argue that the teaching-learning process can be defined as the process of interaction between the teacher and the students through which the teacher directs learning through adequate activity and communication.

A broad and current vision of the teaching-learning process is manifested by Addine (2004), which states that it is a school pedagogical process possessing the essential characteristics of the latter but distinguished by being much more systematic, planned, directed, and specific, insofar as the teacher-student interrelation becomes a direct didactic action, whose sole purpose is the comprehensive development of the learners' personality. Considering the objective of the present research, this definition is adopted.

An analysis that considers the teaching developmental character is provided by Castellanos (2005), who specifies that it is the systemic process of transmitting culture based on the social order, organized from the current and potential levels of development of the students (...) with the aim of forming an integral and self-determined personality, capable of transforming itself and transforming reality in a specific socio-historical context. This highlights the emphasis placed on developmental teaching and its relationship with the comprehensive training of the student. Thus, developmental didactics leads to the comprehensive development of the student, an element that teachers must consider.

According to Brunet (2021), the teaching-learning process of the Pediatrics subject is a dynamic system that integrates, among other aspects, professional activities related to the comprehensive care of children, the family, and the community; therefore, the student, during his professional training process,

internalizes and appropriates a diversity of knowledge for his performance. The above allows for achieving excellent medical care with health promotion and prevention actions for the healthy child, timely diagnosis, and rehabilitation of the sick child, ensuring his reincorporation into society.

This subject develops topics related to the clinical method in Pediatrics, the Pediatric Medical Record in Primary Health Care, Growth and Development of the Child and Adolescent, principles of the Mother-Child Program, Infant Mortality and its components, immunizations used in the National Vaccination Scheme, preventable diseases, among others. These will be systematized from the instructive, educational, and developmental character that characterizes their professional training and based on the formative intentionality that involves this process.

The current teaching-learning process of Pediatrics is supported by the social and educational sciences. Its holistic view involves integrating aspects of the Philosophy and Sociology of education with Psychology, Pedagogy, and General Didactics to model the teaching and learning of Pediatrics in the Medical students' training.

A sociological perception of the teaching-learning process in Pediatrics takes as its reference the processes of socialization and individualization contributed by Blanco (2014), while Perea & Mainegra (2017) state that the process of perfecting Cuban medical education is based on the need to guarantee a graduate whose professional performance responds to the characteristics and development of the society in which he will perform his functions, with solid theoretical-practical training to face problems related to his profession while respecting his personal uniqueness.

The specialist-professor, from a psychological perspective, assumes the postulate of Vygotsky's Historical-Cultural Theory and his followers about the student's psychic development having a concrete historical character, according to the development of society and their education, and the cognitive and the affective unity postulate in the human personality.

The professor must make the student aware that his training as an educator is part of his graduate profile and the importance of acquiring resources to positively influence patient education and his self-training.

Development of clinical skills in fourth-year medical students

As part of current transformations, developmental learning guarantees the student's active and creative appropriation of knowledge and prepares him to solve problems encountered in his professional practice; in this sense, skills play an essential role. From a semantic point of view, the term skill is defined as the capacity and disposition for something or each of the things that a person does with elegance and mastery.

From a psychological point of view, skills are considered structural psychological elements of the personality, linked to its regulatory function and especially to the sphere of executive action, which are formed, developed, and manifested in activity.

As skills constitute the ways in which the subject assimilates and perfects the activity, they are included in the process of their comprehensive development. Therefore, they should become a center of special attention for psychologists, pedagogues, and other specialists involved in the task of teaching and education.

The formation and development of skills are considered by several professors as the content that contributes to knowing how to do in developmental learning; however, the students' progression through the different educational levels reveals that there are difficulties in this aspect.

In this perspective, Martínez-Asanza (2022) considers that education in the workplace constitutes the fundamental form of teaching organization in the Medical major.

Its main objective is to contribute to the development in students of the practical skills that characterize the professional activities of the graduate and presupposes a reciprocal interaction between the student and the professor in close relation with the individual from whom they learn.

In his classes, the professor must plan content related to the skills' development that contribute to the better performance of students during their Pediatrics rotation, whether general or specific. These include the following:

✓ General skills

Communication skills, use of information and communication technologies, collaboration and teamwork, acting with creativity, independence, and professional leadership, applying the scientific method.

✓ Specific skills

Obtaining signs, symptoms, and risk conditions, performing general, regional, and systemic physical examinations, issuing comprehensive diagnostic judgments, performing syndromic, positive, and differential diagnoses, proposing and interpreting researches according to the diagnosis.

✓ Technical diagnostic and therapeutic skills

Preventing diseases, their complications, and recurrences, selecting the treatment for the patient's health problem, recording patient information in the medical record.

Only the repeated action of each of these complex skills will allow the acquisition of right professional modes of action by fourth-year Medical students during their Pediatrics rotation.

The authors of this research emphasize that skills alone do not determine success in resolving health problems if they are not accompanied by knowledge, habits, values, ethical principles, and humanism, essential elements that the student should have reinforced during his university studies.

In the clinical training of Medical students, the stages for the clinical skills development proposed by Conde (2011) are adopted. These stages address the levels of development that the student will achieve during his learning.

Stage 1

Objectification: aims for the student to appropriate the clinical skills' importance for his future performance, while becoming motivated and identifying with fulfilling the objectives of the learning process and his development.

Stage 2

Familiarization: the student must be capable of achieving an initial approach to the theoretical and procedural knowledge, the actions and operations that constitute each of these skills, and expressing it verbally.

Stage 3

Demonstration: the student appropriates the model of performance, which allows him to master the theoretical, procedural, and ethical aspects related to each subsystem of skills.

Stage 4

Practice: the student performs training exercises to master the skill; initially repeating the actions as instructed and under the professor's supervision; then practicing independently and later in a group context. Interaction and assistance strategies can be adopted.

Stage 5

Independent Execution: the student independently does the clinical skills and uses them in solving teaching tasks related to the health problems presented by the patients assigned to him during workplace education.

Stage 6

Evaluation: aims for the student to be capable of self-assessing his performance quality.

In each stage, the student rotating through the Pediatrics subject and the professor implement actions among which varied links are established. In turn,

the different stages and actions are interconnected as an expression of the systemic nature of the process.

Action plan for the development of clinical skills in fourth-year Medical students

The action plan model declared by González & et al. (2022) is therefore developed. This model explains that to solve the deficiencies detected in the initial diagnosis, a flexible action plan must be developed because reality is versatile, one which emancipates both participants and the researcher.

Considering the above, the action plan proposed in this research consists of a series of proactive actions ordered to address distortions in the functioning of an organization and the respective fulfillment of its state order.

This plan constitutes a continuous process of transformation, aims to control causal and conditioning factors to achieve concrete results, has a short and medium-term character, and involves different departments and areas with the purpose of achieving the integral well-being of the organization.

Therefore, the following objectives were set:

General objective

To foster the clinical skills' development with a comprehensive approach, from the teaching-learning process of Pediatrics, in fourth-year Medical students of Mayari municipality.

Specific objectives

1. Increase the multidisciplinary knowledge required by the students.
2. Stimulate the opening of new organizational forms of professional development that provide access to knowledge, as a way to foster the development of the pedagogical mastery of the professors.
3. Promote teaching-methodological and research improvement that stimulates transformations in the teaching and scientific categories of the faculty.

Based on the close relationship between the teaching-learning process of Pediatrics, the preparation of the professors, and the development of skills in the students, the following action plan is proposed.

Actions	Participants	Responsible	Location	Completion date
Conduct guiding activities on how to perform the medical interview, examine, and diagnose in the pediatric age group and its particularities	Head of Teaching Department, professors, students	Head of Teaching Department, <i>Mártires de Mayarí</i> Hospital	Hospital Library	Immediate
Provide didactic treatment to the teaching of clinical skills each time a new disease is studied, whether on the ward or according to the schedule, emphasizing the medical history and physical examination	Undergraduate methodologist, Lead Professor of Pediatrics, Holguín University of Medical Sciences	Head of Teaching Department, <i>Mártires de Mayarí</i> Hospital	Holguín University of Medical Sciences	Immediate
Analyze the clinical skills' development in the year-group and subject collectives	Head of Teaching Department, professors	Head of Teaching Department, <i>Mártires de Mayarí</i> Hospital	Hospital Library	Immediate
Teach methodological, instructive, and demonstrative classes with objectives directed at the development of Pediatric Semiology skills, according to the methodological line	Head of Teaching Department, professors	Head of Teaching Department, <i>Mártires de Mayarí</i> Hospital	Hospital theater	Immediate

Discuss in the year-group and subject collectives how to address the clinical skills' development in students, with proposals for integrative teaching tasks, emphasizing the skills: interviewing, examining, and diagnosing	Head of Teaching Department, Teachers professors	Head of Teaching Department, <i>Mártires de Mayarí</i> Hospital	Hospital Library	Immediate
Develop complementary didactic material with an integrative focus to consolidate in students the theoretical foundations of the medical interview and the pediatric physical examination	Head of Teaching Department, professors	Head of Teaching Department, <i>Mártires de Mayarí</i> Hospital, professors	Hospital classrooms	Immediate
Incentivize professors and students to participate in scientific events and seminars on the topic of pediatric clinical skills	Head of Teaching Department, professors, students	Head of Teaching Department, <i>Mártires de Mayarí</i> Hospital, professors	Different spaces	Immediate
Apply acquired knowledge to new situations to produce their own learning	Head of Teaching Department, professors, students	Head of Teaching Department, <i>Mártires de Mayarí</i> Hospital, professors	Hospital classrooms	Immediate

Professional skills are useful in all spheres, and the doctor needs to develop them in their work. The medical interview is the first diagnostic approach and sometimes the definitive one; hence, success depends on the preparation to conduct it.

Therefore, based on specialist criteria, the following results by indicators are presented: the objective of the action plan is oriented towards a real situation that requires a change achievable through concrete and attainable solutions to transform it; the content of the actions is easy to apply by the professors and specialist officials linked to the activity; there is logic in the activities, which are

feasible and adjusted to the cognitive and practical needs of the degree program in the territory.

In this way, the idea and creativity of those who use them are enriched, and they promote exchange as they provide professors with tools related to the clinical skills' development. This favors the professional and ethical quality of the future physician, impacting the recognition and prestige of the Cuban health system. Therefore, it is demonstrated that the action plan for the development of the proposed clinical skills responds to real needs of the teaching-learning process of the Pediatrics subject, can be applied by professors and students, admits changes, adaptations, and even modifications that favor the successful results demonstrated in the preparation of the future professional.

CONCLUSIONS

The analysis of the documentation supporting the teaching-learning process of the Pediatrics subject and the clinical skills' development in fourth-year Medical students of the Mayarí Medical Sciences School shows that there is bibliographic support consolidating the topic. The diagnostic study revealed two limitations: insufficient professor preparation to facilitate the acquisition of clinical skills in students and the low level of dedication to study by the student body. These deficiencies, which directly impact the quality of learning, require a pedagogical intervention based on greater theoretical depth and methodological rigor. Hence, this research is justified as a response to these training needs. The action plan developed from the teaching-learning process of Pediatrics to foster the clinical skills' development in fourth-year Medical students addresses the deficiencies identified in the initial diagnosis and encompasses knowledge, motivations, and levels of commitment according to the demands that characterize and elevate the Cuban health system.

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