

ORIGINAL

Methodology for the formation of managerial competitions in the students of intensive medicine and emergencies adults

Metodología para la formación de competencias gerenciales en los estudiantes de medicina intensiva y emergencias adultos

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ABSTRACT

In the Cuban medical University, it is purpose to guarantee the excellence in the different levels of the organizational system, he/she intends the methodology for the formation of managerial competitions in the students of the specialty of Intensive Medicine and Emergencies Adults in the provincial hospitals of Pinegrove of the River, the one that is based in the principles of the medical education: education in the work and continuous and permanent formation of the human resources in health, goes to the serious or critical patient's integral attention, to offer answers to the most general problems of health and frequent that are presented in the units of intensive cares, in harmonic interaction among the University, the address of the service.

Keywords: Methodology, Managerial Competitions; Students of Intensive Medicine and Emergencies Adults.

RESUMEN

En la Universidad médica cubana, es propósito garantizar la excelencia en los diferentes niveles del sistema organizacional, se propone la metodología para la formación de competencias gerenciales en los estudiantes de la especialidad de Medicina Intensiva y Emergencias Adultos en los hospitales provinciales de Pinar del Río, la que se fundamenta en los principios de la educación médica: educación en el trabajo y formación continua y permanente de los recursos humanos en salud, se dirige a la atención integral del paciente grave o crítico, para brindar respuestas a los problemas de salud más generales y frecuentes que se presentan en las unidades de cuidados intensivos, en interacción armónica entre la Universidad, la dirección del servicio.

Palabras clave: Metodología, Competencias Gerenciales; Estudiantes de Medicina Intensiva y Emergencias Adultos.

INTRODUCTION

At the Cuban Medical University, the aim is to guarantee excellence at the different levels of the organizational system, which leads to the professional development of human resources providing scientific health services, professionals, and leaders who will decide on national and international economic and public

policies and their incorporation into work as a positive agent of change and social transformation.^(1,2)

The adoption of features and principles of competency-based training models in medical specialization programs is manifested explicitly in the components of the teaching-learning process, hence the development of curricular and methodological attention in this sense. In intensive care units, knowledge, abilities, and skills are increasingly required to provide quality care to every patient, family, and community.^(3,4,5)

Dr. Véliz Martínez, in his work presented at the ENSAP 2016 Conference,⁽⁵⁾ refers to managerial competencies, which enable organizational support, monitoring, management, and control of care, academic and administrative processes, and activities so that the rest of the professional competencies can be evidenced in practice.

It is in the course General Intensive Medicine, which refers to theoretical knowledge and skills related to management, only from theoretical content, descriptive knowledge predominates against the integration of these and the skills, values, and attitudes to the transformation of the context expressed in limitations of the leading role of students in the management processes of the units of care for seriously ill patients, in difficulties for the measurement and evaluation of the final products of the care provided to seriously ill patients.

Therefore, the design of a methodology is accepted, such as the structuring and organization of a series of elements aimed at solving previously detected problems and where it is necessary to consider the set of phases or stages that must be integrated into a project or methodological proposal.

The methodology is conceived for organizational development, to enrich the competence of the individual so that he or she contributes to the transformation of his or her entity, the responsibility of the top managers at each level in the implementation, and the commitment of the workers to the identification and solution of problems, to respond with discipline and quality.

This research assumes the conception of the methodology for the training of managerial skills that allow the integral training of the student of the specialty of Adult Intensive and Emergency Medicine (MIEA) so that the design of any form of postgraduate education conceives its systemic, developmental, and conscious character in solving the health problems of the seriously and critically ill patient.

DEVELOPMENT

Methodology is one of the fundamental components of scientific research. It is the science of methods or the procedures followed in research. In a more precise definition, Alonso-Betancourt et al.⁽⁶⁾ point out that it includes the set of processes, procedures, and techniques that respond to one or several sciences about their characteristics and their object of study.

It is a type of scientific result, according to the studies carried out by Gordillo, Fernández, Leyva, De Armas, Lorences and Perdomo, Alonso, Leyva, and Mendoza, which is defined as a set of actions interrelated with each other in phases and/or stages, directed from the theoretical by a method or set of methods and based on a conception, principles, dimensions, system of categories, laws, models, regularities and/or premises associated with the theoretical-conceptual-methodological apparatus of Professional Pedagogy and Technical Science Didactics, systematized according to the object and field of research, as well as the objective pursued therein.

Some authors⁽⁷⁾ define it as a scientific result that relates methods, procedures, and techniques regulated by specific requirements to organize better thought and form of action when obtaining specific cognitive purposes.

Criteria are assumed about the requirements of its representation:⁽⁸⁾

- Objective to be achieved
- Rationale: problem and theories to which it responds
- Elements involved in its structure: essential aspects of the object of study, concepts, and categories that describe and explain it
- Application process: description of the steps to be followed in the instrumentation of methods, techniques, means, and procedures. It may cover phases (preparatory, execution, communication, and validation or otherwise designated).

The proposed methodology aims to improve the process of training managerial skills in students of the MIEA specialty through a system of methodological actions that, in a flexible and developmental way, integrate knowledge, skills, values, and attitudes to transform managerial activity and improve professional performance when caring for seriously and critically ill patients.

The principles that stand out are:

Developmental Character. This principle is determined dialectically from the philosophical conception of development. Where this is carried out in a gradual, intentional way, there are moments of stopping or going back that are necessary to move forward, and sometimes contradictions appear that generate ruptures or leaps. It is closely related to comprehensive care for seriously and critically ill patients through the appropriation of its contents in stages.

The conscious character requires a marked intention from the training of feelings and experiences in the integral care of the serious or critical patient, which reinforces the leading role of the students as active,

transforming, committed subjects, responsible with their profession and with society in an eagerness of transformation from the solution of health problems, based on the system of values of professional authority sustained in its exemplarity, humanism, responsibility, industriousness, cooperation, fairness in patient care and honesty in the administration of material and human resources.

The methodological proposal for the training of managerial skills in MIEA students has premises that are reflected as follows:

1. The integral diagnosis of the existing conditions to develop the process of training managerial skills in the modes of professional action.
2. Structuring the program about the professional problems associated with management activities.
3. Determination of the responsibility of the course teaching staff, main tutors, and department heads in implementing the methodology.
4. Evaluation of the proposal based on the results of the process.

Fundamentals of the methodology

The methodology for training managerial skills in MIEA students requires the delimitation of a set of theoretical foundations that serve as the basis for the proposal. In this sense, the dialectical materialist conception is recognized as the philosophical basis of education in its most general sense. It is intertwined with the Martian ideology and the political and social work of Fidel Castro and other Cuban thinkers.

Dialectical materialism offers an essential theoretical basis for understanding man's knowledge process. Of particular significance in this conception is Lenin's theory of knowledge, which explains how knowledge is the result of the dialectical interrelation of the subject and the objects of work and of the subjects among themselves, the role that practice plays as a criterion for evaluating truth, and the relationship between knowledge and evaluation.

In the conception of the methodology for the training of managerial competencies, from the perspective of medical education, the professional functions of the specialist are recognized as the basis of the methodology since managerial activity becomes a social necessity and, at the same time, acquires a personal dimension to the extent that the teacher acts with professionalism in the pedagogical context.^(9,10,11,12,13)

The following are also considered as elements that make up a Methodology:⁽⁷⁾

Perceived need: Description of the analysis of the situation that dictates the need for the study and based on which it is decided to carry out the research, the sequence of steps to be followed, the roles of those involved, the instruments and techniques to be used to solve the problem in question and, on the other hand, to enhance the fulfillment of organizational objectives.

Categorical and legal foundation. Description of the scientific basis for the proposal formulated, based on the requirements for its application (guidelines that condition the actions of individuals and constitute guides for thought and premises for application).

The strategic focus of the proposed methodology and the participatory intervention of those involved in its conception and application must be considered.⁽¹⁴⁾

As a stable and systematic process, the methodology is characterized by:⁽⁸⁾

- A relatively stable result was obtained in the process of scientific research.
- It is based on a theoretical body (categorical and legal) of philosophy, the sciences, or the branches of knowledge related to the objective for which the methodology is designed.

It is a logical process of stages, links, conditioning, and dependent steps that, when arranged in a particular and flexible way, allow the proposed knowledge to be obtained.

The methodology is made up of a theoretical-cognitive apparatus and an instrumental one:

Theoretical-cognitive component: This component expresses, among other things, the following essential elements: conceptualization of the methodology, laws, principles, regularities, dimensions, and/or models that underpin it from medical education, the categorical system and its relationships, and the training approach adopted.

Instrumental component: This component synthesizes and assesses the practical contribution to the science of medical education. The stages or phases are determined, and their names must be consistent with the theoretical-cognitive component. The actions to be carried out in phases or stages in which the aforementioned scientific requirements are met are proposed and mandatory.

The proposed methodology is applied through a sequence of stages, and each stage is, in turn, a succession of actions or procedures and explains how it operates in practice, how the stages, methods, procedures, means, and techniques are integrated, and how the requirements are taken into account in the course of the process.^(15,16,17,18,19,20,21)

This new look at a methodology from the training of the specialist in MIEA is expressed in systemic thinking to know and understand the relationships of Prevention, Anticipation, Norms, Strategies, Innovation, collaboration, critical thinking, Self-awareness, and Health problem-solving in the comprehensive care of the

severe or critical patient.

To verify the contextual nature of this specialist training, the group of teachers in the specialty, tutors, heads of department, and other managers from the institutions, hospitals, and the university must be involved simultaneously.

In this proposal, the methodology is designed taking into account the contents related to course 1, which is taught in the first year of the specialty and whose central theme is related to generalities in Intensive Medicine, where the updating and deepening of knowledge is considered, by the scientific-technical and technological advances that take place in the world and Cuba, related to the system of progressive care for the care of the seriously ill patient, so that they are addressed in terms of the care of the seriously and critically ill patient.

In addition to these competencies, there is content from the introductory and management courses, which are developed at the hospital's request, where general content is addressed.

Structure of the methodology

The methodology for skills training contains managerial activities and monitoring throughout the process to obtain information about how it is being carried out, to readjust the guiding intervention according to the data obtained, and to determine its stages or phases, as outlined below:

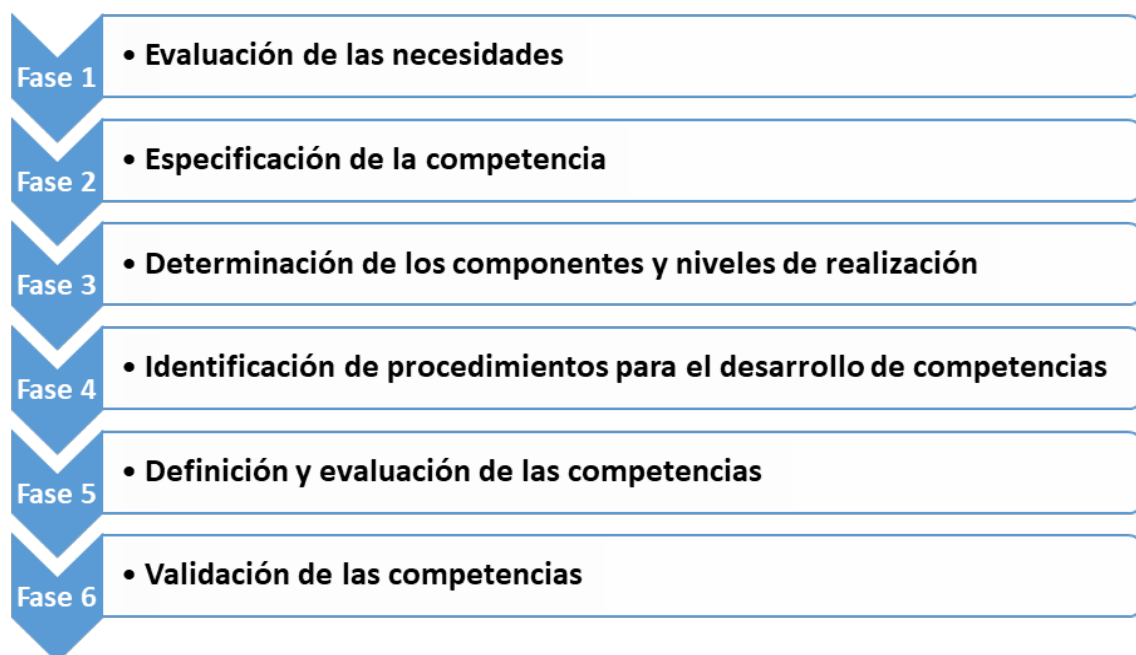


Figure 1. Phases in the process of the competency-based methodology

The phases of the proposed methodology are described below:

Phase 1: Needs assessment

Determined when the professional relates to and participates with colleagues in team actions, solves problems autonomously and flexibly, and collaborates in work organization. This depends on the quality of their training and the medical practice carried out, which determines the level of competence achieved.

The process of training managerial skills for specialists in IMIA is a guiding principle and a cross-cutting axis in relation to the rest of the professional skills. The objective is to offer tools for the development or improvement of the teaching-learning process in this sense, to achieve quality human capital, and to improve medical care and work performance.

Current programs in the specialty are developed based on modular teaching and, in addition to the theoretical content, aim for the student to acquire practical skills to be developed. The training of professional competencies is not required, with managerial competencies providing support for developing the rest of the competencies.

The units and elements of managerial competencies to be developed in students are defined in terms of providing organizational support, monitoring, Management, and control of the care, academic, and administrative processes and activities in the service. It involves the analysis of quality indicators and the control of human and economic resources. Internal audits and quality control demand compliance with the

standards, protocols, and guidelines for action in the medical care process.

In a general sense, management training provides the tools for functioning within the units that provide care for seriously ill patients, supports the organization and control of processes, enables work performance related to the social nature of our system, evaluates the scientific preparation of the groups, and the quality of care, and strengthens the degree of satisfaction and safety of patients and their families with the services provided.

Phase 2: Specification of management competencies

The required depth of theoretical content is provided for the training of management skills in the specialty. Together with the development of practical skills, they guarantee the quality of the care process, satisfaction with the services, and safety for the patient.

Comprehensive training promotes the acquisition of values and the leadership of the graduate as a protagonist of the health team, and these are decisive since the units for the care of seriously ill patients operate 24 hours a day. From this, the need to train true health managers can be deduced, which connects with the possibility and need to preserve, develop, and promote the identity of the specialist in MIEA.

Such an identity is made up of knowledge, experiences, interactions, ways of acting, work styles, and customs that specialists have historically acquired as a result of the activities and relationships established in the comprehensive care of seriously or critically ill patients. This would imply stability in training as a specialist and, therefore, at a social level.

In this vein, the managerial competencies to be trained in students of the MIEA specialty are specified:

- Lead the reformulation of management actions in correspondence with changes in the service environment, consequently, as a transformative agent in the spheres of action, mobilizing individual and collective initiative, rights, and responsibilities for the comprehensive care of the seriously and critically ill patient.
- Knowing how to be a decision-making agent in using healthcare resources, avoiding unnecessary referrals, and the abusive and unjustified use of examinations and therapeutic resources.
- Delegating functions, working as a team, and delimiting their scope of action with intelligent leadership and multiple skills, enabling them to deal with health contingency situations.
- Coordinating managerial actions in professional performance.

Phase 3: Determining the components of managerial competencies

Dr. Lloyd McCleary defines competency, saying: "Competency is defined as the presence of characteristics or the absence of disabilities that make a person suitable or qualified to perform a specific task or to assume a defined role."⁽¹⁷⁾

From the above, it can be deduced that a person is competent when:

- They know what their abilities are.
- Can demonstrate what they know.
- Stands out from the rest due to their ability to develop terminal processes.

Competent people have characteristics that lead them to self-analyze their possibilities for development and shortcomings, but to reach this point of training, teachers must use a teaching model that allows both them and their students to recognize and demonstrate the achievements attained about competencies.

It is advisable to tell a student that he will be competent to understand or carry out a process; it is enough to use an initial verb and give the young person the guidelines to achieve competence.

The methodology designed aims to deepen knowledge of both theory and skills, values, and aptitudes necessary to guarantee quality in professional performance. This methodology for the training of managerial skills is developed on the basis of the main capacities to be developed in graduates and adjusted to the specialty.

The methodology for training managerial skills in MIEA students proposes how the educational model divides competencies into three.

Conceptual skills

Knowledge for approaching management is defined within the framework of the units of care for seriously ill patients and is contained in the general intensive medicine course program. This group of subjects includes concepts, theories, and treatises that serve as a basis for other, more complex knowledge or processes.

Methodological skills

This type of skill or ability orients students towards the elements available to them for obtaining knowledge, processes, steps to follow, methods, techniques, or ways of doing something that allows them to know, understand, or apply a straightforward process that leads to the integral care of the serious or critical patient.

Skills for the integral care of serious patient

Within the areas of knowledge, students need to develop skills for participating in the updating of regulatory documents, good practice guidelines, or in the improvement of manuals for organizing processes that take place in critical care services from those who use the general and formative knowledge found in the curriculum as part of their comprehensive training, which allows them to train as a health manager.

4th Phase: Identification of procedures for the development of managerial skills

The organization of topics and theoretical content according to importance and hierarchy to respond to the objectives pursued in the training of managerial skills is related to the generalities in intensive medicine.

Objectives:

1. Apply the bases of the physical and functional structure of the units that comprise the Progressive Care System for the Care of the Critically Ill Patient.
2. Use and control work with normative documents in the services.
3. Work integrally in the different units, mastering the established interpersonal relationships, thus guaranteeing multidisciplinary evaluations if necessary.
4. Guarantee satisfaction and safety for patients and their families with an ethical process approach.

The following topics are studied in this course:

- Organization and structure of the progressive care system.
- Admission rules and criteria.
- Quality indicators for the care of seriously ill patients.
- Integrated medical emergency system.
- Doctor, patient, and family relationship in the face of critical health loss.
- The medical care team and its relationships.
- Ethics of care for the seriously ill patient

Essential theoretical knowledge:

- Early identification of medical problems in urgent and emergencies. Effective use of problem-oriented medical records. Data monitoring and surveillance.
- Recommendations for architectural structure and material resources. Personnel: number, continuous training, qualifications.
- Management of predictive and prognostic scales
- Indicators of the quality of care for critical patients. Use of personal computers. Service quality control programs. Committees that operate in the services and their importance.
- Response to the disease upon admission to the unit. Organic alterations. The sensation of imminent death.
- Behavior of the work team. Management of internal relations. Leadership in the health team.
- Participatory techniques for conducting the medical interview. The companion in the care of the critical patient.
- Basic legislation on legal responsibility. Consent for medical procedures that generate risk. Ethical decision-making. Medical and legal problems for religious or other reasons. Ethical considerations regarding the suitability of treatments for the patient's situation.
- Integrated Medical Emergency System. How it works

In the designed methodology, 192 hours are used for modular development according to the program, of which 48 elective hours are used to respond to the acquisition of theoretical content. This leaves 12 hours per week where the methods used allow the students to take the lead in these activities and the teacher to direct the teaching activity through bibliographic reviews, interactive workshops, or integrative seminars.

The rest of the 144 hours are given as independent work where tutors and department heads monitor the mastery of skills related to theoretical content in on-the-job training and which respond to the acquisition of managerial skills.

Priority is given to new teaching technologies such as problem-based, project-based, case-based, task-based, thinking-based, cooperative learning, flipped classroom, learning contract, and gamification. The first two are widely used and based on constructivist approaches. Another methodology considered active is connectivism, which enables learning to navigate through networks.

When students have an overview of the whole course, they can relate some topics to others they have already studied or know they will study soon. This motivates the learners and helps them retain what they have learned for longer.

Methodology for the achievement of managerial skills

To ensure the comprehensive training of the specialist is carried out consciously, the faculty of the specialty, tutors, department heads, managers, and other training organizations that influence this process based on the social role of the future graduate of the MIEA specialty are all involved.

The methodology for the training of managerial skills aims for the student to acquire skills that will enable them to manage the functioning of services such as:

1. Manage the organizational/functional structure of the unit to which they belong.
2. Use the regulatory documents of the unit and institution where they work.
3. Apply the entry and exit rules in the work units.
4. Manages care, academic, and administrative activities in caring for seriously ill patients using management tools.
5. Carries out internal audits of the service.
6. Organizes care work in the unit according to their responsibilities and the service's needs.
7. Manages material resources according to their responsibilities and the needs of the service.
8. Supervises the work of nurses and other professionals and technicians working in the unit.
9. Controls work plans to comply with the programs established in the service.
10. Evaluate the competencies in the performance of the professionals.
11. Plans the individual and collective professional development of the unit.
12. Participates in the strategies for selection, training, and employment of human resources.
13. Monitors quality indicators for the care of seriously ill patients.
14. Participates in quality committees, evaluating the results of care activity.
15. Implements patient safety programs.
16. Ensures compliance with the patient rights program according to ethical principles.
17. Maintains links with the University and the MINSAP to prepare specialists in management activities.

The process of training in management skills concludes with evaluation. In this phase of the process assessment, data analysis allows decisions to be made. The study revolves around the program's progress, both in terms of its suitability to the previous programming and its dynamic and relational aspects. The evaluations, therefore, have a formative character and are carried out after each class, allowing for feedback on the program. In each of them, the implementation and development evaluation assessment can be distinguished as successive phases.

Phase 5: Evaluation of the methodology

The starting point is to compare the theoretical curriculum with the results of the analysis of the students' acquisition of managerial skills based on the competencies to be developed and the actual curriculum, as it is being implemented with the same analysis of the competencies.

It is advisable to evaluate the program's functioning once the methodology is implemented following the planned stages and theoretical schemes. The ultimate aim of this evaluation phase is to determine whether or not there are discrepancies between the design and reality, and if so, to make the relevant adaptations and redefine actions in the program to achieve its optimal and adequate implementation.

In this phase, five aspects seek nothing more than the adequacy and identification of the designed activities. The evaluation criteria and indicators are specified based on these aspects or dimensions.

The dimensions to which we refer are:

- Program coverage.
- Carrying out of activities: Every planned activity has been carried out.
- Execution of the timing: Closely related to the previous one, this refers to the fact that the planned activities have been carried out in the pre-established periods; that is to say, there is an adjustment between the actual execution and the planned design.
 - Functions of the agents involved: Each agent involved in the program has carried out the activities they were responsible for, as designed.
 - Use of available resources: The planned material and human resources have been used.

6th Phase: Validation of competencies

The content dosage up to this point is beneficial for the work of the teacher, training tutor, and head of the department, who can work on teaching on the spot, guided by the stated competencies. However, an essential element remains to be considered, such as specifying the level of learning the student should achieve through the methodology and activities the teacher has previously indicated to achieve the competencies.

The teacher's level of learning is determined by the subject content and its characteristics, the depth and extent to which it will be dealt with according to the competences and levels previously established in the

subject content program.

It is essential to define each of the three levels for a better understanding of them:

Familiarity

The most basic way of knowing something and being able to talk about it. It implies that the student handles concrete information and data about a specific subject with a depth that can be rote and of a length that allows them to have continuity in a series of clear and precise ideas.

Understanding

It allows the student to modify the original information he or she has received and transform it in a parallel way to later make it more meaningful, store it, or transmit it to another person.

Application

This requires the two previous levels and involves using known and learned information in new situations, using the resources and tools that this information provides; this occurs through the transfer of acquired knowledge.

Below is a diagram of the proposed methodology.

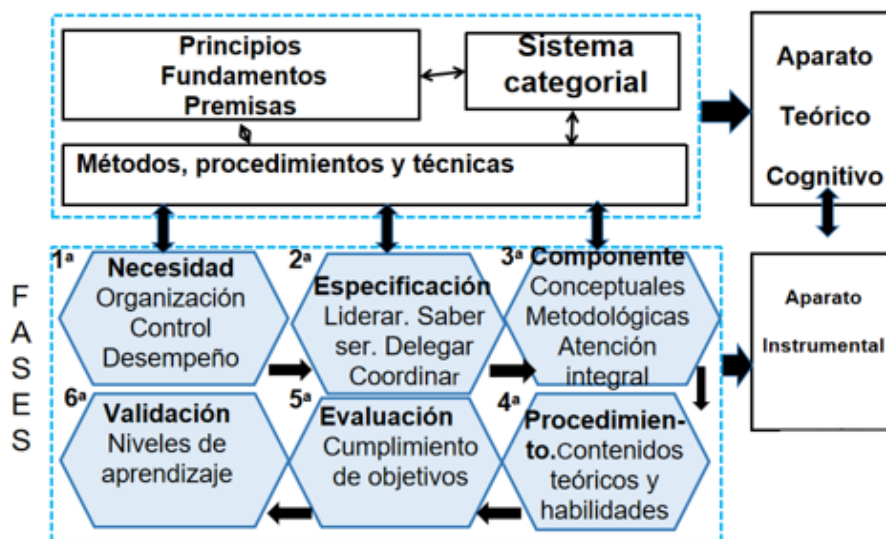


Figure 2. Methodology for the process of training managerial skills in MIEA students

CONCLUSIONS

The methodology presented here takes the process of training management skills in students of Adult Intensive Care and Emergency Medicine as one of its essential components for perfecting the professional performance of the specialist, from which spaces are created for systematic projection, the use of management practices in the context and the knowledge of all participants in the care of the seriously and critically ill patient, conditioning factors of the integrative, systemic, flexible and conscious nature of the proposal, through methodological indications and suggestions. Flexible and conscious of the proposal through methodological indications and suggestions.

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