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Methodological strategy for improving tutor performance in the Hygiene and Epidemiology program

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ABSTRACT

Introduction: tutoring is an accompaniment process during student training carried out through personalized attention, representing one of the best means of promoting skill development that facilitates learning by competent teachers who contribute to improving their performance.

Objective: to design a methodological strategy for improving tutor performance in workplace education in the Hygiene and Epidemiology program at the University of Medical Sciences of Pinar del Río.

Methods: theoretical methods (historical-logical, analysis-synthesis, inductive-deductive), empirical methods (observation of 10 teaching activities, documentary review of programs and methodological guidelines), and statistical methods (descriptive statistics) were used. SWOT analysis was applied identifying weaknesses, threats, strengths, and opportunities in tutor performance.

Results: a methodological strategy structured in three stages was designed: preparatory (exchange workshop on regulatory documents and self-improvement system), methodological work cycle (methodological meeting, instructional methodological class, open class, and 30-hour face-to-face improvement course with three topics), and control (class visits, monthly adjustment workshops, and effectiveness assessment). The diagnosis identified insufficient methodological work, limited pedagogical knowledge, and lack of pedagogical skills in tutors.

Conclusions: the methodological strategy offers a variant to improve the teaching-educational process by contributing to the improvement of tutor teacher performance in pedagogy-didactics, assuming a methodological stance where methods, procedures, techniques, ways, means, and forms of organization guide action contents from a theoretical and practical conception, demonstrating feasibility, reliability, and practical relevance in the university context.

Keywords: Preceptorship; Faculty; Education, Medical, Graduate; Professional Training; Competency-Based Education.

INTRODUCTION

The university, as a social institution, has evolved significantly. Today, successful professional performance is inconceivable without continuous updating. UNESCO identifies lifelong education for all as a supreme goal.⁽¹⁾

Cuba's Higher Medical Education system adheres to the foundational principles of the National Education System. Academic formation is central to its mission, with tutoring serving as a fundamental process grounded in learning theories.^(2,3)

The teaching-learning process (TLP) is the core subject of didactics and aims to prepare individuals for life in a systemic and effective manner.⁽⁴⁾ Tutoring is a valuable alternative for supporting students and intervening in the TLP, fostering skill development that facilitates learning and enhances professional performance.⁽⁵⁾

The TLP can be classified by its proximity to labor activity into: academic (abstract, modeled content), labor-based (production and service activities in workplaces), and research-oriented (scientific-investigative activity).^(6,7) Within the labor component, organizational forms include work practice, teaching practice, and "Education in the Workplace."⁽⁸⁾

The tutor is a qualified professional who contributes to students' holistic development through values education, guidance in self-preparation, and labor training. In the Hygiene and Epidemiology program—which includes multiple training tracks (skilled worker, intermediate technician, and bachelor's degree)—"Education in the Workplace" has unique characteristics compared to other health technology programs.^(9,10)

Key shortcomings were identified: uniform training approaches are applied across diverse settings without considering contextual differences; there is no structured "Education in the Workplace" program to guide tutors; and specific competencies are not clearly defined according to training type. These issues hinder alignment between education and professional practice, as well as societal expectations. Addressing this gap, the present study aims to design a methodological strategy to enhance tutor performance in "Education in the Workplace" within the Hygiene and Epidemiology program.

METHODS

This was a methodological development study focused on designing a strategy to improve tutor performance. A mixed qualitative–quantitative descriptive approach was adopted, grounded in the historical-dialectical-materialist scientific method to understand the evolution, internal relationships, and transformations of tutoring within Cuban Higher Medical Education.

Theoretical Methods:

- Historical-logical: Analyzed antecedents, evolution, and theoretical foundations of tutoring and workplace education.
- Analysis-synthesis: Processed diagnostic data, developed study categories, and constructed indicators to inform strategy design.
- Inductive-deductive: Moved from empirical patterns to theoretical conclusions and final strategy structuring.

Empirical Methods:

- Structured observation: 10 teaching activities were evaluated (5 practical classes, 3 curriculum analyses, 2 subject-team meetings), involving 20 tutors. An observation guide focused on: use of didactic methods, alignment between activities and formative objectives, methodological guidance, and pedagogical performance.
- Documentary review: Analyzed study programs, methodological guidelines, lesson plans, and regulatory documents related to workplace education to identify normative gaps, methodological weaknesses, and training needs.

Statistical Method:

- Descriptive statistics (frequencies and percentages) were used to systematize data from observations and document reviews, enabling pattern recognition in tutor performance.

Diagnostic Procedure:

A SWOT analysis characterized tutors' current situation regarding pedagogical preparation, methodological performance, and working conditions, forming the basis for defining training needs and guiding strategy development.

Strategy Design Process:

The design unfolded in three phases:

- Needs identification through observation, document review, and SWOT analysis.
- Theoretical modeling based on diagnostic results, pedagogical principles, and Higher Medical Education references.
- Operational structuring into three sequential stages (preparatory, methodological cycle, control), each with defined actions, responsible parties, and monitoring mechanisms.

Ethical Considerations:

The study respected data confidentiality and the academic nature of observations; no personal data from observed tutors were collected. Institutional authorization was obtained from the Faculty of Medical Sciences.

RESULTS

The diagnostic phase produced a SWOT matrix (Table 1).

Table 1. SWOT analysis of tutor performance.

Internal	External
Weaknesses	Threats
<ul style="list-style-type: none"> • Insufficient methodological work • Outdated professional development <ul style="list-style-type: none"> • Lack of preparatory workshops • Limited pedagogical knowledge <ul style="list-style-type: none"> • Deficient pedagogical skills 	<ul style="list-style-type: none"> • Inadequate administrative oversight • Limited access to health network • High student-to-equipment ratio
Strengths	Opportunities
<ul style="list-style-type: none"> • Career advancement pathways • Interest in broadening knowledge 	<ul style="list-style-type: none"> • Research opportunities • Increased scientific events • Publication possibilities

Strategy Objective: Enhance tutors’ methodological preparation through strategic actions that improve their performance in the TLP.

The strategy is structured in three stages (Table 2).

Table 2. Structure of the methodological strategy.

Stage	Actions
1. Preparatory	<ul style="list-style-type: none"> • Normative document exchange workshop • Self-improvement system
2. Methodological Cycle	<ul style="list-style-type: none"> • Methodological meeting • Instructive methodological class <ul style="list-style-type: none"> • Open class • 30-hour face-to-face improvement course
3. Control	<ul style="list-style-type: none"> • Classroom visits • Monthly adjustment workshops • Effectiveness evaluation

The 30-hour improvement course is organized into three thematic modules (Table 3).

Table 3. Course structure.

Theme	Duration	Format
Training types in Hygiene & Epidemiology	8 h	Lecture, Workshop
Methodology of practical classes	10 h	Practical class
Didactics of workplace education	12 h	Integrative workshop

Evaluation criteria include participation, attendance, motivation, content assimilation, and ability to apply knowledge in teaching practice.

DISCUSSION

The term *strategy* (from Latin *strategia*, “art of directing operations”) refers to a set of action principles designed to solve practical problems faced by human groups.⁽¹¹⁾ In education, multiple authors have explored strategy as a research outcome.^(12,13) The proposed strategy is grounded in two key aspects: (1) the intentional design of actions to improve methodological work, and (2) the creation of flexible action plans that guide the selection of appropriate pathways to foster developmental learning while considering the diversity of TLP stakeholders.^(14,15)

This approach aligns with similar initiatives in the literature:

- Dueñas Villavicencio et al.,⁽³⁾ emphasized systematic professional development in academic training.
- López Espinosa et al.,⁽⁴⁾ highlighted the need for profile-specific training in comprehensive worker healthcare.
- Vargas Anaya & García Vázquez,⁽⁵⁾ confirmed the effectiveness of systematic methodological approaches in environmental education.
- Mero Lino et al.,⁽⁶⁾ demonstrated the relevance of context-specific digital competency training for university faculty.
- Villegas Dorticós et al.,⁽⁷⁾ and Alonso Betancourt et al.,⁽⁸⁾ underscored the importance of phased structuring and theory–practice integration in professional competency development.
- Martínez-Asanza,⁽⁹⁾ affirmed the central role of the tutor in Cuban medical education through workplace education.
- Zorrilla Nardo et al.,⁽¹¹⁾ and García Hernández et al.,⁽¹²⁾ validated the replicability and effectiveness of three-stage models and systematic methodological work.

Distinctive features of this strategy include:

- Sequential three-stage structure (preparatory, methodological cycle, control)
- Systematic diagnosis via SWOT analysis
- A targeted 30-hour face-to-face course for tutors
- Continuous evaluation with monthly adjustment workshops

Limitations:

- The strategy remains a theoretical proposal without empirical validation through implementation
- Designed for a specific context (Hygiene & Epidemiology program at one institution)
- Requires validation in other settings to assess generalizability
- Does not include post-implementation measurement of student performance impact

Practical Implications

The strategy directly addresses the lack of a structured guidance program for tutors, offering a replicable methodological tool for other health technology programs. It contributes to training standardization and supports faculty through specific actions and a dedicated improvement course.

Perspectives

- Pilot implementation of the strategy
- Evaluation of tutor performance using specific indicators
- Measurement of academic outcomes and student skill development
- Expansion to other health technology programs
- Development of a digital platform to manage the improvement course

CONCLUSIONS

The designed methodological strategy coherently and systematically enhances tutor performance in "Education in the Workplace" through three sequential stages—diagnosis, training, and evaluation—supported by a 30-hour face-to-face course addressing key tutor needs: understanding training types, practical class methodology, and didactic foundations of workplace education. Collectively, this strategy offers a viable alternative to improve the teaching–learning process and strengthen the pedagogical–didactic performance of tutors, demonstrating feasibility, reliability, and practical relevance in the Hygiene and Epidemiology program, with strong potential for replication across other health technology curricula.

Conflict of Interest

The authors declare no conflicts of interest.

Authorship Contribution

All authors contributed to conceptualization, formal analysis, project administration, original draft writing, review, editing, and final manuscript approval.

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