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Pedagogy as the science of education: contributions to the training of health professionals

Pedagogía como ciencia de la educación: aportes en la formación de profesionales de la salud

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RESUMEN

La Pedagogía, como disciplina científica que estudia el proceso educativo intencional, ha sido de forma axiomática debatida en su condición de ciencia. En el contexto contemporáneo de la formación de profesionales de la salud, resulta imperativo establecer los aportes específicos de esta, al campo de las Ciencias de la Educación. Se plantea como objetivo reflexionar sobre los aportes específicos de la Pedagogía al campo de las Ciencias de la Educación en la formación de profesionales de la salud ya que esta constituye una ciencia aplicada con objeto de estudio definido, categorías propias y principios operativos que la diferencian y complementan respecto a otras disciplinas educativas. Su aporte radica en proporcionar el marco teórico-práctico para la dirección intencional de los procesos de formación, lo cual resulta relevante en la educación médica superior. Resulta fundamental su aporte a las Ciencias de la Educación con un sistema conceptual y metodológico específico para la organización y dirección del proceso enseñanza-aprendizaje, indispensable para la formación de profesionales de la salud competentes, éticos y comprometidos. Su reconocimiento como ciencia fortalece la autonomía epistemológica del campo educativo y legitima su rol transformador en la sociedad.

ABSTRACT

Pedagogy, as the scientific discipline that studies the intentional educational process, has been the subject of debate regarding its status as a science. In the contemporary context of health professional training, it is imperative to establish the specific contributions of Pedagogy to the field of Educational Sciences. The objective here is to reflect on these specific contributions within the training of health professionals, given that Pedagogy constitutes an applied science with a defined object of study, its own categories, and operational principles that both distinguish it from and complement other educational disciplines. Its contribution lies in providing the theoretical-practical framework for the intentional management of training processes—a matter of particular relevance in higher medical education. Its contribution to Educational Sciences is fundamental, offering a specific conceptual and methodological system for organizing and managing the teaching-learning process, which is indispensable for training competent, ethical, and committed health professionals. Its recognition as a science strengthens the epistemological autonomy of the educational field and legitimizes its transformative role in society

The conceptual delimitation between Pedagogy and Educational Sciences has generated persistent epistemological debates in the academic field. [1,2,3] While some traditions clearly distinguish theoretical aspects from practical ones in education, other Latin American and Cuban traditions integrate Pedagogy as the fundamental core of the set of disciplines that study the educational phenomenon. [4,5]

Education constitutes a highly complex phenomenon inherent to society since its origins. When human beings began to think scientifically about this phenomenon, neither pedagogy nor didactics existed as systematic disciplines; the first studies were carried out from philosophy. Subsequently, sociology, anthropology, economy, psychology, and biology were integrated, among others, giving rise to disciplines such as philosophy of education, sociology of education, and educational psychology. [1,5]

However, when education is organized, structured, and defines a clear pedagogical intentionality, with contents, methods, and professional techniques selected according to that intentionality, Pedagogy emerges as a specific science. [4,5] This distinction proves to be relevant in the training of health professionals, where Education at Work (ET) constitutes the guiding principle of practical teaching and demands a solid epistemological pedagogical foundation that guides the teaching-care-research integration. [6,7,8]

Therefore, the authors' intention in this article was to reflect on the specific contributions of Pedagogy to the field of Educational Sciences in the training of health professionals.

Pedagogy is defined as the science that studies education in its practical and organized dimension. [1,2,5] While Educational Sciences encompass the scientific study of the educational phenomenon in its multiple dimensions (historical, sociological, psychological, economic), Pedagogy focuses specifically on the intentional educational process, providing the theoretical and practical tools for its effective direction. [3,4]

From a systemic perspective, Pedagogy has developed an exclusive object of study: the teaching-learning process (TLP) as a specific reality, susceptible to being directed intentionally. [1,5] This object of study is characterized by its complexity, dynamism, and social determination, which requires its own categories, laws, and principles that guide its understanding and transformation. [4,5]

The authors consider within the educational and academic spectrum, methodological work as the backbone of the pedagogical process that organizes scientific reflection on educational practice to transform it. This definition implies that methodological work is not only a technical activity, but a systemic pedagogical strategy that articulates planning, execution, evaluation, and continuous improvement of the TLP, with emphasis on the comprehensive training of the student. (1,9)

Recent research shows evidence that 69,7 % of students conceptualize Pedagogy as the Science of Education, recognizing the scientific character and the guiding function it represents within teaching practice. (4) This perception correlates with previous teaching experience and the theoretical training received, suggesting that it is strengthened through reflective practice and systematic study. (10)

Pedagogy encompasses a group of contributions to Educational Sciences:

The first contribution consists of providing an integrating theoretical-practical framework. While other Educational Sciences study the phenomenon from particular perspectives (psychology from the learning subject, sociology from social structures), Pedagogy assumes the integrality of the process, articulating formative intentionality with concrete methodological strategies. (1,5) This integration is essential in the training of health professionals, where theoretical knowledge must be translated into practical competencies through adequate pedagogical mediation. (6,8)

The second contribution lies in the operationalization of the curriculum. Pedagogy provides the tools to transform formative objectives into meaningful learning experiences. (8) In the context of Cuban medical education, this manifests in the structuring of curriculum by competencies, organization in cycles (basic, clinical, pre-professional practice), and the integration of the pedagogical model with the healthcare model. (6,7) Pedagogy enables training to transcend the mere transmission of knowledge to become a process of developing comprehensive professional capabilities. (9,10,11)

The third contribution is identified in the intentional direction of personality formation. Pedagogy is not limited to cognitive instruction; it encompasses "instruction of thought" and "direction of feelings," essential dimensions in the training of ethical, humanistic health professionals committed to society. (9,12) This integrality responds to the need to train doctors, nurses, and other health professionals who not only specialiced on techniques and skills but also develop moral and supportive professional conduct. (12,15)

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The fourth contribution corresponds to the resolution of concrete educational problems. Pedagogy, as an applied science, is not content with describing or explaining; it seeks to transform educational reality. [1] In the training of health professionals, this translates into the design of solutions for challenges such as the pedagogical preparation of teachers, the optimization of ET, the integration of educational technologies, and training in contexts of limited resources. The Cuban experience demonstrates that contextualized Pedagogy allows overcoming structural obstacles and achieving high quality formative results. [6,7,8]

Higher medical education presents particularities that demand a specific Pedagogy. The training of health professionals in this context requires the harmonious integration of teaching, care, and research, which demands pedagogical categories that transcend the traditional classroom. [6,7] The concept of the Higher Medical Education Center (CEMS) as an extended space that includes health districts, polyclinics, hospitals, and communities, requires a Pedagogy capable of organizing learning in real professional practice scenarios. [6,7] Within this novel pedagogical scenario, other effective but less traditional alternatives emerge, such as the Flipped Classroom and the use of virtual teaching-learning environments (VTLE), which constitute a training challenge and a comprehensive approach to increase student engagement and protagonism. [8,13,15]

It is recognized in teacher training that Cuban medical pedagogy has developed its own principles: ET as the guiding principle in the practice of Medical Sciences, competency-based training, problem-based teaching, the Main Integrating Discipline (MID) from which specific curricular axes are derived, tutoring as a formative strategy, student research as a means of developing scientific thought, and the historical-cultural approach that links instruction with social projection. [6,7] The need is then identified for these contributions to enrich the corpus of Educational Sciences with validated experiences in high complexity contexts. [1]

However, challenges and epistemic gaps still persist. The pedagogical preparation of novice teachers and tutors does not always achieve the proposed objectives, the teaching-care overload hinders individualized attention, and the insufficient use of teaching literature and educational technologies for teaching purposes limits the development of critical thinking. [6,8] These problems demand continuous pedagogical research that strengthens the scientific foundations of educational practice. [1,8]

For this reason, new horizons are proposed for contemporary Pedagogy towards more complex, holistic, and transdisciplinary approaches, as a heuristic, propositional, transformative, and critical discipline that appeals to the synergy of all relevant knowledge for the configuration and solution of current educational problems. [1,5]

Pedagogy must respond to the demands of the 21st century in the context of health professional training, which manifests in the incorporation of educational technologies, the development of digital competencies, the promotion of intercultural communication, and training for interprofessional collaborative work. [13,14,15] Recent research confirms the validity of the topic and the academic utility of systematizing Pedagogy as a science. [4,5] This shows that the definition of pedagogical categories, the formulation of laws and principles, and the integrating vision of the educational process are elements valued by the scientific community and transformative of academic reality. [1,8]

Pedagogy contributes to Educational Sciences a specific theoretical-methodological system for the intentional direction of the teaching-learning process. Its recognition as a science strengthens the epistemological autonomy of the educational field and legitimizes its transformative function. The general training of health professionals demands a Pedagogy that integrates theory and practice, that organizes learning in real care scenarios, and that forms not only technical competencies but also ethical values and social commitment.

The Cuban experience demonstrates that a contextualized Pedagogy, based on principles such as ET and teaching-care-research integration, allows achieving high quality formative results. It is argued that strengthening Pedagogy as a science constitutes a necessary condition to elevate the quality of higher medical education.

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CONFLICT OF INTEREST

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USE OF ARTIFICIAL INTELLIGENCE

The authors declare that no artificial intelligence was used in the writing of this manuscript