Atomic Spectroscopy

Article

Pedagogy of Higher Education in the training of teachers of medical sciences professionals in Public and Private Universities of Ecuador

Jimmy Yaguana[1], Luis Villao[2], Teresa Torres Miranda[3], Jorge Abel Anoceto Díaz[4].
[1]Guayaquil Hospital "Dr. Abel Gilbert Pontoon", South ClinicHospital,
[2]Guayaquil Hospital "Dr. Abel Gilbert Pontoon",
[3]CEPES University of Havana, torresmiranda@cepes.uh.cu, ORCID ID 0000-0003-0660-7009
[4]Guayaquil Hospital "Dr. Abel Gilbert Pontoon", Clinic SouthHospital,.

ABSTRACT: The activity of the teacher in the health area has been and will continue to be the object of study. Efforts are required to raise their pedagogical training, which will contribute to a better preparation of university graduates. Background: One of the challenges faced in Higher Medical Education is to prepare the new generations of teachers by meeting their learning needs. The purpose of the article is to provide a theoretical and reflective compilation of the need for university professor training to meet the needs of today's society, to reveal factors that influence not obtaining this training and the difference between the pedagogy implemented for medical students. Respective of the teacher if professionalized. Methods: Observational study, descriptive scope, non-experimental design, data collection through questionnaires in four private and public Ecuadorian higher education institutions that offer medical education, was carried out among professors and students, 2023. We validated the questionnaires from the two groups of respondents. We use graphs and tables to represent the correspondences of the delivery and the perceived importance of the learning outcomes. Results: The response rates are 83% and 73% in the case of students (n=840) and 90% and 79% of teachers in both groups (n=21) (n=102). The results indicate a slight concordance between the indices of the learning results in terms of their importance and delivery and the need for pedagogical competences between teachers and students. Conclusions: The results emphasize the need for a transition and change of pattern in medical education from the delivery of professional knowledge only towards pedagogically prepared practice, patient-oriented teaching methods, as well as the acquisition of pedagogical knowledge as part of the training of medicine teachers.

Keywords: Education, Pedagogy, Teachers, Doctors, Pedagogy.

INTRODUCTION

The challenges of higher education for the 21st century raise the need for a new educational process, based on the principles of excellence, quality and relevance. The path to university excellence passes through the educational teaching process and the scientific research process. In order to face the challenges demanded by the teaching-educational process itself, teachers are obliged to master the scientific-technical knowledge of the disciplines they teach, as well as general professional skills and teach said content to students in accordance with the objectives, making use of didactic principles and knowledge of methodologies that serve as a tool to develop the process in the field of medicine with quality.

Professionalization as a process is a requirement that arises from social development and that as a trend is desirable because it guarantees greater quality in professional performance. It is the result of a continuous training process that requires not only a high theoretical preparation in the disciplines and subjects it teaches, but also in the issues of Higher Education Didactics, which allow it to update its teaching practice and make correct decisions about the changes that must be introduced in your performance as leader of the university teaching-learning process. (1)

The quality of medical education is a key factor in ensuring future professional healthcare, against the backdrop of global changes in medical knowledge and work as today's doctors teach tomorrow's doctors. Being adept at teaching, acquiring pedagogical knowledge, and using teaching methods consciously can be beneficial for both parties, teachers and students, involved in medical education. Based on some previous research comparing different types of pedagogical methods, we believe that we can better serve our students by merging several so-called traditional elements, such as lectures, if they refer to the traditional image of a teacher standing in front of the group and speaking in front of the group. group that are passively absorbing information, and with elements of so-called non-traditional teaching, such as teamwork learning. (2)

International research suggests that the use of certain types of non-traditional methods may be particularly beneficial for students with low academic achievement. For example, in Krupat at all's study, students who participated in the research (and learned with the case-based collaborative learning method) performed better on exams than those who used traditional methods. (3)

Medical universities urge teachers to have new roles that correspond to social demands, which is why it is essential to diagnose the training needs of the faculty, in order to plan teaching strategies that promote better competence and academic performance. Optimally carrying out the teaching-learning process requires well-prepared teachers, which is why a pedagogical and didactic training process is important that allows them to adequately face the qualitative leaps that occur in current medical education. In a research carried out at the "Enrique Cabrera" Faculty of Medical Sciences in Cuba. The learning needs of teachers related to the pedagogical skills necessary for their teaching performance were identified, which constitute the starting point for designing different teaching strategies with the purpose of improving the preparation of the faculty and, therefore, contributing to optimal quality of the teaching-learning process. (4,5)

Another aspect that cannot be avoided refers to the learning needs felt by the protagonists themselves responsible for the execution of the process, in this case, the teachers. These are what a group or individual consciously wants to satisfy, and which are not always heard with all the rigor they deserve. For their identification, questionnaires that, like the one used in this research, dedicate open questions to investigate them, can be very efficient.

In the literature reviewed in this regard, it could be seen that in those educational institutions where these learning needs are collected through research projects, the autonomy of the center is strengthened and in this way what they call an institutional identity is developed, in which all teachers share methods, work objectives; That is, everyone participates in a didactic-methodological-research unit whose fundamental objective is to work with the knowledge necessary for the development of a teaching-learning process (PEA) with the required quality and in correspondence with the scientific-technical development that the Society requires by prioritizing those improvement courses in correspondence with the needs detected. (6)

A full-time researcher who generates new knowledge in universities, international organizations, public entities or private companies, according to the sources consulted, is considered a PhD, it is the highest academic degree that a professional can aspire to, on a global scale. A PhD is scientific training for people who want to research in any discipline, in any area. The description is made by Betty Espinosa, deputy academic director of the Latin American Faculty of Social Sciences (Flacso), Ecuador headquarters. "It can be in academia, but also in the business sector, in private companies. PhDs are where research is required, Espinosa summarizes.

These professionals are a minority in the Ecuadorian academic sector. Until September 2015, the National Secretariat of Higher Education, Science, Technology and Innovation (Senescyt) registered 431 Doctor or PhD titles of Ecuadorian nationality. Of that number, 29 were obtained in national universities and 402 in foreign universities. Today, the training of PhDs or doctors and their field of action in the country keep the debate active in the academic and official sectors. The Draft Regulation of the Ladder for Teachers and Researchers of the Higher Education System indicates that one of the requirements of the main academic staff of universities and polytechnic schools is to have a PhD. The same requirement is required to be a senior researcher in higher education centers. Full professors should obtain their PhD by 2017. (7) The deadlines and the proposed regulations raise concerns for authorities and professors in public and private centers. Data from Senescyt indicate that in 2010, the percentage of professors with a PhD degree in public universities was 1%, while in private universities it was 2%. The majority of teachers, in both cases, registered a third-level degree, followed by master's degrees and medical specialties. In addition to the fact that there are scholarships in Ecuador to complete a Doctorate abroad or at the national level, they are still difficult to obtain and take a long time to receive a response, which is why teachers choose to do them self-financed in private universities, other professionals do not. They do it due to lack of time at work, even though there are hours dedicated to continuous preparation, economic reasons and others due to lack of motivation.

METHODS

The present study is observational, with a qualitative approach, descriptive scope, non-experimental cross-sectional cohort design.

Descriptive Method: We carry out a narrative, numerical and/or graphic presentation, as detailed and exhaustive as possible of the reality that is investigated in our study. The objective of this method is to have a first knowledge of reality as it emerges from the direct observation that we make with the knowledge that has been acquired through information or studies provided by other authors.

Surveys. Since there have been no systematic studies examining attitudes toward learning outcomes and pedagogical skills in Ecuadorian medical schools, we used self-developed online surveys, resulting in a cross-sectional database. The study period was from January to August 2023. The four higher education institutions that offer medical education are the following: Universidad Espíritu Santo, Faculty of Medicine, Faculty of Medicine of the University of Guayaquil, Universidad San Gregorio de Portoviejo, Faculty of Medicine, Faculty of Medicine of the Technical University of Manabí. We developed two questionnaires, one for teachers and the other for students to validate both what the student body perceives from professionalized teachers and those who do not, and from teachers how students receive the information according to their pedagogy taught. It was tabulated using the SPSS Statistics program, and validation of chi square and standard deviation variables.

RESULTS

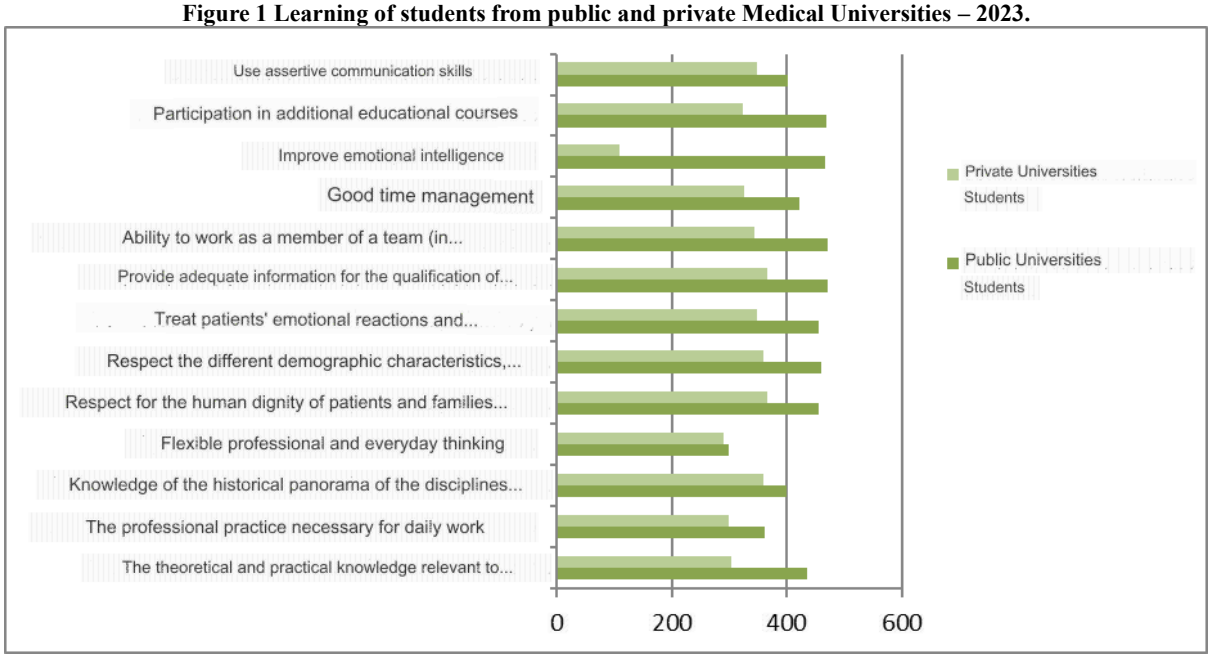
Table 1 Training skills for Medical Sciences teachers in Public and Private Universities of Ecuador.

		PhD Teacher Training		Teacher Training without PhD		Total=123 (100%)	
		Frequency	Percentage %	Frequency	Percentage %	F	%
Didactic knowledge	YES	17	14.3%	102	85.7%	119	100%
	NO	4	100%	0	0%	4	100%
Organize and lead the learning process.	YES	19	17%	92	82%	111	100%
	NO	2	16%	10	83%	12	100%
psychological knowledge	YES	20	20.2%	79	79.8%	99	100%
	NO	1	4.2%	23	95.8%	24	100%
Communication knowledge	YES	18	18%	82	82%	100	100%
	NO	3	13%	20	87%	23	100%
Professional knowledge	YES	21	21.2%	78	78.8%	99	100%
	NO	0	0%	24	100%	24	100%
Improve adaptive skills (e.g., flexibility in education taking into account the needs and expectations of students and patients)	YES	1	4.8%	20	95.2%	21	100%
	NO	20	19.6%	82	80.4%	102	100%
Decision-making skills and quick assessment of the situation.	YES	21	21.2%	78	78.8%	99	100%
	NO	0	0%	24	100%	24	100%
Learn the capacity for professional cooperation.	YES	21	21.9%	75	78.1%	96	100%
	NO	0	0%	27	100%	27	100%
Empathy	YES	20	16.4%	102	83.6%	122	100%
	NO	1	100%	0	0%	1	100%

Source: Base of Surveys aimed at Students to measure the training of Teachers at public and private Medical Universities – 2023.

In summary, we asked questions about the importance, rate of delivery, rate of acquisition of learning outcomes, and need for further development of teachers' pedagogical skills, in addition to the Likert scale. From the perspective of teachers and students, in this Table 1 we can see that the training of Medical Sciences teachers in Public and Private Universities of Ecuador with and without PhD, with good training rates with greater than 90% and 80% respectively, which In their representation, in our country we have good educators despite not having the majority of teachers with PhDs, and if all of them were professionalized, the Chair of Medicine would be an academic excellence, both Public and Private in Ecuador.

Figure 1 Learning of students from public and private Medical Universities – 2023.



Source: Survey Base directed at teachers to measure the learning of students at public and private Medical Universities – 2023.

In Figure 1 we show a series of activities where students are able to perform according to the learning of the knowledge imparted by the teachers' pedagogy, and the vast majority, as we can see, are ready to complete it without incident with a percentage of the 83% and 73% of students from private and public universities respectively.

Learning outcomes

Faculty members rated the learning outcomes on a Likert scale with respect to whether they are important to the medical profession (rating scale: 1 = least important, 5 = most important) and to what extent they deliver them during courses (scale rating: 1 = not at all, 5 = very much). With a Pearson Chi-square of 0.9 taking into account that it is greater than 0.05 and that a null hypothesis was rejected when it is less than the mentioned value, it means that there is no statistically.significant evidence to reject the hypothesis. With a standard deviation of 0.4, that is, close to the expected value.

DISCUSSION

In the study carried out we have compared it with several international investigations such as studies in Hungary and India where there are many medical schools. In Hungary, where traditional teaching methods are common and teachers have not had pedagogical courses in medical education, there has been no research addressing the topic. On the one hand, the objective with this cross-sectional study was to examine teachers' attitudes towards medical students' learning outcomes to gain insight into opinions on their importance and delivery rate. On the other hand, they analyzed the pedagogical skills of teachers from the perspective of students and teachers in Hungary. In fact, the topic of medical staff development was extensively reviewed by Dent and Harden in The Practical Guide for Medical Teachers and has already been put into practice in some medical schools (such as Duke–NUS Medical School, Nanyang Technological University, Harvard University).

With methods; Data collection through online self-reported questionnaires at the four Hungarian higher education institutions offering medical education was carried out among teachers and students with legal active student status in 2017. The questionnaires of the two groups were validated of respondents. Using gap matrices to represent correspondences of delivery and perceived importance of learning outcomes. We calculated averages of pedagogical skills and compared them with t tests.

The response rates are 11.18% for students (1,505) and 24.53% for teachers (439). The results indicate the lack of agreement between the indices of learning outcomes in terms of their importance and delivery - no positive gap is observed - and the need for pedagogical competencies between teachers and students. The opinions of the students compared to those of the teachers are all statistically higher according to the averages. The results of the study underline the need for a transition and paradigm shift in medical education from the delivery of solely professional knowledge towards pedagogically prepared practice and patient-oriented teaching methods, as well as the acquisition of pedagogical knowledge as part of the training of medical teachers in Hungary. (2) Comparing with the present study the training of Medical Sciences teachers in Public and Private Universities of Ecuador with and without PhD, they have good training rates greater than 90% and 80% respectively, which in their representation in Ecuador we have good educators despite not having the majority of teachers with PhDs.

Another international research in India we compare the present study which has the largest number of medical colleges in the world and consequently the largest number of medical professors. There is a great need to adopt a systematic approach to

faculty development to improve quality education to meet the health challenges of the 21st century. The manuscript provides an overview of faculty development programs in India, identifying gaps and opportunities for reforms in faculty development.

Conventionally, FDPs are organized by medical colleges and universities through Basic Courses and Advanced Courses focused on pedagogy. The Medical Council of India is facilitating FDP through 18 selected regional centers to enable medical teachers to leverage modern educational technology for teaching from July 2009. The Foundation for Advancement of International Medical Education and Research has three Regional Institutes in India.

Recommendations include the need to formulate a national strategy for faculty development not only to improve the number of medical teachers but also the quality of medical education; provide support to Medical Education Departments/Regional Centers in terms of funding and staffing and incorporation of teaching skills into postgraduate training. Distance education courses focused on educational leadership and pedagogy for medical educators may be an option to reach a broader audience. FDPs can be an asset in recruiting and retaining teachers by offering valuable professional development opportunities. (8)

Cuban Higher Medical Education follows a pedagogical model that distinguishes it, especially for the use of education at work as a principle and predominant teaching organizational form, which requires involving a large number of teaching settings and professionals to assume the role teacher. A pedagogical investigation allows us to prioritize the most common problems or deficiencies found and design an action plan for timely intervention. In the 2017-2018 academic year at the “Enrique Cabrera” Faculty of Medical Sciences in Cuba, the learning needs of the teachers constituted the starting point to carry out an educational project. Objective: Identify the main learning needs felt by the professors of the “Enrique Cabrera” Faculty of Medical Sciences in order of priority and according to their teaching categories. Material and methods. The universe consisted of 278 professors (Medicine, Stomatology and Bachelor's Degree in Nursing), the variables used were the teaching category of each respondent; A descriptive cross-sectional study was carried out. A validated survey was applied and used in previous research at the “Hermanos Ameijeiras” Clinical Surgical Hospital. To obtain the information, theoretical and empirical methods were used to obtain, process and analyze the results (Annex: question 12 of the survey) Results: The teachers' improvement needs were fundamentally in didactics, methodological work, research methodology and language, in descending order, behaving similarly in all teaching categories. Conclusions: The identification of teachers' learning needs in descending order and by teaching categories will contribute to finding solutions to increase the academic competence of the faculty and contribute to an optimal development of the teaching-learning process. (9)

Its pedagogical process currently faces the challenges of basing the practice that has contributed to the formation of internationally recognized health professionals on theory. The objective of this work is to reflect - from the available theoretical references as well as from the normative documents that govern it - on the foundations of one of the ways of preparing teachers: pedagogical professional improvement. Mainly theoretical research methods were used: historical-logical, inductive - deductive and analytical - synthetic. Starting from the conception of professional improvement as one of the directions of Postgraduate Education in Cuba, some theoretical foundations are presented that justify the need for pedagogical improvement of teachers of Cuban universities of Medical Sciences, taking into account their formative peculiarities. It is concluded that in Cuban Higher Medical Education, professional improvement constitutes an important way to achieve the improvement and/or completion of the pedagogical preparation of teachers and stands as an area of scientific research with development potential. (10)

Making a comparison with the research mentioned in all the Universities of the Medical career, professionals with pedagogy in education are required, in order to strengthen the learning of future doctors, and thus both preparation for the Teacher and for the students, and that in In all countries there is a shortage of this teacher training, but little by little it has been taught as personal improvement.

CONCLUSIONS

Today's society, characterized by a high level of complexity, demands from Higher Education Institutions a series of transformations, among which the pedagogical training of university teachers occupies a primary place, since it constitutes a fundamental piece of change in universities in where today professionals who have the mission of promoting the social, scientific and technological development of society in a general sense are trained.

The pedagogical training of university teachers in Health Sciences is a necessary requirement, but not sufficient for the professional development of professors. It is necessary, because the domain of medical sciences and its processes will be able to guarantee comprehensive training of the student body, but at the same time, it must include the systemic interaction between the subsystems of academic knowledge: empirical, theoretical and methodological as components of the teaching process. educational where the methodological deserves special attention. These subsystems lay the foundations for the acquisition of experience in the modes of action, as necessary knowledge without which it is not possible to acquire professional skills and habits, so adequate pedagogical training of teachers contributes to the fulfillment of this objective.

In our study at the Ecuadorian level, we were able to assess that although the vast majority of teachers in both public and private universities that teach medicine do not have a PhD in education, we could verify the learning received through students and there is little variation in the percentage of both groups, but we still need all trained teachers, so that the medical schools are exceptional academically as they want to become in the future.

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