

Impact of Linkage and Extension Activities on the Comprehensive Education of Medical Students in Latin America

Author: Vicente Morón Rivero

Affiliation/Institution: National University of the East

Orcid Code: 0009-0002-4538-2375

Abstract:- The integration of theory with practice is important in the meaningful training of future professionals. Linkage and extension activities allow students to apply their theoretical knowledge in real contexts, and also allow them to develop communication, empathy and social commitment skills, essential for a comprehensive perspective in areas of public health. Since the University Reform of Córdoba (1918), linkage is a key component in comprehensive training, universities must be involved in social and community development and well-being. Various studies show how these programs improve professional and personal skills, preparing students to face challenges in contexts of social vulnerability. The incorporation of these activities not only promotes comprehensive education, but also strengthens the ethical and social commitment of future doctors to their communities.

Keywords:- Interaction and Bonding, Social Responsibility, Pedagogical Transformation.

I. INTRODUCTION

Technological advancement and the great ease of transmission and access of information have challenged higher institutions and forced them to rethink the paradigm of the teaching-learning process. In this century, the change in the paradigm of the teaching-learning process has significantly transformed education, with emphasis on the development of practical, transversal and adaptive skills, with a focus on collective consciousness and the search for solutions to social problems.

The new educational model has important pedagogical changes. The roles of the teacher and student have been modified and redefined, becoming less hierarchical, less dependent and more collaborative and interactive. The displacement of the axis on which knowledge was generated from the disciplinary to the interdisciplinary, multidisciplinary and transdisciplinary, involves components of the context - problems, needs, challenges - on the basis of the construction of new meanings of relevance. (1)

The connection of students with their social environment is encouraged and carried out through linkage and extension activities, which offer practical and real

experiences that strengthen their theoretical knowledge, social and ethical commitment. Likewise, the integration of teaching with research enhances critical learning and fosters the ability to apply knowledge to specific problems, which is vital in the area of public health, where inequities in access and cultural diversity require a comprehensive approach. . (2) In this context, universities have become social institutions; The interaction of these institutions with society is inserted in different ways and with diverse structures, both within the university and in the social environment. (1)

Currently, the university plays a fundamental social role; this social dimension has acquired increasing relevance within the formation of higher education, due to regional and global social problems and phenomena. Linkage and extension activities are very important, because they allow the student to learn about these social and health realities, and also promote their development in communication and empathy, which are difficult to acquire in the theoretical classroom. Since the University Reform of Córdoba (Argentina) in 1918, the social responsibility of Latin American universities has been promoted, which establishes a basis for university extension and establishes a link between higher education and the community.

From this moment on, the so-called “social mission of the university” is configured, which, in essence, aims to link it with the population and with the life of the country in general, for which actions such as worker-student collaboration, popular university, etc.” An important effort began aimed at incorporating university extension and cultural dissemination into institutional tasks. (3)

Tünnermann Bernheim affirms that university extension is an integrative mission that goes beyond teaching and research that allows us to contribute to social and cultural development. He highlights the importance of Latin American universities being committed to their environment through social participation programs and collective well-being actions. It highlights that the Latin American conferences of the seventies redefined the concept of extension, emphasizing that education must promote social awareness and criticize the welfare approach or unidirectional transfer. In his analysis, he describes how university extension has evolved to be a critical component in the comprehensive training of students, seeking not only

to transmit knowledge, but also to foster social commitment and solidarity. (4)

The importance of the social nature of the university-society connection lies precisely in the fact that, without ignoring the need for a solid technical and scientific training of students, the purpose of training aims to provide comprehensive training that allows the institution to intervene in the environment with the necessary sufficiencies to generate dynamics of change towards a more just and supportive society. (1)

II. INCONSISTENCIES IN THE INVESTIGATION

➤ *Limited Long-Term Evaluation:*

The research carried out on interaction linking activities shows the immediate benefits in the training of students, however, there are limited studies that demonstrate a sustained impact of these activities throughout their professional studies. It is a challenge to evaluate whether the social and ethical competencies developed are maintained during professional practice.

➤ *Diversity in Linkage Models:*

The differences that exist in each university in the implementation of their extension programs make it difficult to compare the results between institutions and countries; this prevents standardizing the measurement of these in different social contexts.

➤ *Need for Quantitative Evidence on Technical, Social and Ethical Competencies:*

Quantitative investigations of linkage and extension activities are necessary to understand their influence on empathy and critical thinking of students, in a vulnerable social environment, as well as in theoretical and technical understanding and improvement.

➤ *Lack of Financing and Resources in University Extension:*

The limited financing of linkage and extension activities in several universities limits the sustained effectiveness of these programs.

➤ *Role of Extension in Addressing Inequalities:*

Research is necessary on linkage programs on how they address social inequalities. And how this increases the understanding of social determinants and risk factors in students.

The social dimension of higher institutions arises with an approach that focuses its action on the multidimensional understanding of social factors and the participation of individuals who act in the process of social transformation in an active and autonomous manner with awareness to improve their quality of life. through joint work supported by techniques and methodologies to transform society; From this perspective, citizens represent the key element in the search for solutions to address social inclusion and strengthen sustainable development. (5) Various publications focus on the analysis of the relationship

between the higher institution and the community, through its extension dimension and social connection, to achieve development, transformation and solution to different social problems.

This article aims to understand the impact of linkage and extension activities on the comprehensive training of medical students in Latin America. It examines how these interaction, outreach and social bonding activities contribute to the academic training of future socially committed professionals who are better prepared to face public health challenges. Through the review of various publications, we seek to demonstrate the impact of these activities on comprehensive training, and how it strengthens the link between the university and the community.

III. METHODOLOGY

This work uses a narrative and integrative approach. The narrative approach gives us an overview, organizes and synthesizes key findings and significant experiences and the integrative approach compares the linkage models, highlighting their strengths and challenges of programs that promote ethical, social and professional competencies.

The search for information was based on searching and queries in various databases and scientific sources from recognized websites and digital journals, such as PubMed, Scopus, Web of Science, SciELO, SpringerLink, ResearchGate and ScienceDirect. Key words and descriptors were included such as: social interaction, connection with the environment, service-based learning, university and community, and pedagogical transformation. From a total of 50 publications, 17 articles and three Web pages were selected that met the criteria established for this review. Studies were discarded that did not address the specific context of Latin America, and those that did not analyze the direct impact of linkage and extension activities on the education of students, as well as those articles that were not available in open access or through databases. of reliable academic data.

The review is based on the framework of university social responsibility and its principles of learning and service, which allows us to analyze and understand how universities can actively be involved with their social environment.

IV. RESULTS AND DISCUSSION

A. *First Stage: The Beginnings and University Autonomy (1918 - 1979)*

The history of university linkage and extension in Latin America has significant events that have prompted universities to take a more active role in social development. These antecedents are important to understand the role of linkage in higher education.

➤ *University Reform of Córdoba (1918):*

Argentine movement, which transformed and modified higher education in Latin America. The Córdoba Reform

promoted university autonomy and social commitment, it included the conception that universities are not only due to the formation of theoretical and academic knowledge, but that they have to respond to the needs of society. What started and laid the foundation for social connection as a fundamental part of Latin American universities. (6)

➤ *Expansion of the Extension and Social Function of the University in the 1960s and 1970s:*

During this decade, with the deepening of social and economic inequalities and the revolutionary impulse, university extension began to gain importance as a tool for social change in the most vulnerable populations. The conference on university extension and cultural dissemination in Mexico in 1972 proposed to create a political consciousness in man to make his social commitment possible. Regarding higher education, they redefined the concept of extension, emphasizing that extension and dissemination must be liberating, promoting social awareness and the critical commitment of students towards their communities, and the commitment of students to act on them and transform them. Which laid the foundation for a focus on community-based learning. (6)

The University Reform of Córdoba (1918) promoted university autonomy and social commitment, establishing that universities should respond to social needs. In the 1960s and 1970s, university extension was strengthened as a primary tool for making social changes and promoting political awareness, these being the foundations for community-based learning.

B. Second Stage: Expansion and Consolidation of University Extension (1980 - 2018)

➤ *During the 1980s and 1990s*

Universities in Latin America expanded their outreach programs, focusing on addressing the needs of local communities. These programs included educational, cultural and health activities, promoting the active participation of students and teachers in solving social problems (7).

➤ *Higher Education Summit in Havana (1997):*

This summit reaffirmed the commitment of Latin American universities to social responsibility. The concept of “university social responsibility” was promoted, understanding that higher education is an instrument to face challenges of the modern world, build and transform a more just society. Universities became the active part in the fight against poverty, social inequality and the promotion of justice and peace. (8)

➤ *Regional Higher Education Conferences (CRES) in Cartagena (2008) and Córdoba (2018):*

These conferences highlighted the importance of universities introducing social connection into their curricula and study plans, which must respond to the needs and problems of their communities. The 2018 CRES in Córdoba recalled the transformative role of higher education, aimed at the comprehensive training of students and their link with the social environment. These pointed out the importance of

the application of linkage programs, especially in contexts of vulnerable populations. (9) (10)

The Higher Education Summit reaffirmed the commitment of universities to social responsibility. The Regional Higher Education Conferences (CRES) of 2008 and 2018 highlighted the importance of integrating social ties into university curricula, promoting the comprehensive training of students and their commitment to communities, especially vulnerable ones.

C. Third Stage: Social Linkage and the Global Agenda (2019 to present)

The University of the Republic of Uruguay has promoted the Comprehensive Training Space (EFI), in which extension activities are part of its curricular framework, allowing the student to integrate into them. These programs develop technical competencies and skills such as empathy and improve their understanding of the reality of the communities, which increases their sense of commitment and social responsibility. (11)

The concepts of interaction and social bonding of university activities differ universally, each country, region and university adapt these terms according to their current social contexts and needs. However, they all agree on their potential and importance to generate significant and culturally relevant knowledge.

Chile and Mexico have made significant progress in their extension programs and are aimed at meeting local demands in public health, at the same time strengthening applied research and the transmission of knowledge. These programs allow students to train from a practical approach, and strengthen their critical capacity and their ability to solve real health problems in collaboration with other professionals and the community. (4)

In Cuba, higher education institutions, their university extension model has humanistic and social development principles, which allows for an effective integration of comprehensive medical training and the commitment to social well-being. Its prioritization of the contribution to sustainable development and the training of professionals committed to the objectives of the 2030 agenda, to combat inequalities within the country and build peaceful, fair and inclusive societies. This approach promotes education with high ethical and social content, and trains students to lead community projects and address health problems from a preventive and community perspective. (12)

2030 Agenda and Sustainable Development Goals (SDGs): Since 2015, Latin American universities have been encouraged to direct their linkage activities with the SDGs. And it has given it a focus on social inclusion, it has promoted extension programs with objectives of social equality and access to public health. In Cuba, Mexico and other countries they have incorporated it into their curricula, and have reinforced the connection between higher education and the well-being of the community. (13)

Latin American universities have currently incorporated social connection into their programs, and are aligned with the **Sustainable Development Goals (SDG)**. In the Universities of the Republic of Uruguay, they integrate extension into the curriculum, and promote skills such as empathy. In Chile, Mexico, and Cuba, these outreach programs focus on public health and sustainable development, preparing students to confront social problems and contribute to the well-being of communities.

These historical milestones demonstrate the importance of university linkage and extension as fundamental components of education. They have defined the social character of universities in the region and established these practices as pillars for comprehensive educational and community development.

The linkage and extension activities implemented and incorporated in the training of medical students in Latin America have shown significant benefits in the comprehensive development of skills of students, university graduates and teachers. Therefore, university extension is considered, in the context of universities, as one of the promoters of higher education, which together with research and teaching, constitute the basic pillars on which a socially committed university model is built. In its permanent search for excellence, relevance and social equity. (14)

The review of these models and experiences in the Latin American region reveals that the connection with the environment is essential for students to understand the social and cultural context of patients, which translates into better care and professional empathy. Interuniversity and regional cooperation networks have facilitated the development of common projects and the exchange of best practices in medical training and university extension, promoting social cohesion and improving educational quality in the region.

The literature review indicates that linking and outreach activities allow students to develop essential competencies such as effective communication, empathy, teamwork, conflict resolution, and a deep understanding of the social determinants of health. Various studies demonstrate that students involved in community health programs develop a more comprehensive vision of the factors that influence health and demonstrate a greater capacity for adaptation in primary care contexts. (15)

Constant interaction with vulnerable communities improves students' practical skills, and increases their sensitivity to the social determinants of health. Studies show that participating students develop a critical awareness about the role of the doctor in the community context, which is reflected in a proactive attitude towards health promotion. (16)

University linkage and extension favors comprehensive training, and allows the development of critical thinking about the social determinants of health, mainly in contexts of high social vulnerability in many Latin American countries.

The relationship between teaching, interaction and research is a key pedagogical strategy in higher education. Teachers who participate in interaction activities and draw research topics from them offer their students updated knowledge and foster a culture of analysis and questioning. In particular, research-oriented interaction with teaching allows students to develop problem-solving skills, critical analysis, and understanding of scientific methods. Which are essential in medical training, where knowledge constantly evolves and continuous adaptation is needed. (17) Educational Profiles (UNAM) highlights that the research carried out by teachers allows active learning, helping students understand and apply concepts in a practical and efficient way.

The importance of university extension is the connection between the university and society. These activities allow students to apply their theoretical knowledge acquired in the classroom in community impact programs and projects, also strengthening their social commitment. These outreach activities are important for the development of communication skills, empathy and social responsibility, essential in a medical career, where interaction with the patient and the social environment are an integral part of professional practice. The Externado de Colombia University emphasizes that extension must be seen as a transformative activity that contributes to the formation of a democratic and culturally aware citizenship.

The benefits of Linkage and Extension in Comprehensive Training allow students to acquire a broader understanding of the social factors that influence health, as well as develop adaptation skills in primary care contexts. These activities promote the development of skills in areas such as effective communication, empathy and teamwork, which are essential for effective performance in complex healthcare environments. A study shows that medical students who participate in community health programs have a deeper understanding of the social determinants of health and are able to better adapt to patient needs. (18)

Despite the many benefits, there are significant challenges in implementing integrated teaching, research, and extension programs. The main obstacles include the lack of financial resources and the limited time of teachers, who often have a high workload. Furthermore, it is necessary to develop institutional policies and strategies that facilitate the active participation of teachers and students in these activities, promoting an environment that allows practical learning and applied research. (19)

Articulate teaching and research with intra- and extra-university demands, seeking the commitment of the community and needs of organized society at all levels and categories (professionals, popular organizations, unions, public bodies, companies and other organizations); aiming at the production of knowledge resulting from comparison with reality, with the permanent link between theory and practice. (20)

In summary, university linkage and extension activities in Latin America have been consolidated as essential tools for comprehensive training in the educational field, especially in areas such as medicine. Which allows students to apply their theoretical knowledge in real contexts, and the development of soft skills. Its implementation and strengthening are pillars in socially committed higher education and in the development of comprehensive professionals with a strong social commitment.

V. CONCLUSIONS

- The sustained and structured implementation of university linkage and extension activities strengthen the social competencies and ethical development of students, by integrating theoretical learning with real practical experiences, preparing them to face public health social inequalities.
- By incorporating extension programs into university curricula, the integration of real practical experiences is encouraged, which encourages greater social commitment and the development of critical skills in future health professionals.
- University extension and linkage is a key pillar in comprehensive training in higher education, by connecting academic theoretical learning with the social environment, promoting and maximizing the comprehensive, ethical, cultural and socially relevant educational impact.
- Adopting interdisciplinary approaches in linkage activities facilitates understanding of social determinants and strengthens students' capacity to implement sustainable solutions in vulnerable communities, despite resource challenges and institutional adaptations.

REFERENCES

- [1]. Malagón Plata LA. The University-Society link from a social perspective. *Educ Educators*. 2006; 9(2):79-93. Available at: http://www.scielo.org.co/scielo.php?script=sci_arttext&pid=S0123-12942006000200007&lng=en&tIng=es
- [2]. Externado University of Colombia. Relationship between teaching, research and extension. Bogotá: Externado University; 2017.
- [3]. Angels OG. Considerations around the concept of extension of culture and services. *Rev Educ Super*. 1992;21:81-96.
- [4]. Tünnermann Bernheim C. The new concept of university extension. *Anu Estud Centramer*. 2000;93-126.
- [5]. Gámez F. The social dimension: A synergistic process in university-community interaction through the extension function. *Postgraduate Research*. 2015;30(1):103-203.
- [6]. Martínez AT. One hundred years of university reform: main appeals to the Argentine university. *Argentina: CONEAU*; 2022.
- [7]. Comboni Salinas S, Juárez N. J. M. Higher education in Latin America: perspectives for the 21st century. *Politics and Culture*. 1997; Retrieved from: <https://www.redalyc.org/articulo.oa?id=26700902>
- [8]. UNESCO. Declaration on Higher Education in Latin America and the Caribbean [Internet]. Paris: UNESCO; 1997. Available at: https://unesdoc.unesco.org/ark:/48223/pf0000113306_spa
- [9]. UNESCO. CRES Declaration 2008 [Internet]. Paris: UNESCO; 2008. Available at: <https://unesdoc.unesco.org/ark:/48223/pf0000181453.1ocale=es>
- [10]. UNESCO. Higher education in Latin America and the Caribbean: CRES 2018. Paris: UNESCO; 2018. Available at: <https://unesdoc.unesco.org/ark:/48223/pf0000376753?posInSet=2&queryId=N-EXPLORE-eb56861d-c2af-4d57-803b-740300ad4c8d>
- [11]. Cano Menoni A, Flores M. Trends in University Extension in Latin America: Chile, Mexico, Uruguay and regional networks. *Inter-Changes Dilemmas Transitions Educ Super*. 2023;46-61.
- [12]. Cobas Vilches M. The Cuban university and its connection with society for sustainable development. *EDUMECENTRO*. 2018;1-5.
- [13]. 2030 Agenda for Sustainable Development in Latin America and the Caribbean. Sustainable Development Goals (SDG). Santiago de Chile: Economic Commission for Latin America and the Caribbean (ECLAC); 2023. Available at: <https://agenda2030lac.org/es/objetivos-de-desarrollo-sostenible-ods>
- [14]. Ortellado Romero V, Fedoruk Haiñ S. Benefits of university extension in the training of students: a qualitative analysis. *Rev INTERFACE*. 2023;3-15.
- [15]. López J, Martínez R. Impact of community involvement in medical training: A case study in Latin America. *Rev Educ Health*. 2022;34(2):123-135.
- [16]. Ramírez A, González F. Extension activities and their relevance in medical education: Perspectives from early clinical practice. *J Med Educ*. 2021;29(1):78-85.
- [17]. Morán Oviedo P. The teaching-research link as a pedagogical strategy. *Educ Profiles* 1993;61.
- [18]. López J, Martínez R. Impact of community involvement in medical training: A case study in Latin America. *Rev Educ Health*. 2022;34(2):123-135.
- [19]. Lomagno C, Lonardi L, Zanetti D. Challenges of the comprehensiveness of teaching, research and extension: the experience of the ECAN chair. *Quad Ext Univ UNLPam*. 2021;115-132.
- [20]. Rivera P, Morales C. University extension in medicine: Towards comprehensive training committed to the community. *Rev Public Health*. 2019;18(3):210-220.