Training processes in Ecuadorian universities and their link with society: keys to achieve the articulation of substantive functions

Abstract: At present, although the significance and advantages offered by the linkage of universities with society are recognized, there is no delimitation of the concept of linkage that favors an evaluation of its real impact and incidence on the development of the people. The objective of this article is to describe the advances that are visible in the programs of linkage with society in some universities of the Ecuadorian nation. For this purpose, it is based on a qualitative and descriptive research approach, based on the documentary bibliographic method. Different concepts related to the term "linkage" were reviewed, as well as the way of assuming and applying it in the main universities of the country. It is concluded...
that the universities of Ecuador show a high degree of commitment with the programs and projects of intervention and relationship with communities and business and governmental institutions with which they are linked.

**Resumen:** En la actualidad, si bien se reconoce el significado y las ventajas que ofrece la vinculación de las Universidades con la sociedad, no existe una delimitación del concepto de vinculación que favorezca a una evaluación sobre su real impacto e incidencia en el desarrollo de los pueblos. El presente artículo tiene como objetivo, describir los avances que se visibilizan en los programas de vinculación con la sociedad de algunas universidades de la nación ecuatoriana. Para ello, se parte de una investigación con enfoque cualitativo y de tipo descriptiva, basada en el método bibliográfico documental. Se revisaron conceptos diversos relacionados con el término de vinculación, así como la manera de asumirlo y aplicarlo en las principales universidades del país. Se concluye que las Universidades del Ecuador manifiestan un alto grado de compromiso con los programas y proyectos de intervención y relación con comunidades e instituciones empresariales y gubernamentales con las cuales se vincula.

**Palabras clave:** vinculación, sociedad, demanda social

**Resumo:** Actualmente, embora o significado e as vantagens oferecidas pela ligação entre as universidades e a sociedade sejam reconhecidos, não existe uma definição do conceito de ligação que favoreça uma avaliação do seu real impacto e incidência sobre o desenvolvimento das pessoas. O objectivo deste artigo é descrever os avanços que podem ser observados nos programas de ligação com a sociedade em algumas universidades da nação equatoriana. Para tal, baseia-se numa abordagem de pesquisa qualitativa e descritiva, baseada no método bibliográfico documental. Foram revistos diferentes conceitos relacionados com o termo "ligação", bem como a forma como este é assumido e aplicado nas principais universidades do país. Conclui-se que as universidades do Equador demonstram um elevado grau de
INTRODUCTION

The changing and complex social and economic context of countries has had an undeniable impact on the development of universities, which are called upon to respond to the needs of societies. In this sense, institutions of higher education today assume three responsibilities or substantive functions, as they are usually called: the training of professionals, research and links with society.

It can be said that these three lines of work, in some way, settled as part of the work of university centers since their origins; in turn, teaching, research and university extension have varied and evolved until today. In the last two decades, the influence of universities in local, regional, national and international contexts has become much more noticeable, contributing to the establishment of social dynamics, extending their services related to knowledge, linking with economic enterprises and institutions, participating in social transformations. (Paleari, Donina, & Meoli, 2015; Rueda, Acosta, & Cueva, 2020).

The social demand placed on the University has made its objectives more complex, as well as the scope of the academic processes generated within the institution. The quality of university centers is now not only measured by the capacities and competencies that students develop until they graduate, but also by other important indicators such as the impact of scientific and research processes, as well as the changes that are observed in their context of incidence. (Izaguirre & Chazi, 2021).
Precisely, the issue of the link with society has become relevant, because for a long time the classist approach of the Universities established a break in their relationship with the localities in which they were located. The university centers did not seem to require the knowledge generated at the social level, nor did the knowledge of the higher education institutions transcend their walls. (Cerbino, 2020). However, at the end of the 20th century, the need to respond to social demands began to be perceived, not only by training professionals, but also by developing and applying scientific studies, often of an empirical nature, which would eventually become social projects or programs that would help the community. (Aparicio, Chininin, & Toledo, 2017).

The link with society on the part of Universities today takes on greater importance due to the need for the production of knowledge through classes and scientific work, skills and competencies acquired in classes and in empirical trials to be put into practice in reality, so that those theoretical, methodological, technical and didactic knowledge and skills developed by students during professional training are perfected (Betancourt, Chuquirima, Olaya, & Cedillo, 2018).

On the other hand, during that link with communities, localities, territories; the professional in training has to be able to put into exercise the research tools, such as designing, planning, following up on the processes in which he/she participates, intervening and evaluating projects (Brito, Quezada, & Rosa, 2018; Izaguirre & Chazi, 2021). The work connected with social actors usually requires students to be able to disseminate the knowledge acquired, and thus provide solutions or recommendations to problems. Therefore, it is affirmed that it is in the link with the community where the other axes of Higher Education Institutions (HEI) are articulated: teaching and research.
In this sense, Ecuador occupies, among Latin American countries, a prominent place, thanks to the modifications that have been generated in the country's legal framework to promote the articulation of teaching and research through the relationship of university teachers and professionals in training with society. One of the instruments that has favored the above is the Reformatory Law of the Organic Law of Higher Education of 2018 (LOES 2018) in its Article 93, which expresses a new concept of quality much more demanding, in that, it is measured according to the capacity of the institutions to establish processes in the search for continuous improvement of the three substantive functions: "oriented by relevance, inclusion, democratization of access and equity, diversity, responsible autonomy, integrality, democracy, knowledge production, dialogue of knowledge, and citizen values." (National Assembly, 2018).

Article 125 (LOES 2018) indicates the importance of promoting programs and courses of linkage with society, in which not only university professors should be involved, but also students in training. It is important to point out the inter-institutional nature of the relationships that can be established between the HEIs themselves, as stated in Article 138. This means that the social projects developed by the universities can incorporate, in turn, polytechnic schools and higher technical, technological, pedagogical, arts and conservatories, both national and international, which offers a much more transversal value to this type of project. (National Assembly, 2018).

Another of the instruments from which the present analysis is based is the Regulations of the Academic Regimen (Higher Education Council, 2019) which expresses as one of its first objectives in Article 3 to become a tool to articulate and strengthen research, teaching and links with society. Following this idea, the Higher Education Council (2019) concludes in Article 4 that:
The linkage with society is articulated with the substantive function of teaching, for the comprehensive training of students, complementing theory with practice in the teaching-learning processes, promoting spaces for experiential experience and critical reflection. It is articulated with research, by making possible the identification of needs and the formulation of questions that feed the lines, programs and research projects; and, by promoting the social use of scientific knowledge and knowledges. (Higher Education Council, 2019).

For this to be possible, throughout the text, several of the principles to be considered within the articulation of the three substantive axes of the Universities are defined, especially those concerning their link with society. It is essential to respond to the needs of social transformation and citizen participation in line with the philosophy of Good Living; to respect interculturality, gender equality and other constitutional rights; to promote multi-, inter- and trans-disciplinary knowledge; to integrate academic and research networks, both national and international; to democratize knowledge for the guarantee of rights and the reduction of inequalities; and finally, to integrate procedures for knowledge management. (Higher Education Council, 2019). Based on these precepts, the link with social issues becomes mandatory.

Ecuador has another instrument to regulate compliance with these objectives and principles, the Model of External Evaluation of Universities, which establishes three dimensions in which the impact of the link with society is evaluated: Planning, Execution and Results. (CACES, 2019) This instrument establishes three dimensions in which the impact of the linkage with society is evaluated: Planning, Execution and Results.

Within the first stage, the governing organization of the evaluation of universities in the country considers certain areas of incidence to be
determinant: community services, continuing education, network management, cooperation and development, international relations, dissemination and distribution of knowledge and provision of services, linked to their academic domains. University extension actions should be governed by the institutional mission, or, academic domains, with national, regional or local plans, and the social, cultural and/or productive requirements of the environment, under the coordination of responsible instances. Likewise, the participation of students in these activities must be promoted. (CACES, 2019).

For its part, one of the fundamental elements of the execution stage should be the participation of both university stakeholders and the communities involved or the companies and institutions with which the agreements are established, as the case may be. In relation to the evaluation, it will be decisive that the results of the programs or projects show solutions to the needs of the environment; contribute to the teaching-learning process, to the development of research lines and/or projects; contribute to the feedback of the academic offer, and generate other programs and/or projects based on new identified needs. (CACES, 2019).

Based on this legal framework, firm steps have been taken to achieve the articulation of the three substantive functions with the objective of reflecting and applying the work of HEIs in Ecuadorian society. However, there is still a lack of unity, structure and consolidation leading to the systematized and continuous practice of this axis. Therefore, the objective of this paper is to describe the advances that are visible in the programs of linkage with society in some universities of the Ecuadorian nation based on the appropriation of the concept of linkage.
MATERIALS AND METHODS

The present study is based on a qualitative perspective, since the objective is to carry out a detailed description of the practices of linkage with society that have been generated in Ecuadorian universities. For this purpose, this work is based on the documentary bibliographic method. The research in terms of type and level of depth is descriptive. A search and selection of the literature was made within the search engines of Ecuadorian universities and indexed journals. Theoretical and empirical works related to the topic of university extension work, its influence and repercussion in Ecuadorian communities were reviewed. Finally, a reading of the web pages of Ecuadorian universities was carried out in which the concepts and programs of linkage developed particularly in these instances are expressed. As a method of evaluation of the results, content analysis and comparative analysis were used to, finally, expose at first, the theoretical discussion that authors have developed on the link between universities and society since the end of the twentieth century until the twenty-first century.

RESULTS

The relationship between university centers and communities has been called in many ways throughout the history of HEIs. Two main categories can be found in the literature: university extension and linkage with society, which is a term that emerged only a decade ago. According to Martínez (1999) both terminologies can adopt various meanings depending on the philosophy that precedes the institution or the identity practices of the educational center. For Menéndez (n.d) university extension refers to a communicative process that is established between the communities and the university, in which the latter acquires recognition from social actors, organizations, social
institutions with which relationships and services are established. The groups and entities recognize the importance of the knowledge transmitted by the University and the most frequent incidence is in the cultural and social area. The link with society, on the other hand, is interpreted beyond a cultural relationship between university centers and communities. It consists of a process of exchange and construction of knowledge and generation of solutions from which the actors and the localities in which the universities have an impact benefit not only from a socio-cultural point of view, but also from an economic one. These processes become more complex, as they end up enriching the academic programs for the training of professionals, as well as scientific research, technological and cultural development.

The above contributes to greater social recognition of HEIs, demonstrates institutional relevance, improves the image of the academy, and legitimizes the positioning of intellectual and professional actors in the context they serve. (Alcántar & Arcos, 2004). It also generates the welfare of the socio-territorial space that is intervened, through a set of innovative solutions to social and environmental problems in favor of society; results that derive in social innovation, a concept that, according to Mendoza, Boza & Oviedo (2021) responds to the social demands that influence the process of social interaction, aimed at improving human welfare.

As a third substantive function, the linkage with society is defined as that process that enables the integration and articulation between the substantive functions of teaching, research and extension of culture and services of the University, so that it achieves a transformation of the socioeconomic context in the territories of incidence. The way in which programs and projects are implemented in the communities generally end up in the mutual benefit of the HEIs and the localities. On the one hand, the universities test and update their knowledge through its application in reality, while the communities benefit
from the professional work carried out by teachers and students in training (Gould Bei, 1997; 2002).

The professional practice of Universities through the link with society is a contribution to the continuous improvement of the centers, since professionals in training test their knowledge in the same context where they usually work when they graduate from the academic institution. According to Simbaña (2020) According to Simbaña, university students take on active learning based on strategies, methods and techniques that are adapted to reality. Through this experience, students can consolidate the knowledge acquired in classes with the knowledge of the communities, which reinforces their social commitment.

According to Mendoza, Oviedo & Boza (2021), the link with society is articulated with the substantive function of teaching, for the integral formation of students, complementing theory with practice in the teaching-learning processes, promoting spaces for experiential experience and critical reflection; while, it is articulated with research, by enabling the identification of needs and formulation of questions that feed the lines, programs and research projects, and to promote the social use of scientific knowledge and knowledge.

On the other hand, the instruments that are implemented during the application of the projects and programs of linkage with the University also imply the measurement, recording and evaluation of the real impact of the teaching and research functions. The results in this sense make it possible to determine the capacity of the Universities to provide solutions to the problems of the context, whether curricular programs need to be updated, the continuous training of teachers, as well as to declare the urgency and need to promote certain lines of research.
It was difficult to find a unified definition of what it means to engage with society. However, the common denominator objective is to solve problems and implement programs and projects that have a positive impact on the country and the world (Simbaña, 2015).

Barreno, Barreno and Olmedo (2018) point out that linkage is the strategy that favors the university to exchange knowledge with its context and at the same time coordinate its other functions of teaching, research and extension of culture and services. It becomes a process where initiatives arise where the academic institution can be linked to the productive and social sectors in mutually beneficial actions, which favors its strategic positioning.

In this sense, the link with society requires the participation of relevant academic programs or professional careers, oriented to be able to propose solutions to society. This has implied a change in the institutional missions of universities, which now propose defined objectives that, although they begin with academic and research scopes, culminate with the purpose of having a positive impact on society. (Fresan, 2004; Brito, Gordillo, & Quezada, 2016).

For Viña, Sacoto and Landívar (2019) finally, the linkage has implied transformations in university regulations, which translate into the provision of processes, instances, delegations, instruments, technologies, communications, investments, programming, methodologies, norms and provisions that make possible the interaction with academic units, academic offerings, actors, organizations and public and private institutions to organize research and plan territorial and institutional development, articulated with national, local and regional planning processes.

With respect to other Latin American countries, in terms of linkages, Ecuador's legal framework has favored the concern of universities for social problems and, likewise, for continuing to develop, adapt and update the axes of teaching and research. To this end, one of the basic principles is to consider
the development needs of the communities in which the universities are located.

It is important to mention that HEIs have assumed in different ways the meaning of the linkage with society and, as a consequence, different procedures are established within the programs and projects implemented in the communities. As a result of the lack of unity of criteria regarding what linkage means, if we review the work of the most relevant HEIs in Ecuador, we can perceive the diversity of the ways of approaching this concept, as well as the multiple methodologies and strategies and areas of incidence in which they develop the linkage initiatives. (Basantes, 2020).

For its part, the University of the Armed Forces, with a long history of engagement with society since 1922, states among its guidelines on engagement (ESPE, 2022) with a long history of engagement with society since 1922, declares among its guidelines on engagement the need to start from the identification of those real capabilities of the University that allow it to influence and serve in the communities. This university institution expresses its linkage model through different modalities: programs, projects, community service initiatives, provision of specialized services, consultancies, continuing education, network management, cooperation and development, dissemination and distribution of knowledge, which allow the democratization of knowledge and the development of social innovation.

It has well defined objectives and scopes, for example, to induce interdisciplinary and multidisciplinary programs and projects that allow the development of social and productive sectors; to meet the demands identified in society; to influence an attitudinal change to promote university social responsibility in its activities; to get the support of communities to work together in the construction of permanent solutions to their problems; to
democratize access to knowledge for the community to achieve improvements in the quality of life. (ESPE, 2022).

However, despite this well-defined structure of the Outreach area, it is evident that this Institute has little capacity to involve its staff and students in projects with a broad and differentiated impact, contrary to the experience of the National Polytechnic School and others in the country. Currently, ESPE only implements a program to strengthen community service activities in marginal urban and rural areas and priority groups. (ESPE, 2022).

The Central University of Ecuador (UCE, 2022) is another of the most nationally recognized centers and also has a directorate in charge of linkage management. The linkage with education, according to the Institute, contributes to the comprehensive training of professionals with scientific knowledge, social commitment and critical thinking through the implementation of research/action, learning/knowledge transfer programs and projects with the community and that contribute to improving the living conditions of the population.

Almost twenty programs and projects are currently promoted by this institute, focused on issues such as child and family health, socioeconomic strengthening of various localities, artistic initiatives, improving the quality of life of neighborhoods and cantons, tourism and heritage development, intercultural and rural development, social work, among other services expanded by the various territories of the province of Pichincha. (UCE, 2022).

The Universidad San Francisco de Quito (USFQ, 2022) recognizes that, with respect to teaching and research, the link with society is woven from the articulating character of the previous substantive functions of the Institute. Hence, it recognizes the importance of responding to the needs of society. Today this Institute has experience developing almost a hundred projects per
school year, which is part of the teaching and research activities, with the purpose of promoting local and regional development within the framework of the Liberal Arts and professional ethics.

From the arts and culture sector, USFQ is linked to other areas of social and economic impact: health and development; communications and contemporary arts, education and cultural history; innovation and technology; business and economics; architecture; justice and equity. Thus, it is linked to artisans; farmers; children and adolescents; senior citizens; people with chronic illnesses; museums and other cultural and artistic centers; it supports social causes, environmental projects, community development; and the integral health of different localities. (USFQ, 2022).

The University of Guayaquil also stands out. (UG, 2022) Among its statutes, Article 4, paragraph C considers university extension as a platform to project to the communities the knowledge derived from their careers and research work to stimulate the manifestations of popular culture; to improve the intellectual conditions of the sectors that have not had access to higher education; to orient the communities to the problems that affect them; and to provide services, technical advice and collaboration in plans and projects aimed at improving the living conditions of the community.

The linkage model of this university center has the mission to promote social responsibility, dissemination and return of academic, scientific and artistic knowledge to society, from a focus on rights, equity and equality. To this end, it tries to comply with criteria such as a duration of 1 to 3 years; generate the participation of teachers and students with a project director; the different programs can be articulated and if results are obtained, they can be replicated. The University works all its initiatives through agreements with social and economic institutions, starting from the definition of the work plan and the activities to be executed. To date, it has worked on almost 50 programs or
projects in cooperation with these entities and has benefited approximately 344,579 people. (UG, 2022).

The particularity of this model is that it seeks to link students in training with companies and institutions in which they could be incorporated to work in the future. The University, far from making a random selection of its projects or focusing solely on the needs of the communities, intervenes to guarantee the professional development of its graduates.

The Universidad Católica Santiago de Guayaquil (UCSG, 2022) has a vice rector's office for outreach to society, which shows that it gives a hierarchical place to the management of this substantive university function. The educational center understands that outreach is "the activity or set of activities that allow the institution to put at the service of society, especially the vulnerable sectors, the knowledge that is developed and strengthened within it" (p. 1). As a result of the management of linkage, the projects and actions of this substantive function are nourished by the skills and competencies that are being developed in the training process, contribute to the graduate profile of the career, derive from previous research projects conducted by teams of the institution and derive new research projects or degree works (LOES 2018).

This University is currently carrying out its projects and programs in rural communities, professionalization initiatives for members of institutions; cultural communication; work with children; health programs. It provides services such as financial education-entrepreneurship and leadership; integral and sustainable food and physical condition programs for the population; legal advice; work with young entrepreneurs, community and business development; among other topics.

For its part, the University of Cuenca, with a history of more than a century of existence, is recognized for setting its vision on the philosophy of Good
Living. (UCUENCA, 2019) with a history of more than a century of existence, is recognized for setting its vision in the philosophy of Good Living, which implies involvement with projects for the development of the quality of life of people. According to its educational model, the main purpose of its work is based on comprehensive training that includes human and professional academic development, building new knowledge, but above all generating operational, educational, cognitive and social impacts, which should be the guide to responsible management.

In this sense, the linkage with society is woven as an interactive process, through which the university projects itself socially to intervene in the solution of community problems, additionally generating practical and human knowledge in professional training. At the initiative of its Directorate of Outreach, it has consolidated the operation of several services through annual calls for intervention in the areas of health, knowledge transfer, children and adolescents, innovation and entrepreneurship, gender and violence, community development, art and heritage, advisory services in a wide range of social and productive activities, research, and recreation. (UCUENCA, 2019).

The National University of Chimborazo (UNACH, 2022) in recent years has been determined to give much more impetus to the linkage axis. In this sense, it has set several objectives: first, to contribute, through the academy, to the social, productive and cultural development of communities, priority groups and different social sectors, implemented in specific agreements or agreements; and second, to regulate and guide the development of outreach activities, cooperation and technical assistance of the University, aimed at the public, private and community sectors, promoting the democratization and dissemination of scientific knowledge and technologies, specific to university activity, among social actors.
The programs that implement the linkage are divided into several social areas: integral health; law; communications; integral development in social sectors; education; tourism; territorial and economic development. Its model of linkage is differentiated for each career, while, according to the professional profile, a line of intervention is established in fields such as physical and mathematical sciences; content and learning management; intervention in social, public and productive sectors; technology management; cultural projects; attention to special educational needs; strengthening of teaching-learning processes; environmental education; among other projects.

The State Technical University of Quevedo (UTEQ), with respect to the link with society, has the mission to promote the processes of university extension in the economic, social, scientific and cultural aspects through the socialization of its programs, thus benefiting the social actors, contributing to improve their living conditions. The purpose is to assist social actors through the generation of science, technology and socialization of tools used in different areas in order to help Ecuadorian families to live well. The knowledge and skills required by society have to do with computer skills, management skills, the ability to analyze political, economic, social and technological phenomena and, above all, the ability to learn, an ability that must become a constant exercise for teachers and students.

One of the indispensable mechanisms in the exercise of the linkage is cooperation, that is, the interaction between business, society and academia as a means to achieve the productive social transformation that contributes to the policy of good living. The execution of UTEQ's activities of linkage with society are generated through linkage projects emanating from each of its careers and contextualized to the professional competencies of each one of them.
As can be seen, the programs of linkage with society by the universities of Ecuador, although they have features in common, assume a diversity of concepts regarding what this substantive university function means to them, which depends on the history and tradition of the institute, its philosophy and institutional mission, the interests and capabilities of its teaching and research programs, as well as the alliances it manages to establish with institutions, companies and communities.

Ecuadorian HEIs have in common the desire to make their commitment to the social visible, making visible from their own website the programs and projects in which they are involved. This demonstrates the implications that have been generated for Higher Education Institutes by both the Academic Regime Regulations and the External Evaluation Model for Higher Education. (Council on Higher Education, 2019) and the Model of External Evaluation of Universities has generated for the Institutes of Higher Education. (CACES, 2019).

The areas for improvement identified in this analysis lie, in the first place, in the need to work on a unified concept of linkage by which the country's universities are governed and which, without losing their identity and their own management of the concept of linkage, work for a true articulation and transversality among inter-institutional projects at the Higher Education level. This would make it possible to replicate proposals that work and can be applied in different contexts and thus increase the number of beneficiaries.

In relation to the above, almost none of the universities studied publicly share the findings and results found in the fields of intervention, even though they do have the calls for projects available to users, as well as the contact information of the directors and managers of the projects. It is urgent to socialize and democratize knowledge, as this would imply a greater scope and impact of the link with societies.
CONCLUSIONS

From the analysis carried out, it can be seen that there is a diversity of concepts regarding the linkage with societies, its meaning, the way to establish a model of actions and strategies, and to determine those responsible for its management. As a consequence, there is no clear paradigm on how to evaluate this area within the Universities, so that it meets the demands made by social actors, society and even governments.

This implies a problem in two directions; on the one hand, for the University, as its recognition of excellence depends on the values, solutions and improvements it leaves in the communities in which it intervenes, it depends on its capacity to contribute to the resolution of social problems and to propose ways to improve the living conditions of the members of those communities. As for the second direction, it has repercussions on societies, because as long as there is no clear regulation of the level of incidence that HEIs should have in the life of communities, the processes of improvement of these entities and social groups, the long-term transformations, will depend on the level of commitment of the Universities, on their capacities to intervene in the social field, on the degree of follow-up that the university centers decide to have. Certainly, declaring uniformity in the criteria and definitions of linkage and how to carry it out is a very complex process, but establishing certain accreditation standards for linkage would imply greater clarity in the processes and the search for quality in the actions. This would be favorable because these processes would not only depend on contextual decisions and human subjectivities, but would be centered on the needs of the communities, which certainly require a level of systematicity in the improvement proposals in order to achieve a true transformation of society.


