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Internationalization of education and mobility: an analysis upon the argentinian case

*Internacionalización de la educación y movilidad:
reflexiones a partir del caso argentino*

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Abstract

The internationalization of education is a topic of growing interest. It refers to various patterns of power relations, as well as the accumulation of advantages and changes linked to the mobility in modernity and fundamentally the globalization effects in contemporary societies. In this article, on the one hand, the evolution of this education phenomenon is analyzed, taking into account the Argentinian case, particularly in the city of Buenos Aires. The existing inequalities and the problems linked to social exclusion and to the (dis)advantages that have an impact on the inequitable access to education in this international framework are considered as an underlying element of academic mobility. Likewise, the imminent globalization that permeates the different spheres of social life also has its correlation with the increase in mobility and the diversification of travel, among which are trips for reasons of study, as will be shown below with precise data on arrivals of non-residents to Argentina. Finally, certain decision factors are listed when developing study trips by non-residents entering the country, and to the city of Buenos Aires in particular, among them stand out: the gratuity, the democratic university ethos, certain discourses on educational quality, and references and scholastic traditions.

Keywords

Internationalization of education, scholastic mobility, accumulation of advantages, and globalization.

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Resumen

La internacionalización de la educación es un tema de creciente interés. En la actualidad, refiere a diversos esquemas de relaciones de poder, así como a la acumulación de ventajas y vicisitudes vinculadas a las movilidades en la modernidad y fundamentalmente los efectos de la globalización en las sociedades contemporáneas. En este artículo analizamos, por un lado, la evolución de este fenómeno educativo, focalizando en el caso argentino, en particular, en de la ciudad de Buenos Aires. Se plantea como elemento subyacente a la movilidad académica las desigualdades existentes y los problemas vinculados a la exclusión social y a las (des)ventajas que repercuten en los inequitativos accesos a la educación en este marco internacional. Asimismo, la inminente globalización que permea las diversas esferas de la vida social también tiene su correlato con el incremento de las movilidades y la diversificación de los viajes entre los que se encuentran los viajes por motivo de estudio, tal como se mostrará a continuación con datos precisos sobre las llegadas de no residentes a Argentina. Finalmente, se enumeran ciertos factores decisivos a la hora desarrollar los viajes por estudios por parte de los no residentes que ingresan al país en general y la ciudad de Buenos Aires en particular. Entre ellos se destacan: la gratuidad, la universidad democrática, ciertos discursos sobre calidad y las referencias y tradiciones.

Palabras clave

Internacionalización de la educación, movilidad académica, acumulación de ventajas y globalización.

Introduction

There is a consensus in the social sciences that national higher education systems were created for an elite in their origins —males, urban and the most favored sectors of societies— (Bourdieu and Passeron, 2009; Buchbinder, 2005; Herrero, 2010), and then for the social origin of its audience, while the genre was modified with the incorporation of students from middle and low social sectors. These transformations in the students correspond with the changes in the educational legislations; first in the central countries —after the Second World War— and then in Latin America in the last twenty years, which modified the Education laws, extending the compulsory level of secondary levels, thus, broadening the recruitment base for higher learning¹

1 For an analysis of the changes in the educational legislations in this continent, see N. Lopez, The new laws of education in Latin America. A reading in the light of the social and educational panorama of the region (2007, Buenos Aires: IIEP UNESCO).

(Pochulu, 2004; Ezcurra, 2011; García de Fanelli and Jacinto, 2010). Thus, the International Institute for Higher Education in Latin America and the Caribbean (IESALC) of UNESCO, indicates that between 1994 and 2006 the enrolment of higher education showed an outstanding growth rate of 126%, going from hosting approximately 7 544 000 students at about 17 017 000 (Gazzola and Didriksson, 2008)².

In this continent since the last decades of the twentieth century, there is a sustained trend towards democratization and overcrowding of higher education. As Rama (2009) argues, this growth is expected to continue with an upward shift towards lifelong learning and postgraduate studies at all levels. The dynamics of the universalization of higher education —which in this continent is in the process of different problems and vacancies— has positive edges, such as increasing university enrolment in vulnerable sectors (Mayer and Cerezo, 2016, 2018 and 2018b), which means a democratization of knowledge along with a tendency towards more egalitarian societies (Mayer and Núñez, 2016).

However, in turn —and in parallel to these processes— is observed what has been called “segregating democracy” (Merle, 2009), which assumes that once high or total coverage levels are achieved, internal horizontal differentiation movements are generated (Braslavsky, 1985), i.e., differentiated proposals towards the same educational level. In other words, the tendencies towards the universalization of an educational level, whatever it may be, become at certain levels of devaluation, which generate distinction strategies in the agents to achieve educational trajectories (Mayer and Núñez, 2016) —and Biographical (Beck and Beck, 2001)— differentiated. In this sense, one of the possible strategies that are increasingly frequent between students and professionals consists either in internationalizing their studies obtaining degrees abroad, or in incorporating mobility to their trajectories by making a part of their studies or studying the language of the host country —and living— in another country for a certain time, which tends to have at least an academic semester. International education or the internationalization of education are long-standing processes. The history of the educational processes observes nomadic or mobile students, associated with families of diplomats, or from various areas that assumed displacement

2 This enrolment was mainly concentrated in the studies of degree (96%) and in institutions of free public management.

by certain parts of the world (Gessaghi, 2016; Larrondo and Mayer, 2018). However, what is new is what is now understood by associating international education with globalization, conceiving it not only as a reorganization of economic-financial relations, but as a reorganization of all spheres of social life in which education is included.

In this sense, there is a consensus in affirming that the global rediscovering discovers the local as a global dimension, so that the internationalization processes lead to questions about the creation of spaces that are located both at a national level and the ways in which systems, practices and policies are revealed to foster the social, cultural and economic privileges of dominant groups (Howard and Gatzambide- Fernández, 2010). In this context, a turning point for studies is from the decade of the nineties to the date, by the end of the cold war and the redefinition of the power relations (Resnik, 2012). Koh and Kenway (2012) explore the creation of educational orders that encourage the formation of national leaders from the internationalization of their educational trajectories. Resnik (2012) argues that based on the internationalization processes of education, curricula are generated with international visions and that this orientation affects those who do not leave their habitual place of residence. On the other hand, Nogueira and Aguiar (2012) show how the affluent sectors of Brazil invest more and more in internationalized resources, particularly in the educational journeys and the learning of second and third languages.

Methodological considerations, theoretical approximations and relevant data

This article draws on a thorough theoretical review of the subject in relation to contemporary social and educational problems, particularly in what respect to the dimensions of globalization and its impact on the educational field (Resnik, 2015). In this sense, the approach assumes that although there are mobility and internationalization processes of education, what is in question here is its interrelation with the globalising processes and the global economy. The theoretical reflections of this work are composed of interviews carried out in the framework of the doctoral thesis of one of the authors (Catalano, 2017), whose topic deals with the integration and sociocultural practices of tourists from the countries Mercosur and Chile in the city of Buenos Aires. In this context, 28 interviews were conducted

in during 2016 and quantitative data provided by the Ministry of Tourism of the Nation (MINTUR) were re-worked. The choice of the qualitative methodology from interviews is because it allows understanding the sense and representations of the actors in question and the multiplicity of dimensions and explanations that they conceive to explain their situation and experience. The aim is to approach the actor's perspective in his/her context by abandoning the “unique” viewpoint for the plurality benefit of coexisting viewpoints (Bourdieu, 2000). The interview should be understood as the framework of a joint theoretical elaboration in which no total agreements or similar exploitations will arise, but interpretations that did not exist before the relationship (Saltalamacchia, 1992).

Even though later on will be provided the specificities of the concept of globalization and its implications in the daily life of the subjects, it is pertinent to specify the meaning of the internationalization processes of education. It is described —from international organizations— as the process of integrating an international, intercultural and global dimension to objectives and teaching/learning. The internationalization refers to the relationship between nations, people, cultures and systems, which through normative efforts are “harmonized” (Ball and Youdell, 2008), having a common educational space. The reference to the internationalization processes is inseparable from the Bologna declaration³, which in 1999 lent the normative and convergence framework to develop the initiatives aimed at strengthening this process. While the common educational area is European —related to the European Community and other acceding countries— the Bologna process drives an “external dimension” (Zgaga, 2006) and, on the other hand, tendencies to emulate —with the difficulties of each case— these experiences outside the boundaries of the common space created⁴.

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- 3 The Bologna declaration refers to a convergence process between universities in the countries of the European Union and others outside that space such as Russia and Turkey, which aims to standardize the content of university careers to facilitate the exchange of graduates and academic mobility. In addition to the specific public actors in the communication field, in this process participated —and participate— diverse actors such as companies and international organizations, which also originated discussions on the commodification and commoditization of Higher education, which implies the competitiveness of universities and their modernization to “adapt” their curricula to the needs of the “global market”, over local needs.
 - 4 For an analysis of the difficulties in the emulation of this declaration in Latin America, see J. Brunner, “The Bologna process in the Latin American Horizon: Limits and Perspectives” (2008, *Revista de Educación*, pp. 119-145, Spain: MECD).

In this way, mobility becomes an intrinsic aspect to the phenomenon of the internationalization of education. While this binomial —education and mobility— gives rise to the approach of mobility as part of a constellation between movements, meanings, experiences, rhythms and practices (Cresswell, 2008), coupled with the fact of considering the movement in the center of the social realities. The physical movement people that implies an origin and a destiny carries a set of phenomena that circulate satelliteally on the subjects, their interactions and meanings, perceptible from the individual level and also from a scale of society.

In the mobility and education relationship, is emphasized the displacement of individuals from a place of residence to a place of destination, for a certain period of time, and for a reason that has to do with the study, training, specialization and academic complementarity. Formation, exchange and qualification characterize this type of individual mobility, which in turn differentiates it from any other type, either migrant or tourist (Catalano, 2017); in turn, in other contexts this phenomenon is treated as academic mobility (Tremblay, 2005).

In the following lines will be analyzed the internationalization processes and academic mobility, focusing this study to the metropolitan area of Buenos Aires (AMBA). This analysis uses, on the one hand, primary data obtained through interviews carried out to students of the region⁵ during 2016 and 2017⁶, and data provided by the MINTUR regarding the entrance of tourists to the country.

These data were provided from the International Tourism Survey (ETI) and its systematization in the Statistical Yearbook of Tourism (AET), which since 2011 included the study category to explain the reasons for arriving in the country⁷.

5 The field work included interviewees from Chile, Paraguay, Brazil and Uruguay.

6 Las entrevistas fueron realizadas en el marco de la investigación doctoral *Turismo y MERCOSUR, prácticas socioeculturales de integración en la Ciudad de Buenos Aires*, de Bárbara Catalano. The interviews were carried out in the framework of the doctoral research tourism and MERCOSUR, socioeculturales practices of integration in the city of Buenos Aires, of Bárbara Catalano.

7 Within the regulatory framework of these students who come to Argentina, it is stipulated that they can enter the country as “tourists” and process their residence as students in the National Directorate of Migration (DNM) within 30 days of enrollment in the University. This apparent unnoticed policy on the regularity of students has an impact on the compilation of official statistics. A particular characteristic of this type of student who travels for academic reasons is that it has an average of permanence of 50 days for the Year 2014 (MINTUR), which reflects a particular development in the area.

As shown in table 1 in the group of foreigners entering the country, the number of non-resident tourists who arrive whose main motivation is to study, in relation to all the data collected by the ETI, is distinguished annually. Although the absolute number of tourist arrivals has slightly reduced in recent years, should be emphasized that the participations of the total of tourists per study have shown a slight increase ranging from 3.48% in 2012 to 3.82% in 2015. However, these data need some considerations: many tourists may not mention at the time of being surveyed that they enter for educational reasons; the reason for this is to consider it detrimental to declare such an end for regulatory and bureaucratic issues. Another reason for this omission is that the decision to study may not be taken at the time of the interview. Finally, it is believed that in the face of emerging stigmas on the issue of migrants, many inpatients may not want to disclose the real purpose of their stay at the destination.

Table 1
Non-resident tourists arriving in Argentina
whose main motivation is to study

Year	2012	2013	2014	2015
Number of non-resident tourists arriving at the airports and ports of Buenos Aires and Córdoba Airport	2 904 452 (100%)	2 761 563 (100%)	2 828 771 (100%)	2 640 394 (100%)
Number of non-resident tourists whose main reason is to “study”	85 184 (3.48%)	85 717 (3.21%)	77 630 (3.64%)	68 975 (3.82%)

Source: own elaboration, adapted from AET-Mintur 2012-2015

The accumulation of advantages

The existing literature of the social sciences has tackled in a deep way the accumulation of disadvantages, which derive in vulnerability processes and social exclusion (Castel, 1997), recognizing the basis material for such situations but also anchoring in the density of social tissues. This accumulation of disadvantages has its correlate in processes studied in less depth that lead to the accumulation of advantages. Here are cited the pre-eminence of Bourdieu (2000), which has studied the fields of power and the different strategies of the affluent sectors to maintain their positions and that of the middle sectors

for (re) enclasarse. In the case of young people —in this case students— both processes are fundamental, since these are the efforts they make —often in solitude, others with their families— to avoid falling into disadvantageous situations, and to avail themselves of strategies that lead to privileged situations. In the words of Saravi (2010), accumulating advantages implies participation in events, situations, experiences and processes that strengthen social situations and collaborate in the reaffirmation of motorized privileges at other times of the cycle life or the individual in question. Then, if the analysis focuses on the accumulation of advantages, biographical experiences and transitional periods acquire primacy, where the juvenile and student status occupies a fundamental place⁸. As Saravi mentioned (2015), universalize basic education and extend coverage and years of compulsory are policies agreed by all social and political sectors, anchored in the narratives of the “example” of advanced countries that include high educational levels in their populations, with equally high living and development standards. However, in this continent this expansion is not homogeneous and is anchored on pre-existing exclusions or inequalities —levels of household income, geographical location, the educational climate of the home, and the belonging or not to ethnic and/or originating groups, just to mention a few— which represent significant advantages or disadvantages over which the inclusion processes develop.

These inequalities, advantages or disadvantages do not disappear because vast sectors of the population have been “included” (Saravi, 2015, p. 11). This leads to raise the first lines of this article: the tendency to mass the university level —by expanding its recruitment base due to the universalization of the previous levels— while it supports the yearning for inclusion and the creation of more egalitarian societies —processed through education— it does not eliminate social inequalities, but rather, it generates mechanisms for the development of new forms of social differentiation. This is where the educational institutions —in this case those of higher education— become important: not only to produce and reproduce positions, but as a framework where actors can influence —or believe it— in their future determinations.

8 Esping Andersen (2002) argues that this connection of events, situations, experiences and processes, to the extent that the welfare conditions of a given moment presuppose other priors and enable other futures, allows to distinguish transient disadvantages which will be deeper and for long periods in the biographies.

Globalization, education, internationalization and mobility: some approximations

Beck and Beck (2001) argue that globalization changes the ways of thinking and perceiving the world and the responses that social agents and institutions try to give to a world that becomes increasingly uncertain and unstable, with the need to respond to multiple challenges, with corroded reinsurances of the welfare state (Mayer, 2012). If understood that globalization —as a reorganization and liberalization of all spheres— cove at all levels of social life, beyond the reforms and normative efforts —which will be described later— it is important to pay attention to changes —in this case is educational— since vital trajectories are affected by ideas and decisions that create audiences for the implementation of certain policy frameworks and reforms. In this sense, the educational changes, although they find possibility conditions in the reforms, often derive from shifts and more general social displacements circulating in the societies, consensus of international organizations or speeches that derive in specific practices. It is then about the dynamics and immediate changes that have national and global significance not only in terms of educational policy, but also in terms of equal opportunities, and with their implementation they can redefine educational practices. It is worth saying that in the face of formal equality of credentials, social agents unfold strategies to differentiate themselves in an increasingly uncertain and unequal world (Beck and Beck, 2001; Mayer, 2009) to try to obtain a comparison of their peers (Larrondo and Mayer, 2018). It is in this context that the concept of internationalization of education becomes relevant, understanding it as a process that relates to globalization, on the one hand, and with educational norms and agreements on the other. But is the destination chosen? And then, more specifically, why Buenos Aires?

The choice of destiny: studying and living in Buenos Aires

In the previous paragraphs were emphasized how the processes of mobility and internationalization are crossed by new inequalities or, in other words, distinction strategies that the social agents deploy to achieve —or to project, to achieve— distinctive advantages in their biographies. Without losing this axis of analysis, it is lawful to mention that within the repertoires

that organize the action of those who opt for these modalities, there is also a response to a way of perceiving and living the social life, in which the limits between work and leisure are porous, and space and time are becoming less differentiated. In this sense, there is a disorganization of the usual rhythms along with a flexibilization of the social life, in which the obligations and the pleasure are glimpsed. Due to the flexible modes of accumulation (Harvey, 1998), the individuals organize their time and their activities like a puzzle in which everything seems to fit in millimetres, calculating the times, the dedications to the leisure, to the work and to the socialization and the discovery of “new cultures”. Some experts (Botto, 2015; Solanas, 2014) have exhaustively addressed the stages of the university accreditation processes, the advances and setbacks that this phenomenon brings to the global level —and in particular in certain regional integration processes— as well as the effectiveness of the public policies built in each block and from the different models of conceiving regional integration, from binational cooperation, “inter-government”, public policy networks, etc. The present duality has also been addressed between the cooperation perspective of university accreditation and another one that is more oriented towards the mercantilist vision of education and the conception of the profession as a resource to be tradable, devaluing the forces that carry the collectives of professionals of different disciplines. However, there is a significant correlation between the recognition and accreditation of careers with the mobility of students within the regional integration processes (Botto, 2015).

In this line, beyond the hard work that implies the harmonization of norms and regulation of accreditations, recognition, homologation of titles, as well as the incorporation by the governmental agencies as of the universities of supra policies, it is evident that education and professional mobility and knowledge is a priority topic and agenda within the Mercosur.

Argentina became a strategic destination to complete university studies, especially at the regional level, while there is a growing importance that education has had in the framework of the regionalisms as stated in the cases of the European Union or Mercosur. In this regard, mobility-by-study programmes were developed in recent years, which led to a common regional space for higher education, fostered student mobility, a credit transfer system and the exchange between professors and researchers (Perrotta, 2014). Within them, Argentina implemented the promotion program of the Universidad Argentina from 2006 (Oregoni and López, 2011), which speeds

up the information to foreigners who want to study in Argentina and the flow of students is encouraged through the quality promotion and re-launching of the Argentinian education; however, it is very difficult to obtain accurate data on the flows of this type of mobility of individuals (Botto, 2015).

Among the foreign population (50 000 students), students of Peruvian nationality, followed by their Brazilian peers, excel first. Students from Paraguay, Bolivia, Colombia and Chile are also involved. To a lesser extent, a presence of students from Europe and the United States (La Nación, 2017) is registered.

In addition to the political processes specifically outlined in the preceding paragraphs that refer to normative agreements in developing facilities for internationalization, it must be incorporated the power relations that exist in the region. The concept of “cultural diplomacy” becomes important (Fierro Garza, 2008), and even though it is not a new term, it is its importance as a field of action and privileged space of foreign policy. This concept refers to the promotion of values that nurture a national identity and the history, politics and socioeconomic characteristics of a country abroad. Cultural relations allow the rapprochement between the various political, economic and social sectors of the different countries (Cummings, 2003)⁹.

This perspective differs from the readings regarding education abroad as a tool for selling “Country brand” (Mongiello, 2012), for its emphasis on marketing and commercial, but also for its reductive character and the poor interpretation of the identity of countries, while both cultural and public diplomacy incorporate the idea of soft power. In other words, specific efforts are based on previous geopolitical logics, in which asymmetric power relations are involved (Sidicaro, 2003, p. 132). In addition to the normative efforts described above and the issues specifically related to education —referred below: the election of Argentina and specifically of Buenos Aires— will also be defined by the structure of power relations —Regional— where Argentina excels.

The processes of internationalization and mobility are inseparable from those related to globalization and modernization. In these, capitals or

9 The concept of “cultural diplomacy” cannot be understood without “public diplomacy”, which refers to the set of actions by which governments direct themselves to the people of another country. While “traditional diplomacy” can be described as the relationships that are established between institutions at the highest level, public diplomacy is responsible for how a country communicates with the citizenship of other countries.

“big cities” occupy a privileged place, where the national is linked to the global. Following the classic analysis of Borja and Castells (1998), cities such as Buenos Aires are constituted in “nodal cities”, which express the accumulation of these processes and the changes that derive from them: these cities represent the main agglomerations either by their population or by their size, as well as by the socioeconomic relations that are generated inside. This geographic space condenses new-type relations between civil society and political society, as well as new participatory areas different from traditional ones. In the case of Buenos Aires, from its beginnings it was constituted as a city that amalgamates the traditional with the modern, in a framework of cultural diversity that is observed in everyday aspects like the gastronomy and in its urban morphology. Thus, the landscape shows a “modern” city, inscribed in a “global economy” and “flow society”, which affects the social dynamics and the restructuring of time and space¹⁰. But, in addition to these factors, *Reina del Plata* conjugates a specific reputation within the National university system.

Free tuition

The difficulties —economic— of access to higher education —particularly university students— is one of the main reasons for the displacement of young people who wish to study abroad. To this end, they first perform a diagnosis in which they evaluate the possible options where the variables linked to the cost, distance and sociocultural affinity enter. The decision of the place where they are going to spend a considerable time of their lives is not an easy or random task. There are innumerable doubts and reflections before choosing the destination and the university, aspects that contribute to give a significant emotional imprint to those later experiences.

In the evaluation process, in the case of the regional students, one of the peculiarities observed in the interviews is that Argentina appears as one of the options that would bring the most advantages, since the public university

10 The articulations and interactions between the global and the local become explicit in the urban transformation processes, in the modification of the spatial and social structure of the cities. Buenos Aires is immersed in a series of transformations that demonstrate the logic of new processes of accumulation, organization of production, communication of messages and exercise of power, simultaneously inclusive and excluding the “flow society” (Borja and Castells, 1996).

is free and the private universities have more convenient fees compared to others in Latin American. Although, as we will see later, this is not the only explanatory factor in the choice of educational destination, it does influence in an important way.

The “*Democratic*” university

[I chose Argentina] because I wanted to study medicine and, well, being admitted in Brazil in the medicine faculty is difficult. We have a test that is a specific day and includes everything you studied in middle and high school. I do not know if it is said like this but in Brazil it is the medium middel. Also, there is a lot of people and few vacancies and also the private faculties are very expensive and I did not have money to pay. And here the UBA is a good faculty and accepts foreigners, the admission is good too. So, I decided to come here.

In the presidency of Juan D. Perón in 1949, with Decree 29337, the university fees were repealed. Since then, public universities and higher education institutes are free, as are the institutions of the other levels that make up the national education system. This presents a great advantage for foreigners, as it facilitates the study against the adverse realities in their own countries. Several nations of the region —being Chile the emblematic case— assume, in addition to a process of university selection, high enrolment costs and the development of “educational markets” (Ball and Yourdell, 2008; Gamallo, 2015). Although in the first decade of the new millennium the states of the region —many of them under “progressive governments” reforms— have broadened their budgets in education, many of them limit their participation to compulsory schooling and then fort the higher level facilitate scholarships and individual financing at high interest rates. Even in countries where quotas are being eliminated, admissions are usually defined according to pre-university tests for a number of vacancies that is lower than the number of applicants.

In Argentina, this logic is inverted. The reform of 1918, when appealing to diverse participation channels of the students in the university government, generates an inflection point, even if it remained an elitist *ethos* on its social composition. It is from the aforementioned decree when it happens what Chiroleu (2009) calls “external democratization”, with free and unrestricted

income. Thereafter, the student population is diversified, and then with the dictatorial governments try to limit with a system of place. The return of democracy abolished the restrictions of entry in most of the universities of the country, along with the tariffs. In this sense, the construction of the public university in Argentina —unlike many of the countries of origin of our interviewees—, it is always linked to equality and democracy, and these are constant expressions and struggle for and by those emblems. This is what many authors have emphasized in pointing out the “plebeian” trait of the Argentinian University (Krotsch, 2014). The latter is important when explaining the reasons why students choose to study in Argentina when the expenses are perhaps even higher than staying in their own country. In several works (Mayer and Cerezo, 2016; Mayer and Cerezo, 2018a and 2018b) showed how the passage towards the university implies the putting into operation of certain knowledge and capitals that allow the achievement of institutional and academic affiliation. The democratic and culturally diverse “long-standing” *ethos* in national universities can be an important explanatory factor that generates attraction in foreign students, in the face of selection and exclusion processes in their local institutions, even when they can enter to them. This can be thought of even for the most elitist Argentinian universities, such as Universidad de Buenos Aires, which, despite the prestige and reputation —analyzed below— is not presented as an elite space¹¹.

Speeches on “quality”

The speeches regarding the “quality” university exist since its beginnings. However, like any social practice, it is a socially located discourse that should be contextualized not only in historical terms, but according to its enunciators. Thus, Fernández Lamara (2005) argues that for academics their meaning will be associated with knowledge, for employers to competencies, for students to employability and for the state can refer to aspects associated with social development, science or the costs and requirements of “human capital”. Without entering into the debate about

¹¹ The expansion of the tuition was accompanied by the development of the “Universities of the Urban” (Mayer and Cerezo, 2016), which were the response of the state to house “new audiences”, mostly first generation of students, and are born with a more inclusive spirit than the “traditional” universities.

“university quality”, the meaning that the students give them is mentioned as —as a native category— related to a certain instrumentality for their present and future development, but which is anchored in the pillars built from governmental and international agencies and agencies, in which accreditation and evaluation are fundamental.

I came in August 2013, more than

anything for the UBA, for the ranking, I think the UBA was in second place in Latin America. First I thought in Santo Tomé, in the south of Brazil. But then I realized that university wasn't that good. Then I saw the UBA, and then I thought: I better select UBA, I'm going for something more guaranteed... So I'm going to the UBA because it is good and the title obtained will be recognized. And I came directly to Buenos Aires, which is the first foreign destination I know.

The References

Lines above, in recounting existing power relations that delimit elections, or at least that are present in such delimitation, was referred to the concept of public diplomacy. This implies that previous experiences, stories and commentaries become reservoirs about the place to be chosen, as a reference. These Lego ambassadors, either because they had previous experiences in Buenos Aires or because of their reputation, are an important factor in explaining the motivations of the election. In this sense, are contemplated the images that their relatives have not only on the place, but also for the host society, that is, the residents who live in the area.

The experiences abroad are an additional value in the formation of students, this is not only observed when considering the requirements in qualifications by applicants to jobs, but also in the social imaginary about what it represents “Have an experience outside.”

“I had finished my career and at work I was always told:” You have to go to study outside, go through the experience” And I had submitted to a scholarship in Chile that I did not obtain until a colleague told me, “No!, but this is very good and is related to your work, the topics that interests you”. He was my co-worker, we had commented in the office and I had to present a single letter of admission or pre-admission and I presented there in UBA and in December the list came out and I entered”

Here, it is clearly reflected the imposition that often occurs at the time of the decision to course a postgraduate study or specialization abroad. This is also manifested in a tradition, aspect in looking outward that is sometimes seen in societies with educational systems —and universities— of little development or reserved for elites, even when they have democratized their access.

Tradition, modernity and academic perspective

Tradition and geopolitical approaches that reflect historical vicissitudes about relations between States also comprise a key —albeit sometimes invisible or underlying— element that arises when choosing a destiny to study.

Imagine that the Paraguayan university begins to have a diversity of career in the second half of the twentieth century, everyone came here or Uruguay, that is, the Paraguayan tradition was to look to Argentina, it is no coincidence that I looked at Argentina, it is no coincidence that I course a master in Paraguay and has had reference and Argentinian professors, because it is the closest you had. You ask me “Why Buenos Aires?” and it was the best thing I had at hand. Evaluating now I find it very good to have chosen Buenos Aires, in a moment I thought I wanted to go to the United States, because it was the only offer I had, and once you go there Americans offer everything, as you said, but analyzing the approaches and the intellectual freedom I have here... Today I'm glad to be here, I like the UBA, I like the discussion level, I understand Argentina in a way that I had not understood before (a student from Paraguay).

Differences in job development opportunities are also an element that potential young travellers take into account when deciding where to study, which brings to light differences in productive development levels and of the different countries and cities that are within the reach of being elected, as well as the advantages and disadvantages of the work markets that are characteristic of each area.

Conclusions

The educational processes, despite the rigidities inherent in the systems in which they are inserted, present a dimension of adaptability and response

to social changes. In this way, throughout the article, have been analyzed the internationalization processes in sociological aspects, that is, in its relation with the contemporary societies. First, the analysis showed the relation of the phenomena here studied with the social and educational inequality, the universalization and overcrowding of the middle level, and its implication in the higher level. As in other levels, the greater coverage incorporates new inequalities, which previously remained outside the educational institutions, then arise differentiation strategies —in the Lego actors— to excel. Secondly —and linked to social transformations—, internationalization and educational mobility are inseparable from the economy of post-organization, reflexivity, de-differentiation of society, flows and the travel expansion due to social organization and professional expertise (Urry and Lash, 1998), and on the mobility regimes (Glick Schiller and Salazar, 2013), as well as the power relations. Thus, social flows manifest behaviors that are coupled with the structural differences between the issuing and host countries of students linked to the various levels of society development. Education-based academic mobility would appear to replicate the differences between developed regions versus developing regions. But not only between countries and regions, but also —and mainly— among students: being able to access the experiences derived from the phenomena studied here, requires the deployment of a series of resources —mainly economic, but not exclusively— which are not equally available in all social sectors. In this sense, the still low proportion of international students, although it can be understood by the novelty of these processes in this continent, can also be explained by the inequalities that cross it and that leave in evidence these modalities. In addition, there are factors such as geographical distances and connectivity difficulties that show a counterface of the homologous process in Europe.

A last point in this instance is the one referring to the internationalization valuation as the “experience” that it provides. Here, as seen in the fragments of the aforementioned interviews, are also pondered the experiences and learning that these movements assume as the academic “quality”. These statements appear as social recommendations —i.e., peers, family and/or family— or because “the market” would capitalize on mobility. This dimension seems crucial to the extent that the gain of experience implies the acquisition of a specific capital, which transcends the contents of the academic training to be included in the general learning, that is, obtained living abroad: “contact” with other cultures, living alone, flexibility when moving, etc. In

a word, skills related to the emotional or soft skills. While the hard are the skills and knowledge specifically related to the area of academic concern, the soft are the skills linked to the experience in a context of strong and constant changes in “the market”. Otherwise, in the commitment to study —and the choice of a career— is included the uncertainty as necessary —or not— of what the professional can do once he/she graduates. The internationalization experiences, by introducing a capital related to transversal skills and little present in the curricula —the soft ones— would give (the impression of) more security, being valued both socially and commercially.

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Intellectual property and the forced commodification of knowledge

La propiedad intelectual y la mercantilización forzada del conocimiento

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Abstract

This paper analyzes the growing commodification of knowledge through the reinforcement of intellectual property rights, on a global scale. This process is an expression of a change in the logic of capital's production and valorisation, in the switch from industrial to cognitive capitalism. The recent debates on commons and the theories of cognitive capitalism are recovered to show the need for establishing a correspondence between international regulations and national legal systems, in order to valorize knowledge. The origin and historical evolution of intellectual property rights will be studied, based on empirical evidence obtained from specific studies and diverse sources to point out some concrete circumstances that favored changes in regulations and institutions.

Keywords

Intellectual property, knowledge, commons, cognitive capitalism.

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Resumen

Este trabajo propone analizar la creciente mercantilización del conocimiento a través del refuerzo de los derechos de propiedad intelectual a escala global como una expresión de un cambio en la lógica de la producción y de la valorización del capital, que supone el pasaje del capitalismo industrial a un capitalismo cognitivo. Retomando los debates recientes sobre los bienes comunes y las tesis del capitalismo cognitivo, procuraremos mostrar la necesidad de correspondencia de las regulaciones internacionales y de los sistemas jurídicos nacionales, con las necesidades de la valorización del conocimiento. Estudiaremos el origen y la evolución histórica de los derechos de propiedad intelectual y, con apoyo en evidencias empíricas provenientes de estudios específicos y fuentes diversas, señalaremos algunas circunstancias concretas que favorecieron los cambios en las regulaciones e instituciones.

Palabras clave

Propiedad intelectual, conocimiento, bienes comunes, capitalismo cognitivo.

Introduction

“Intellectual Property” was promoted at international level since 1967 by the General Agreement on Tariffs and Trade (GATT) in its attempt to generate global agreements on the production protection of Multinational Enterprises, mainly American. National patent laws have existed since the nineteenth century and were questioned since their origin —even in the countries where the major inventions of the industrial era developed— because of the limits they imposed on the possibilities of “Technology Innovation”. However, although all developed countries were protecting intellectual property, patent, trademark, and copyright legislation varies by country.

This paper proposes to analyze the increasing commodification of knowledge through the reinforcement of intellectual property rights on a global scale, as an expression of a change in the production logic and the capital valorization that the change from industrial capitalism to cognitive capitalism implies. Retaking recent debates on common goods and the thesis of cognitive capitalism, the idea is to show the need for correspondence of international regulations and the national legal system, with the needs of the valorization of knowledge. The origin and historical evolution of intellectual property rights must be studied, with support in empirical evidence from

specific studies and diverse sources, pointing out some specific circumstances that favored changes in the regulations and institutions.

The concept “intellectual property” encompasses a series of regulatory frameworks that are substantively different from each other and require a separate study. The World Intellectual Property Organization (WIPO) in its World Intellectual property declaration of the year 2000, defines it as:

Any property which, by common agreement, is considered to be of an intellectual nature and worthy of protection, including scientific and technological inventions, literary or artistic productions, trademarks and identifiers, drawings and models and geographical indications (OMPI, 2000).

As Igor Sádaba points out, it is the laws that determine whether a specific object belongs to the public domain or to the private domain:

Much of the discussions on intellectual property can be reduced to the following dichotomy: arbitrate on the question of where an object is located (a gene that causes obesity, software to predict earthquakes, a cell line obtained from a human spleen, a medicine that cures malaria, the bars of a Mozart melody, etc.), in the public or private area, on the side of the individuality or on the side of the collectivity (Sádaba, 2008, p. 136).

Under this scheme, the public domain is becoming increasingly reduced and the advancement of private domain happens in all aspects of economic activity, colonizing the social, cultural and life dimensions in general.

The first section comprises a short tour of the origin and protection evolution of intellectual property until the beginning of the twentieth century, when two models of protection were configured: Anglo-Saxon and European. In the second section is analyzed the change that the passage of the rights guarantee for the author/inventor implies towards the company/corporation at the beginning of the twentieth century. In the third section is considered the change that emerged in the late 1970s, when the borders between what is an invention and what is a discovery are blurred. In the fourth section is dealt with the effect of this regulation as a new global order with specific consequences in Latin America. Finally, by following Karl Polanyi

is analyzed the fact that intellectual property implies the “Commodification of Knowledge” by means of “fictitious merchandise”. In the conclusions are presented the consequences of these regulations, the beneficiaries and the handicapped of the forced privatization of what is common.

Brief tour of the intellectual property rights evolution

There is a tacit agreement on the origin of intellectual property with the appearance of the printing press in the 15th century, where authors and printers joined to protect themselves from the falsifications, at the same time as the state agreed to grant monopoly rights for its usefulness to control the contents of what was printed. It was the English revolution of 1688 which allowed the free impression, without previous authorization from the liberal thinkers. However, the indiscriminate proliferation of copies caused that in 1709 the statute of Queen Anne was dictated, which protected the editor more than the author; this statute protected only the words written for a relatively long period, but limited to 28 years, thus, originating the copyright laws.

In the copyright of a work were recognized patrimonial rights of possession and property, but not moral rights of recognition of their authorship, i.e., it consisted more on privileges for the exploitation of books than a protection to the author. Such protection appeared later as a result of the French Enlightenment and Revolution. The encyclopedia made it clear that the “right of copying” was understood from the ownership right of the writer on his works. The writers were grouped in societies to defend their corporate interests and obtained moral rights over their works, which could not be represented in the theatre or modified without their permission. The author was valued as a producer or creator who worked intellectually.

The patent, for its part, also originated in mercantilist England in the 15th century with the granting of monopoly privileges to merchants and manufacturers, but —unlike copyright— these could not be sold or yielded, and required a very detailed description of the invention to be able to be registered. Once the period of the monopoly has expired, the patent passes into the public domain, so the inventor was required to expose his secret in a detailed manner. The first presentation was tantamount to the discovery of the “invention”, allowing even the importation of techniques from abroad. In revolutionary France, the owner of the invention is also asked to be

recognized as his inventor, in line with British law. The United States is the first modern state to sanction patent laws in 1790, for the benefit of inventors and society; then, in 1836, it creates the patent Office and in 1897 the American Patent Law Association (Sádaba, 2008, p. 47).

Two typical forms of intellectual property protection are then set up: The Continental European model and the Anglo-Saxon model:

The English model is still very much a debtor of the printing press, of the possibility of producing exact copies and disseminating them. The French model instead incorporates the idea that society is composed of individuals with their own rights, stronger than those of the collectivity (Sádaba, 2008, p. 34).

The first has its origin in France prior to the French Revolution and consolidates a copyright. The second originates in Britain in the eighteenth century and is reformulated by the United States in the late eighteenth century. In late incorporation into the industrial world, the United States positioned itself in the first century of its history against the intellectual property rights of Britain and other industrial countries, as foreign copyrights were not recognized, even though this meant that American works would be left unprotected abroad. The protection was granted to guarantee the exploitation of the ideas and to assure the continuity of the creative processes not on the basis of a moral right of the author as “owner” of his work (Sádaba, 2008, p. 140).

After the revolution of 1775, the idea is to impose rules that compensate artistic creation in exchange for the promotion of collective progress in society. In this way, the Federal Copyright Act of 1790, agrees to grant a monopoly in a limited way in exchange for the promotion of innovation. As will be seen later, the differences between these two models are going to be reduced with the unrestricted acceptance of copyright by both (and drastically since the late twentieth century).

During the nineteenth century, the protection of intellectual property was consolidated in many countries and in international law. This process of granting intellectual rights accelerated at the beginning of the twentieth century with the advent of cinema and the possibility of mass reproduction of art works, which generates the need for economic compensation for authors and owners (financiers before directors or filmmakers), for which the sanction of a new American law, the Copyright Act, is given in 1909. The subsequent rise of the radio and television will make even more complex the allocation of royalties. As Sádaba explains:

If at the time the printing press was key, no less important will be the appearance of the phonograph, cinematograph, radio, video, internet and all the media through which traditionally have been communicated or have been transmitted information content (2008 pp. 36-37).

In the same sense, Scout Forsyth points out that:

Cinema is the strategic outpost —to put it in terms of the new jargon of the show business, the flagship— of a consumer goods circuit that includes videos, television, internet, comics, novels, games, toys, fast food, clothes, theme parks and rides. At this time, the entertainment industries are leading U.S. exports (Forsyth, 2005, p. 145).

From the inventor to the corporations

In the late nineteenth century there were different ways of protecting intellectual property, whose growing relevance led to the international implementation of legislation, since the Berne Convention of 1886. There, the creator and his successors were recognized internationally for the copyright until 70 years after his death. However, international law on intellectual property will tend to approach more and more the copyright scheme (Sádaba, 2008, pp. 55-59).

In line with the transformations of the “big company” production of emerging industrial capitalism, innovation will shift from the inventor to corporations from the first decades of the twentieth century. In industrial capitalism, the knowledge production mechanism was concentrated in the research departments —both theoretical and applied— of public bodies and of the “big enterprise” methods and I + D of the enterprise. The intellectual property model was coherent with a scheme where the private appropriation of knowledge was based on material resources and the spatial scope of the national State, where the invention was to:

- Represent a novelty.
- Be able to be applied at the industry level.
- Be able to reconcile the remuneration of the private inventive act with the public diffusion of knowledge.

Joseph Schumpeter (2002/1939; 1944) was one of the first to celebrate this passage from invention to innovation, giving the entrepreneur who takes

risks a leading role. The invention alludes to the mere generation of new knowledge or scientific and/or technological advances, while innovation implies the successful introduction of such knowledge in the production by the entrepreneurs, whether it is a new product, a new method of production, a new source of raw materials or a change in the industrial organization. Innovations reflect an idealized vision of the innovative entrepreneur —it is associated with new “leaderships”— by Schumpeter and constitute the main cause of the long cycles and imbalances that characterize the capitalist system from successive “Technological revolutions” (great technological leaps derived from innovations such as steam engine, railway, electricity or motorized transport).

The innovative trait will then be awarded to the “signatures” by neoschumpeterians and evolutionist economists (Nelson and Winter, 1982; Dosi, Freeman, Nelson, Silverberg and Soete, 1988; Lundvall, 1992), since innovations are costly and risky and therefore require a high degree of concentration, as well as sufficient financial resources to be carried out. They are produced within the framework of certain “technological paradigms”, those that direct the technical change as they define the relevant problems, the research patterns and the technology to be used until this phase is exhausted with the diffusion of knowledge, technical change is slowed down and investment opportunities are reduced (López, 1996). For them, patents ensure innovation, that is, generate the incentives needed to innovate, since innovation depends on limiting the diffusion of technology until technological income can restore that innovative effort.

America's own economic history seems to confirm this point, when corporate capitalism accelerates the separation between owners and managers since the first decades of the twentieth century. As David Noble (1979) points out in *American by design*, America's own economic power during the twentieth century was, to a large extent, conditioned by intellectual property laws adapted to the ownership recognition of scientific inventions and technology to the firms, to the laboratories of the big companies. Patents will be the property of large corporations instead of the inventor or scientist who developed them, who in return only received a regular income in the form of wages.

In short, throughout the evolution of intellectual property protection can be differentiated two fundamental models: the Anglo-Saxon model of England and the United States based on Common Law and the European

model based on Continental Law. In the North American legal model, patent laws set the general principles, but it is the patent office responsible for giving its version on the application of the standard, ultimately it is the one that has the capacity to create jurisprudence, because The Supreme Court intervenes only when decides to do so, which happens in a few cases. The classical courts, formed in the antitrust doctrine, were historically reluctant to grant patents, but this situation would change with the emergence, in the early 1980s, of numerous laws and several rulings of the American Supreme Court of Justice who radically transformed the situation (such as the decision to patent the genes, against the opinion of the Office of Patents), as will be explained in the following paragraph (Coriat, 2008, p. 57).

During the first 100 years of patent law enforcement, the United States was unaware of the copyright rights granted abroad, but since the 1970s, from its influence on international organizations, at the behest of this country, it seeks to homogenize legislation with unique implementation of legal frameworks around the world to promote the deployment of its industries, especially in the cultural and entertainment level (Lessig, 2005, p. 84). The United States holds a high number of patent granting on the total amount of patents requested, and in its territory is attended by the major judicial battles around violations of the patent laws. This makes many companies devote themselves to the accumulation of patents not for their use, but to sue small entrepreneurs or to negotiate among large companies patent-use agreements under more favorable conditions.

From the invention to the discovery

In the 1920, the first steps began to be taken in the patenting of “discoveries” —not only of inventions— when basic knowledge —those originated by basic science without having been applied (or ignoring their potential applicability)— began being patents. It did not matter that they already existed in nature and that they were not, therefore, a human creation. For example, in 1922 Pasteur had patented a process on a bacterium starting “patents on living organisms” and in 1930 the United States sanctions a law on plant patents. Dutch growers also did the same thing, receiving patents with the promise of not touching the sexual reproduction of the seeds. But it will not be until the decade of 1960 that the issue is going to take a real

boost. Even more emblematic is the case with the Hollywood film industry. The creation in California of the film complex responds to the escape of entrepreneurs of the east Coast, where they had to respect the patents of Thomas Edison. The patent war lasted until nine companies merged into the Motion Picture Patents Company (MPPC) (Sádaba, 2008, p. 130).

An important moment is in 1970, when the United States sanctions a new patent law, in the same year that it promotes OMPI. In this decade there are fundamental changes since in 1975, by decision of the Supreme Court, the microorganisms become patentable (case “Bayer Yeats”). However, these jurisprudential changes in American territory, although important, cannot be seen isolated. In contemporary capitalism, knowledge becomes the core for social and historical reasons rather than technological, and precedes the constitution of cognitive capitalism. These changes are mainly due to the democratization of education —with the consequent elevation of the general level of training— that facilitated the constitution of a “fuzzy intellectuality” that is at the base of the emergence of an economy founded on the knowledge (Lebert and Vercellone, 2006).

It must also be taken into account the juncture of fordist capitalism with its profitability crisis in the 1970s and its need to relaunch the foundations of accumulation. According to Coriat (2008), the takeoff of intellectual property as a decisive factor in contemporary capitalist valuation must be traced in the search by the United States of the restoration of its competitiveness eroded by many countries —especially Germany and Japan— which challenged it by leaning on technological developments based on basic research, from which the United States was responsible for 50% at the global level. These changes will suppose a brutal acceleration of the commodification processes of knowledge in the early 1980s. In 1980, the Bayh-Dole ACT will be sanctioned, from which the research products developed with funds from the U.S. government can be patented and, therefore, leave to be part of the public domain. In addition, patent owners may grant exclusive licenses on the condition that they are made to companies located in North American territory (Section 204). This is a fundamental rule, which meant a breaking point in many respects, especially due to the obligation of the Secretariat of Commerce to inform Congress of the list of countries that do not respect intellectual property to the detriment of Americans companies (Section 301). It was also envisaged the extension of the time limits for the protection of patents in many sectors, as well as the creation of arbitral tribunals to resolve such conflicts.

In fact, it will be in 1980, with the obtaining in favor of General Electric of the first patent on a micro-organism —that gobble oil slicks— when the real initial blow to the patents on life happens (the “Chakrabarti” case). In a few years, hospitals and universities launched in a career of patent applications for “inventions” containing biological material, reaching to the extreme case of scientists who patented their findings even before publishing. This system created for the United States was extended to Europe, where it was accepted in the European Parliament with resistances in points like ownership on genes and algorithms; however, it did not happen in the European Commission (Coriat, 2008, p. 59).

In short, there are two key moments from the second post-war period: the creation of OMPI in 1970 and the closure of the Uruguay round of the GATT 1986-1994, which was created by the World Trade Organization (WTO). After each of these events, has occurred the re-launch of intellectual property protection applications that currently condition technological innovation. The nineties brought an explosion of intellectual property, since transnational corporations (TNCs), especially North American, were launched to obtain patents of all kinds to benefit the so-called “globalization”. In 1994, at the close of the Uruguay round of GATT, countries considered a trade issue under the protection of the nascent WTO, where the signatories were to undertake the protection of intellectual property of all kinds by way of the agreements on trade-related aspects of intellectual property (AADPIC). In short, the boom in biotechnology in the 1980s, the rise of genetic manipulation and the pharmaceutical industry, owe much to the evolution of patents, as these areas are no longer obliged to conduct their own research to develop products, but they can obtain licenses from universities, public institutions or small technological companies.

In Europe the objections to the immediate adoption of the American system are sustained with solid legal bases, since the sequence of a gene or an algorithm would not have, in principle, any industrial utility. Bercovitz points out that:

The European Patent Convention of 1973 maintains this requirement by asking patentable inventions to be susceptible to industrial application, which is equivalent in traditional doctrine to requiring patentable inventions to be technical inventions, understood the technique as industrial technique (2003, p. 18).

Bercovitz also states that the AADPIC Convention establishes that “susceptible to industrial application” is synonymous with “usefulness”, but does not distinguish the difference:

Useful, in the sense that they satisfy human needs, are all inventions, whether or not industrial. And this distinction between utility and susceptibility of industrial application is important because in American law there is no explicit requirement that patentable inventions be industrial, although they are required to be useful. Therefore, the patentability approaches applied in the United States cannot be transferred purely and simply to the European law (Bercovitz, 2003, p. 18).

In the European case, countries are more thorough in defining what can fall within the scope of the patentable. In terms of patents, in Europe is used the term “industrial property”, which means that they can only be granted to industrial inventions, although the trend is to approach the American model. There it becomes increasingly less rigorous the demonstration of the industrial application of the investigation results and more blurred the line that divides what is an invention and a discovery.

A new global institutionality and its impact on Latin America

According to Saskia Sassen (2010), the entry into force of the Marrakesh Agreement founded by the WTO in 1995, meant the origin of a new international economic law, as it regulated 97% of the international traffic trade and obliged the least developed countries to adopt the AADPIC, which assigns a permanent role to OMPI in cooperation activities. OMPI is the institution created by States to implement multinational intellectual property conventions, as well as Internet treaties and European copyright agreements. As international WTO standards must be incorporated into national law, this implies “new forms of private authority” such as arbitration systems, since it is necessary to “set aside the solution of conflicts between national legal systems and to refocus on conflicts between sectoral regimes, as is the case with differences between OMPI, WTO, EU and national rights” (Sassen, 2010, pp. 304-305).

The protection of intellectual property is at the spearhead of the change of international legal regime that implies the de-nationalization of national states (Sassen, 2007), or “several specialized institutional components” of them. But this does not imply a decrease in hierarchies or the sovereignty disappearance of States:

Certain States, such as that of Great Britain and the United States, produce the formulation of this new legality and impose it on other states thanks to the interdependencies that characterize the current globalization stage. Even so, the participating States need to develop their own specific instruments according to the political economic systems that govern within them (Sassen, 2010, pp. 290-291).

The United States led or forced other States to take those obligations to global capital, after extensive experience in expanding cross-border operations for American companies. It is no longer a matter of supporting strategic industries, but of creating the competitiveness conditions for a global economy (Sassen, 2010, p. 300). These changes in knowledge-based production and valorization force to discuss the relationships between the “global” logic of capital and the “territorial” dimension of the political forms assumed by it (Negri and Hardt, 2002, 2011; Míguez, 2015, 2017).

The problem with this scheme is that its dissemination throughout the world from the Washington Consensus and WTO rules since the Uruguay round 1986-1994, imposes very disadvantageous conditions for developing countries. To enter the WTO, countries must comply with agreements such as the TRIPS (Trade Related Aspects of Intellectual Property Rights) of 1995, which sought to reinforce the protection of intellectual property from international-scale procedures and legislation, forcing the signatory nations to create administrative and penal mechanisms with respect to intellectual property rights and empowering the WTO dispute settlement system to act if trade differences arise around them, which started to be applied in 2000 (Sádaba, 2008, p. 70).

In Latin America, these provisions were initially propelled by NAFTA, created in 1992, for Mexico to conform to U.S. and Canadian regulations. NAFTA had been the model for the WTO rules of 1994 and then for the ALCA project, a free trade zone project from Alaska to Ushuaia that was propelled from 1998 to its rejection in 2005. In the face of the failed attempt to impose ALCA, the United States has promoted numerous bilateral free

trade agreements (FTAs) with several Latin American countries. This is the case with the trade agreements with Costa Rica, where the intellectual property laws of OMPI are in a more general package that includes rules for international trade. The United States also promotes multilateral initiatives in Latin America such as the Pacific Alliance, which includes Mexico, Colombia, Peru and Chile, and since 2009 —globally— the Trans-Pacific Agreement (known as TPP), created between Chile, New Zealand, Singapore and Brunei in 2005, and then signed by the United States, Canada, Mexico, Peru, Vietnam and Malaysia, which will only enter an impasse since 2016 with the government of Donald Trump. Whether it is an effective setback to free trade rules or only specific measures to protect America's lagging industrial sectors, which are not the main beneficiaries of global regulations, remains to be seen. The TPP proposed to organize the new rules of the 21st century global economic law, in line with the Transatlantic Trade and Investment Association (known as the Transatlantic Treaty or TTIP), a free trade proposal between the United States and the European Union on the basis of the regulation of trade, services, investment and intellectual property (Merino, 2018, p. 23).

Regional agreements such as Mercosur or CELAC attempted to advance in a regional economic and political bloc since the fall of the ALCA project in 2005, and made substantive progress in this direction, such as the consolidation of a dispute settlement system of permanent character, the Structural Convergence Fund of MERCOSUR (FOCEM) to resolve the asymmetries between the member countries and the Parliament of MERCOSUR (Parlasur) for the direct representation of the citizens of the block. In relation to knowledge, as part of the attempt to promote productive integration, the framework program for Science and Technology and the Biotechnology Support Program in the Biotech platform, which are proposed to promote technological innovations (given the Agribusiness boom in the region). This second initiative is driven and at the same time conditioned by the European Union, which is the financing source for these activities and which intends to be the owner of the property rights derived from these initiatives (Perrota and Porcelli, 2016).

One of the notable exceptions to these advances in the Latin American field was the initiative of the Organic Code of the Social Economy of Knowledge, Creativity and Innovation (popularly known as the Ingenious Code) in Ecuador, where it joined in an only legal body the rules on science,

technology and innovation, with ancestral knowledge and intellectual property (Pazos, 2016, p. 553). The code repeals the intellectual property Law and leverages the flexibilities of international standards by promoting a balance between the rights of holders and users, in pursuit of development goals (Ramírez, 2014, pp. 49-54). However, the sign change of the Governments of the region since 2015 and the renewed preference for the “open regionalism” of the previous years, lead to prioritize the agreement conclusion of free trade like the MERCOSUR-European Union, that in facts imply a renewed strengthening of intellectual property.

New “fictitious” goods

Knowledge —such as the goods of nature— should be considered a common good, and the way to manage it as well as the ownership of common goods is in fact prior to that based on public/private distinction. The privatization of common lands between the 15th and 16th centuries was decisive in the dispossession process of producers, characteristic of the original accumulation, and was a necessary condition for the development of capitalism. As Polanyi points out, the Earth —as a product of nature— is not the product of human labor and is, therefore, “a fictitious commodity.” It is false to suppose that labor, land and money are merchandise, but from or with the help of this fiction “markets” are organized, and most importantly: they become the organizing principle of society.

The crucial point is this: labor, land and money are essential elements of industry: they must also be organized in markets. Indeed, these markets form an absolutely vital part of the economic system. But it is obvious that labour, land and money are not goods; in the case of these elements, it is emphatically false that everything that is bought and sold must have been produced for sale (Polanyi, 1992, p. 81).

Making the land a commodity the principle of private property is installed and the principle of the public-private as the organizing principles of the economic and social order, leaving aside the “common”.

In the first half of the twentieth century conventional economic theory theorized on public goods. Unlike private goods, which are rivals (the increase in the amount consumed by an individual necessarily implies the

reduction of the quantity consumed by another) and excluding (one can exclude an individual from the consumption of a good through the system of prices), public goods are those goods where the marginal cost of producing an additional unit is null. They are also non-exclusive goods, no consumer agent can be excluded from such good (for example, public lighting), which justifies the provision from the state, as he/she can obtain the “price” through taxes, provided that they are reflected in the equilibrium conditions of the market (positive price and equal to marginal cost).

Additionally, there is the problem of the free-rider, the possibility of an individual to hide his/her preferences and connect to the consumption of good without paying. As seen, what is shown is a theoretical and practical problem, that the market does not serve to reveal the preferences of the individuals, the demand cannot be estimated and the offerer does not know how much it should offer for the product, altering the fluid operation and balance of the market, justifying the provision of such property by the State (security and administration of justice are classic examples of public goods).

The political process must replace the absence of demand, allow disclosure of consumer/citizen preferences, and determine the supply of public goods. However, a “market failure” does not necessarily imply the production from the state, but at least it determines its financing or the regulation of the activity establishing a tariff in the case of the concessions of public services or the creation of efficiency incentives by creating or exempting taxes or granting subsidies.

In the boom period of the Keynesian-benefactor state, the fact that the state was in charge of the provision of many public goods required the elaboration of a justification that would allow this provision to be managed with the subsistence of the economic neoclassical principles. In this context arises the idea of *the Tragedy of the Commons* (Hardin, 1968), where it is concluded that the rational and individual action of goods exploitation of nature, while seeking the maximization of individual well-being, ends up overexploiting the natural resource and eliminating common benefits, from which a justification for private property is derived. With these arguments it is also intended to “protect” the products of knowledge, which derives in a counterproductive effect, called by Michel Heller, *the Tragedy of the Anticommon* (1998), that is, the creation of a system that sub-uses the knowledge because of the exaggerated patenting of goods. This impedes the free use of knowledge, because it wants to stimulate growth by promoting

innovation, but at the same time it blocks the diffusion of innovations, which is a contradiction of cognitive capitalism that should be resolved if It wants to build a real economy founded on knowledge.

In the case of the nature goods, the aim is to preserve scarce and non-renewable resources. From the conventional neoclassical economy, Elinor Ostrom (1990) —the Indiana school researcher who received the Nobel Prize in Economics at 2009— has raised an alternative way out of privatization, which is to reach appropriate agreements between participants based on clear rules, reciprocal supervisions and mutual commitments, articulated for the pursuit of the common good. In the case of knowledge, in an alternative way to the individualistic principles of neoclassical economics, the Italian economist Vercellone (2017) proposes to raise the common as a “mode of production”, which has as its starting point the transformation of the collaboration at work. It is just a common good that is not scarce, but abundant, cumulative, “non-rival” and “not excluded.” As it is not susceptible to overexploitation and, therefore, does not justify the private ownership of it:

Not only capital, but the labor product is increasingly immaterial and incorporated into goods of innovation, knowledge, computer services that constitute fictitious goods. Why fictitious goods? They are fictitious goods because they escape to the criteria that define the traditional goods by their non-competitive character, cumulative and hardly excluded (Vercellone, 2009, p. 90).

For some authors, intellectual property rights constitute “new fencing” or enclosures, in the same way that during the so-called original accumulation the laws of land fencing imposed the initial conditions for the deployment of conventional capitalist accumulation. This time these enclosures would aim to impose the foundations of a capitalism sustained on new pillars, a “cognitive capitalism” where the production of intangible goods imposes its hegemony to the typical production of the classic industrial period. In cognitive capitalism, intellectual property is reinforced because it is the only mechanism that allows the private appropriation of increasingly social knowledge and its control is strategic for the valorization of capital. Moulier Boutang emphasizes that this new “great transformation” that means cognitive capitalism —taking the terms of Karl Polanyi— needs the creation of new “fictitious goods” such as the introduction of “artificial”

scarcity mechanisms, “to temporarily limit its diffusion and to regulate access” (Rullani, 2002). In that sense, Boutang pointed out in 2001 that:

The cognitive capitalism is in its phase of primitive accumulation, in the sense that the whole of the property rights established between the seventeenth and eighteenth centuries, and from which it has reasoned the classical political economy —and which in turn contributed to perfection and legitimize— constitutes an impassable limit for the inscription of the development potential of the productive forces of the human activity in a trajectory of regular growth and in the framework of an institutional commitment with the forces of the old economy (Moulier Boutang, 2004, p. 111).

For Boutang, the old property rights are limits to the development of the productive forces to the extent that they do not allow to take advantage of the positive and free productive effects (“positive externalities” in the conventional economic jargon) of the multiple interactions of a knowledge-based economy, a free, incessant and continuous activity. If one is obliged to resort to the commercial exchange for the production of knowledge-intensive goods, the company would be deprived of an essential source of the productivity of the economic agents (Moulier Boutang, 2004, p. 116).

In the same way, the geographer David Harvey expressed that the mechanisms of primitive accumulation were perfected to give rise to new accumulation mechanisms by dispossession:

The insistence on intellectual property rights in the WTO negotiations (the so-called TRIPS Agreement) indicates how patents and licenses for genetic material, seed plasma and many other products against the entire populations can now be used, whose practices have played a decisive role in the development of these materials (Harvey, 2003, p. 118).

The jurists of Stanford University, specialized in the study of intellectual property such as James Boyle and Lawrence Lessig, agree with these considerations to the privatization of common goods that were excluded from the right of ownership (Vercelli, 2004). James Boyle (2003) says that what is known as enclosure is part of a privatization movement of commons or goods that were outside the property system. What is known as *the Tragedy of Commons* first originated in England and then in other European regions during the eighteenth century. Yochai Benkler (2003) and Lawrence Lessig (2005), in discussing the scope of intellectual property, proposed updating

the debate on “common goods”, such as natural resources and knowledge itself. If private property and public goods correspond to private ownership or property, the commons should be governed by non-ownership (Lessig, 2005). The capital possibility of putting to work in the common arises from a new organization of the production that needs the valorization of the work, but under new and sophisticated modalities.

Conclusions

Throughout this work have been investigated the origin and evolution of intellectual property rights from the first copyright to patents, from the protection granted to individual inventors to their contemporary attribution to large corporations. It was also pointed out the change in the subject matter of intellectual property rights, its incessant and unlimited enlargement beyond the inventions to the discoveries and its final extension to the patenting of life itself. All this means giving rise to new fictitious goods accompanied by national and global regulatory legal frameworks that are the possibility condition of sustaining this advance.

The intention was to establish the keys for understanding the meaning of the advancement of intellectual property protection in the most diverse fields, even beyond that strictly linked to the economy itself and at all political levels: whether state, regional or global. For this, was established the need to think of knowledge as a common good, essential in a new logic of accumulation based on the generation and appropriation of knowledge where these become a fundamental commodity that implies —paraphrasing the title of the famous book by Piero Sraffa (1975)— the “production of knowledge by means of knowledge”.

The main beneficiaries —stakeholders and drivers— of the proliferation of intellectual property rights are the big industries and big firms of the technological sectors highlighted during the last quarter of a century, for example, the pharmaceuticals industry, technology and those that excel at the cultural and entertainment level, since all of them were built and supported by these rights. The media industry is riddled with stories about copies of content, but today they are the main drivers of intellectual property, partly because royalties and rights revenues are currently the main export item of the American industry. This should not be surprising, since the increase

in the world economy points out that the countries that deliberately led development always needed industrial, commercial, and active technology policies that would include copying technology developments, so that when they finally reached the status of “developed” countries would not allow the same behavior of developing countries... According to the famous expression of Ha-Joon Chang, they “kicked the staircase” (Chang, 2002).

The main victims of intellectual property laws are those who seek to dispose freely of the socially generated knowledge. Society as a whole does not perceive benefits from these “new enclosures”, nor do they perceive the native people who for centuries have been dedicated to improving the seeds and who see their efforts captured by multinational companies that then impose their logic renters. Small and medium-sized enterprises are also harmed, which, in order to carry out research —in the face of the proliferation of the most unlikely patents and the need to develop their own innovation— will probably infringe some existing patent. This situation would put them at a disadvantage with regard to large companies, many of which are mainly devoted to accumulating patents not necessarily to use them, but to prevent others from using them or as a change currency against other big companies, to whom specify agreements for the use of patents, damaging small companies and favoring the centralization of capital.

The consequences of these advances in intellectual property protection are likely to continue to take place in the light of the centrality they adopt as mechanisms for the generation and private appropriation of common knowledge. This route should be completed in the future with case studies that differentiate sectors, countries and levels of relative development to evaluate the concrete impact of these initiatives that will continue to have a central place in the governance of the global capital. This political management of accumulation on a global scale will not be without conflict, to the extent that in this cognitive capitalism one of the most obvious contradictions lies in the fact of seeking to disseminate knowledge and information, and at the same time to block the development of knowledge with the increasing regulations on intellectual property. Vercellone underlines very clearly this contradictory dimension of the attempt to capture the common. It is then to move from a cognitive capitalism to a real knowledge-based economy, for which are required forms of public property, common or mixed, suitable for such purposes.

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A hundred years of Córdoba: between techno-economic imperatives and the re-elaboration of knowledge

*A cien años de Córdoba: entre imperativos tecno-económicos
y la reelaboración de conocimientos*

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Abstract

The Reform of Cordoba reinforced the social function of the university, allowing the development of its third mission (the Extension). In this article, urgent global socio-environmental problems and the situation of the productive structure of Latin America are discussed, and the most outstanding elements of the development of disruptive technologies and the emergence of the 4i are analyzed. All of them will have serious socio-economic implications for the region. The analysis of information from different sources shows that despite technological advances, unsustainable forms of production and consumption prevail. In this region, these problems are exacerbated by the predominance of an economic structure that still depends on the intensive exploitation of natural resources, which, if appropriate measures are not adopted, will worsen with the irruption of the new technological systems, this because it demands natural resources that abound in the region. An effective approach of socio-environmental problems requires the re-elaboration of generation forms of knowledge, assuming approaches that overcome the traditional ways of research incorporating diverse knowledge and social actors. It is proposed that the extension works as a conveyor belt for exchange information between communities and researchers to generate new agendas and contribute to develop spaces that allow the implementation of alternative ways of carrying out the activity. To this extent, the second mission of the university is also transformed

Keywords

Córdoba reform, socio-environmental crisis, extension, research.

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Resumen

Un elemento renovador de la Reforma de Córdoba fue el fortalecimiento de la función social de la universidad, dando cabida al desarrollo de su tercera misión (la extensión). Partiendo de ello, se discuten problemas socioambientales globales apremiantes, la situación de la estructura productiva de América Latina y se analizan los elementos más remarcables del desarrollo de las tecnologías disruptivas y la emergencia de la 4i, elementos que tendrán serias implicaciones socioeconómicas para la región. El análisis de la información de diversas fuentes evidencia que a pesar de los avances tecnológicos, prevalecen formas de producción y consumo no sustentables. En América Latina, los problemas se agudizan a consecuencia del predominio de una estructura económica que aún depende de la explotación intensiva de recursos naturales. De no adoptarse acciones adecuadas esta situación empeorará con la irrupción de los nuevos sistemas tecnológicos que demandan los recursos que posee la región. Abordar los problemas socioambientales de manera efectiva requiere reelaborar formas de generación de conocimientos, asumiendo enfoques que trasciendan los modos tradicionales de investigación e incorporando diversos conocimientos y actores sociales. Se propone, entonces, que la extensión, aparte de la proyección cultural, sirva de correaje de intercambio entre las comunidades y los investigadores para generar nuevas agendas y contribuir a la creación de espacios que permitan implantar formas alternativas de realizar la actividad. En esta medida, se transforma también la segunda misión de la universidad.

Palabras clave

Reforma, Córdoba, crisis socio-ambiental, extensión, investigación.

Introduction

The reform of Cordoba, apart from promoting transformations in the university that aimed at the autonomy and democratization of its forms of government, and from the academic point of view to the freedom in the subject and changes in the organization and teaching methods, it also meant the transformation of the relations with society, proposing a strengthening of its social function through which, in the end, was constituted in its third mission (the extension), and a greater concern for the national problems (Tünnermann, 2008).

After hundred years of this historic landmark of Latin American higher Education, the university comprises questions that mostly relate precisely to their scarce contributions to society on issues ranging from its low contribution to the economic-productive development to the scarce approach

of pressing problems like the social exclusion and the environmental degradation. Claims reflect a controversy about the nature and function that the university should have which confronts, with various nuances, two antagonistic positions: the one that considers it as a public and social good that must be counted among the priorities of the state (Hitner *et al.*, 2017) and the one that conceives it as a private commodity (Williams, 2016) that is internationally tradable to such an extent that it has come to be discussed within the General Agreement on Trade and Services (AGCS) as a subject of its competence. It is clear that the guidelines adopted by the IES (Institutions of Higher Education) will have profound implications for the generation, transmission and ownership of knowledge. It is unquestionable that IES have an obligation to contribute to the economic development of their countries, especially when it is known that humans are moving towards a knowledge-based economy. But this constitutes one of several priorities and not —as it is intended to show in the model of entrepreneurial university— the main. So or more urgent is the approach of social participation and socio-environmental impacts derived from human activities.

It is recognized that after a century of the Reform of Cordoba, the Latin American University has played a decisive role in the social and cultural development of their countries. The extension of access to higher education has contributed to social inclusion, while allowing the conformation of important professional communities in the different areas of knowledge, especially traditional and —to a lesser extent— in the scientific and technological. But in a general way, it has not been able to accompany the international scientific and technological advances (Vessuri, 2004), contributing very little both to the transformation of an economic structure that presents a productive matrix strongly based on primary activities and marked conditions of dependence to propose solutions to important socio-environmental problems.

Such a situation presses for a review of its links with society. It is demanded that its functions exceed the disciplinary limits in the teaching-learning processes and research, for which, imperatively, it must transcend its “walls” actively engaging in the study and approach of social problems. However, it is in its slowness to adapt, both structurally and functionally, to the accelerated changes experienced in the various areas of society (Peñalver in Hitner *et al.*, 2017). These include two for the IES: the acceleration of techno-scientific development —manifested in a series of disruptive technologies and the emergence of the fourth industrial revolution— and

recent movements of form re-elaboration of knowledge production that promote greater participation of communities, interculturality and the know-how dialogue (Hitner *et al.*, 2017). The inescapable incorporation of both in their agendas will depend, to a large extent, on the willingness to introduce substantial changes in their nature and functions.

This article highlights briefly the orientations of the linkage with the society that raised the Reform of Cordoba, which serve as a fund to present a discussion on the most pressing global socio-environmental problems and the situation of the structure of the region, which make imperative their consideration by the IES. Subsequently, the most important elements of the development of disruptive technologies and the emergence of the fourth industrial revolution —which will have very significant socioeconomic implications— are analyzed and the redevelopment of the production forms of knowledge that press a review of the meanings and scope of the functions of these institutions. To conclude, changes in the orientation of outreach and research missions are suggested to confront the inescapable technoeconomic challenges and new forms of knowledge production.

The social concern in the Reform

The Reform of Cordoba meant, first of all, an internal transformation of the university. Starting from questioning the traditional university model, it posed the obligation to bring the knowledge to the people. To contribute to the incipient process of social change that the region started to experience was the fundamental stimulus that established the guidelines of the Association of the University with the Society (Anuies, 1979 in Serna Alcántara, 2007).

In terms of interaction and social integration, the most important influence of the ideas of the reform was to open the possibilities of access to young people of less favored social strata: “To the children of the emerging social strata” (Tünnermann, 2008), especially during the 1960s, to the beat of the political events in the region; but this author points out that in the reform’s manifestation, the social mission of the University is proclaimed and the university extension, whose function would be “the projection to the people of the university culture and the concern for the national problems” (Tünnermann, 2008).

This perspective is strongly rooted in these institutions. The extension as a means of projection (unidirectional) is the vision that has prevailed,

conceiving it as a socialization mechanism of the culture that is often limited to actions of cultural diffusion and extracurricular activities, and the provision of social assistance (Fresan, 2004). This situation would question the principle validity of the inseparable teaching-research-extension (Baptista and Kuenzer in Fresán Orozco, 2004), creating obstacles for a greater insertion of the university in the social area.

Nowadays, socio-environmental problems and the imperative of guiding societies towards more sustainable trajectories, pose a refocusing of linkages and a renewal of the extension that will have consequences on training and research. The university must overcome socialization strategies, promoting a more active citizen participation that serves as a leash to exchange information and knowledge that will help to focus these problems and contribute jointly to their resolution.

Socio-environmental crisis

The 2015-2017 triennials recorded the highest temperatures in history (WMO, 2018). The global warming scenarios projected by the IPCC for 2100 envisage that even decreasing the growth of greenhouse gas emissions (GHG) according to the commitments of the Paris Agreement (2015), this will not be less than 2 °C. The probable increment ranges are located between 2 and 4.9 °C, with an average of 3.2 °C and with only 5% probability that is less than 2 °C. The problem lies in the increase in the amount of GHG in the atmosphere from human activities (WMO, 2017).¹

Increased temperature increases extreme environmental events. It is causing an increment in the level of the oceans and its acidification, which affects the biodiversity. The increase in the frequency of heavy rainfall, the net increase in rainfall, as well as the frequency and intensity of tropical hurricanes, are a verifiable effect of climate change. There is also evidence of an intensification of droughts and increases in desertification and the disappearance of glaciers (IPCC, 2012). Such a situation places hundreds of millions of people on the planet in extreme vulnerability, and most countries in Latin America and the Caribbean are vulnerable to these events.

1 In 2016 the concentration of CO₂ reached historical records, ranking in 403 parts per million (ppm), 45% above the preindustrial levels. As methane reached 1 853 ppm (157% higher than pre-industrial concentration) and nitrous oxide at 329 ppm (22% higher) (WMO, 2017).

For its part, the growth of the exploitation of natural resources and the increase of the industrial production generate new xenobiotic substances that aggravate the pollution problem and the health of the living beings. For example, two million tons of wastewater and industrial and agricultural waste are discharged daily in the world's water courses and reservoirs, affecting the availability of drinking water. A significant percentage of solid wastes present low biodegradability and in some cases high toxicity. In 2015, approximately 6 300 million tons of plastic waste were generated, from which 9% were recycled, 12% were incinerated and 79% were dumped; about 13 million tons go annually to the oceans, producing the increasing affectation of the marine biota (Salleh, 2015). The projections estimate that by 2050 the generation of plastic waste will reach 12 000 million tons. Its ubiquity in the environment has caused this accumulation to be suggested as a geological indicator of the Anthropocene era (Geyer *et al.*, 2017).

The main cause of these problems lies in the sustained expansion of traditional productive sectors and the emergence of new technological systems² under the paradigm of continuous growth, because they maintain—and even aggravate—the impact of exploitation and use of resources, and the consequent environmental degradation by pollution. For example, the obtaining of basic metals associated with the techno-economic paradigm based on the intensive use of materials and energy grew rapidly in this century, even above the economy in general. The production of iron grew 180% between 2002 and 2014, while the primary aluminum 108%. Similarly, the production of fossil fuels, although attenuated its growth rate, remains in extraordinary scales. The production of coal grew 66%, oil in 28% and the natural gas in 41%. Proportionately, the increase in GHG emissions is recorded, exacerbating, as indicated, the problems of global warming. Additionally, the development of disruptive technologies stimulates the production of new devices and new services that will broaden the demand for new materials (new commodities), especially in developed countries, exacerbating the exploitation of natural resources. Three chemical elements (lithium, niobium and tantalum) stand out for their functionality in the elaboration of the aforementioned devices, determining that the exploitation

2 The definition made by Hughes (1987) is used; it establishes that the technological systems are integrated by technical components (devices and production processes) and organizational (manufacturing companies, technical and financial assistance). It also integrates scientific and educational components, and even elements of legislation such as regulatory norms.

of the natural materials that contain them grows steadily. Between 2006 and 2014 (just eight years), the equivalent lithium production increased 86%, much higher than that of the economy (52%), while in niobium was 76%.

These results show that far from a rationalization of the exploitation of resources inherent to the previous techno-economic paradigm, this accelerates adding the sustained growth of the exploitation of new commodities inherent in the new paradigm. In this way, one of the main arguments of the thesis of advancing towards the “knowledge economy” can be refuted: the decoupling between economic growth and the exploitation of resources. This may be taking place in few developed economies, but a mass balance prevents confirming that it is being carried out at the global level. More paradoxical, despite the extraordinary increase in the exploitation of natural resources and the sustained growth of the financial economy, the maintenance or increase of the exclusion and poverty constitute other symptoms of the socio-environmental crisis. A recent World Bank report estimated that global wealth —measured as the sum of produced capital, natural capital, human capital, and net assets abroad— grew 66% between 1995 and 2014.

The report notes that this was accompanied by a significant reduction in the concentration of wealth in high-income countries. But in those with low income, which hold only 1% of the global wealth (based on its natural heritage), with few exceptions, there was little progress, with a reduction of the wealth per capita in a significant number of them (WB, 2018). It is worth noting that the figures of wealth per capita allow dimensioning the global differences of inequality. In 2014, in the OCDE countries, a person at birth, on average, had an equivalent wealth of 708 389 dollars, while the average person at birth in a low-income country was 13 629.52 times lower (WB, 2018). If considering the internal differences which, as indicated, are higher in low-income countries, these gaps become immeasurable. Thus, the data about the wealth of the eight wealthiest people on the planet are much more illustrative, a richness that is equivalent to the goods owned by the world's 3 600 million poorest (Hope, 2017).

Latin America: a knowledge economy?

This global panorama of severe socio-environmental crisis is clearly evident in Latin America. The persistent levels of poverty and exclusion,

as well as important situations of environmental deterioration measured by economic patterns in which the exploitation of natural resources prevails or has been accentuated, highlight as the most pressing issues.

The integration of Latin America into the global economy is given in an asymmetric way, mainly as a supplier of raw materials, hence the problems described acquire particular intensity and the enjoyment of the possible benefits is substantially lower. Thus, given the almost impossibility of evading the global dynamics of technological transformations, it is imperative the contribution of its scientific-technical structures to overcome the primary productive patterns, an elemental condition to advance in the transition to more sustainable forms of life.

Economic profile

After the stagnation experienced in the last two decades of the twentieth century, Latin America recorded positive growth rates. Between 2000 and 2014 the economy increased by 110% (CEPAL, 2014)³. This period showed a contraction in 2009 as a result of the global crisis and in the years 2015 and 2016 (-0.4% and -0.1%, respectively) associated with what has been called “the end of the commodities super cycle”.

The impact of the fall in commodity prices on Latin American economies reinforces the debate over the structural stagnation of the region, accentuating the controversy over its economic structure, sustained more and more in services and primary activities that base their asymmetric insertion in the global economy. In fact, the evolution of GDP by type of activity in the region shows an alignment with the global trend of a growing share of services in GDP, “dematerialization”, but in many cases associated with the exploitation and export of natural resources.

In the aforementioned period, basic services and trade, transport, communications and finance were the activities that recorded the greatest growth. There is also a relation in the loss of manufacturing importance, the line that records the greatest decrease in growth (Table 1).

³ Estimated at constant prices in U\$ of 2010 (CEPAL).

Table 1
Annual GDP for the economic activity at constant dollar prices *

Item	1990	2014	Variation
Agriculture, livestock, hunting, forestry and fishing	136 901	262 613.3	91.8%
Mining and quarrying	187 546.8	324 289.6	72.9%
Manufacturing Industries	437 645.3	734 586.9	67.8%
Basic Services **	54 052.8	132 284.6	144.7%
Construction	178 950.8	347 050.6	93.9%
Trade, transportation, communications and finance	860 992.3	2 061 576.4	139.4%

* Millions of USD
** Electricity, gas and water

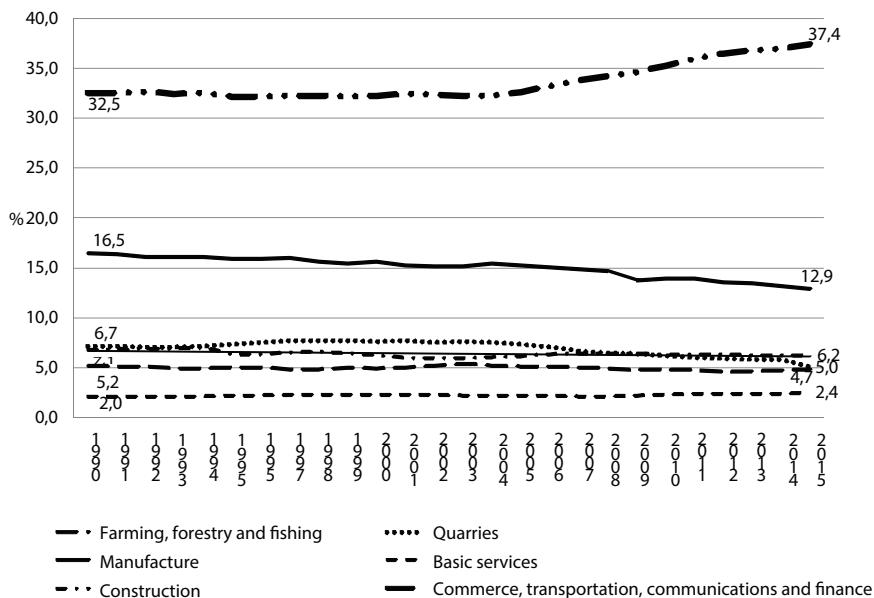
Source: CEPAL

The GDP of the construction almost doubles in the period. Agriculture, livestock, hunting, forestry and fishing, activities dependent on biodiversity, show similar growth, buttressed by the increase in agribusiness, which consolidated Brazil and Argentina, as big exporters of cereals. Finally, mines and quarries registered a somewhat inferior growth, closely linked to the export activity.

The variation in the participation of these activities in the GDP allows to better appreciate their weight in the economic activity. Although basic services were the percentage that increased more in the period considered, their share in GDP remains marginal (from 2% to 2.4%). Also, the extraordinary deficit they presented, whose improvement and expansion of coverage were placed by various international agencies as a condition to improve the quality of life.⁴

4 For example, the United Nations established in the Millennium Goals the need to increase coverage of access to improved and drinking water and sanitation: For 2015, the percentage of people without sustainable access to drinking water should be halved as well as to basic sanitation services.

Figure 1
Participation of different economic activities
in GDP in Latin America (1990-2015)



Source: CEPAL

The services (trade, transport, communications and finance) are consolidated as the sector of more weight in the economy of the region, significantly increasing their share of 32.5% to 37.4% (increase of 15%), while at the other end is located the manufacturing whose share goes from 16.5% to 12.9% (a decrease in its contribution of 22%), less than 15% of the European Union, which is aware of the importance of this activity in employment, and the generation of goods has proposed to reverse the trend and increase its share on 20% in 2020 (Bussines Europe, 2014). The rest of the activities vary little: construction (from 6.7% to 6.2%), agriculture (5.2% to 4.7%) and mines and quarries (including oil exploitation, from 7.1% to 6.2%) (Figure 1). Even if the latter activity has seen its share of GDP slightly diminished, the increase in the exploitation of resources in the

present century is significant. The three main metal mineral commodities (iron, copper and aluminum-bauxite) show a sustained growth up to 2008, registering a fall in the following year product of the economic crisis, but taking it in the following decade despite the fall of prices (Table 2).

In 2001, the extraction of copper was slightly more than six million tons. It grew slowly but steadily reached 8 433 000 tons in 2015, representing an increase close to 40%. In just six years, the exploitation of iron experienced a growth of 64%. After the reflux of the 2008 crisis, it resumed the growth rate reaching a maximum of 521 million tons in 2011, an increase of 110% compared to 2001. Bauxite also experienced a high growth rate between 2001 and 2008, close to 50%, falling significantly in 2009 and from 2010 it resumed a slow but sustained growth of its production, approaching 53 million tons in 2015.

The strategic materials

Even when there is no precise data on the exploitation of new commodities and although their current pace of exploitation is not —yet— important, it is likely to intensify in the coming years. This is because Latin America owns 97% of world reserves of niobium, 96% lithium and 54% of Tantalum (Bruckmann, 2015). In other words, it holds the heritage of key resources for the development of new technological systems.

It is necessary to point out that the processes of extraction and transformation of these elements will be increasingly based on convergent technologies (nanotechnology, biotechnology, information technologies and knowledge sciences), techno-scientific areas in which the region, in general, presents meager research capacities, so that if no effort is made to overcome this situation, the extraction will become more acute.

This increase in resource exploitation would aggravate environmental degradation. New impacts are already beginning to be generated, evident in forest and forest deforestation and the contamination of water courses and reservoirs. For example, the extraction of lithium carbonate requires a large amount of non-brackish water. Salt reservoirs that contain the immense reserves of the resource are located in desert areas, so water of prehistoric underground aquifers is being used, resource that from the ecological point of view has an inestimable value.

It shows that the productive structure of Latin America continues to be anchored to the activities inherent to the previous techno-economic paradigm. The global consolidation of disruptive technology systems will make more pressure on their natural resources, exacerbating the phenomenon of “neo-extraction”. If this is added to a manufacturing industry which in most cases has limited technological capacities (Westphal *et al.*, 1985) and which loses importance in the composition of GDP, it is almost inevitable to increase the gap with respect to the developed countries and the worsening of asymmetries. For this reason, it is worth asking: do they compensate for the costs, in terms of negative socio-environmental and cultural impacts of this whole new phase of extractivism? The maintenance of the social deficit and exclusion, scarce technological advances, and environmental degradation suggest that it does not.

It is clear that the socio-environmental crisis and the deep technological transformations create huge challenges to the technological and scientific structure of the region, and to its productive structure. In this scenario it must be reviewed the role that the IES should play in addressing these problems and meeting their requirements.

Technological disruptions and the fourth industrial revolution

Much of the research in techno-science that takes place in universities in the global field —especially in the areas of chemistry and materials science, mathematics, science of the computing and engineering— aim for the development of disruptive technologies (Thomsom Reuters, 2014a, and b). In this way, these institutions are created to promote the transformations currently experienced by various technological systems. It is such the impact of these technologies that, apart from modifying the conceptions of production, distribution and consumption, alter the kinesthetic habits of human beings⁵. Table 2 presents the technologies that are considered to have more socioeconomic impacts.

⁵ On the use of technology, for example of the automobile, radical modifications are envisioned: will it be necessary to learn how to drive a car, understanding it as the control process of the device and the regulations or will these skills be delegated to autonomous devices?

Table 2
**Disruptive technologies that will drive
to deep socio-technical transformations**

Area	Disruptive technology
ICT	Internet Cloud computing Portable devices Quantum computation
New Materials	Nano materials graphene Nano materials for battery electrodes
Mechatronics	New generation of industrial robots
Medicine	Next generation of genomic sequencing
Transportation	Electric vehicles Self-assisted vehicles
Advanced Energy Storage	Lithium ion batteries oxygen Sodium ion batteries Domestic storage systems

Source: own elaboration

As can be seen, they affect the technological systems that are virtually associated to all socioeconomic activities: industrial production, energy and, practically, all services (transportation, finance, communications, etc.). An important characteristic of these transformations is that they do not occur independently, but through deep interrelationships and interdependences, implying the emergence of a technological revolution (Pérez, 2002) or, probably, of several technological revolutions that are opening the path to a fourth industrial revolution.

One of the most important changes in the techno-productive structure is related to the introduction of the “Cyber-physical” systems in the production. They are networks of interactive elements that consider sensors, machines, tools, assembly systems and parts, all connected through digital communication networks (the cloud), processes that can be controlled remotely. Some of its components can act independently, making a fundamental difference with the traditional distributed control systems that, until now, were the nucleus of industrial automation and control (VDI, 2015). But a key question arises in the current socio-environmental crisis: Will all these technological transformations affect the irrational consumption of resources and the generation of pollution?

Some disruptive technologies can contribute to the GHG reduction, mitigate pressure on natural resources by enabling the design of more efficient processes and increase the development of reuse and recycling techniques. However, the revision of trends in various productive and service sectors reveals the consolidation of what has been called technological gigantism (Mercado y Córdova, 2005), which is inherent to the economic paradigm of continuous growth, making insignificant savings for improvements in efficiency.

Reelaboration of ways of producing knowledge

The severity of socio-environmental problems and the apparent inability to address them from the mainstream of research and technological development demand a review of ways of producing and use knowledge. Thus, parallel to the imperative development of techno-science is the role that other forms of production and transmission of knowledge (ancestral and/or traditional wisdom) should play, capable of promoting alternative forms of production and consumption aimed at satisfying the basic needs of the population and, therefore, more consistent with the postulates of sustainability. In addition to the possibilities of offering solutions that are accessible to the problems and requirements of the communities, what should be the role that universities must play in the face of these alternative forms of production and use of knowledge? Is it possible to establish a dialogue of knowledge that allows the creation of spaces for the co-creation of skills?

One particular case is that of the science, technology and higher education policies of Ecuador, which have established the need to combine or at least harmonize, as far as possible, the technologies developed from the mainstream of techno-science with the Ancestral knowledge, and between science and other knowledge. The Social Knowledge Economy (PESC) Plan (SENESCYT, 2017) explores possible interrelationships that would point to what Vessuri (2004) stands out as the “hybridization of knowledge”.

The above provides better interaction with the society. The dialogue and exchange of knowledge leads to rethinking the roles of research in higher education. In the same way, it also requires redefining some aspects of the university's role in the scientific, technological and economic development, until it retakes its place not only as an individual trainer, but as a development sphere of culture, citizenship and democracy (Zgaga, 2005). In other words, there is a re-elaboration of ways of producing knowledge.

To expand the research practices

Several movements of the production of knowledge have emerged. “Open Science” promotes a scientific praxis that includes free access to scientific data and publications, the possibility of sharing research platforms and developing broader collaborations in scientific projects that can include the participation of professionals (scientists) and non-specialized practitioners (Barandiaran *et al.*, 2015). Several authors point out that these forms of organization and development of research do not imply the creation of a new type of science separate from the existing system, but the creation of a semi-institutionalized form that releases the results of the research. Even if new modes of knowledge generation are not explicitly raised, these forms of organization can make circulation more fluent, beyond the communities of specialists, enabling more interaction between these and not specialized practitioners. This inevitably induces multidirectionality in the exchange of information and knowledge, so that these spaces can contribute effectively to the hybridization of the know-how (Hitner *et al.*, 2017).

“Citizen science” promotes the active involvement of non-professional practitioners in research, considering a wide range of activities that can go from projects carried out by small groups with common interests, to international projects with the participation of research institutions on topics of interest for the society (LERU, 2016). The main traits that would shape this praxis would be: interdisciplinary collaboration, the structuring of widely distributed open collaborative networks and the stimulus to initiatives that motivate citizens to have more active roles in projects (LERU, 2016).

A third movement (participatory research) goes further, providing methods and tools for effective incorporation of communities, based on the establishment of mutually beneficial relationships between universities and citizens. It considers the co-creation and application of knowledge that increases in both actors the capacity to identify topics and propose solutions. It differs from traditional research in its purpose, seeking the benefit of the community in a broad sense that can be considered by the public, local, national and global spheres (Stanton, 2012). It also presents important differences in methods, by paying attention to the democratic nature that collaboration must have, by including all participants in all phases of the projects: data formulation, collection and analysis and application of the results. This last phase, apart

from making advances in knowledge, should also generate contributions that improve living conditions in the communities (Stanton, 2012).

By adopting these practices it cannot be ignored that techno-science and other ways of knowing are incompatible in their conception and purposes. Confronting and integrating these tendencies imply tensions that need to be considered for the adequate management of the production of knowledge. On the one hand, the unstoppable global socio-technical transformation makes the region imperative for the development of techno-science, seeking to orient it towards the end of more social benefit and sovereignty. The strengthening of the technological capacity of the industry, and the aggregation of value to the strategic resources by reducing the socio-environmental impacts of their exploitation are also a priority. Also, the development of local productive vocations that promote and rescue traditional and ancestral knowledge that empower communities, constitute spaces to build through these new forms of organization and production of knowledge (for example: citizen science, participatory science).

There is no doubt that all of these are great challenges for research and outreach missions. Relevance, relationship with society and increased participation are outstanding issues in the agenda of the Latin American university.

Redefining the extension

The repositioning of the issues of social inclusion and participation of citizens in education, science and technology has begun to recover the validity of the university extension, being this mission the one that allows the establishment of links between IES and other actors in society with more fluency (Hitner *et al.*, 2017).

Thiollent (1994), based on experiences in Brazil, proposes extension and research to be conceived as social construction processes that count with the participation of actors oriented towards achieving specific objectives. In this perspective, the methodology and the instruments of work acquire participatory, critical and reflective dimensions that favor the emancipation purposes in the university projects.

It is even seen the emergence of movements that make important questions to the “renewed” third mission of the university (to contribute to the economic development). Trencher *et al.*, (2014), based on the analysis of experiences in North America, Europe and Asia points out that the global

socio-environmental crisis is inducing many IES to divert attention from the almost exclusive interest to income generation and economic growth to become social transformers and co-creators. This blurs the boundaries between the members of a community (society, local governments and industry) and academics, thanks to the instrumentation of collaborative mechanisms aimed at the physical and sustainable transformation of a locality determined to meet the requirements of a specific group of the society.

Although many of the methods and instruments used prove to be practically the same as the “established paradigms” —such as agricultural extension, participatory research and action, technology transfer and transdisciplinarity— what is new lies in the emergence of the co-creative function, which consists in the combination of these various models of social commitment actions to respond to socio-environmental problems. To this end, it is necessary to internalize the values of sustainable development (Trencher *et al.*, 2014).

Recently in the United States a significant number of universities have made efforts to revitalize civic and community participation in their localities. In an attempt that bears similarity to Latin American outreach activities, they underline the importance of community participation in the orientation and development of their functions, using institutional resources to identify and solve the problems that the community faces (Stanton, 2012). Considering that mode 2 of knowledge generation raises that its production should take into account the application contexts, these universities propose that part of the effort caters the problems of the communities, which would place criteria that would validate the academic work in their localities (Stanton, 2012). This assigns important responsibilities to the extension functions, as the universities must constitute the connection between the communities and the second mission of the IES (the research), opening up spaces to new ways of developing this activity (open science, citizen or participatory research) under a relevance perspective.

The worsening of socio-environmental problems and the imperative to orient life forms by more sustainable trajectories seem to be a convergence point in the refocusing of the university extension. The IES, being key factors in citizen participation to focus these problems, propose solutions and participate in their resolution, have the great challenge of rethinking, in part, their other major objectives (training and research) to renew its social contract and validity.

Conclusions

A very important renewing element of the Reform of Cordoba was the valuation of the relations with the society. It was proposed to open the university by means of the projection of the culture and the assistance, traits that formed and have characterized until today its third mission: the extension.

The current global techno-economic structure is, to a large extent, responsible for many of the serious socio-environmental problems facing the world and placing a high percentage of the world's population at severe risk. Addressing issues such as global warming, pollution, and social problems such as poverty and exclusion are unavoidable for IES, but to do so more effectively universities must undertake research approaches that transcend traditional "intramural" forms, by incorporating through the dialogue the diverse knowledge and the know-how of different social actors.

At the same time, big technological transformations are occurring, which affect the established conceptions of production and services, with important consequences on the organization and division of labor, the social structure and even on each individual, opening the path to the fourth industrial revolution. But when developing in the logic of continuous growth it does not pose alternatives to the current pattern of development.

This means a double challenge to Latin American IES. To answer, on the one hand, the tax for the aforementioned technological transformations, starting from a notable lag in its productive structure, based on primary activities and the exploitation of natural resources, with severe environmental consequences. This through the development of a techno-science oriented towards a greater social benefit and sovereignty; on the other, the demands of participation and inclusion that would have implied the re-elaboration of the forms of knowledge production.

All this proposes to redefine the extension by constituting this the unbeatable interaction space with society. Besides the cultural projection and the assistance work, the university will have to develop the harnessing mechanisms for the transmission and exchange of information and knowledge between the communities and the researchers, in order to enable new agendas of projects and contribute to create the spaces that allow the implantation of the alternative forms to carry out the activity (open science, citizen or participatory research). At this extend, the second mission of the university is also transformed.

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Towards a public policy of bio-knowledge: science, technology and research

Hacia una política pública del bioconocimiento: ciencia, tecnología e investigación

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Abstract

This paper reflects the world's economic trends and how Ecuador articulates to them. The purpose is to analyze how to delimit the relevance of science, technology and research activities given that in many aspects of the country's development the main defects reproduce and continue to be undesired in the developed north countries, while the benefits of the several paths towards greater welfare are absent. To achieve this, the current global discussion on the role of science, technology and research was reviewed as an input to discuss the general principles that public policy should have in the field of bio-knowledge. It is necessary, given the unlimited deficiencies that the country has in this area, to prioritize, as appropriate, the efforts of science, technology and research towards the fulfillment of basic needs of the population or the rights enshrined in the Political Constitution, as well as to structure a double strategy that consists on supporting the most dynamic economic activities and those that use traditional production methods.

Keywords

World economy, science and society, technology, research, bio-knowledge economic and social development, economic relations, Ecuador.

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Resumen

Este trabajo reflexiona sobre cuáles son las principales tendencias de la economía mundial y la forma cómo se articula el Ecuador a ellas, con el propósito de analizar de qué manera se puede delimitar la pertinencia de las actividades de la ciencia, tecnología e investigación, toda vez que se considera que en muchos aspectos el rumbo del desarrollo del país reproduce los principales defectos que ocurrieron y, en buena medida, siguen siendo los elementos no deseados en los países del norte desarrollado, en tanto que las bondades de las distintas vías hacia un mayor bienestar están ausentes. Para conseguir tal propósito se realizó una revisión de la discusión académica actual sobre el papel de la ciencia, la tecnología y la investigación como insumos para deliberar los principios generales que debería tener la política pública en el ámbito del bioconocimiento. De las múltiples carencias que tiene el país a este respecto, se precisa que debería ser prioritario volcar los esfuerzos de ciencia, tecnología e investigación hacia la satisfacción de las necesidades básicas de la población o el cumplimiento de los derechos consagrados en la Constitución, y, por otra parte, estructurar una estrategia doble para apoyar tanto a las actividades económicas más dinámicas como a las que utilizan métodos de producción tradicional.

Palabras clave

Economía mundial, ciencia y sociedad, tecnología, investigación, bioconocimiento, desarrollo económico y social, relaciones económicas, Ecuador.

Introduction

The qualitative leap and subsequent expansion of information and communication technologies in recent years, along to the development of different applications in the most diverse areas of human activity, is modifying significantly how society should be understood nowadays and how the economy will be organized in the future (David and Foray, 2002). In this context, it is also presented how the current concepts of development and well-being will be transformed, but in the context of the limits imposed by the exploitation of natural resources and the reproduction of life or, in another sense, the preservation that the laws impose to govern the biosphere (Martínez Alier and Roca Jusmet, 2016) and the planet (Georgescu-Roegen, 1996). This change in the concepts is explained by the influence of the development and expansion of ICT in the dematerialization¹ of goods and

¹ The concept of “dematerialization” used by Malembaum (1978) is not used. It refers to “the reduction in the use intensity of different raw materials per unit of GDP” (in Carpintero, 2005). The term

services; although limited and concrete, the process leads to rethinking the concept of production as the work that appropriates the benefits of its own creation². This is the starting point of reflection because it is intimately related to science, technology and research, especially in terms of how they are generated, managed, distributed and appropriated in the world.

Concomitant with this process, there is a change in the structure and distribution of global production that comes from the emergence of the economies that are now known as BRICS —to which other less “big” countries would have to be added, but with similar processes, such as South Korea or Malaysia— what has meant that the production centers and the provision of services are relocated on a planetary scale, taking advantage of the advantages exhibited by some economies that have lower production costs, usually given that they are countries where the wages are low, and have precarious employment conditions (Pérez, 2010) and labor force recruitment are subject to lower controls and regulations compared to the industrialized north countries. Also, as a counterpart, these emerging countries have segments of the population with high academic and knowledge levels, which are capable of understanding, sharing or proposing new advances in the fields of science, technology and research (UNESCO, 2010). While the first segment of the population is internationalized from exploitation mechanisms and consumers, this other segment is globalized because it has the ability to access and contribute to the global knowledge networks, as well as integrate transnational corporations and, at the end, migrate to join the most dynamic centers (Carrington and Detragiachi, 1998; Brandi, 2006).

These emerging economies have as a differentiating feature, in relation to the rest of developing countries, the ability to offer products of different technological complexity and quality, so that they occupy the

used here refers to the importance of a large portion of activities that are currently being carried out without becoming corporeal. That does not mean, however, that for the functioning of ICT are not required material elements that are used increasingly (in general, the hardware) and energy use.

2 ICT allows workers to appropriate the results of their creation as they are the programmers, for example, they are scattered all over the world, work a lot, see the results of the work without necessarily having to rely on a capitalist as it is developed from its knowledge; it is a new form of capital. There are also changes in the markets due to the possibility that individuals or small and medium-sized producers will “connect” directly with consumers. Physical capital has given way to intangible capital, which is a component —sometimes not valued in terms of the difficulties it has to do it— that has the investment weight in many of the most dynamic large companies (Jaskel and Westlake, 2018). These traits are those that can help presume that there will be changes in the way in which the production model will be structured, without meaning that the great tendencies that lead to it are modified.

productive spectrum since the elaboration of foods with little value-added content, to high-tech goods that especially require incorporating research and knowledge, although not all are at the border compared to developed countries. That is, from the previously mentioned developing countries, some offer state-of-the-art technology such as robots for industrial use or telecommunications technologies (in the case of China), others like India and Brazil offer aircraft, and others like Russia and South Africa manufacture weapons; although they all produce nuclear energy for peaceful or warlike purposes. As Naudé, Szirmai, and Haraguchi (2015) point out, while the growth of China and India is being driven by the manufacturing industry, in Russia, Brazil, and South Africa —despite the gains achieved in terms of industrial production— the momentum comes from services.

In this scenario, there is a wide range of nations that strive to establish a development strategy amidst the immense pressure that means the control of the state-of-the-art technology by the companies of the industrialized countries of the north and the competition to which has led the production abundance of goods and services of the BRICS. These countries have established different articulation options in order to be part of these general processes. The most widely used tool for this purpose has been the subscription of “Free trade agreements”, mechanisms that manage to internationalize production and consumer markets with rules that privilege the interests of companies in developed countries (Acosta *et al.*, 2006), especially with regard to the rules on intellectual property and the control of product markets.

Those nations that are struggling to articulate globally, so far in the 21st century, benefited from the global increase in demand and the prices of raw materials of mineral and vegetable origin (FAO, 2018). This has determined, in a few cases, the refocusing of economies and a substantial deterioration of the physical trade balance (Samaniego *et al.*, 2017). That is, the adherence to the world trade flows has been given at the expense of an increasingly intense exploitation of mineral resources and the occupation of more and more wide territory extensions —terrestrial and marine— for the provision of biomass abroad, which has caused new problems for the reproduction of life, because it has affected human communities and specific ecosystems, and has created environmental conflicts³ (Pérez-Rincón, 2014).

³ Some ecological organizations and economists created the ejatlas.org website that brings together the reported cases of socio-environmental conflicts. Currently (July 2018), 2 508 cases are reported

On the other hand, the increase in the prices of primary goods export is one of the elements that explain a stage of high economic growth in the countries of Latin America, an expansion that had as one of its consequences a process of social mobility with poverty reduction and the strengthening of the middle stratum⁴. Several roles are attributed to this stratum, from stabilizing democratic systems (Bárcena and Serra, 2010) to carrying out innovation processes (Solimano, 2014). Perhaps the uniqueness of this segment of the population is that sometimes it occupies management positions and, generally, of control in the productive process, or they are also the workmen with high qualification and to that extent, it can be in the fair place to take advantage of the opportunity that provide the world of knowledge in order to overturn it within the productive system.

Finally, the depletion of the planet's load Capacity (Hardin, 1968) and the climate change (IPCC, 2013) are the main problems that are affecting the life viability, therefore, must be understood and confronted because if solutions are not found, no national policy will be viable. In other words, there is a big determinant that originates the way society has been organized historically and is a source of very strong restrictions for the future: the processes that govern the functioning of the great system, the biosphere, are being limited by the conventions (production, institutional matrix) created by humans to build, organize and function in society.

This is the general scenario in which a national bioknowledge policy should be constituted, within the framework of the aforementioned restrictions and in order to overcome them. However, it is undoubtedly that there is no way to move forward because the problems that affect are also generated by the policies and actions carried out by other countries.

However, the transformations that are occurring in the world and that have been synthesized can open opportunities if it is possible to articulate the country based on its own characteristics and strengths, the particular

around the world. Thanks to this initiative it is possible to determine —for the first time in a systematic way— how civil society takes advantage of modern communication and information systems to alert the international community to these facts, likewise, facilitate the academic investigations of these phenomena.

4 The term “middle stratum” and not of “middle class” is used because the methodology that employ the aforementioned studies is based on the income received by the households (Ravallion, 2009) and not in a class classification that is typical of the sociology (Giddens, 2000; Wright, 1985) and of the social studies that proliferated in Latin America between the decades of the 60 and 80 of the last Century (Sémbler, 2006).

conditions that come from its history and, specifically, the relevance or concordance with socio-economic, political, cultural and environmental characteristics (CUVI, 2013).

Ecuador is a small, open, dollarized and deeply heterogeneous country in several ways⁵. In this case, it is interesting to highlight the productive heterogeneity and within it the extremely high concentration degree in the internal and export markets, and of the profits. Both heterogeneity and economic concentrations define and are the result of specific social, political and cultural relations. On the other hand, cultural heterogeneity is a potential source of knowledge generation, provided that this diversity is articulated for the construction of bioknowledge.

This proposal cannot be free from the national political context. The Ecuador of the last ten years differs from the previous two decades for having had a broad period of institutional stability and —which is of particular interest to this research— by the “return of the State” (Acosta, 2012). Therefore, it has been witnessed a return of the capacity and political decision to design, structure and implement measures that were previously unthinkable in neoliberalism, which advocated that “the best industrial policy is to have no policy” (Becker, 1985). However, that return is and will be mediated, within the correlation framework of political forces, by the group that leads the government. Even in this phase of institutional stability were observed changes in the interference capacity of some groups on others in the conduction of the public policy, being perhaps one of the most important breakpoints the decision to exploit the Yasuní-ITT block in 2010, formerly incorporated into a new proposal for the conservation of underground oil (Rival, 2010).

5 The term *heterogeneity* is used to designate the diversity of populations in Ecuador, most of them with specific and differentiated development projects (Walsh, 2007), and a different worldview or dissimilar epistems (de Sousa Santos, 2010). Geographically, it implies the interaction of different ecological floors that form a natural megadiverse system, whose importance lies that on that condition “depends the food, the medicine, the provision of goods for the construction, for the handicraft and to cover many needs of local populations” (Bravo, 2013). Finally, the term heterogeneity also includes the functioning and interrelation of strata with differentiated degrees of technological development, productivity and forms of production (Cimoli *et al.*, 2006).

Bioknowledge as a conceptual axis

Bioknowledge has traditionally been associated only with life sciences, more specifically biology and its extensions to genetics and other related specializations. The concept of bioknowledge used here is one that articulates analysis, research and apprehension of the world from the integration of all life forms and the knowledge generated by humanity⁶. It also recognizes that social, political, economic and cultural relations intervene and affect knowledge.

The needs of science, technology and research in Ecuador are immense, because the delay with respect to other countries classified as medium-high developed and the so-called developed countries, is abysmal. However, this gap must be analyzed and resolved in the light of its own needs and the ethical-normative principles, which are the basis of the organization of the Ecuadorian State. In other words, if priorities are not set out from national needs, all fronts should be attacked to try to overcome that backwardness in a global way, which is not possible because of the amount of human and economic resources that would be required, the time required to mature the policies applied and the very logic of the scientific, technological and research processes, which demands the formation of networks and synergies that are in training phase in Ecuador.

As Kranzberg points out (1986, p. 545) —and this can be assimilated for knowledge— “technology is neither good nor bad; it’s not neutral either”. This means, among other things, that it must be articulated to particular needs to be relevant or explicitly non-neutral.

In order to delimit this reflection, it is divided into relevance in two areas. The first refers to the fact that science, technology and research, as constituent elements of bioknowledge, turn over to examine the means for the population to satisfy their basic needs. However, the definition of what are *basic needs* depends on the concept of well-being used and on what is socially determined as such. Reason for which to specify them, some measure of poverty or deprivation can be employed, but in addition there must be correspondence with the constitution, since this represents the fundamental pact of the society. In other words, it is proposed that the

6 De Sousa Santos (2010) speaks, in this sense, of the dialogue of knowledge as a way to avoid the supremacy of an understanding of others. This dialogue should culminate with the constitution of an “epistemology of the South”, based on the understanding of epistemology underlying the different manifestations of knowledge.

Constitution, while it is a framework that defines compulsory enforcement rights in Ecuador, is the guide to identify the needs on which the activities of knowledge should be privileged in the field of people needs.

The second area, in terms of relevance, refers to solving the particular problems of the domestic production apparatus. As pointed out, the productive structure in Ecuador is extremely heterogeneous and disparate, while highly technical sectors that use imported technology of last generation coexist with other production forms that do not even reach expanded accumulation levels —that is, they do not generate profits to expand business⁷. There are also great differences between the urban and rural areas due to their own operating logics.

It is important to emphasize the rural area, because in addition to regional divergences (coast, mountains, Amazon and insular) due to the ecological conditions inherent in each, can be found subsistence production that has abandoned traditional production forms and, therefore, depends on the agrochemical market, which coexists with subsistence production that continues with the ancestral cultural practices and has sustainable crops. These sectors, on the other hand, have the responsibility to guarantee food security because they offer their production mainly to the domestic market and due to the dependence that this population has of their own production to meet their basic needs. According to Calero (2011, p. 33): “From the families that in 2006 were in a state of food insecurity, the 76% lived in the rural area and more than half were located in the Sierra region”. This aspect is specified because it accounts for the complexity of the approaches that science, technology and research should have.

Moreover, within the productive structure are the exporting segments, dominated by large plantations, which sustain much of the import needs. These sectors —excluding oil that have particular characteristics— are concentrated in primary production (agriculture, hunting, forestry and fisheries) and, to a lesser extent, in the food industry⁸. Considering that the economy being dollarized depends on this production to have an adequate

7 For example, while some of the companies that manufacture vehicles use robots in the assembly of parts, in other sectors such as textiles subsist individuals or small businesses that develop their activity with technology that has at least a hundred years of founded.

8 Between 2013 and 2017, 61% of non-oil exports were from non-industrialized primary products, while agro-industry contributed 21%, on average, in that period (data obtained from the Central Bank of Ecuador by June 2018).

flow of circulating currency; then, these sectors cannot be excluded from the field of science, technology and research.

In this context, the concept of relevance in the productive structure field can be complex to define, by the different roles that these different modes of production have in the supply of products and as economic support; relevance can be defined by the content of public policy, i.e., answering the following questions: What development model is pursued? Or what sociopolitical paradigm is the guide? The answer to these questions will depend on how the current dispute —citing the two extremes— is defined within the framework of public policies, between a sustainable organic production model and the industrial input-based model of high genetic performance and modifications (Szirmai, 2005).

On the other hand, while recognizing that the concept of bioknowledge is the result of socio-economic, political and cultural training, it requires the incorporation of a fundamental ethical position that refers to the way in which Science, technology and research generate, manage and distribute.

In the gestation of knowledge, it is generally unknown its social and collective character, both in its generation and in the priorities that are established, which is very much related with relevance, as well as with its consequences. A hypothesis that guides this reflection is that there is a dynamic relationship between knowledge and society, as the results of knowledge lead to changes in society and this, as a recipient, feeds and modifies the contents of knowledge. Therefore, there is no independence between science, technology, research and society. Some authors even propose co-construction and co-responsibility, proclaiming a science for society, with society (Owen et al., 2012), i.e. they conceive a system that can integrate society into the construction of science. Being that the character sought in the gestation of the bioknowledge can become an additional space of democratic participation and, in that way, to be pertinent to the problem solution that confront the society, in which case the direct representation would not necessarily have to go through the government plans and the needs identified in them. This view contrasts the individualistic fiction that pretends that knowledge is an isolated and personal act, constituted outside by the social and cultural dynamics; therefore, by having a strictly private origin, the use of intellectual property rights is justified in order to limit, on the one hand, and to profit, on the other, a public good.

From another perspective, this principle of co-construction and co-responsibility must also be articulated within the framework of the co-

government and the autonomy proposed in the *Manifesto de Córdoba*, understanding that these two principles lead to respond or act in correspondence with the needs of society from which the university is a recipient not only in terms of financing, but mainly in the dynamics that it engenders. It also implies that universities and their research centers are spaces of academic excellence that serve as a bridge for the scientific development required to be relevant:

The teaching methods were flawed with a narrow dogmatism, helping to keep the university away from science and modern disciplines. The lessons, enclosed in the endless repetition of old texts, protected the spirit of routine and submission (Federación Universitaria de Córdoba, 1918).

In terms of management, it recognizes the need to overcome the tragedy of the anti-commons (Ouellette, 2010), i.e., the limits imposed on access (David and Foray, 2002) and knowledge development, and the increase in costs involved in management based on the excessive use of patents and intellectual property rights (Ramírez, 2014), without knowing the need for those who make discoveries or develop new technology to be remunerated for their work and the investment they made. These restrictions or the so-called “over-patenting” occur precisely when the best conditions are given, through information and communication technologies, for the transmission of knowledge, its exchange and the formation of global networks of thought (Hagreaves, 2011).

The organic Code of the Social Knowledge Economy (National Assembly, 2016) contains several articles whose purpose is to prevent these forms of restriction around science, technology and innovation from being part of the knowledge management practice in Ecuador. At the end of the third article, the code states that it looks for:

To encourage the circulation, the national and regional transfer of the available knowledge and technologies through the conformation of networks of social innovation, research and academic, and in general, to increase them from the practice of the complementarity and solidarity (National Assembly, 2016, p. 4).

Guidelines for the construction of a public policy of bioknowledge

The most general policy of bioknowledge should focus on understanding the generation and permanence of human and non-human life in all its forms

for not interrupting the self-reproduction systems (autopoiesis) (Maturana and Varela, 1984). Simply the continuity of one of the animal species, the human, has no viability if the reproduction of each living system in particular is not ensured as well as the interaction of all of them; in other words, the laws governing the functioning of the biosphere itself must be respected (Martínez Alier and Roca Jusmet, 2016; Carpintero, 2005) as a condition for the operation of other subsystems such as economic or social organization. In addition, the potential that environmental systems have for human life could be considered as unlimited, since all the uses that plants and animals can provide have not yet been discovered (however, this extent will not be able to know in a completely way, because all species are in a constant evolution process).

This general and transversal line must be incorporated in the context of a historical and prospective analysis, i.e., in the way the development of humanity has made to reach a saturation point of life reproduction possibilities as it should inform and analyze the restrictions that will weigh in the future, because humans inhabit “a system [...] basically closed with respect to the entry of materials” (Martínez Alier and Roca Jusmet, 2016, p. 17).

One of the main paradoxes and expressions of the growth frivolity in countries with a lesser degree of relative development is that they repeat the same pattern and path that developed countries followed. There are innumerable similarities of a nation classified in the range of those who have middle and middle-high income by PNUD (2014) to what happened in the 1970 in the developed countries. The inability to avoid the problems already presented by those societies thirty or forty years ago is especially astonishing: pollution, extreme traffic congestion, deficiencies in public transport, over-exploitation of natural resources, social inequity, over-consumption, increased violence, indiscriminate exploitation of biosphere resources, etc. Instead, the virtues of such a process are absent, such as the establishment of high-level academic universities, high public investment in research and development, the strengthening of cultural expressions, the strength of democracy through construction of the welfare state, the installation of massive transport systems of people and goods, etc.

Therefore, it is essential to know, study and discuss this model of growth, but not of development, using the meaning of Sen (2000) or Max-Neef (1993), who is arriving uncritically and repeating the same mistakes. Therefore, an indispensable task in the framework of the bioknowledge is

to structure a critical thought based on the contributions of the history to build different models of social organization, in order to overcome those pitfalls that are implicitly seen as “own or connatural” of the “progress”. And this requires the formation of multidisciplinary groups that look at all the dimensions of these processes in the past, in order to find ways of facing growth and the increase of wealth with different or reformed paradigms. Knowledge is permanently conceiving and analytically observing this continuum of social experiments called society.

There is also the need to develop prospective studies, because the analysis of needs and options in the future can establish the lines that should address science, research and technology. The idea is to know the strategic challenges that Ecuador has as a nation with the purpose of fulfilling one of the bioknowledge dimension. As mentioned earlier, priorities should refer to how to meet the basic needs of the population to build a suitable environment for human reproduction and how to solve the problems and challenges facing the productive structure. However, it is necessary to envisage that the demands will be in the context of the changes that would occur in the coming years due to the application effect of public policies and the transformations in the economic and political fields at the national and global level, and on the advances in knowledge. To name a few key elements, it is necessary to envisage which are the trajectories of the population, the production and the consumption of energy, the production and demand of water, the way it can affect and the forecasts to be taken with respect to the natural risk, the way social mobility will influence the consumption and sustainability of the external sector and the characteristics that the political dispute assumes due to the strengthening of the middle class.

More than the incorporation of the historical and prospective analysis, the bioknowledge must also be overturned to the current situation. In this sense, it seems appropriate to collect the proposal of Carlota Perez, who presents an integrated dual model that consists of:

Half of the development strategy to promote “from above” would aim at achieving competitiveness in world markets to reach the technological frontier in certain areas and processes and even take the lead, sometimes through alliances with global companies. For its part, half of the strategy “from below” would involve acting directly in every part of the territory, at the municipal and local levels, identifying, promoting, facilitating and supporting the activities of wealth creation directed to the more suitable market: local or

regional, national or global. These will tend to be specialized clusters focused on niche markets based on local advantages (Pérez, 2010, p. 124).

This implies that the concern of the bioknowledge should not only point to the creation of the conditions to know, appropriate and generate research and knowledge in the leading topics in the world to be incorporated in the more modern sector premises in technological terms, but is also required —as mentioned— solving the problems that arise in the economic sectors that produce with ancestral technology and knowledge or in the small and medium-sized industry that faces obvious challenges of competitiveness, because:

The globalization process has brought with it the hypersegmentation of three key areas: value chains, global markets and technological competencies. Each of these areas becomes a complex network with differentiated components [...]. When the value network has been segmented to the simplest subcomponents and markets have been fragmented into countless niches, technological capabilities can be singling and deep innovative specialization allows units or knowledge companies thrive inside or outside the global corporation. At the other extreme, some traditional artisanal methods may also occupy high-value⁹ niches (Pérez, 2010, p. 127).

These processes also define the priorities of university education and vocational and technical training. On the one hand, they establish the need to significantly elevate the quality, methods and formation contents, in order to gain improvements in the production and productivity with the gradual incorporation of the knowledge acquired in the processes, for the elaboration of the products, to enter into the elaboration of goods and services with more incorporation of added value, including and especially in those sectors where the country has been successful as a global producer and those that provide adequate standards to the local market. It also aims to establish synergies that allow the development of new products from the knowledge and research of the rich biodiversity that is especially found in the Amazonia, with the purpose of gradually modifying a production structure that has remained without major changes in the last forty years.¹⁰

9 Global solidarity markets are a good example that it is possible to unite small-scale organic production or communities, associations or cooperatives with the national and international demand that seeks to consume goods produced with specific characteristics.

10 Within the multiple ways to sustain that statement, can be cited the index of economic complexity, in which it is observed that only in the period of the “oil boom” in the 1970s the index improves with a clear and sustained tendency, then there is a high volatility with a flat tendency (MIT, 2018).

On the other hand, both university and technical training should serve as a support and a mainstay to the process of social mobility experienced in recent years. If it is agreed that such mobility, viewed from an income stratification, has not been accompanied by a parallel process in terms of an increase in knowledge and skills (Samaniego, 2015), it is then concluded that there is a need to take advantage of this change at the social level with an extension of capacities, in order to eliminate possible vulnerabilities due to their absence, i.e. to avoid the loss of livestock in terms of mobility. Perhaps the greatest urgency in this area would be in technical training, as it is the basis for articulating improvements in the productive sector with advances at the social level.

The actor who must pursue a strategy based on bioknowledge is the state through government entities and preferably from public universities. It is the main actor because it can make available the human resources and materials required to overcome the market failures that occur in the field of knowledge (Stiglitz and Greenland, 2014). But the priorities to be established must come from collective action or a broad discussion involving workers, farmers and peasants, informal workers, small, medium and large entrepreneurs and businessmen, and academics. It could be a great challenge and even a utopia that in the defining process the concrete lines in which the bioknowledge should be concentrated, a pedagogy of participatory democracy is created.

Conclusions

The main interest of this exhibition is to encourage discussion and debate on the role of science, technology and research in Ecuador in a context marked by major global changes that are reshaping the economic, social, and cultural relationships and planetary policies, as well as showing the life reproduction limits and the earth resources.

What has been proposed are the general lines for the construction of a relevant bioknowledge ecosystem in Ecuador to make an approach as broad as possible in order that it can serve, in addition, as a reflection for other countries.

In this sense, three axes are highlighted to give content to the relevance. The first is the environmental system, as it is the principle on which any type of human construction is supported. The second, refers to the attention to the basic rights that people should enjoy in the context of social mobility

experienced in the last ten years, and it has been proposed that the relevance be sustained in the national agreement represented in the constitution of 2008, because there are contained the basic ethical-normative principles that the State has assumed to base its existence. The third is the development of productive forces in a heterogeneous, small, open and dollarized economy, which by these characteristics requires thinking at different levels, because the productive structure is formed by technological strata differentiated with particular problems and at times very distant from each other. The needs in science, technology, and research of the subsistence economy are qualitatively different from those of modern economic sectors.

It is proposed that these three axes are the reason and purpose for the construction of science, technology and research because knowledge is part and is imbricated by the characteristics of the environmental system and by the way the structure socioeconomic is formed, but at the same time it is the source to transform it. In this sense, the approaches of co-construction and social co-responsibility are collected, so that the development of the bioknowledge is structured from a democratic and participative exercise.

In this sense, and retaking the first lines of this section, the purpose is that the knowledge elaborated in this reflection be useful to provoke more knowledge.

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Public policies for the return of qualified human talent in Ecuador and its international insertion: the case of PhD scholars

Políticas públicas de retorno del talento humano calificado de Ecuador y su inserción internacional: el caso de los becarios de doctorado

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Abstract

The paper aims to understand the return process of scientists to Ecuador, with a view to producing coherent data on the reasons for their return, their social, political and disciplinary networks in the country, which contribute to the effort of knowing the disciplinary consolidation dynamics of the scientific fields, its international links, and therefore the process of Ecuador's insertion in the new international working division. The study used the databases of returnees offered by the Secretariat of Higher Education, Science, Technology and Innovation (SENESCYT) of Ecuador for the preparation of a survey. The sample frame of reference was created with more than 700 PhD. A total of 126 surveys were carried out generating an estimation error of 7.8% and the distribution of the cases raised by sex and area of knowledge was recomposed with the use of expansion factors to give greater consistency to the results obtained. Based on the sample, it was able to make inferences by sex and by a grouped variable of completion years of the studies, demographic, labor information and research activities were requested in a very general way. The research concludes on the relevance of public policy and on the profile of returnees.

Keywords

International insertion, qualified human talent, public policy of higher education.

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Resumen

El objetivo de este trabajo es entender el proceso de regreso de científicos a Ecuador, con vistas a producir datos coherentes sobre los motivos de su regreso, sus redes sociales, políticas y disciplinarias en el país, lo que contribuye al esfuerzo de conocer las dinámicas de consolidación disciplinaria de los campos científicos, vinculadas con el exterior y, por lo tanto, el proceso de inserción del país en la nueva división internacional del trabajo. Para eso, el estudio utilizó las bases de datos de retornados ofrecida por la Secretaría de Educación Superior, Ciencia, Tecnología e Innovación (SENESCYT) de Ecuador, para elaboración de una encuesta. El marco muestral de referencia estaba conformada por algo más de 700 PhD. En total, se realizó 126 encuestas, generando un error de estimación del 7,8% y se recompuso la distribución de los casos levantados por sexo y área de conocimiento con el uso de factores de expansión para dar mayor consistencia a los resultados obtenidos. Con base en la muestra, hemos podido realizar inferencias por sexo y por una variable agrupada de años de finalización del doctorado. Se solicitó información demográfica, laboral y de actividades de investigación en forma muy general. Se concluye sobre la pertinencia de la política pública y sobre el perfil del retornado.

Palabras clave

Inserción internacional, talento humano calificado, política pública de educación superior.

Introduction

The theme of the International Labour Division in the current context is the reason for discussion between different authors (Carlotto and Guedes, 2015; Maniglio, 2017; Vercellone and Cardoso, 2016) and assumes different approaches and perspectives that are often complemented. The meeting point for these analyses is the argument that the new International Labour division is based on the cognitive principles of postfordist capitalism and the reinforcement of intellectual property rights (Vercellone and Cardoso, 2016, p. 39). According to this perspective, in the developed capitalist countries, the part of capital called intangible and intellectual and the activities of high knowledge intensity are consolidated as a key variable for the growth and competitiveness. In addition, the training and research system, as well as the free time —the key condition of human development and the experimentation of alternative cooperative models— “are at least as important as wage labour and the business sphere” (Vercellone and Cardoso, 2016, p. 44).

According to these same authors, an important feature of this new system is that knowledge-intensive activities would be territorially anchored and competitiveness increasingly depends on an intellectual work stock. Thus, the discussion of qualified migrations and interpretations of regional migratory flows gains relevance. The global phenomenon of migration and the lack of data or the production of too heterogeneous data generates complexity for the analysis. National Censuses register foreign differently scientists, accounting for all born in another country or only those who have immigrant status or temporary residency visas. Consequently, the acquisition processes of the citizenship and the notion scopes of “foreigners” hinder from entry any effort to appreciate comparatively the migration of scientists and technologists.

In this sense, the objective of this work is to understand the returning process of scientists to Ecuador, with a view to producing coherent data on the reasons for their return and their social, political and disciplinary networks in the country. This contributes to the effort to know the dynamics of disciplinary consolidation of the scientific fields, linked abroad and, therefore, the insertion process of the country in the new international labour division. The research seeks to answer the questions: How is the brain drain articulated in the global process of international migrations? What is its impact on the development gap between North and South? What is the impact on national scientific and educational policies of the return of these scientists to their countries of origin?

En su estado actual, los datos y conocimientos sobre la fuga de cerebros son insuficientes, pero bastan para evidenciar graves asimetrías en las capacidades de los países de la región para contrarrestarla y mostrar que, en algunos de ellos, se produce un drenaje de competencias más que una circulación. Hubo importantes programas de reinserción, retorno y retención en todos los países de América del Sur, cuyos resultados todavía no se conocen claramente.

The data and knowledge about brain drain are insufficient, but are enough to show serious asymmetries in the capacities of the countries to counteract it and to demonstrate that, in some of them, there is a drainage of skills more than a circulation. There were important reintegration, return and retention programs in all countries of South America, the results of which are not yet clearly known.

The new international labor division and the brain drain

According to UNESCO “brain drain” is understood to be the part of the qualified migration that corresponds to the scientific staff and the holders of a postgraduate. On this subject, essentially, the perverse effects of unequal exchanges of highly qualified human resources (which affect a generic area) are emphasized, as they prevent countries of provenance from obtaining return rates from public investments addressed to higher education and to the training of researchers (UNESCO, 2005, p. 28). In this sense, UNESCO places the brain drain as “one of the main problems that must be solved if knowledge is to be a shared common good in future Societies” (UNESCO, 2005, p. 30).

The topic of the relationship between academic training and development is one of the main consequences for the southern countries of the brain drain. From a structuralist perspective, Sunkel argues that there is a mismatch between the nature of the industrial development and modernization, and of them with the development of the university system (Sunkel, 1972). In this sense, the university would be a reflection of the alienated character of the national economic system. There is a transfer of highly qualified human resources from the relatively poorest countries, where universities produce specialists that a technologically dependent economy does not need, towards the central economies that demand a growing number of qualified specialists that their own university systems are unable to satisfy.

Thus, the development of scientific and technological research in universities cannot be a company divorced from fundamental decisions about the very nature of the development process and, particularly, of the national production. The development problem that arises from the periphery of the system is, therefore, quite basic: if staying in the center-periphery development model or if achieving a more autonomous path of development.

Rather than emphasizing the economic effects of the brain drain in terms of non-recovery of investments, it is emphasized that this leakage atrophies the capacities installed for the development and inhibits the expansion possibilities of the technological base, as well as the innovation production in the sending countries, mortgaging their future, and hindering their present. In this sense, the brain drain sponsors an increasingly unequal spiral of concentration of knowledge, placing countries as producers and others as consumers, in new relationships of dependence rather than co-development.

This fact is more evident in the current situation of cognitive capitalism, when the issue of knowledge accumulation gains more relevance.

In the field of studies on economic development and patterns of insertion and international cooperation, the concept of “knowledge society” (Castells, 1999, 2002) has been widely used to describe the predominant organization model of global capitalism, in which the generation and systematic application of knowledge and technology are taken as essential elements of the current economic dynamics. Indeed, the undeniable dynamism that the knowledge-intensive sectors have been presenting in recent years makes it impossible to ignore the impact that innovation processes exert on the economy and, consequently, on the process of knowledge production. Recognizing the importance of scientific research, technical development and innovation for the current economic dynamics does not mean, however, to apply in a uncritical way the paradigm of the knowledge society for the understanding of the present moment of capitalism, nor accept the inevitability of the liberal model of international insertion that this paradigm promotes (Hitner and Carlotto, 2015).

It is necessary to recognize as the essential dimension of the problem, that the concept “knowledge society”, native of the thought centers of the north, played an important political role in Latin America during the 90s (Godin, 2004; Sharif, 2006), turning the hegemonic way of understanding the globalization problem in the region, contributing to legitimize a specific pattern of international insertion based on the establishment of free trade agreements and in the simple adherence to economic liberation (Arbix, 2002; Theis, 2013). The predominance of the liberal paradigm in the 90s meant the abandonment of a structural vision of development. The development model delinked the national production of academic production. On the other hand, the most developed economies, users of science and technology, operate huge magnets that attract large flows of specialists able to generate ideas or products and to apply knowledge in complex production processes and innovation.

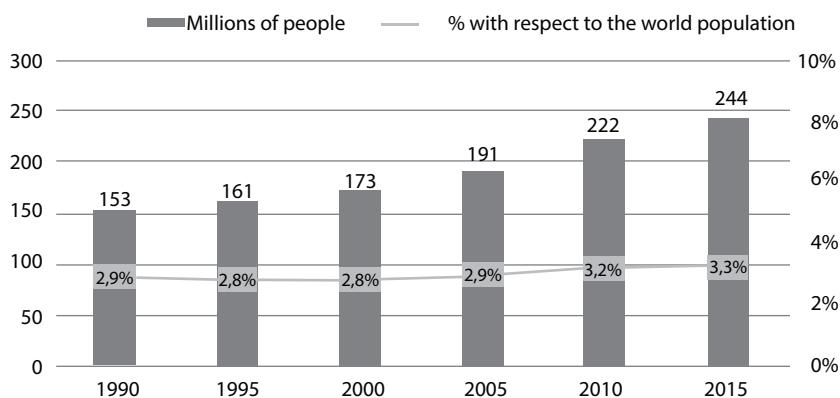
On the issue of the brain drain and its impact on the national development of the periphery countries, the OCDE argues in defense of the model:

More recently, literature has suggested that the emigration of skilled workers, such as researchers and scientists, may be associated with beneficial effects in terms of knowledge creation and dissemination in sending countries. In particular, the possibility of emigration can encourage the creation of skills in the sending countries, allowing to increase potentially the levels of human capital and the economic growth via “a beneficial brain drain” [...]. Recent

literature also points to the benefits of brain circulation with regard to transfer of knowledge in the sending countries. The brain circulation can be referred to the return of qualified migrants in their country of origin after a period or to a model of temporary migration or movement between the house and outside. [...]. Considered as a whole, these effects suggest that knowledge flows associated with the emigration of researchers and scientists can provide benefits to the countries of origin. The literature holds the idea that highly qualified mobility is not a simple zero-sum game according to which the destination countries win and the other loses. The mobility of highly qualified human resources can be advantageous for all (OCDE, 2008, p. 5).

The analysis of the total migration data indicate that in 25 years, the world population grew by about 40% (World Bank, 2018), while the number of migrants increased by 59% (International Organization for Migrations, 2018). Thus, 3.3% of the world's population is migrant.

Figure 1
World Migration (1990-2015)

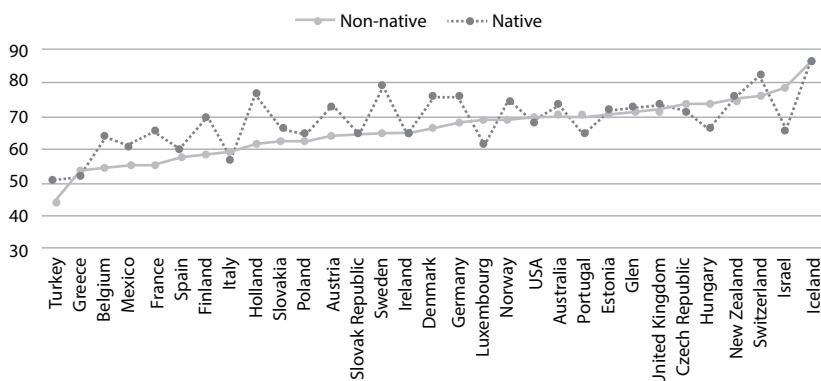


Source: The author from OIM, 2018.

It is estimated that in OECD countries —where about 70% of global trade in goods and services occurs— the number of immigrants with a schooling of at least 13 years increased in the last decade from 12 to 20 million of people, mostly from developing countries, people who have moved in

search of higher salaries and better job opportunities or professional development. Still, unemployment rates in OECD (non-native) countries are higher and in some cases much higher than native unemployment rates.

Figure 2
Employment rate 2016



Source: The author from OIM, 2018.

For Latin American migrants, the U.S. remains the main destination, followed by Spain, with strong presence of South Americans, mainly women with relatively high qualifications, and Canada (Martínez, 2007, p. 41). This substantial exodus implies, for the issuing nations, the transfer of a valuable human resource that decapitalizes them, diminishes their capacities to promote economic and social development, erodes their critical mass and limits their possibilities of generating innovations. Consequently, in these countries, there are many voices that have underlined the need to contain the escape of talents and the emigration of qualified personnel, as well as to alleviate their negative effects.

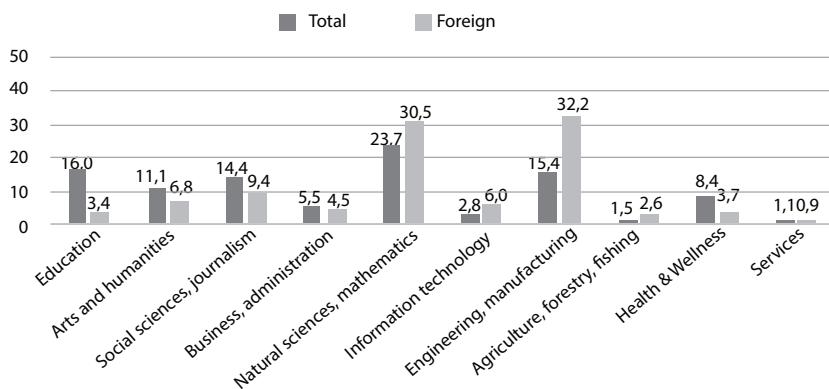
Despite the importance of the discussion, the statistics on the phenomenon, throughout the region, remain imperfect and do not allow to trace, with a degree of acceptable certainty, which professionals leave the region, what degrees they have, where they go and what they do outside. Also, it does not

allow measuring the proportions of those who return to their country of origin after their having completed studies abroad. Thus, migration is paradoxically a matter whose social and cultural perception has changed, in terms of valuation scales, at the same time as a phenomenon that remains poorly known.

In this sense, the research problem that arises has to do, on the one hand, with the current organization of the knowledge society and the brain drain that generates dependence and not codevelopment, and on the other, with the return of high level scientists to their countries of origin that have an impact on the national production. Thus, the meaning of the knowledge society for the countries of the south from the point of view of the production of knowledge and the impact of the knowledge produced, is based on the fact that the world is divided into two “cognitive civilizations”: one that produces knowledge and another that consumes it. And the issue is geographical, since those produce knowledge in the central countries are not necessarily “national”, but foreigners seeking space in other territories to produce such knowledge.

Thus, for example, in the case of the United States, the composition of the doctoral graduates (PhD) has a radically different profile in the comparison of the different areas of knowledge.

Figure 3
Composition of U.S. doctorate graduates (2017)



Source: The author from OECD, 2018.

Although in areas of the human, social and arts sciences the number of nationals is much higher than the number of foreign graduates, in the case of the basic, natural sciences, technology and engineerings, the composition is modified. Foreigners have a role, occupying 30% of the total number of doctoral graduates, which could have an impact on the national production.

It is important to mention that there are no detailed data with respect to the nationality of these foreigners or data that allow to follow the real impact that this generates in the production. That is, it is not possible to say what happens to these graduates: if they return to their countries, if they are employed nationally, if they continue or not in the academic or research career. Therefore, studying the returnees of fourth level in Ecuador can be used for the mapping that allows to respond these questions.

Public policy in strengthening the knowledge and human talent In institutional terms, the starting point for the construction of the new higher education system was the establishment of the Constituent Assembly and the expedition in 2008 of the mandates on the evaluation of institutions of higher education (IES), which led to the closure of several universities. Mandate 14 was responsible for the closure of two poorly-quality universities in the country, while the constitution determined the creation of the new governing bodies of the system: the Higher Education Council (CES), the Evaluation Board Accreditation and Assurance of the Quality of Higher Education (CEAACES), the University assembly and the SENESCYT, which replaced the Council of Higher Education (CONESUP) and the Conea (Board of Evaluation and Accreditation).

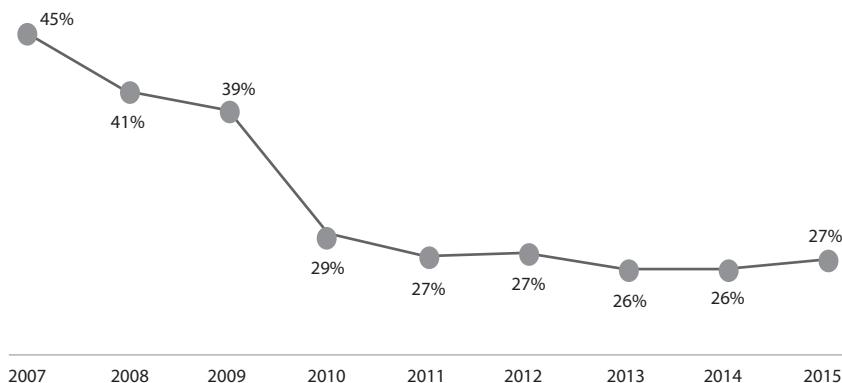
The public policy of strengthening human talent in Ecuador, in the period 2010-2017, was based on the budget that in order to travel towards a knowledge-driven development model, it is necessary to generate sustainable accumulation processes over the time, reducing dependence on scientific knowledge and foreign technology (SENESCYT, 2017).

Thus, the scholarship policy is articulated, on the one hand, towards the change of the higher education in the country and, on the other hand, to the change in the productive matrix. From this perspective, one of the most important principles of higher education, embodied in the Organic Law of Higher Education (LOES), should be that of “relevance”. Beyond the normative analyses of public policy in the country, when studying the specific data, it can be noted that there was an effort by the State to ensure the training abroad of qualified human talent in “relevant areas” for the National

development, that was not in the national offer. Thus, the scholarship policy, formulated from 2012, was part of this process of strengthening human talent.

Two lines of scholarships were offered by Ecuador from the SENESCYT. One of the lines of scholarships had a social character, complement to the gratuitousness of the national higher education; these were national scholarships to circumvent the opportunity cost of accessing the education of the poorest members of the population. It was an important policy of access democratization to higher education, once it allowed thousands of young people access to that level of training. According to the data from the National Leveling and Accreditation System (SNNA), 7 out of 10 students who accept quota in the system are first generation at home to course university studies. Similarly, the percentage of people aged from 18 to 24 who do not attend for economic reasons reduced from 45% in 2007 to 27% in 2015.

Figure 4
**Percentage of people from 18 to 24
who do not attend for economic reasons**



Source: SENESCYT, 2016 from ENEMDU, 2006-2015.

Even though it is necessary to recognize the importance of this policy for the democratization of higher education in the country, it is not the subject

of analysis of this work. On the other hand, the policy of the second line is based on the offer of scholarships of degree and postgraduate abroad, topic for this manuscript.

According to the SENESCYT, there are four criteria for granting these scholarships: individual excellence, progressiveness, institutional excellence and relevance. Individual excellence refers to the selection processes based on the ability valuation and individual qualities of potential beneficiaries, seeking to create a “meritocratic” system that compensates for the effort, knowledge and academic career. Progressiveness implies the consideration of attention for priority groups, which allows to encourage access to quality education, attention in depressed areas or affirmative action to special groups. Institutional excellence seeks to ensure that public policy beneficiaries enter quality educational programs, so tools are required as a list of universities of excellence. Finally, the relevance is the focus of public resources towards priority areas for the development of Ecuador as: life sciences, natural resources sciences, production and innovation sciences, among others.

Design of the Scholarship programs

Program of Excellence

The “Universities of Excellence” scholarship Program has been designed so people interested can course studies in higher education institutions of the highest global level, for this is defined a list of universities by means of the analysis by knowledge area of academic rankings of world recognition: Academic Ranking of World Universities (ARWU), Times Higher Education World University Ranking (THE), QS World University Ranking and SCImago Institutions Rankings. Scholarships cover tuition, maintenance, transfer, bibliography, thesis and research and health and life insurance

The granting of the scholarship depends exclusively on the admission that the applicants achieve at one of the universities involved in the program. The time of compensation (work in Ecuadorian territory in a public or private institution) is twice the total duration of the postgraduate studies financed by the State.

Open Call

It is a fourth-level study program in universities of academic excellence abroad, for the subsequent transfer of knowledge, which enables the achievement of the great national objectives, financed by the SENESCYT. The scholarships cover tuition, maintenance, transfer, bibliography, thesis and research and health and life insurance. There is a division by prioritization areas for the adjudication. This policy uses a modified list of the knowledge division made by UNESCO and focuses on the following areas: education; arts, natural sciences; mathematics and statistics; information and communication technology; engineering, industry and construction; agriculture, forestry, fisheries and veterinary; health and well-being. The areas of social sciences, psychology, administration and others were discarded since 2014¹. Previously, there was a weighting of the number 10% of scholars for this type of study for the total scholarships allocated, but this possibility has been eliminated.

The grant process includes the approval of an assessment of skills and knowledge, and an interview. Therefore, to obtain the scholarship, after the application, those who have been shortlisted, undergo the examination of postgraduate admission (EXAIP), which measures verbal capacity, logical-mathematical capacity, knowledge in project development and knowledge in English. It is approved with a 75% success in the general part and 60% in the English section.

After carrying out their studies, the fellows return to the country for the compensation stage, for twice the time of the total duration of the postgraduate studies. After this stage, the scholar is no longer linked in any way with the state for the scholarship and is in a position of free labor mobility.

Common Global Program

Through the Common Globe Program, the government in conjunction with institutions and governments of friendly countries, grant scholarships to study higher education with high standards of academic quality at the international level, with the objective of strengthening Ecuadorian

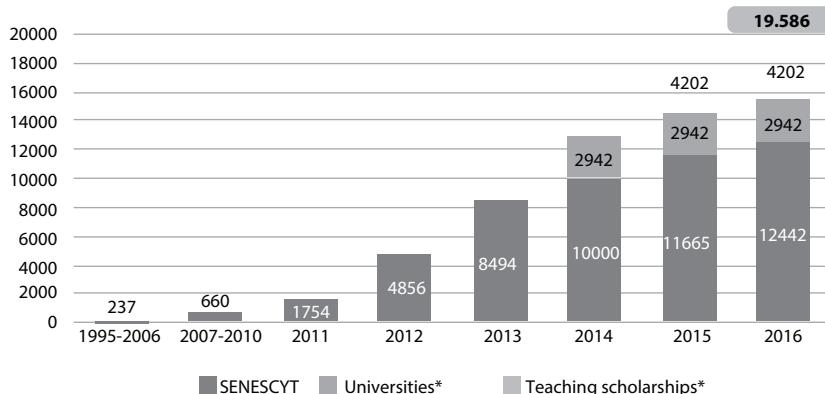
¹ At this point it is important to mention that, for the fourth level, there was a policy of strengthening national programmes in areas of human and social sciences.

human talent in different areas of knowledge. In this type of scholarship the guidelines do not depend, at least exclusively, on the policies of the SENESCYT.

Rebuilding the profile of the programs

Scholarship programs abroad have granted a total of 19 586 scholarships abroad since 2007, constituting in the most important financing study program in the history of Ecuador that some Government has undertaken, surpassing 82 times that granted in the previous eleven years. It is also one of the most ambitious specialization programs in the region.

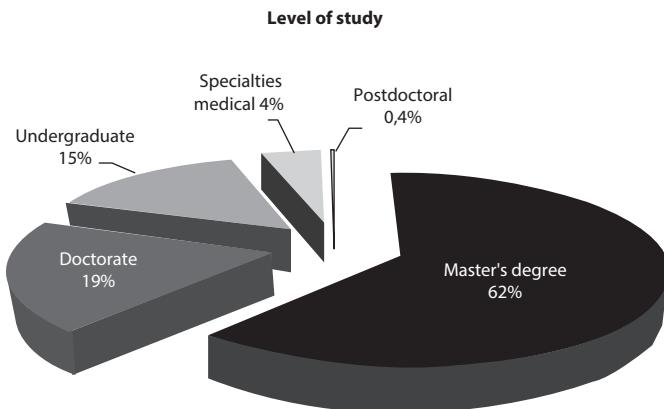
Figure 5
International undergraduate and postgraduate scholarships granted (cumulative total 2007-2016)



Source: SENESCYT, December 2016.

Until December 2016 were reported 4 818 scholars who carried out their studies of higher education and returned to the country, from which 97.6% is in compensation stage: 2% is in the grace period according to the provisions of the program bases (time in which they make their connection to the labor sector) and only 0.4% requested deferred compensation.

Figure 6
Percentage of scholarships according to level of studies



Source: Sub-secretariat for the strengthening of knowledge and human talent.

According to the Sub-secretariat for the strengthening of knowledge and human talent, from all scholarships offered for the fourth level, 62% correspond to master's scholarships, 19% to doctoral scholarships and 0.4% to postdoctoral scholarships. It is noted that the undergraduate scholarships correspond only to 15%, which indicates that the emphasis of the policy is towards the formation of fourth level. All of these training programs abroad presupposed a period of national compensation, i.e., students who traveled abroad were obliged to return to the country once the scholarship period was completed.

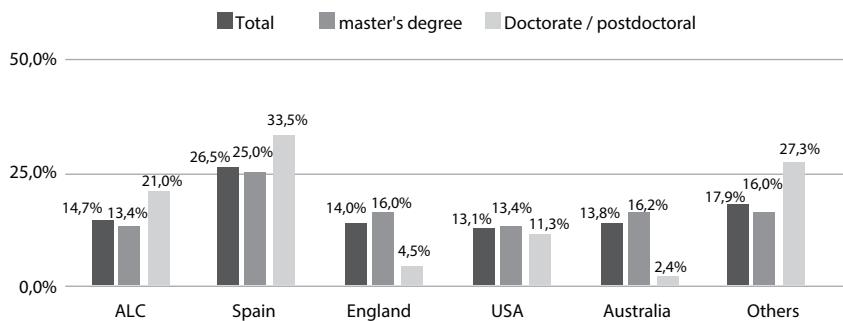
Despite the fact that the international flow of migration for fourth-level studies is mainly directed to the U.S. and England (Maniglio, 2017)², this phenomenon does not occur among Ecuadorian students. For them, despite the English teaching program, which grants scholarships aimed at perfecting the level of this language of teachers and developing their teaching techniques through a total immersion in English-speaking

2 According to OCDE data presented by the author, the United States has the largest number of international students at the master's and doctoral level (26% of the total), followed by the United Kingdom (15%), France (10%), Germany (10%) and Australia (8%) (Maniglio, 2017, p. 35).

countries, the choice of fourth-grade students country level is still mostly Spanish-speaking countries. The main destinations are Spain and the Latin American countries. In the case of Latin American countries, the percentage of students who decide to go to Brazil is very low.

For doctoral studies the participation of U.S. and England is even lower, corresponding to 11.3% in the case of the U.S. and only 4.5% of students consider England as a destination for their doctoral studies. For Master's studies, it is interesting the participation of Australia, which receives 13.8% of the fourth-level students.

Figure 7
Country of studies of fourth level returnees (2017)



Source: Sub-secretary for the strengthening of knowledge and human talent.

Even though language can be an important barrier for fourth-level students who have returned to the country, it is interesting to note that from the point of view of the careers they choose to study abroad, the option for mastery and doctorate follows the trend of foreigners graduated in doctorates in American universities. They are also relevant careers, with impact on the national production. The main option for fourth level studies is in the areas of engineering, followed by natural sciences, mathematics and statistics. Those students who study the latter will course their doctorate, corresponding to 30%.

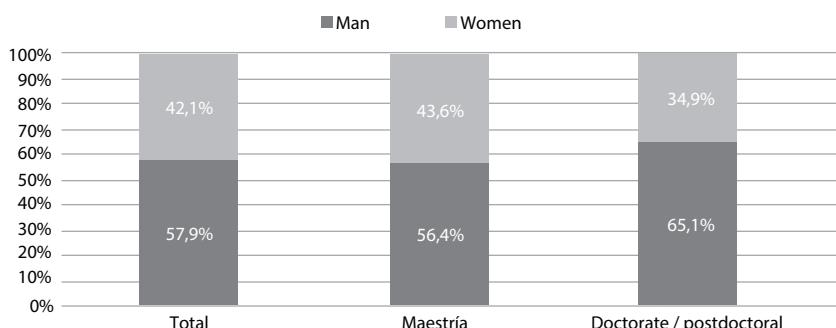
Table 1
**Distribution of the students who returned from fourth level
by area of knowledge and training level (2017)**

	Total	Training level	
		Master	Doctorate/ Post-doctorate
Education	3.3%	3.6%	1.5%
Arts and Humanities	6.8%	6.9%	6.6%
Social Sciences, Journalism and Information	16.1%	16.9%	12.4%
Business Administration and Law	5%	5.8%	1.2%
Natural Sciences, Mathematics and Statistics	19.9%	17.8%	30%
ICTs	10.3%	10.1%	11.3%
Engineering, industry and construction	29.7%	30.9%	23.8%
Agriculture, Forestry, Fishing and Veterinary Sciences	3.9%	2.8%	8.9%
Health and Well-being	5%	5.1%	4.3%
Total	100%	100%	100%

Source: Sub-secretary for the strengthening of knowledge and human talent

Another important analysis is the relationship between gender and relevance of the studies. The fourth-level returning scholars are mostly men. Of the total returnees, 57.9% are men, while 42.1% are women. The gap is widened in doctoral and postdoctoral studies, where 65.1% are men.

Figure 8
Returned students by gender (2017)



Source: Sub-secretariat for the strengthening of knowledge and human talent.

Despite the existing gender gap, an important figure on the profile of the returnees of fourth level is that women who leave to course their doctoral studies, leave for areas of high relevance for the country, indicating that the relevance policy proposed by the State has worked.

Table 2
Distribution of returnees of fourth level by area of knowledge, gender and training level (2017)

	Total	Training level			
		Master		Doctorate/ Post-doctorate	
		Man	Woman	Man	Woman
Education	3.3%	2.2%	5.5%	1.4%	1.7%
Arts and Humanity	6.8%	5.9%	8.2%	7.3%	5.1%
Social Sciences, Journalism and Information	16.1%	13.5%	21.3%	8.7%	19.2%
Business Administration and Law	5%	5.8%	5.9%	1.1%	1.3%
Natural Sciences, Mathematics and Statistics	19.9%	17.4%	18.2%	28.6%	32.5%
ICTs	10.3%	12.3%	7.4%	12.6%	9%
Engineering, Industry and Construction	29.7%	37.5%	22.5%	27.9%	16.2%
Agriculture, Forestry, Fishery and Veterinary Sciences	3.9%	2.4%	3.5%	9.6%	7.7%
Health and Wellness	5%	3.1%	7.7%	2.7%	7.3%
Total	100%	100%	100%	100%	100%

Source: Sub-secretary for the strengthening of knowledge and human talento.

From the women who leave the country for doctoral and postdoctoral studies, 32.5% study natural sciences, mathematics and statistics. From those who study a master's degree, 37.5% select engineering. This is not reproduced in the national distribution, either at the postgraduate or undergraduate level. Nationally, the choice of women remains for the humanities, health and well-being.

Perception of beneficiaries of the international scholarship program

In addition to the analysis work of the aggregate data previously performed, an important contribution of this research was the conducting of surveys with the returning professionals to the country. The group of individuals subject to the survey is formed by those beneficiaries that already completed their doctoral studies until the middle of the year 2017³, the sample frame of reference that was formed by something more than 700 PhD.

Initially a sample was established with an error of 5%, considering the composition by area of knowledge, but the reception of 126 people did not allow a representative analysis with respect to the areas of knowledge, generating an estimation error of 7.8%. It recomputed the case distribution by sex and area of knowledge with the use of expansion factors to give more consistency to the results obtained. In all cases, inferences were made by sex and by a grouped variable of completion years of the doctorate, also requested demographic information, work and research activities in a very general way.

As a result of the survey it was determined that at the demographic level, seven out of ten doctors are married or united, women to a lesser extent than men (about 15 points less and slightly more than sixteen points if considering the fact of being mothers). That is, among the returnees, 71.7% of men have children and only 54.9% of women.

Another important fact that shows the gender difference is that from the returnees, there are more women than men who do not work when they return, although those who work do not take longer than men to get the job. That is, 95% of the beneficiaries of the programme are working, but the proportion of women who claim to be unemployed (10.5%) is four times higher than that of men. Those who have returned in the years 2016 and 2017 are three times more likely to be unemployed (7.7%). Only 6% are employed in private companies, about 90% work in universities and 1% declares to be linked to a research institute.

³ Contact information of returning scholars was accessed until that date.

Table 3
**Occupation of the returnees: distribution
 by sex and year of return**

	Total	Gender		Year of return	
		Man	Woman	Before 2016	2016 and 2017
Does not work	5.1%	2.5%	10.5%	2.7%	7.7%
Private sector	32%	32%	31.9%	35.5%	28%
Public sector	62.9%	65.5%	57.7%	61.8%	64.2%
	100%	100%	100%	100%	100%
Sample cases	126	80	46	65	61

Source: own elaboration

Table 4
**Place where the returnees work: distribution
 by gender and year of return**

	Total	Gender		Year of return	
		Man	Woman	Before 2016	2016 and 2017
University	86.7%	82.6%	95.9%	89.5%	83.6%
Research institute	0.8%	1.1%			1.7%
Public institution	6.3%	8.2%	2%	5.7%	7%
Private institution	5.5%	7.0%	2.1%	3.5%	7.8%
NR	0.7%	1.1%		1.4%	
	100%	100%	100%	100%	100%
Sample Cases	119	78	41	63	56

Source: own elaboration

Among those who declare to be professors at the general level, 28% are occasional and 36% in the case of those who returned between 2016 and 2017, the latter might suggest that there are difficulties in obtaining tenureship in a university, but in general, they link immediately to the workfield, on average they obtained a job one month after returning. The returnees do not necessarily occupy all their dedication time to research activities, in the case of those who declare to be professors, one fifth of the

PhD do not do research and close to the fourth part at the general level. Women are more satisfied than men with their salary, this difference is statistically significant. One in five doctorates receive additional economic incentives for their accomplishments or goals achieved, but to a lesser extent women and returnees in the years 2016 and 2017.

In relation to the wage differences that may exist between men and women, 80% of men and 73% of women consider that the wage remuneration for women is similar to that of their male counterparts for the accomplishment of the same professional activities; however, there are no significant differences at 1% in these proportions. Likewise, there are no differences in the time proportions that men and women devote to domestic chores.

As mentioned, the policy implemented by the SENESCYT seeks to make human capital return to the country. According to the respondents, 60% of beneficiaries would have returned even if the country's compensation policy had not restricted their ability to stay abroad and among those who had not returned mainly had not done so for employment and professional opportunities. It is important to note that half of the students who returned between 2016 and 2017 declares to have the intention of having completed the compensation period of their scholarship to work within the country and 62% among those who returned before the 2016.

The number of publications and participations in scientific events per year is threefold after obtaining their doctorate and within the main difficulties, according to the perception of the interviewees, there is the lack of financing and infrastructure:

Table 5
In your opinion what are the most important barriers facing research in your area of knowledge? (Multiple)

	Total	Gender		Year of return	
		Man	Woman	Before 2016	2016 and 2017
Financing	61%	65%	53.1%	62.4%	59.5%
Infrastructure	21.2%	23%	17.6%	18.9%	23.8%
Time	15.7%	14.3%	18.6%	16.8%	14.4%
Lack of information for research (databases, bibliography, access to literature of scientific relevance)	11.5%	10.3%	13.9%	8.1%	15.2%

Bureaucracy and administrative procedures	10.7%	10.1%	12%	15%	5.9%
Lack of institutional support	10.6%	13.3%	5.3%	11.3%	9.9%
Lack of government support	10%	9.5%	10.9%	11.6%	8.1%
Excessive hours in teaching and administrative activities	8.2%	7.0%	10.5%	8.2%	8.2%
Shortage of researchers and technical staff	8%	7.7%	8.7%	6.7%	9.5%
Awareness of the importance of research for the country.	7.2%	8.1%	5.4%	9.2%	5%
Lack of incentives for research	6.9%	8.1%	4.4%	8.2%	5.4%
Lack of associations/groups/ research networks in the country.	5.1%	5.7%	4.0%	3.8%	6.6%
N/R	5%	2.3%	10.4%	4.9%	5%
Inefficient/mediocre evaluation processes	4.4%	4.8%	3.7%	5.6%	3.1%
Lack of well-paid job vacancies for researchers.	3.9%	4.9%	1.8%	4.3%	3.4%
Lack of research culture	3.6%	4.7%	1.5%	5.6%	1.5%
Language	3.5%	2.5%	5.6%	3.5%	3.5%
Means of publication	2.8%	4.3%		2.2%	3.6%
Work instability	2.4%	2.4%	2.5%	1.6%	3.4%
Interinstitutional cooperation	2.2%	2.4%	1.8%	3%	1.3%
Legislation/regulations	2.2%	2.3%	1.8%	1.2%	3.3%
Public procurement	1.5%	2.3%		1.5%	1.6%
Vision	1.5%	1.1%	2.5%	2.9%	
Unfair competition	0.8%	1.2%		1.6%	
Sample cases	126	80	46	65	61

Source: own elaboration

Conclusions

Throughout the text the target was to show that there was relevance in the public policy of fourth level scholarships for studies abroad and that the return of the students has an impact on the national production, once the 95% of the returnees are employees and working. In the long term, this process may have an impact on the country's peripheral type of international insertion.

It was demonstrated that the institutionalization of the system is reflected in a better environment to raise research-teaching-innovation relationship, since there was a clear change in the relevance structure of the students. The survey, despite the margin of error, allowed to close a gap with respect to the knowledge acquired in the country to analyze, with scientific data, what the returnees do, where they work, the reasons why they have returned and their impact in the national production.

Historically, migratory flows have consolidated the dependency geography among countries called developed and underdeveloped. A dependency that continues to grow and produce other inequality structures such as corporate governance (Bebchuck and Roe, 2014) and cognitive governance (Maniglio, 2016). In this sense, the public policy of training in the exterior and the return of brains sought to confront the cognitive dimension of the historical dependence and the structuring colonialism of the world system.

Although these creative actions have been viable thanks to the peculiar composition of alternative political forces in the States of the region, they have origins that correspond to social disputes that preceded the arrival of these governments to the power. While it is true that these are policies that seek a better and more sovereign insertion into the system, if they are not maintained in the structure of the state, they may be threatened by the arrival of power groups that find their meaning in dependency, so they seek to revert processes of cognitive autonomy that have initiated in the country. The dispute over cognitive sovereignty must be addressed as one of the main disputes in a country.

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MISCELÁNEA

MISCELLANEOUS

Comparative analysis of media framing in international agencies of east-west news. Case Study: Attack at Istanbul airport

*Análisis comparativo del framing mediático en agencias
internacionales de noticias Oriente-Occidente. Estudio de caso:
Atentado al aeropuerto de Estambul*

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Abstract

Social realities are discursive constructs, so that attitudes and representations are the reflection of an informative approach. In this sense, the cultural and linguistic gaps between different civilizations, together with a discursive construction of a war nature, could be creating the ground for a continuous confrontation between East and West. The present study analyzes the different rhetorical frames of the international news agencies Reuters, Al Arabiya, Al Jazeera and Associated Press about the terrorist attack at the Istanbul (Turkey) airport on July 28, 2016. A quantitative study of the figures speech and the most repeated topics in the headlines of the attack is carried out. The power of the media in public opinion and the construction of reality generate a discussion about how these news are spread and their effects. The objective is to compare the different rhetorical frames in both civilizations and to identify if stereotypes are projected and if this framing contributes to the spectacularization of the conflict. The main result is that there are no significant discursive differences, which leads to the conclusion that east-west rhetorical figures are used to produce a certain effect in the population, among those that highlight the euphemisms, dysphemisms, demonization and discursive polarization, resources that serve to emphasize fear and create even larger gaps of social significance.

Keywords

Framing, news agencies, stereotypes, war discourse, demonization, rhetorical frames.

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Resumen

Las realidades sociales son constructos discursivos, por lo que las actitudes y representaciones son el reflejo de un enfoque informativo. En este sentido, las brechas culturales y lingüísticas entre distintas civilizaciones, aunado a una construcción discursiva de naturaleza bélica, pudieren estar creando el caldo de cultivo para un enfrentamiento continuo entre Oriente y Occidente. La presente investigación analiza los diferentes encuadres retóricos de las agencias internacionales de noticias Reuters, Al Arabiya, Al Jazeera y Associated Press sobre el atentado terrorista al aeropuerto de Estambul (Turquía) el 28 de julio de 2016. Se realiza un estudio cualitativo de las figuras retóricas y los tópicos más repetidos en una muestra de 144 titulares relacionados con el atentado. El poder de los medios de comunicación en la opinión pública y construcción de la realidad generan un debate sobre cómo se redactan estas noticias y sus efectos. El objetivo es comparar los encuadres entre las agencias de ambas civilizaciones e identificar los estereotipos proyectados y si se contribuye a la espectacularización del conflicto. Se obtiene como resultado principal que no hay diferencias discursivas significativas, lo que lleva a concluir que tanto en los medios y agencias internacionales de Oriente medio como de Occidente se utilizan figuras retóricas para producir cierto efecto en la población, entre las que resaltan los eufemismos, disfemismos, la demonización y la polarización discursiva, recursos que sirven para enfatizar el miedo y crear aún mayores brechas de significación social.

Palabras clave

Encuadre informativo, agencias de noticias, estereotipos, discurso bélico, demonización, encuadres retóricos.

Introduction

On June 28, 2016, twenty-one days after the attacks of June 7, takes place an attack at Atatürk International Airport in Istanbul (Turkey). The explosions occurred in different parts of the airport, and at the same time there was a shooting in the parking lot and two explosions at the international arrivals terminal. These acts left a total of 44 deceased and 239 injured. The media coverage of this event was extensive and the media of the world echoed the information, broadcasting live news and showing alive videos of the moment of the attacks.

In the news of terrorist attacks, which have a social and historical context that occurs in a conflict that has lasted over the years, clichés, simplifications and lack of depth predominate (Hernández, 2016; Casteleiro, 2015). The media discourse creates concrete ways of understanding reality

and conditions the shared knowledge of the world (Rodrigo-Alsina, 1989 and 1997). The present presentation of Islam includes xenophobic tensions and identity crystallizations, both in the West and in the East (Bensalah, 2006), using framings containing rhetorical devices which allow to condense the meanings (Montoya-Londoño and Mejia-Vallejo, 2015). Most of these settings converge on the same goal: equate Islam with barbarism and show those who practice this religion as retarded, violent, and bloodthirsty beings (Bensalah, 2006).

On the other hand, the relationship between the media and terrorism is complex because the diffusion of terrorist actions can be propaganda, and in turn can be due to the pressure that violent groups exert on the media (Torres, 2006). Therefore, the need to address the rhetorical framing of terrorist attacks carried out in the name of Islam is imperative in order to understand the information transmitted, and identify if stereotypes are projected and contribute to the spectacularization through informative treatment.

This research will analyze the informative treatment that international news agencies, in their digital media platforms, had with respect to June 28, 2016 at Istanbul Airport (Turkey), through an analysis of interpretative-based content on the rhetorical settings of the main international news agencies, taking as axes show of companies in the Western World (Reuters and AP) like the Middle East (Al Jazeera and Al Arabiya). This study is part of the importance of studying international news agencies, in the sense that they are sources of replicated information –even sometimes without contrast– by means of communication from around the world, a phenomenon known as the “ventriloquist effect”, in which a single medium becomes multiple voices (Arráez, 1998).

The media and the creation of realities: State of the art

Media coverage of terrorism, framing and rhetorical framing

The increase in terrorist acts around the world has become a problem concern (Shoshani & Slone, 2008). Among the primary mechanisms by which this extension and magnification occurs is psychological warfare, which constitutes the planned use of communications to influence the opinions, emotions, attitudes and behaviors of target groups (Weimann, 1983).

The signals sent by the media through a careful construction of the terrorist event are designed to create and maintain the illusion of power beyond the attack itself (Hoffman & McCormick, 2004). Media coverage of terrorism news can play an important role in changing attitudes, such as the perception of the enemy and stereotypes (Shoshani & Slone, 2008).

One of the most important components of these attitudes are stereotypes that describe the human tendency to resort to a simplified image of a certain social group in the face of a complex social reality (Mackie & Hamilton, 1993).

According to Torres-Toukoumidis *et al.* (2017), international news agencies are responsible for configuring the informative agenda, the focus and its versions, generating globalized public opinion matrices, coinciding also with the “ventriloquist effect” explained by Arráez (1998), in which few powerful agencies fix the framing of many media.

Any communicative text requires narrative strategies to organize the discourse. In the case of the media, news events are presented in a systematized manner, based on narrative conventions that offer an explanation of who is doing what, and for what purpose – framing – (Ardèvol-Abreu, 2015). Thus, framing consists in selecting some aspects of reality and making them more notable in communication (Valera, 2016). Entman (2005) explains that this “informative agenda setting” applies to a cascade theory that consists of the following levels:

- The government: It is in the first place because it has more control over the discourse and more power and independence to decide.
- Other Elites: Those close to governments and that have some influence on them.
- Media: This is a complex level since not everyone has the same interests or the same influences, they create their own waterfall.
- Settings, this is the way to send the message.
- Public, although it seems to have a minimum power, Entman (2005) does not consider the public as a passive subject that accepts without questioning the interpretations of the media.

The discourse approach through the frame concept reveals the importance of cognitive aspects beyond the analysis of the purely linguistic elements that constitute the text (Palma & Manrique, 2010). From the frames perspective theory posed by Fillmore (2006), these conceptual

structures play a leading role as mechanisms that facilitate the organization of knowledge of the world and provide the basis for achieving discursive coherence. Lakoff (2008) considers that frames have a great power of persuasion or manipulation since they maintain a very close bond with the emotional world of the receiver, question that is used when one wants to mobilize the reader (Lakoff, 2008, p. 33).

Framing contains rhetorical devices that rely on the hierarchical organization of the texts, as well as on their narrative structures. For the framing, symbols such as rhetorical figures are used that allow condensing the meanings (Díaz, 2009). As Rodríguez and Castro analyze (2012, p. 443), most public affairs derive in a frame struggle, the actors seek to consolidate their power through a strategy that consists in deliberately planning the activation of certain mental associations, with a shared cultural knowledge (congruence), then this is also a rhetorical activation.

Rhetorical strategies of conflict: demonization, stereotypes and spectacularization

It is becoming increasingly common to find rhetorical elements arranged for the manipulation of the message that are issued by authorities or members of the establishment with access to the discursive social podium (Grijelmo, 2001). Among these elements is demonization, understood as a rhetoric technique that sets the foundations of a real or imaginary confrontation to cause social fear, seeking to misinform or alter the perceptions and realities about an event, description or a person from presenting them as harmful to society, generally as few valid arguments but with great emotional burden (Romero-Rodríguez, Aguaded & Gadea, 2015; Romero-Rodríguez & Römer-Pieretti, 2016).

For its part, the demonization which is necessarily part of the social division –real or imaginary– through polarization, is understood as a social phenomenon that appears when individuals align their beliefs in extreme and conflict positions, while others maintain more moderate or neutral opinions (Isenberg, 1986; Sunsteins, 2002). According to Cañizalez (2004), polarization implies ignorance of the other and has had a media correlate, because also the media and journalists have barricaded themselves in positions that exclude the possibility of understanding the other. The polarization

strategy in the discursive plane tries to minimize the achievements of the opponent and maximize their own, as well as to minimize their own errors and maximize those of the other (Van Dijk, 2003, 2009).

Another of the rhetorical strategies most commonly encountered in the conflict discourse is the euphemism, which etymologically means “good speech” or “favorable speech”. According to Allan and Burridge (1991) an euphemism is used as an alternative to a negative expression, in order to discredit or offend audiences. The euphemism tries to lessen the effects of the construction of a reality that collides with the interests or beliefs of the audience, so as not to affect or reduce the perception damage of the issuer against third parties (Romero-Rodríguez, 2014).

Meanwhile, the dysphemisms –which also emerges continuously in the informative rhetoric– is a form that consists in naming a reality with a pejorative expression or with the intention of lowering it in the category. This resource tends to appear in the hegemonic discourse not as a transmission instrument of a propositional content, but as a means of persuasion, since it is often used to exert ideological control, so the connotational or evaluative content of the chosen words usually prevail over the purely denotation value (Crespo, 2010).

Language is a non-instinctive method of communicating ideas, emotions and desires by means of a symbol system produced deliberately (Sapir, 1980). Language and different linguistic forms are very important when it comes to elaborating and constructing the facts discursively. Some thoughts depend on the language used when expressing certain ideas (Searle, 1997). Through language, the spectacularization of the news occurs, which according to Cimaturibus (2011) refers to the exhaustive exploitation of an event using stylistic resources such as exaggerations or decontextualization of a sentence, so that it is more shocking even though the content of the news is superficial. This phenomenon has a clear link with the growing tendency in the media towards the infotainment, i.e., the combination and fusion of the information with the entertainment and its own discursive formulas (Lozano, 2000; Radunski, 1999).

The media are responsible for reflecting reality by generating models that influence the creation of social identity (Gila & Guil, 1999; Marín, 2012), so stereotypes arise from social media and are learned through socialization processes. Stereotypes become the most comfortable exit instrument when it comes to informing –as they allow the conceptual simplification– and to establish patterns of social conduct in the face of the images that the spectator is consuming, causing the confusion of the reality (Vega & Martín, 1999).

Materials and methods

This research aims to compare the journalistic discourse of international news agencies (Reuters, AP, Al Jazeera and Al Arabiya), through the information units related to the Atatürk terrorist attack of Istanbul (Turkey) on June 28, 2016. It is understood as informative units the compendium of content that integrates the news, thanks to which it is able to assemble the visual skeleton of the publications (Hernández, 2017). For its achievement, are posed as specific objectives: i) to compare the rhetorical framing between the Western agencies (Reuters and Associated Press) and the agencies of the Arab world (Al Jazeera and Al Arabiya); (ii) to identify whether the information units are subject to stereotypes and/or other civilizations; iii) review whether the media and in particular international news agencies contribute to the dramatization of the conflict through the polarization and demonization of the Arab world or the western world. As teleology, it is sought to demonstrate whether the dissemination of information on the attack generates topics and ideas related to negative attributions such as fear or harmful stereotypes about a particular civilization.

To respond to these issues, the study will be addressed with qualitative design and exploratory-correlational scope from an interpretative-based content analysis of the rhetorical framing of the holders, which will help to examine how they elaborate the meanings (Saini and Schlonsky, 2012), by means of the figures of the discourse and how they express favorability or opposition towards the Arab world/Islam in both civilizations, as well as the spectacularization. In addition, information is provided regarding the current relationship between two or more variables (correlational), in this case between the Western communication agencies (Reuters and the Associated Press) and the Middle East (Al Jazeera and Al-Arabiya). This will be used for the Qualitative data Analysis System (QDA) Atlas. ti v. 8.03 for the hermeneutical cataloguing of various samples of headlines on the terrorist attack at Ataturk International Airport in Istanbul. The selection of the agencies, in addition to representing “n-n” parity between the two civilizations, is justified because they coincide in that they are those that kept more traffic during 2016-2017 (see Table 1), according to Alexa®.

Table 1
Web traffic of the news international agencies

Agency	Ranking position	Web	Traffic
Al Arabiya	1985	https://goo.gl/63dPtU	48.80%
Al Jazeera	1974	https://goo.gl/TBDnJL	64.90%
Reuters	348	https://goo.gl/NiY8cw	63.70%
Associated Press	4613	https://goo.gl/Lm9wsn	62.0%

Source: own elaboration from the ranking Alexa®

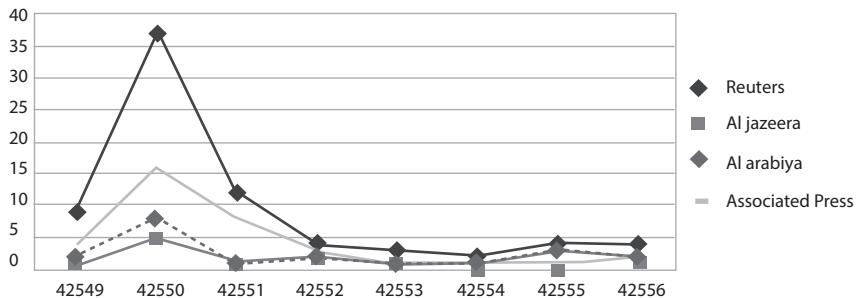
Then a search was made through the main web pages of each of the designated agencies, using as search elements: Istanbul, terrorism/terror, attack, Muslism, Daesh/Isis, Jihad/Yihadism, airport/, also using in the boolean algorithms AND and OR. Subsequently, all the headlines published in each of the agencies have been selected from the moment of the attack until a week later (from June 28, 2016 to July 5, 2016), obtaining a total sample of 144 headlines in total (see Table 2 and Figure 1).

Table 2
Number of informative units by news agency
(from June 28, 15 to July 05, 2016)

Agency	N of units	Website
Al Arabiya	23	https://goo.gl/pogvCx
Al Jazeera	11	https://goo.gl/VYHP23
Associated Press (AP)	36	https://goo.gl/ceVmJ3
Reuters	74	https://goo.gl/Q23oKS

Source: own elaboration

Figure 1
Evolution of informative/treatment units by day of analysis



Source: own elaboration

As an analysis instrument, is used the construction of the emergent discursive families used and validated by Torres-Toukoumidis *et al.* (2017), which will allow to correlate and differentiate the discursive positions of the information presented by these agencies. Thus, the discourse analysis of this research is also based on the three basic principles included by Van Dijk (1983): functionality, significance and directionality of the goal. The functionality explains that the meaning of the discourse expressions is a function of the expressions that compose it, focusing on the lexical options and the style of the sentences for the possible acts to be carried out with the enunciation of the discourse. Then, according to Meersohn (2005) the meaning of a sentence should be calculated on the basis of the meaning of its component words. The significance, on the other hand, refers to the establishment of coherence structures in sentences towards a general theme. Finally, the directionality of the goal is oriented to the potential acts imbued in the discourse.

Likewise, the emerging families of the hermeneutical round used by Torres-Toukoumidis *et al.* (2017), were selected for the present work by virtue of the material similarity of the study, as well as by the linkage with Van Dijk (1983) communicative principles. These codes emerged from the validation in the aforementioned study, being the following:

A. Ideological attribution of the Islam

- a. 1 Demonization of Islam
- a. 2 Exaltation of Islam

B. Ideological attribution of the Arab World

- b. 1 Demonization of the Arab world
- b. 2 Exaltation of the Arab world

C. Western-Middle East foreign policy

- c. 1 Polarization of the West-Middle East
- c. 2 Coexistence of the West-Middle East

D. Desired emotional state in the civilian population

- d. 1 Stressing the fear/panic in the population
- d. 2 Emphasizing the tranquility/peace of the population

E. Rhetorical expression of the discourse

- e. 1 Use of dysphemisms
- e. 2 Use of euphemism/conceptual simplification

The results obtained correspond to the inductive result of the previous review of the sample used in its analysis, identifying the reiteration of these codes in an assisted manner through the QDA platform. To know the percentages, a rule is made of the results obtained in each of the emerging families.

Analysis of the results

In the period analyzed, corresponding to the interval between June 28 and the July 5, the four agencies presented a total of 144 informative units. These represent the definitive effective sample, as they were related to the facts and their effects. Reuters and AP contain the largest number of news items with 74 and 36 units, respectively; while Al Arabiya and Al Jazeera had a total of 23 and 11 informative units (as extracted in Table 2). The day after the attack (June 29) the largest numbers of information units were issued per day (Figure 1).

From the total of the selected sample, are extracted a total of 286 emerging codes, being more reiterated those belonging to the family “stressing the fear of the civilian population” with 90 encodings. “Euphemisms” are placed in the second highest place with a total of 75 reiterations. It should be

noted that the “demonization of Islam and the Arab world” has a total of 33 codes. The “emphasis on peace” appears with 38 emerging codes, while the “ideological attribution of Islam” and the “exaltation of Islam” are placed in the last place with 13 and 2 codes.

Discourse differences and Framing

By adapting the criteria exposed by the semantic study of the media discourse (Van Dijk, 1983) to the emerging families validated and extracted from the hermeneutic study of international news agencies carried out by Torres-Toukoumidis *et al.* (2017), the following linkage is evidenced:

A. *Functionality*: Lexical substitution is the property assumed as the main indicator in this specific context. If the existence of other components is valued, it is observed that the reiteration of euphemisms and dysphemisms beset by the sensitivity of the message contrasts on the surface of the speeches emitted by the four international agencies (see Table 3).

Table 3
Lexical substitution of international agencies
in the rhetorical expression of the discourse

	Al Arabiya	Al Jazeera	Associated Press	Reuters	Total
N ^a euphemisms	13	8	20	34	75
N ^a dysphemisms	5	2	4	11	22
Rethorical expression of the discourse	18	10	24	45	97

Source: own elaboration

It is taken into account that from the 23 headlines analyzed of Al Arabiya are obtained 13 codes of euphemism, so it is deduced that to equate it hypothetically Al Jazeera would contain 6, Reuters 42 and Associated Press 20. It is therefore noted that the international news agencies that belong to the Arab world have a higher number of euphemisms, although the Associated Press equals it and Reuters approaches it. This evidences that repeated patterns based on language manipulation with disinformational effects are used, for example:

Euphemisms

Turkey's Erdogan vows unity after deadly airport blasts (Al Jazeera, June 29).

Dysphemisms

ISIL turns 'shock and awe' doctrine against Islam (Al Jazeera, July 5).

B. Significance: The figure of the speech unit on the attacks of June 28, 2016 is represented by the local coherence and the overall coherence expressed in the information subscribed by the four international agencies. According to Torres-Toukoumidis *et al.* (2017) in the first place, local coherence is symbolized by the ideological attribution of Islam and the Arab world, referencing the semantic involvement of the text deriving from the facts, while global coherence is nothing more than the general theme of the Information exposed in local coherence (see Table 4).

Table 4
Semantic meaning of codes extracted from international agencies

Semantic meaning	N of codes
Ideological attribution of Islam (local coherence)	13
Ideological attribution of the Arab World (local coherence)	31
Western-Middle East Foreign Policy (global coherence)	44

Source: Own Elaboration

When are specified the international agencies and pop-up subcodes for local coherence, there is also data synchronization with the emerging subcodes of global coherence. In other words, the demonization of Islam and the Arab world corresponds to the family exposed by the West-Middle East polarization; meanwhile, the exaltation of Islam and the Arab world corresponds to the west-middle east coexistence (see Tables 5 and 6).

Table 5
Relationship of negative connotation codes classified by agency

	Al Arabiya	Al Jazeera	Associated Press	Reuters	Total
Demonization of the islam	2	2	3	4	11
Demonización of the Arab World	5	2	4	11	22
West-Middle East polarization	7	4	7	15	33

Source: Own Elaboration

Table 6
Relationship of positive connotation codes classified by agency

	Al Arabiya	Al Jazeera	Associated Press	Reuters	Total
Exaltation of the islam	1	1	0	0	2
Exaltation of the Arab World	0	0	2	7	9
West-Middle East coexistence	1	1	2	7	11

Source: own elaboration

It is observed in the previous tables that the four news agencies analyzed use the discredit rhetoric on recognition, while the demonization of the Arab world is the ideological attribution that the greatest load of semantic significance has. It can also be shown with clarity that a discourse inclined towards the polarization of the West-Middle East is constructed, as it is extracted from the following headlines:

France temporarily closes missions in Turkey over threat (Associated Press, July 5).

New York airport security increased after Istanbul attack (Associated Press, June 28).

White House condemns attack on Istanbul airport (Reuters, June 29).

Meanwhile, some news through the polarization of the Arab world – which has the greatest number of encodings in the positive aspects– balance

the polarization with the West-Middle East coexistence. This phenomenon can be seen in the following headlines:

Tunisian father who went to Turkey to bring back militant son killed (Al Arabiya, June 29).

Obama: U.S. stands with Turkey after Istanbul airport attack (Reuters, June 29).

c) *Directionality of the goal*: by taking into account the emerging families of the study of Torres-Toukoumidis *et al.* (2017), exposed to functionality and significance, the communicative purpose was associated with the social situations projected in a specific context (see Table 7).

Table 7
Communicative purpose in the desired emotional state to the civilians

	Al Arabiya	Al Jazeera	Associated Press	Reuters	Total
Emphasis on fear	14	5	23	48	90
Emphasis on tranquility	8	5	8	17	38
Desired emotional state in the civilians	22	10	31	65	128

Source: Own Elaboration

The encodings extracted show how the emphasis of fear on information directed at peace and tranquility in the civilians is exposed. Having knowledge of these results, can be seen how the media – as replicators of the discourse of news agencies– both in the Western world and in the Arab world resort to the emphasis of fear as a discursive strategy, causing panic. In this way the population accepts decisions that would not accept with other feelings. The use of this rhetoric can be seen in the following headlines:

German spy chief can't rule out Istanbul-style attacks at home (July 4 in all the agencies).

Ghostly quiet as tourists stay away from Turkey's magical Istanbul (Al Jazeera, July 4).

Tips for staying safe while traveling overseas this summer (Associated Press, July 29).

Stereotypes and topics

Stereotypes are used that bring the concept of terrorism to the West in an equivocal way, demonizing collectives and marginalizing to perceptual ostracism. Some holders stereotyped the type of attack carried out by the Islamic State (EI), which causes them to be always attributed to this terrorist group. This maximizes the rumors about the Arab world and the demonization of Islam, which causes news about terrorism to trigger the stereotype of the Arab-terrorist. With the use of words such as Islamic terrorism, jihadist or extremist and highlighting the nationalities of terrorists stereotyped the Arab world, relating it perceptively and automatically to terrorism. It can be seen in the following headlines:

CIA says Istanbul airport attack bears hallmarks of Islamic State (Reuters, June 29).

US congressman: Chechen extremist behind Istanbul airport attack (Associated Press, June 29).

Once again, Saudi Arabia is on the terrorism frontline (Al Arabiya, July 5).

Spectacularization of the conflict

Following the completion of the analysis, a new form of transmission and spectacularization of the conflicts have been observed. A terrorist attack, as a fact of the news, has all the components for the spectacularization: emotion, suspense, violence and uncertainty. The way in which the media takes advantage of these characteristics have been observed in the different headlines in which they are:

a) Multimedia elements, which help the spectator to create a perception of the facts, as if it were a sci-fi film. It can be seen in the following headlines:

New terrifying scenes of Ataturk Airport attack (Al Arabiya, June 29).

Ataturk Airport attack: Scenes of carnage in Istanbul (Al Jazeera, June 29).

B. Fragmentation of the content, which means that the viewer is constantly watching the media updates and maintaining interest and uncertainty in the conflict. It can be seen in the following headlines:

Last hour: Obama hints at ISIS responsibility for the Istanbul attack (Al Arabiya, June 29).

ISIL ‘key suspect’ in Istanbul’s Ataturk airport attack (Al Jazeera, June 29).

c) Storytelling, For the creation of this type of content, according to the headlines, actions are seen such as visiting families of the victims and sharing stories of the witnesses, which connects the public emotionally. The way in which the storytelling has been used in the sample can be observed in the following units:

Tunisian father who went to Turkey to bring back militant son killed (Al Arabiya, June 29).

Al Arabiya visits the family of a Saudi man killed in Istanbul attack (Al Arabiya, June 30).

d) Decontextualization, The bombing of Turkey and in general, other attacks, have been isolated from their historical and spatial context, so that they become incomprehensible and emotional facts, causing a sense of confusion between the audience. Misinformation retains information and spectacularize, making it newsworthy what it sells. It can be seen in the following headlines:

Istanbul airport attack killed 2, injured 25 Saudis: envoy (Al Arabiya, June 29).

Vast majority’ of dead in Istanbul airport attack were Turkish, official says (Reuters, June 29).

Thirty-one killed, 147 wounded in Istanbul airport attack (Reuters, June 29).

41 dead in Istanbul airport attack (Associated Press, June 29).

E. Intrigue headlines. By fragmenting the information, a large number of news is sent to the day. This causes that people are saturated with information and that many are not open to reflection. For the reader to open

those news that according to the media are relevant, vocabulary is used that leaves the audience intrigued as “Last hour”, “Special cover”, “the latest”. This vocabulary captures the attention of the spectator, as it creates a feeling of providing news and being part of the main plot of the series.

Last hour: Special coverage of Istanbul Ataturk airport attack (Al Arabiya, June 29).

The Latest: Video in Turkey shows man being shot at airport (Associated Press, June 30).

Conclusions and discussion

To reach the first specific objective “to compare the discursive approaches (framing) between the Western agencies (Reuters and the Associated Press) and the agencies of the Arab world (Al Jazeera and Al Arabiya)”, after making the analysis is concluded that there are no significant discursive differences. All the news, regardless of the agency to which they belong, use euphemisms and dysphemisms, polarize, demonize and emphasize fear. In both cases rhetorical figures are used in order to produce an effect on the population and to alter perceptions through language. It is striking that there is a greater number of discursive units of demonization of Islam in Arab-owned agencies (7 units), a situation that may be because even the news of the Arab world or the issues pertaining to the Islamic world are treated under the pressure of the Western ideals (Eurocentrism), of relations with the West and to the extent that the east is affected by them.

It can also be seen with clarity how the “emphasis on fear” is a constant in the information of the four news agencies analyzed. Disinformation and decontextualization of facts are used to avoid critical thinking, omitting information on the history of conflict and political and social relations (Romero, 2012).

Also, and reaching the second objective, there is a tendency to generate stereotypes, especially in the news of the western world, which does not help to raise public opinion with the Arab world and produces an increase in the prejudices that they cause problems in the social environment and in the coexistence possibility.

In the same order of ideas and reaching the third objective, it is observed in the results that international agencies contribute to the spectacularization of the conflict. This leads to the non-guarantee of professionalism in all communications, since quality is less important than using the features imposed by digital channels in the new age of communication. This also uses emotional strategies to disseminate sensationalist images that can hurt people's dignity and offer distorted representations of reality. In some cases these strategies can be considered a positive spectacle because they help to broaden the moral space, making it possible to sensitize or to move the audience against suffering, but without situating the facts from a critical and reflective view.

It is said that the four news agencies analyzed used rhetorical figures in order to produce an effect on the population and build a reality through language. In this sense it is evident that the media do not say how to think but what to think (agenda setting) and from what point to approach (framing). This relates to what is referred by Tuchman (1978), who describes the news as a window whose framework delimits the reality to which one has access, limiting the perception of another different reality and focusing the attention on that specific fragment, affirming even as a result of this research that the news of middle-east agencies are treated under the pressure of Western ideals, considering them as a predominant discourse.

In relation to the tendency to generate stereotypes, it is observed that Western news agencies create a negative view of Islam presenting as a threat and contributing to what is known as “contemporary racism”, which is based on self-defense rather than on racial differences. This confirms what was said by Torres-Toukoumidis *et al.* (2017) when claiming that stereotypes are gaining greater force on the emotional level of discourse and oblige the consumer of information to adhere to the schemes drawn up by the media on the basis of constant repetitions, the aim of which is to get the mirage becomes an undisputed reality.

Finally, it is noted that the news on terrorism has become a discourse focused on mass entertainment in both societies. Being newsworthy and being in public opinion can create what has been called “positive spectacularization”, term which is not supported by Hacker (1976) that says that the spectacular is unnecessary creating barriers between the spectator of the news and who suffers.

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Access to higher education: Uruguay and Ecuador Comparative Law study

*Acceso a la educación superior: Uruguay y Ecuador
Estudio de derecho comparado*

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Abstract

Nowadays, higher education has become an important element not only from the individual rights perspective but also as part of the development strategy of many countries. The International Covenant on Economic, Social and Cultural Rights (ICESCR, 1966) recognizes education as an individual's right and establishes that equal access and progressive free education in higher education is necessary to achieve the full exercise of that right. In this framework, the legal norms in the field give important inputs to understand the access patterns to higher education in each country. The aim of this paper is to approach to the models in two Latin American countries: Uruguay and Ecuador, through the scrutiny of their regulations on this matter; the Comparative Law method has been adopted, which allows an analysis of the different sources of Law to be compared to achieve a synthesis that provides evidence of the similarities and differences on their legal content, values and political models. Both legal systems consider higher education as a public good and a right, the differences are reflected in the mechanisms for implementing access to that right.

Keywords

Comparative Law, right to education, democratization of education, higher education, free education, educational opportunities.

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Resumen

En el mundo contemporáneo la educación superior se ha tornado un elemento de gran importancia no solo desde la perspectiva de los derechos individuales, sino también como parte de la estrategia de desarrollo de los Estados. El Pacto Internacional de Derechos Económicos, Sociales y Culturales (PIDESC, 1966) reconoce a la educación como un derecho de las personas y establece que el acceso igualitario y la implantación progresiva de la gratuidad en la educación superior son necesarios para lograr el pleno ejercicio de ese derecho. En ese marco, los ordenamientos jurídicos de la materia dan importantes insu- mos para conocer los modelos sobre acceso a la educación superior de cada país. El presente trabajo tiene por objetivo aproximarse a los modelos de dos países de América Latina: Uruguay y Ecuador, a través de sus ordenamientos jurídicos en la materia; para ello se ha adoptado el “método del derecho comparado” que permite realizar un análisis de las diferentes fuentes del Derecho de los Estados a comparar, para alcanzar una síntesis que brinde evidencia de las semejanzas y diferencias sobre el contenido jurídico, valores y modelos políticos sobre los que se asientan. Ambos Estados, a través de sus normas, consideran a la educación superior como un bien público y un derecho, las diferencias se reflejan en los mecanismos de implementación del acceso a ese derecho.

Palabras clave

Derecho comparado, derecho a la educación, democratización de la educación, enseñanza superior, enseñanza gratuita, oportunidades educacionales.

Introduction

In the contemporary world the formation of human talent —also called human capital— is relevant not only to the individual right of people, but also to a developing strategy of the States, both from Liberal perspectives as from the Socialists/communists.

International D Pact the International Covenant on Economic, Social and Cultural Rights (PIDESC, 1966) recognizes education as a right of individuals and establishes that equal access and progressive implementation of gratuity in higher education are necessary to achieve the full exercise of that right. For Latin American countries, higher education implies a challenge and an inescapable topic in today's world. One of the challenges of the region is the massing with equity for the promotion and social mobility (UNESCO, 2015, p. 90).

The legal systems selected to perform the comparison are Ecuadorian and Uruguayan. This choice was made considering:

- That the legal systems of both countries are inserted in the same legal tradition, i.e., in the civilian tradition, which makes the comparison of the institutions more viable by being on the same legal bases.
- Both countries recognize and guarantee the gratuitousness of public higher education, an unusual likeness on which it is interesting to delve deeper.
- Both countries are in the same geographic region, which may suggest that there are historical and social factors that coincide.
- The size of higher education systems to compare is similar in relation to other countries in the region that maintain the characteristics detailed in the preceding numerals.

Although there are other countries in Latin America that maintain free public higher education systems, such as the case of Argentina and Brazil (UNESCO, 2018), their dimensions are much higher than the Ecuadorian and Uruguayan Higher education systems (UNESCO, 2018), a variable that would require another type of approach for its own size problems and, moreover, if it is considered its federal models of government.

The method used in this research is the one described by De Almeida Ferreira and Carvalho Morais (2017, pp. 26-36), in which it is suggested to make the micro-comparison through the graphic idea of a comparative vision with a syntagmatic axis (which includes the D Historical, legal and juridical dimensions of the subject to be compared) and a paradigmatic axis (in which the variations of the syntagmatic dimensions will be developed). The process includes an analytical and integrative phase, to end with a comparative synthesis. Following the proposed by Moura Vicente (2012, p. 39), are tried to identify the similarities and differences between the two systems and find some causes.

This paper raises the approach of the object under study through the “Method of Comparative Law”, which implies the systematic comparison of rights or legal systems to identify similarities and differences (De Almeida and Carvalho, 2017, p. 11). Specifically, a micro-comparison exercise will be carried out which consists of comparing related legal issues or institutions in different legal systems, considering a legal institution such as the set of norms, principles and organizations of a legal nature that are part of a certain legal system and constitute a unit based on social, legal or doctrinal aspects (De Almeida and Carvalho, 2017, p. 13). The approximation of the micro-

comparison will be functional, i.e., it is selected and compares a juridical institution that in different juridical systems provides legal solutions to similar necessities (De Almeida and Carvalho, 2017, p. 27).

The object of the comparison is the access to higher education from its legal dimension in two different legal systems with a current and synchronous temporal criterion, but incorporating a historical perspective and considering the aspects that are susceptible to being compared.

Historical Dimension

Historical evolution of higher education in Uruguay

The foundation of the university in Uruguay began with the creation of the House of General Studies in 1833, transformed into Universidad de la República Uruguay in 1838. The next thirty years the university was characterized, according to Condea (2008, p. 535), by the philosophical current of the eclectic spirituality that served to maintain an anticlerical and liberal line.

In the last third of the nineteenth century the positivist period began with the creation of the Faculty of Medicine and Mathematics, a model that was promoted by José Pedro Varela, whose project was characterized by making education compulsory, free and secular (Council of Primary Education, 2018). In the first half of the twentieth century, it was advanced towards a professional university and in the Constitution of 1934 it was declared the gratuitousness of the official education as social usefulness (art. 62). In addition, the Constitution of 1952 established the designation form of the Directors Board of Universidad de la República in which students, teachers and graduates would participate (art. 205) and declared the autonomy of public education institutions (art. 204). The second half of the twentieth century began with the consecration of the academic and political autonomy in the organic law of Universidad de la República (1958), promoted by the student mobilizations influenced by the autonomous movement of Córdoba in Argentina (1918). The 1967 Constitution guaranteed freedom of education. In 1973, the military dictatorship silenced the institution and dismissed several professors; in that period also initiated a process of mass enrolment, going from 16000 students in the years 70 to 63000 in 1988. In 1980, after the dictatorship, Universidad de la República de Uruguay was

able to re-think and decide for itself, through the recovery of the sense and critique habit (Martínez, 2003, pp. 3-12).

On the most recent history, Contea (2008, p. 535) points out that the privatization process of higher education in Uruguay began in 1984, with the creation of the Universidad Católica de Uruguay, and continued in the decade of the 90 with others, however, most of the university tuition is concentrated in Universidad de la República.

The historical evolution of higher education in Ecuador

Higher education in Ecuador has its origins in the Royal Audience of Quito, during the Spanish colony. From 1620 they worked in the territory of what is now the Ecuador three universities and in 1779 all the universities of Quito were unified with the name of Universidad de Santo Tomás, at the initiative of Bishop José Domingo Pérez Calama (Pacheco, 2015, pp. 175-178). After the independence, the Napoleonic professionalizing model is the one that was imported for higher education.

Three major reforms followed at this stage. The first reform was that of liberalism and secularism, which began in 1907, when the State adopted a financing role and progressed towards the inclusion of mestizos (Guíjarro, 2016, pp. 220-221). The second was of reflexivity and critique, from the middle of the twentieth century, in which the social dimension of the university became more relevant, marked by the student organization influenced by the autonomous movement of Cordoba in Argentina (1918), the Cuban Revolution (1958), the Chinese Cultural Revolution (1966) and the events of May 68 in France. This period was marked by the search for more democratization of access to the university classrooms, more institutional autonomy in the face of the state and a true social function (Guíjarro, 2016, pp. 224-226). Finally, the third reform was conceived at the end of the first decade of the 21st century, in the scenario of globalization and neoliberalism, whose most notorious effects were observed between 1980 and the middle of the first decade of the 21st century, period during which the university suffered impoverishment and privatization (Ramírez, 2013, p. 17). In such a way that between 1998 and 2000 fifteen universities were created, of which thirteen were self-financed and two public (Minteguiaga and Ramírez, 2010, p. 138). This reform came with the wave of progressive governments in Latin America, which in Ecuador began in 2007,

involving a new constituent process and a political and programmatic agenda for the recovery of the state, public investment and rights, under the Paradigm of Good Living. In this context, the current Constitution issued in 2008 declared the gratuitousness of higher education up to the third level and the establishment of a leveling and admission system for the public higher education system.

Metalegal Dimension

Socio-economic characteristics of Uruguay

Uruguay is a Democratic republic with a continental territorial extension of 176 215 km² and is located on the east coast of Latin America. It has a population of 3 440 157 inhabitants (INE, 2014, pp. 17, 22), where more than 90% of its population is considered white (INE, 2018). In general, it is considered as the society with the greatest advances in equality in Latin America: the gap between rich and poor seen through the Gini coefficient per income¹ has dropped from 0.47 in 2006 to 0.41 in 2015 (BM, 2018); i.e., there is a significant reduction in inequality in that period, although it does not reach the level of OCDE countries, whose average in 2014 was 0.318 (OCDE, 2018). However, it has the highest per capita income in Latin America and an average class of 60% of its population (BM, 2018). Its GDP went from 19.5 billion to 52.4 billion dollars between 2006 and 2016 (BM, 2018) and its exports are concentrated in products such as meat, cereals, milk and dairy, wood and manufactures (Instituto Uruguay XXI, 2011).

Uruguay's public investment in higher education was 1.2% on GDP in the year 2011 (Ballas, 2016, p. 90) and its gross enrolment rate in higher education² had significant growth between 2006 and 2010, from 46.03 to 63.13 (BM, 2018).

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- 1 According to the integrated system of social indicators of Ecuador, the Gini coefficient of income is a statistical measure of inequality in the distribution of individual income, which varies between 0 and 1. It shows more inequality as it approaches 1 and corresponds to 0 in the hypothetical case of a totally equitable distribution.
 - 2 Gross enrolment rate, higher education (levels 5 and 6 of CINE), total. It corresponds to the total number of students enrolled in higher education (levels 5 and 6 of CINE), regardless their age, expressed as a percentage of the total population of the age group, five years after completing secondary education (BM, 2018).

Socio-economic characteristics of Ecuador

In terms of social indicators, Ecuador has a territory of 256 370 km² and has a population of 14 483 499 inhabitants, according to the population census of 2010 (INEC, 2018). 21.6% is considered afro or indigenous, 71.9% mestizo and 6.1% white. In general, it is an unequal society, but there have been efforts to reduce the gap between rich and poor. Thus, the Gini income coefficient went from 0.54 in 2006 to 0.47 in 2015 (SIISE, 2018), i.e, there was a significant reduction in inequality during that period, although the level of the OCDE countries was not reached, whose average in 2014 was 0.318 (OCDE, 2018).

The economy of the country is primary-exporting and secondary-importing. Its main resource is oil, which depends very much on its price on the international market. Despite the efforts made in recent years, in which GDP went from 51 million dollars to 98 million dollars³ (BCE, 2018), non-oil exports only grew by 14% between 2012 and 2016, and this due to the fall in oil prices in the last years (BCE, 2018). However, at the time of the high oil prices, such incomes were invested in poverty reduction (Ramírez, 2017, p. 84) so that the crisis did not affect the poorest strata (Ramírez, 2017).

With regard to access to higher education, enrolment grew by 136 000 students, between 2006 and 2014, which involved the increase of 4.1 percentage points of the total and corresponds to twice the annual population growth. The probability of entering the university being poor in 2006 was 33% and in 2014 that probability increased to 67% (Ramírez, 2016, p. 26).

Legal dimension

Law sources on higher education

Law sources dealing with the aspects of tertiary education in Uruguay are the following rules in force (enumerated hierarchically): Constitution of the Republic of Uruguay (CRU), the PIDESC, the General Law of Education (LGE), the Laws of the Creation of Public Universities (Universidad de la República de Uruguay y la Universidad Tecnológica de Uruguay), the Law of Budget for the period 2016-2021, the Decree Law N° 15661 of November

³ Years compared: 2007 and 2016.

20, 1984 referred to the private universities and Decree Law N° 104/014 approved on April 28, 2014, which deals with the authorizations for the operation and registration of careers of the tertiary university and non-university private institutions.

The custom is not the Law source in the Uruguayan legal system except in cases where the law refers to it (González *et al.*, 2017, p. 25). There have been no identified litigations that have resulted in judgments related to the field of tertiary education. Jurisprudence does not constitute a source of law in the Uruguayan legal system in accordance with article 12 of its Civil Code, which states: "It is the role of the legislator to explain or interpret the law, in a generally obligatory way. The court rulings have no obligatory force but with regard to the causes in which they are currently pronounced "(in González *et al.*, 2017, p. 26).

In the case of Ecuador, the normative sources of higher education are: the Constitution of the Republic of Ecuador (CRE), the IPIDES, the Organic Law of Higher Education (LOES), the General Regulation to the Organic Law of Higher Education (RGLOES), the Law of the Fund of University and Polytechnic Development (FOPEDEUPO), the regulations issued by the Council of Higher Education (CES) and the regulations issued by the Board of Evaluation, Accreditation and Quality Assurance of Higher Education (CEAACES).

The custom is not the source of law in the Ecuadorian legal system except in cases where the law refers to it as established by the Ecuadorian Civil Code in article 2. Jurisprudence constitutes the source of law in the Ecuadorian juridical system when it comes from interpretative parameters of the CRE fixed by the Constitutional Court. Article 2 of the Law on jurisdictional guarantees and constitutional Control indicates the obligation of the constitutional precedent of interpretation of the CRE; however, the existence of jurisprudence related to higher education has not been identified.

Category of higher education in the legal system of Uruguay and Ecuador

Uruguay: Public good and fundamental right in the Law

In Uruguay, education in general, including higher education —called Tertiary Education— is considered by the LGE as a public good and a

fundamental right (arts. 1 and 2). In addition, it is understood as “the set of integrated and articulated educational proposals for all inhabitants throughout their lives” (art. 20). Tertiary education is placed within this system as a training level (art. 22). Its principles are: universality (art. 6), compulsory (art. 7), diversity and educational inclusion (art. 8), participation (art. 9), freedom of teaching (art. 10), freedom of the subject (art. 11), autonomy (art. 46), coordination (art. 47). On the other hand, the CRU guarantees the freedom of education (art. 68) and declares of social utility the gratuitousness of the higher education (art. 71).

Ecuador: Public good and constitutional law

In Ecuador higher education is considered as a public good, as well as a right. The CRE establishes that “education is a right of people throughout their lives and an inescapable and inexcusable duty of the state” (art. 26). In addition, it clearly determines that this constitutes the guarantee of equality and social inclusion. Article 28 of the CRE states that “public education will be universal and secular at all levels, and free up to the third level of higher education.” On the legal level, article 2 of the LOES determines that higher education is a right of individuals and a public and social good. Again, the same CRE points out the existence of the higher education system, formed by universities, polytechnic schools, technical, technological and pedagogical higher institutes, and conservatories of music and arts (art. 350). The principles governing the system that are: responsible autonomy, co-governance, equal opportunities, quality, relevance, integrality, self-determination for the production of thought and knowledge, within the framework of the dialogue of knowing, universal thought and global technological scientific production (art. 351).

Comparative synthesis

Higher education, both in Uruguay and in Ecuador, is considered as a public good and a right of people. In this sense, both countries maintain a similar vision; however, there are some differences in terms of relevance granted according to the normative source. While in Uruguay the CRU only mentions the declaration of public utility of the gratuitousness of higher education and the guarantee of the freedom of education, the CRE conceives the education in general as a right and an inescapable and inexcusable duty

of the state. That statement in the Uruguayan case occurs in the LGE, as part of education in general.

The incorporation as a constitutional right in Ecuador makes it possible to be protected through constitutional justice. In the case of Uruguay, although it is not expressly determined at that level, the CRU states that “the enumeration of rights, duties and guarantees made by the Constitution does not exclude the others that are inherent in the human personality or derive from the republican government” (art. 72). In this sense, as education is a recognized right in the PIDESC ratified by Uruguay, it would be possible to protect it through the action established in the Law N° 16011 of December 19, 1988. Therefore, in short, higher education maintains the same status of law and public good in both legal systems.

The consideration of public good brings with it, among others, the challenge of democratization in its access and more attention from public policy to avoid an orientation towards private and mercantile interests. However, the strategies adopted in both countries have differences, for example, the consecration of autonomy in Uruguay is quite broad, showing positive results in its environment; while in Ecuador the autonomy has been characterized as “responsible”, from the perspective of a new ethics of the IES (institutions of higher education) of Ecuador to act with a view to the linkage and dialogue with the society, and that implies more state presence through the organs of control and coordination of the IES.

Access to higher education in the legal system of Uruguay and Ecuador

Both Uruguay and Ecuador have signed and ratified the PIDESC (1966), which, as part of the internal rights of both countries, implies the recognition given by these to the “everyone’s right to education” (art. 13, N° 1). In order to achieve the full exercise of this right “higher education should be made equally accessible to all, on the basis of the capacity of each, by any appropriate means, and in particular by the gradual implementation of free education” (art. 13, N° 2-c).

The Committee on Economic, Social and Cultural Rights (CDESC) determines that in order for the right to higher education to be fully exercised, the elements of availability, accessibility, acceptability and adaptability must

exist. The availability element focuses on the existence of IES and operation programs to respond to the demand based on the capacities of the citizens. The accessibility element implies the guarantee of non-discrimination for admission to higher education, ensuring physical facilities and geographical location, and eliminating economic barriers. The acceptability element has to do with the fulfilment of minimum quality standards. Finally, the adaptability element is related to the flexibility of coupling, in time, to the needs and changes in societies (CDESC, 2013, p. 9, 10, 14).

In this context, the following analysis will be carried out considering the accessibility from the gratuitousness and the entry systems as elimination of the economic barriers.

Gratuity as elimination of economic barriers

Uruguay and absolute gratuity. Access to higher education is characterized as free and in this respect the CRU points out:

Declare of social usefulness the gratuitousness of the official education primary, middle, higher, industrial and artistic and physical education, the creation of scholarships of improvement and specialization of cultural, scientific and worker, and the establishment of popular libraries. All the educational institutions will offer special emphasis to the formation of the moral and civil character of the students (art. 71).

In this regard, Justino Jiménez Aréchaga (in Biasco, 2001, p. 13) points out that such a rule is a mere proclamation of aspirations, since the gratuitousness of education in Uruguay has always existed. The author considers the Declaration of Social Utility a programmatic standard, in the sense of recommendation for the legislator to consider it at the time of issuing the laws. So the LGE points out that state public education is governed by the principle of gratuity (art. 15).

The law of Universidad de la República is more detailed in its drafting, stating that the official education is free and the students should not pay any kind of right or tuition (art. 66).

The status of the non-prescriptive programmatic standard of the CRU article 71 is ratified by observing the exception set out in Law N° 16.226 of October 29, 1991 (on accountability and budget execution balance, corresponding to the 1990 exercise) in which Universidad de la República

is empowered to charge a tuition fee to students who have the economic conditions to pay for it (art. 407).

Ecuador and gratuity with academic responsibility. The CRE establishes that the public higher education will be free up to the third level and that it will be linked to the academic responsibility of the students (art. 356). That rule contains a conditional prescription. On the one hand, when disposing of gratuity there is a prohibition of asking the students to pay in public higher education institutions, but within the framework of academic responsibility. It is at this point that it gives margin to the legislator to develop the content of this criterion and so does the LOES, which sets the parameters to be observed to enjoy the gratuitousness. Among the most relevant are: a) students who enroll in at least 60% of the subjects in each academic period, b) only covers the first ordinary enrollments, c) only one career is financed, d) only the obligatory and indispensable items to study and obtain the qualification are covered, and e) the definitive gratuity is lost if the student losses 30% of the courses studied (art. 80).

Comparative synthesis

Both systems establish free access to higher education in the public system, a relevant feature, taking into account that gratuity is considered by the PIDESC as a way to achieve the full exercise of right to education. But there are some differences. The gratuitousness of the public higher education in Uruguay is not prescribed at the constitutional level, but it has been a reality that accompanies the Uruguayan university since its birth, so, although it can be considered legally more fragile, the social consensus on the subject seems to guarantee their permanence. In contrast, in Ecuador, gratuity exists just ten years ago, both at the normative-constitutional level and in the facts. In legal terms, it has more strength than the Uruguayan case and constitutes a vindication achieved by the student movements in a political scenario favorable for a pro-rights agenda.

On the other hand, while the gratuitousness in Uruguay is absolute, in Ecuador it is conditioned to the criterion of academic responsibility. This point may be influenced by the economic and population differences of both states. Uruguay has a significantly lower student⁴ population than Ecuador,

⁴ The tuition of higher education in Uruguay in 2014 was of 165 000 people (Uruguayan Presidency, 2016).

with a per capita GDP significantly higher than Ecuador⁵; in this sense, it is possible to have the resources in absolute terms to guarantee gratuitousness in an unconditioned way. In Ecuador, despite efforts for investment in higher education —which has even exceeded the average percentage of OCDE countries (Ballas, 2016, p. 90)— resources must be carefully managed. On the other hand, it is considered that while people have the right for free public education, it is also necessary to pay the social effort that is directed through the state for their training, and that this remuneration is mainly translated into the effort and fulfillment of academic responsibilities. In other words, the academic aspect of responsibility implies a new social ethic that seeks to overcome the liberal individual gaze through the integration of efforts to achieve collective objectives.

Entry system in the juridical order

Uruguay and the free entry without discrimination. In Uruguay generally, public higher education has free income, i.e, the absence of a national or institutional examination or any other selection mechanism to be accepted in a public institution. No rules have been found to prescribe it, however, in the notion of maximum autonomy, Universidad de la Repùblica does not apply examinations for entering, as a result, all applicants who wish to study may do so. Thus, Martínez (2003, p. 38), point out that other institutions of public tertiary education do perform some selection process by lacking of quotas.

Ecuador and the leveling and admission system to guarantee meritocracy and efficiency. In Ecuador, admission to public higher education is not free. The LOES determines a unified system of access to higher education through a national review and a knowledge period leveling due to the heterogeneity of the learning outcomes of middle school. This system is administered by the Ministry of Higher Education, Science, Technology and Innovation (SENESCYT). The quotas are allocated on the basis of: the score obtained, the selection by the future student of a number of possible IES options and the number of places available within that selection (art. 81)⁶.

Private IES receiving state resources must make available to this access system a certain number of places (art. 74) and with respect to other quotas,

5 GDP per capita: Ecuador USD 5968.98 (BM, 2016), Uruguay USD 15220.57 (BM, 2016).

6 Currently, in the National Assembly there is a draft reform of the Organic Law on Higher education in Ecuador, which could change the admission system to IES in this country.

like the rest of the private IES, they can apply their own entry rules, provided that these are not discriminatory as determined by the RGLOES (art. 4), in addition to granting a number of scholarships equivalent to 10% of the total tuition for people with high academic performance, sport or belonging to historically excluded groups (art. 77).

Comparative synthesis

As far as the income system is concerned, it is not possible to make a comparison at the legal regulation level since Uruguay does not have rules related to the subject. It could be noted that the absence of an income system implies more democratization in access, since it eliminates any discrimination of origin and previous education of applicants to higher education. In contrast to this idea, Germán Rama points out that:

The fact that the university does not have a selection process does not mean that it does not exist. It exists and it is the hardest, it is the failure. It is also the most expensive from the human and material point of view (In Martínez, 2003, p. 38).

However, from the point of view of the right to higher education, in relation to the conditions for access —gratuitousness and free entry— the Uruguayan scheme guarantees a high degree of equal opportunities for access. This does not mean that it is therefore not necessary to consider other aspects that are not the subject of this work, such as the homogeneity of the learning outcomes of middle education and the opportunity costs between studies and work for young people of poorer strata of society.

On the other hand, Ecuador's system is trying to achieve a balance between economic efficiency, equal opportunities, meritocracy and quality. In efforts to build a more fair and egalitarian society, higher education has a privileged place, but it is not the only area that requires the state's attention. Thus, the public resources for this sector have doubled in ten years (Ballas, 2016, p. 92), but achieving a harmony between the demand and supply of quotas in the IES is a complex task, because the first exceeds the second. In such conditions, free entry could imply the detriment of quality (Ramírez, 2017, p. 25). In the face of scarce resources, to increase the physical capacity of the system and to increase the quality it is necessary a mechanism that seeks balance, viability and the most justice possible. Thus, the test seeks to identify citizens with greater skills for higher education and leveling aims to match the knowledge of departure that may have differences due

to the heterogeneity of secondary education (Araujo, 2016, pp. 139-147). However, there are counter-positions that question the examination, among other aspects, considering that it is a discriminatory mechanism since it does not evaluate only skills, but also knowledge; therefore, those who did not have the opportunity to apprehending that knowledge would be discriminated (Zambrano, 2016, p. 11).

In any case, although this system does not have the same democratization degree of Uruguay, it means a referential progress in the matter, considering that it exists since the year 2010; prior to that, each IES defined their own selection processes under different perspectives and objectives that resulted in negative discrimination by socioeconomic origin. In such a way, Ramírez (2016) points out that “the possibility of entering in higher education being part of the poorest 20% in the 2014 is 67%, in the 2006 was of 33%” (p. 20). In this sense, from a perspective of the right to higher education in Ecuador, this system represents an important step forward the elimination of economic barriers and, therefore, in improving the conditions for the full exercise of that right.

Conclusions

Education as a public good and right of people

Although Uruguayan and Ecuadorian legal systems resemble higher education as a public good and a right of people, they differ in the hierarchy of legal standard in which this recognition is carried out. While in Ecuador the character of public good and right is at the constitutional level, Uruguay finds its basement in the LGE as a declaration applicable to all educative levels;. However, this distinction does not limit the possibility that the right is protected by jurisdiction, since the CRU extends its protection to the rights inherent to the human personality.

Free access to public higher education

The Uruguayan and Ecuadorian legal systems are similar in terms of the establishment of the gratuitousness of higher education in the public system and they differ, once again, in the hierarchy normative of the instrument that

contemplates it. The Constitution of Ecuador is detailed in the consecration of the gratuitousness of higher education, while in Uruguay there is the declaration of public utility of gratuitousness at a constitutional level, and the principle of gratuity at a legal level.

Another important difference is that the gratuitousness in Uruguay is unconditional at all levels, while in Ecuador it depends on the student's academic responsibility and applies to a single third level career.

Admission system to higher education

In respect of the admission systems to higher education, although Uruguay does not envisage rules in this regard in its legislation, in practice, what happens is that it is evidenced that access is free and unconditional; meanwhile Ecuador has developed a ruled system that seeks economic efficiency, equal opportunities, meritocracy and quality.

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Journalism club as a communicational incident in the educational process

*Club de periodismo como incidente comunicacional
en el proceso educativo*

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Abstract

This work analyzed the reception of interpretive genres in Guayaquil Naval Academy based on the communicational impact of the Journalism Club from the newspaper El Telégrafo. It was sought to identify the reception processes of the interpretive genres and their communicational incidence on students. The type of research is descriptive, the methodology is hermeneutical. In this investigation nine research techniques were used, between quantitative and qualitative. The population corresponded to 357 students, and it the probabilistic technique was used with mathematical equations to quantify the sample, which corresponds to 145 students. It was found that there is a need to implement interpretive genres in the study area to generate and develop cognitive skills, and design effective communication strategies in the institution. All these techniques will help to improve the learning process.

Keywords

Communication, education, reception, incidence, interpretive genres.

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Resumen

Este trabajo analiza la recepción de los géneros periodísticos interpretativos en la Academia Naval Guayaquil, a partir de la incidencia comunicacional del Club de Periodismo del diario *El Telégrafo*. Se buscó identificar los procesos de recepción de los géneros interpretativos y su incidencia comunicacional en los estudiantes. El tipo de investigación fue descriptiva, con una metodología hermenéutica y nueve técnicas de investigación (entre cuantitativas y cualitativas). La población para la investigación fue de 357 estudiantes, usando una técnica probabilística con ecuaciones matemáticas para cuantificar la muestra, la misma que correspondió a 145 alumnos. A través de esto, se logró observar la necesidad de implementar los géneros interpretativos como tema de estudio, para generar y desarrollar las habilidades cognitivas y diseñar estrategias de comunicación efectivas dentro de la institución, todo esto enfocado a mejorar el proceso de aprendizaje.

Palabras clave

Comunicación, educación, recepción, incidencia, géneros interpretativos.

Introduction

The knowledge of the interpretive genres from the school, includes a development in the areas of education, communication, information and writing. Journalism clubs in schools are designed to develop cognitive skills at an early age. Thinking and investigating in an emphatic manner on recurrent problems in society, invites students to manifest those skills that are not developed during high school, but a long time later, when they enter a university career; for this reason, its implementation on a progressive scale will shape and guide these skills.

This research promotes the reception and incidence analysis that these genera produce in the students of the Guayaquil Naval Academy, which has hosted the journalism Club of the public newspaper *El Telégrafo*.

This investigation presents a frequent problem within the educational units, for example, the non-use of strategic plans that link journalism with the other subjects, which causes young people without the ability to know the panorama that surrounds them or the little stimulation of their senses to act in favor of a society avid of information.

For this reason the following question has been asked: How is the reception of the interpretative genres analyzed in high school students of the Guayaquil Naval Academy from the communicational incidence of the journalism Club of *El Telégrafo*?

Within the project new theoretical references are known that support it, as well as the use of methods and techniques to find valid and reliable progress results; likewise, are also seen the field of clubs nowadays and the performance that these exercise in the students. However, a proposal for insertion of these genera emerges through a monthly magazine plan made by the teachers and young people.

In this way, the general objective is explained, which concludes in identifying the processes in terms of the reception analysis of the interpretative genres and their communicational incidence in high school students of the Guayaquil Naval Academy, who were taught by the journalism Club of *El Telégrafo* in 2017. It is clear that the specific objectives —such as investigating the theories, methods and techniques of communicational incidence and reception, variables that occur throughout the process— are the same that help to achieve the results, the development of the general objective and the approach of the proposal mentioned.

During this article, communication is explained as one of the sciences that allow the human being to give meaning to language and to the form that transmits a message. With a journalism club this area is reinforced and visualized as the starting field of this investigation. In the same way, education is reinforced as a discipline in which methods and techniques that facilitate the teaching and learning of new knowledge are involved. In addition, students' willingness to insert journalism with other subjects is determined.

It should be noted that communication and education are essential in the investigative process, because this cohesion form study aspects, so when advancing the communicative project is highlighted at the same time the educational axis:

Education must be thought, practiced and valued from different perspectives. The contributions of the various sectors and actors to the educational task must be added. Education is a social and cultural phenomenon, and not just an instructive and cognitive process that takes place in schools (Freinet and Saint-Luc in González, 2013, p. 16).

The strong reality of the institutions shows that they propose the same learning activities without any change, which causes disinterest on the

students and motivates the “repetitive” behavior that has marked education for years. However, the insertion of extracurricular dynamics or the integration of these in the curricula promotes a way out of this endless circle of educational frustrations.

This same process reveals teaching as an essential factor, but that without effective communication becomes a small version of a giant structure, as can be inferred from the opinions of Mario Kaplún:

Uruguayan Professor Mario Kaplún (1997) used expressions such as: “learning by communicating”, “knowing is communicating” or “from educating listeners to educating speakers”, and stated: “Educating is being involved and participating in a process of multiple communicative interactions” (Pérez and Valdés, 2018, p. 59).

There is no reason not to be involved in the educational processes of the institutions, since they need an improvement in terms of their communicative strategies, and Kaplún mentions it: one must participate jointly and even more with young people in the training stage of their abilities. But education and the media must appear united from an early age:

The school environment is one of the appropriate spaces for initiating media education. The development of critical and creative thinking and analysis capacity are two great opportunities for learning from the use of information and communication technologies in the educational field, designed to create a digital newspaper where school and its protagonists are news generators (Fischietto, 2014, p. 58).

For this reason, the education that is taught will be vital in the development of the skills and construction of the knowledge related to the relationship that the communication has with this area. Because it creates habits, values, beliefs, and the student not only learns in a classroom, but when searching for information from the internet, people and some other site —what is known as self-taught education— students are encouraged to stay in the clubs with the addition of new ideas. Therefore, an early learning process about communication and journalism would be the solution to the mistakes that are made when it comes to writing or expressing ideas.

In highlighting journalism in extracurricular activities, young people interact within the communicative area; however, they do not know the profession and thus assume that it is only a workload. In the work carried out by Castro and Ortiz is stated:

When teaching journalism is exercised, students are required to develop basic skills for writing, organizing thoughts, making a first draft, and expressing ideas (editing, polishing, and presenting a final product). This way of using journalism requires students to produce messages in the form of writing (opinion articles, news, etc.); persuasive advertisements (text and image); and allows the practical application of the theoretical concepts (Castro and Ortiz, 2011, p. 6).

Educational journalism or journalistic education (at an early age), organize and develop the thinking of young people, promoting the creation of unpublished messages, the improvement of research techniques and the broadening of knowledge and writing skills. Journalism motivates young people to get involved in activities they did not know, not only in the curriculum, but also to visualize the common and unattended problems of society, where they can take part in the disadvantages, and through writing they learn to tell or express the situations that surround them. This is an indispensable knowledge for the development of any other subject, as can be seen below:

With this conception is born the model “learning by doing”, configuring the active-participatory character of the journalistic formation, which involves the approach of authentic problems to stimulate the thought, the observations, the analytical situations and opportunities to discover solutions. In this way the journalism Club of *El Telégrafo* emerges, as an initiative that consolidates the wording as the main axis of the journalistic learning, and the best way to learn to write is to promote the constant practice as a means of knowing, analyzing, evaluating and criticizing (Correa, 2016, p. 17).

That is the origin of the journalism club, i.e., from students for students. It should be emphasized that all young people were guided by communication professionals, but with the aim of not to teach the profession, but to generate a critical thought. Initially, it was only analyzed as a help to the university students for the expansion of their practices or an extension of their working life; however, it had good acceptance and was transmitted to the schools with the desire to improve the learning method used in the academic curricula.

The reason for the interpretive genres is explained by the cognitive process of the student: through the writing of texts, which increases or perfects their creativity, their formation and display of ideas, as well as their development in the journalistic scenes, especially when using the knowledge learned in the other subjects.

Within this analysis two variables were taken into account that allowed measuring the opinion and the performance of the students. The first was based on the reception of interpretative genres as a system of teaching and improvement in the student performance. The second was the incidence of collecting this information, adopting it, transforming it and using it in the different fields of study in which young people are, because this affects both their social and school life.

Communication reception

As the first point of the analysis, is worked on the reception structure that originates within the communication. It is also envisaged that this allows receiving information, interpreting it and extracting from it a stimulus capable of generating feedback from the investigator and the students. A scientific process valid to analyze in the document *Estudio de recepción del periódico comunitario El Chulla Quiteño*, states that:

The reception analysis is a theoretical current of the communication sciences that offers interesting possibilities for the investigation, as a theoretical framework and source of useful concepts to understand the relationship that the audiences establish with the media and as a fertile matrix of methodological and technical resources to produce information about this relationship (Flores in Tapia, 2016, p. 17).

In this sense, is proposed a field of research that is related to the learning of the young people, how they capture the images, the ideas and above all the knowledge, fundamental in their process of formation, progress and construction of skills. That is why the reception encompasses an essential process in this approach, it helps to quantify and measure the development of each of the topics proposed in the journalism club. In addition, the senses, the projection of the writings, the continuous work of the students and the journalistic character needed are stimulated.

Thus, it is necessary to recognize the different ways in which the students learn, for which the following table is useful of the “Flipped Classroom” as a methodological resource applied to the teaching:

Table 1
Learning Dimensions

Meaningful learning	Classification of the relationships between the concepts	Well-designed audiotelular teaching	Scientific or creative research (new music or architectures)
	Lectures, or presentations of most of the textbooks	School work in the laboratory	More routine “research” or intellectual production
Repeat Learning	Multiplication tables	Applying formulas to solve problems	Solutions to puzzles by trial and error
	Learning by reception	Guided	Autonomous
		Discovery Learning	

Source: Ausubel *et al.*, en Balbas, 2014, p. 11

This table emphasizes the different learning methods —among which are the significant, by repetition, discovery and reception— that encompass the processes and techniques used by teachers for the educational system; however, it raises a communicational study where the student instead of receiving a class, formulates relevant ideas of what he/she has caught during all the time.

It should not be forgotten that each methodology applies a number of factors among students, the same ones that develop skills among them, those that benefit the improvement of the communication, as a sample reflects the continuous participation of the assistants, that is, a feedback between the two sides.

Incidence of the communication process

On the other hand, the incidence is positioned from the point of view that manages to influence or impact the social life of a young person. In the classroom, young people are exposed to lot of knowledge; however, not all knowledge can be acquired. The journalism club of *El Telégrafo* proposes the construction and presentation of the interpretative genres, and the impact on students’ learning; in addition, other factors such as motivation and participation, which can also be valued, are involved in the research.

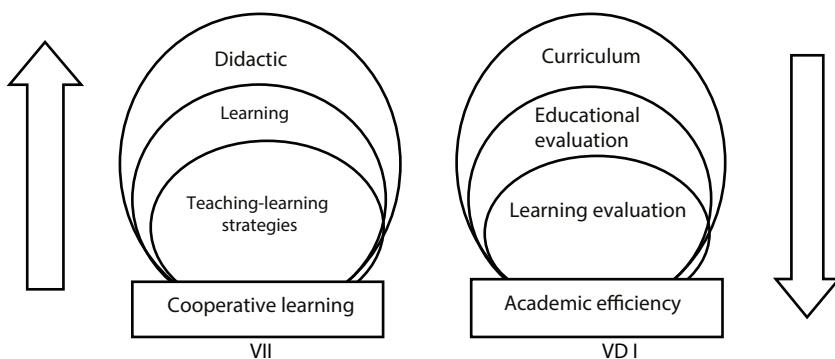
It is important to mention that the incidence of the methodology in the academic performance of mathematics, the students use from the first educational levels the memory and the repetitive exercise to study. In addition, the majority of students have with great flaws, among them, lack of minimum basic knowledge in the different disciplines, lack of reading habits and perseverance and effort in the search for results (Mena *et al.*, in Toledo and Balseca, 2013, p.11).

Just as in mathematics, which is an exact science, language or communication must be given in a clear, concise and accurate way. This allows the student to receive a message without interventions or modifications, which in turn represents a higher communicational process.

The students manage a basic language; they reflect a lack of knowledge in terms of the wording of news, as well as in the locution of small texts and simple questions; therefore, to observe their determination in the talks proposes the topic to investigate and to raise the evolution that will have during the club.

Therefore, this research is promising, as the following graph is addressed:

Figure 1
Main categories



Source: Cotallat and DT-Núñez, 2012, p. 18

The figure shows two perspectives, the first one that points to the cooperative learning and how it is transmitted to the students; consequently, the use of teaching strategies and the didactic method are proposed. The second, product of a more elaborate procedure, analyzes the incidence

of the knowledge given, solving through an evaluation that measures the enthusiasm, the motivation, etc., as well as it quantifies the knowledge acquired through another valuation.

Each area of the communication represents an organized and systematized structure from the point of view of a journalist, for this reason, to know the different schematics and theoretical bases on the reception and incidence that mark this investigation, will be relevant to put them into practice with the students.

Cognitive skills

During this research the journalistic learning generates cognitive skills in students, as it encompasses the study of thought, language and knowledge. In addition, is appreciated that the collection of information —which in this case is the interpretive genres— helps the process of creation and imagination. Among the skills found are: attention, understanding, elaboration and memorization, which are study techniques, each of them immersed in the human being, but not formed or developed in the educational process, which through the journalism club as an extracurricular activity is intended to motivate. That is why the following table of the work “Teaching learning strategies in early childhood education” is illustrative:

Table 2
Processing skills

Skills	Sub-skills
Observing	self-observation, direct observation
To Compare	Comparative analysis, effective search for information
Sort, classify	Order: serial, temporal, spatial
Represent	Representation: graphic, iconic, verbal, gestural
Memorize	Cognitive encoding, evocation, recognition, reconstruction
Evaluate	Decision making, demonstration
Transfer	Infer, transfer, interpret

Source: Nisbet *et al.*, en Jiménez *et al.*, 2007, p. 9

It is safe to specify multiple skills and sub-skills necessary to learn and think, since all of them are related within the communication. Knowing the strategies demanded by a journalistic work not only helps the intellectual development, but also its talkative part. A communicator must be able to observe the facts in a different way than the others, digging the depths of a subject to the point of revealing new information that can be used in the future; however, these skills are built from school and already in school their improvement must be accelerated. Although this is a very complicated task, it can be carried out by means of study techniques such as those expressed below:

Within Bloom's taxonomy, cognitive skills are the skills that enable the individual to acquire and develop new thinking and knowledge. The cognitive skills can be classified in two orders: the basic and the superior, understanding that the first facilitates the knowledge acquisition and the second the quality and the application of it (Mendoza *et al.*, 2013, p. 31).

Bloom emphasizes the classification of skills. First the person must acquire knowledge, must be able to understand it and at the same time have all that data stored, but none of it is possible if later they are not used; however, in this analysis, the skills are not only improved, but are often created.

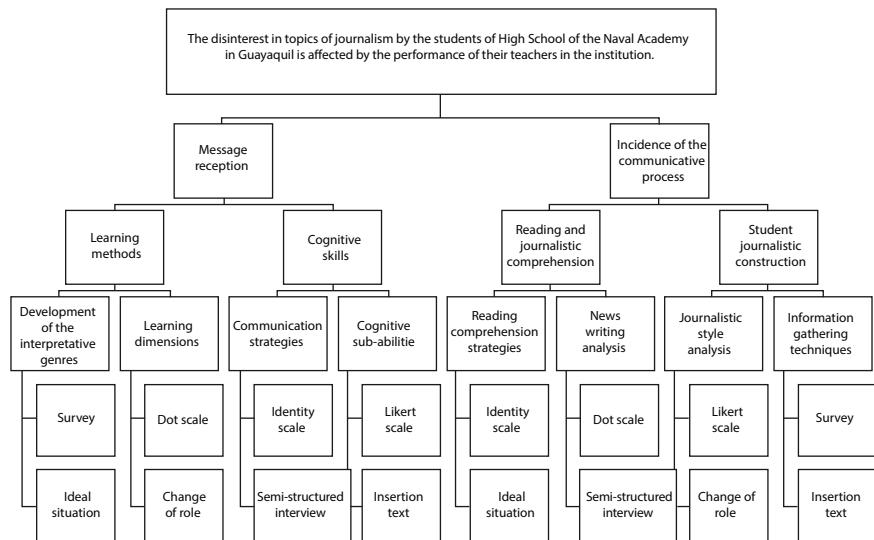
Material and methods

This research presents a non-experimental transectional design, since the analysis that is posed within the Naval Academy Guayaquil serves to delve into the problematic, as well as in the data collection and the improvement of journalism skills. Similarly, the descriptive research was used because the reception and incidence manifest themselves as the variables within the analysis and affect the cognitive skills and the journalistic language the students acquire over the time. It is clear that the inquiry went through an exploratory study, which retained the variables and dimensions written, to conclude in a descriptive investigation, analyzing the reading comprehension of the students, as well as their journalistic construction in the classrooms.

Consequently, the following hypothesis was raised: the disinterest in journalism topics by High School students of the Naval Academy Guayaquil is affected by the performance of their teachers in topics related with news and the lack of effective journalistic projects within the institution. Later, it was concretized that the variables within the project are the reception and

incidence of the communication process, and through the aforementioned hypothesis, is detailed below the table of the operational definition of the variables used (this article only consider the main):

Table 3
Operational definition of variables



Source: own elaboration

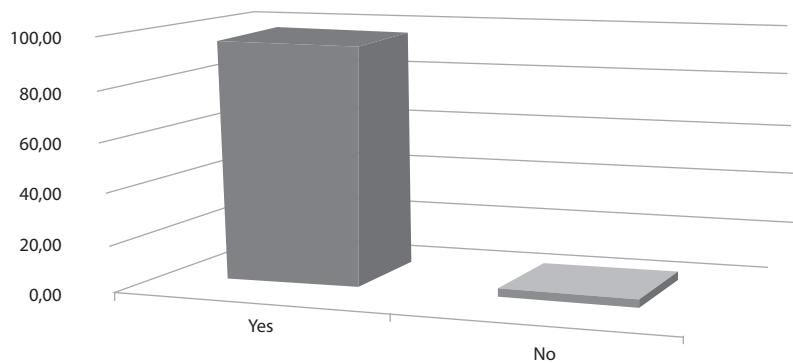
The research was done with a hermeneutical methodology because the researcher's relationship with the students focused on the historical processes of the institution and the basic journalism projects generated over the time. Therefore, nine different research techniques were structured to observe the depth degree to which the high school students of the Guayaquil Naval Academy were addressed. Among them, four were quantitative —the survey, Likert's scale, Intensity's scale and points' scale— and five qualitative—bibliographic research, semi-structured interview, text insertion, role change and ideal situation.

The population of this investigation consisted of 357 students fragmented in twelve unified high schools (first, second and third), of the Naval Academy Guayaquil in the morning section. Therefore, a probabilistic technique was used to quantify the work sample, where the mathematical equations complemented the development and the number of students to survey was established. Thus, after the formula $n = (Z)^2 (P) (Q) (n) / (E)^2 (N-1) + (Z)^2 (P) (Q)$, and with the stratified typology, was obtained a sample of 145 students who were divided into 54 men and 91 women.

Analysis and results

The questions and results detailed below are a compilation of the best derivations that were manifested in the field work at the Guayaquil Naval Academy. The questions reflect the study of the variables, dimensions, indicators and techniques, which revealed convincing and conclusive results of the hypothesis. It should be emphasized that each question was conceived and created from the research work through authors expressions and detailed thoughts in different articles.

Figure 2
The teaching of interpretive genres



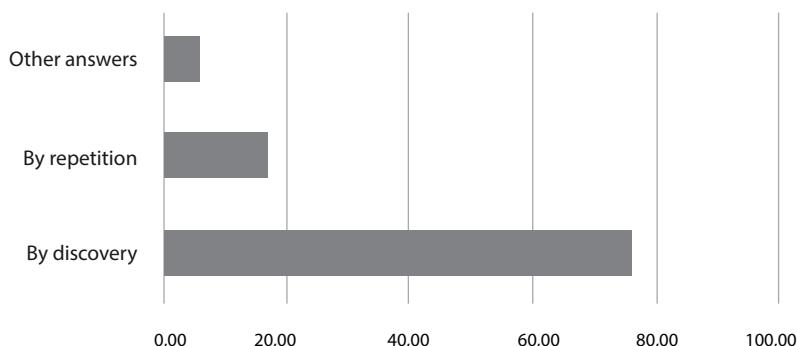
Source: own elaboration

Variable: Communication reception
Dimension: Learning methods.
Indicator: Development of interpretative genres
Quantitative technique: survey

Survey question 1: Do you think it is necessary to teach interpretive genres in the classrooms?

Attention is paid to the emphatic affirmation in the integration of the interpretive genres in the classroom, with a result of 97%, i.e., 140 students of the total respondents maintain a total willingness to the insertion of something different in their didactic.

Figure 3
Handling the Learning dimensions



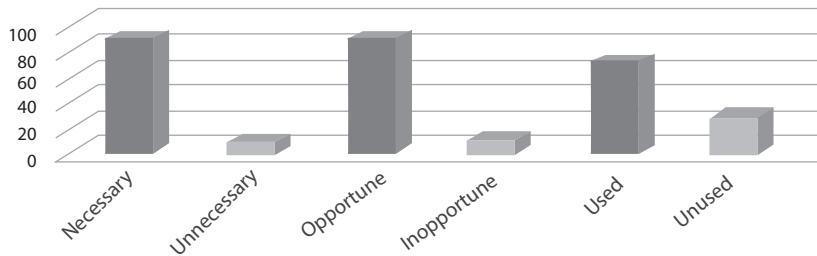
Source: own elaboration

Variable: Communicational Reception
Dimension: Learning methods
Indicator: Learning dimensions
Qualitative technique: role change

Question 2: If you were to handle the learning dimensions, would you use discovery or repetition learning?

Students reflected their commitment to discovery learning with 77% in favor, while 17% decided to opt for repetition. Although the two dimensions are essential for teaching, there is no doubt that when information is discovered the brain keeps it for much longer and it works for journalism.

Figure 4
Learning dimensions that drive the club



Source: own elaboration

Variable: Communicational reception

Dimension: Learning methods

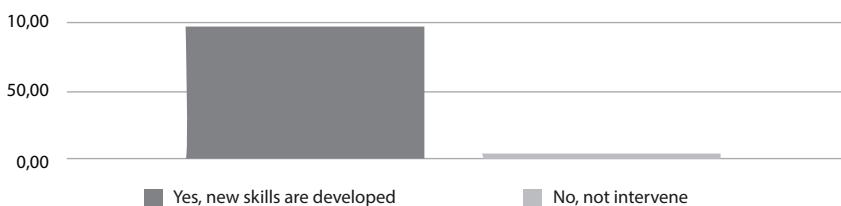
Indicator: Learning dimensions

Quantitative technique: Point scale

Question 3: The learning dimensions to drive the journalism club within the institution are...

With answers beyond 70% on driving a journalism club in the institution, the youth insisted that their implementation is necessary and timely; however, with the existence of a club of journalism in the institution, 28% believe that it is not used correctly, hence the reason for this investigation.

Figure 5
Develop cognitive skills



Source: own elaboration

Variable: Communicational reception

Dimension: Cognitive skills

Indicator: Cognitive sub-skills

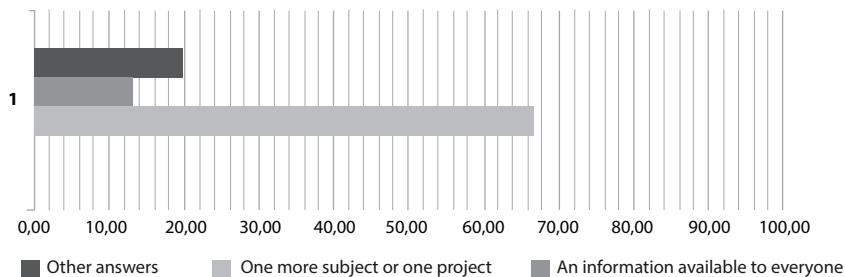
Qualitative technique: insertion of the text

Question 4: After reading the quotation, do you think that a club of journalism can develop cognitive skills?

Cognition is a series of interrelated processes through which is obtained and used knowledge related to the world. It encompasses thought, learning, perception, memory and understanding. Therefore, cognitive development is known as the growth and refinement of these processes and abilities (Allueva *et al.*, 2015, p. 2).

The students observed and analyzed these words and 95.86% assured that the implementation of a club of journalism is necessary, because through this they increase their skills, which is not seen by other subjects, and it triggers countless favorable responses to the initiative.

Figure 6
Communication and journalistic topics



Source: own elaboration

Variable: incidence of the communicational process

Dimension: reading and journalistic comprehension

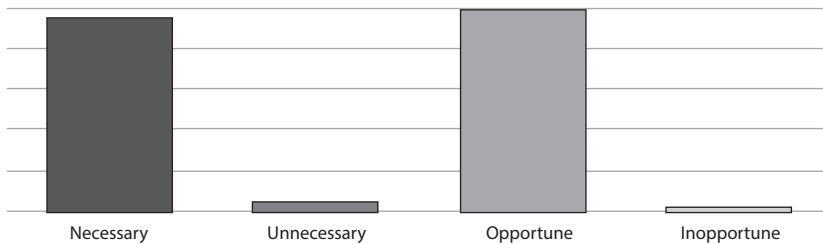
Indicator: strategies of reading comprehension

Qualitative technique: ideal situation

Question 5: In order for the communication and the journalistic topics to be taught correctly in the institution, the reading comprehension should be proposed as...

The fundamental pillar of a good journalist is based on the reading, understanding and analysis exerted by the fundamental values in the profession. Thus, 66.9% expressed that if it becomes a subject or a project, there would be more development in other areas of work and not only in journalism. It was also visualized that 13.1% would prefer it by being available to all with new information.

Figure 7
Teaching to write news



Source: own elaboration

Variable: incidence of the communicational process

Dimension: reading and journalistic comprehension

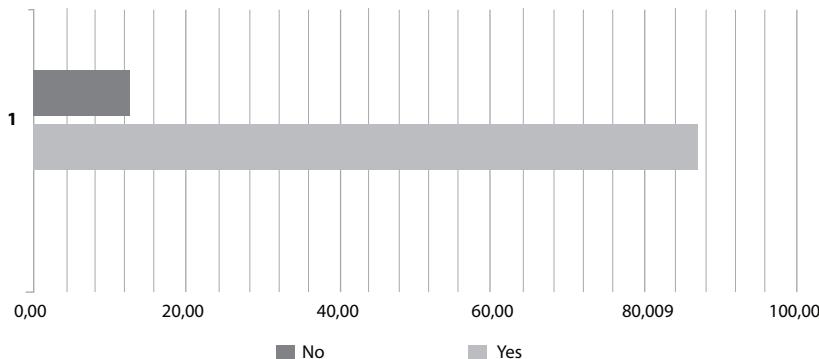
Indicator: analysis of news writing

Quantitative technique: point scale

Question 6: Learning to write news is...

It is easy to understand that early teaching of journalistic genres in students is necessary in 95.17% and timely by 98.62%. Language increases and their thinking makes them more critical, however, it is essential to exercise it with a little more rigorously in the institution, because of the little intention to encourage this discipline in the classroom.

Figure 8
Techniques for the journalistic learning



Source: own elaboration

Variable: incidence of the communication process

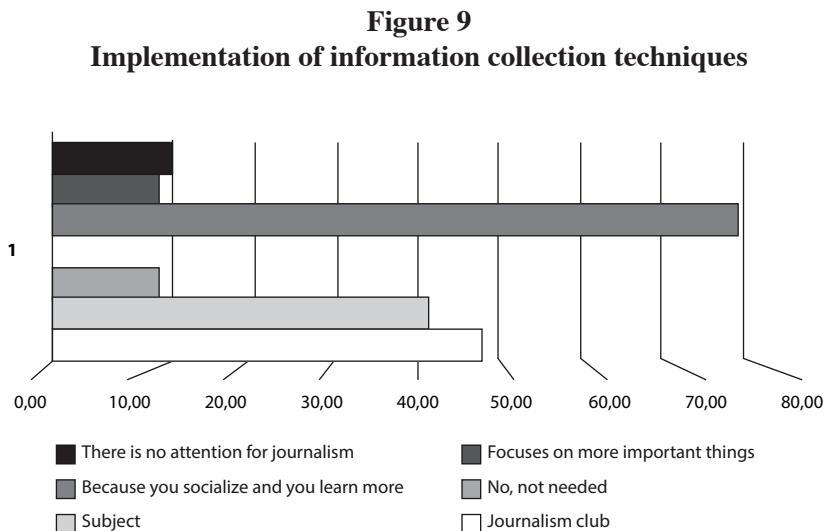
Dimension: student journalistic construction

Indicator: information collection techniques

Quantitative Technique: survey

Question 7: Do you think that knowing information gathering techniques are vital to the journalistic learning?

As known, journalism implies research; therefore, information gathering techniques cover a fundamental axis in this process. 87% of students say that learning the information gathering techniques are the key to journalism, but the target is not only to work for that position, but to go beyond that, for example, with the other subjects when they are asked to research and only concentrate on a source, ignoring that there are endless voices that can be taken into account; hence, the practice and insertion of these techniques.



Source: own elaboration

Variable: incidence of the communicational process

Dimension: student journalistic construction

Indicator: information collection techniques

Qualitative technique: text insertion

Question 8: After reading the quotation, do you think that information gathering techniques should be implemented in the classrooms through the subjects or from a journalism club? Why?

Data collection techniques refer to the procedures for obtaining data or information. According to Arias (2006) "... the application of a technique leads to the obtaining of information that must be registered in a media so that the data can be recovered, processed, analyzed and interpreted later" (Marcano *et al.*, 2013, p. 55).

After an interpretation of the author's words, a division was reflected in the fact to teach the information collection techniques; it is taught in the insertion of the journalism like as a subject in 41.38%, as well as within the club of journalism with 46.9, %. But when asked why it should be in any

of them, they lean towards the club with 75.17% because they socialize and obtain more specific information. In addition, it implies less stress as one of them states, because it allows having a better panorama of the career, since several students are hesitant to choose once they graduate.

Conclusions

This research showed the students' willingness in the process of research techniques and the insertion of interpretative genres as an integration option in their curricula. It is concluded that the inquiry was part of a restructuring and construction knowledge model on journalism in the youth of the Guayaquil Naval Academy.

The reception theories and communicational incidence are viable and play a fundamental part of the processes carried out during the investigation and data collection. With 96.55% of the total sample, it was observed that the implementation of the interpretative genres, corresponding to a journalistic teaching, are feasible for their insertion, as well as to apply these dimensions in learning to develop communication and interest in these issues (97.24%).

Continuing with the analysis, it is observed that the learning methods are fundamental for the insertion of journalistic topics and the critical development of the students, as well as an optimal performance in other subjects. In addition, it is argued that the institution and teachers manage communication strategies in certain areas and do not take the proper importance of this issue, this is seen in 67.59%. While journalism clubs as a formative idea of cognitive skills and abilities in students have a support of 95.86%. It is therefore concluded that cognitive skills allow the researcher to know the process in which the students are, in order to promote the use of strategies that improve communication in the classroom.

In addition, student journalism training can influence the performance and development of academic capacities to generate a style within this area, and consecutively orient students to a university career. However, the lack of projects in the institution is also questioned by 95.17%. As for the writing of news, the students bet on the need for this opportunity, but their decision is based on certain answers, as in the integration through a subject or a project with 67.5% in favor, which would mean to them something new and interesting.

Research in journalism is paramount; however, it is also important for any subject. A big percentage of students do not know the research techniques; however, 87.59% ensure that it is imperative for journalistic learning. That is, there is no implementation in the communication offered by teachers. Therefore, by reprimanding young people how these should be transmitted, more than half objected to be carried out through a journalism club, because 75.17% believe that it would focus more on the topic and they will learn to socialize, although in the institution there is a precedent club, it must be improved and updated for the study of important and relevant topics, as well as a collective integration among themselves.

Finally, it is clear the integration of communication and the educational process. Journalism clubs are essential in schools. Students need a new way of getting information in such a way that they will later have young people with critical and investigative capacities, which are not taught or explained in the subjects. That is why the early implementation of these clubs is essential.

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Ubiquitous learning, communication interfaces and media skills

Aprendizaje ubicuo, interfaces de comunicación y las competencias mediáticas

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Abstract

The present work deals with the hypermobility that generates new learning possibilities that propose new challenges to the producers of content and the educators. Ubiquitous learning derives from these new hyperconnected environments and, although it incorporates m-learning characteristics, it does not constitute an educational plan, it is totally informal, it is "spontaneous, contingent, chaotic and fragmented". In this context, a Brazilian experience is presented: the Geekie Games application, which aims to assist candidates in preparing for the ENEM (National Examination of Secondary Education) and is available in the online stores of mobile devices with the Android operating system. The user can access the simulated, animated video-lectures and tutorials, images and exercises specific to each discipline, developed by the Lemann Foundation, in partnership with other institutions of the private sector and with the support of the Ministry of Education. A first reflection on how this new device is related to media skills and its dimensions, as conceptualized by Ferrés. Communication flows become intense in the era of hypermobility and ubiquity. Mobile devices have been a great protagonist in this communicational ecology that is designed and changing learning.

Keywords

Ubiquitous learning, game, mobiles device, media competence, tactility, hypermobility.

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Resumen

El presente trabajo trata de la hipermovilidad que genera nuevas posibilidades de aprendizaje que proponen nuevos desafíos a los productores de contenido y a los educadores. El aprendizaje ubicuo deriva de estos nuevos ambientes hiperconectados y, aunque incorpore características del *m-learning*, no constituye un plan educacional, es totalmente informal, es “espontánea, contingente, caótica y fragmentaria”. Este trabajo se propone destacar, en este contexto, una experiencia brasileña: la aplicación Geekie Games, que tiene el objetivo de ayudar a los candidatos en la preparación para el ENEM (Examen Nacional de la Enseñanza Media) y está disponible en las tiendas online de dispositivos móviles con el sistema operativo Android. El usuario puede acceder a los simuladores, vídeo-clases expositivas animadas y tutoriales, imágenes y ejercicios específicos de cada disciplina, desarrollados por la Fundación Lemann en asociación con otras instituciones del sector privado y con el apoyo del Ministerio de la Educación. Aquí haremos una primera reflexión respecto a cómo este nuevo dispositivo está relacionado con las competencias mediáticas y sus dimensiones, como las conceptuadas por Ferrés. Los flujos de comunicación se vuelven intensos en la era de la hipermovilidad y la ubicuidad. Los dispositivos móviles han sido grandes protagonistas en esta ecología comunicacional que se diseña y cambia el aprendizaje.

Palabras clave

Aprendizaje ubicuo, juego, dispositivos móviles, competencia mediática, tactibilidad, hipermovilidad.

Introduction

The emergence and popularity of digital mobile devices changed the relationship between the man, technology and the environment. With the media convergence, the technical devices went on to perform different functions, many that even extrapolate the main objective of interpersonal communication. Today, with a single device, it is possible to organize the agenda, monitor heartbeats, book accommodation in a hotel, verify the location of the bus in real time, watch videos, manage profiles on social networks, and send and receive e-mails, send messages and talk on the phone. In addition to the facilitation of concentrating numerous functions in a single device, technological advancement allowed information mobility to be added to it. With the advent of mobile phones, notebooks, pagers, palmtops, etc., the movement was initiated, but the technical structure restricted the potential of these devices to the extent that the connections still needed technical support and the Informational mobility was reduced.

From the creation of 3g and 4g networks, Wi-Fi technology and bluetooth connection, georeferential devices guaranteed that the connections could also be mobile, propitiating hypermobility (Santaella, 2013), which extends and refines the modes of presence expanding as technologies are more available and mobile, leading to increased information flows and connectivity. What is strongly raised in this converging environment is precisely the way in which information is distributed.

The user, in turn, has in his/her daily life the presence of these devices, which happen to mediate a significant part of their interactions, whether interpersonal, with the environment, with their daily tasks, with their leisure, with their emotions. The feelings also happen to figure and configure the intimacy that also lives in the converging environment. The digital revolution brings with it a transformation in the behavior of the receiver. Participatory culture (Jenkins, 2009) is the great phenomenon that has altered all the processes involved in communication. Production now becomes thought, or should be, in the possibilities of interaction and feedback.

Before the medium, the message and the one who transmitted it concentrated mainly the efforts of the scientific thought; nowadays, even if these elements are not excluded, it is the receiver —or the new user, prosumer— who guides the studies that seek to understand new communication practices. Jenkins (2009) points out this trend in approaching participatory culture, placing the collective process as a main element of information consumption practices.

On the other hand, the public develops other stimuli with the content that interacts to. Before, the medium defined the sense affected in the reception as sight, hearing, smell. Now, the relationship occurs in multisensory, even tactile spheres, with the haptics interfaces of smartphones and tablets (Haywards *et al.*, 2004 in Palacios and Cunha, 2012, p. 2). Santaella argues that these devices “relate to users in new ways, engage their senses and their body in different ways” (2010, p. 69). The author argues that everything and almost all people are mediated by digital technology, including educational practices.

In the hyperconnected environment given by the context of the media convergence, as mentioned above and the learning modalities that derive therefrom, cause the need to rethink the studies of “education”. Communication flows become intense in the era of hypermobility and ubiquity. Mobile devices have been a great protagonist in this communication ecology that is designed, as well as users who are inserted in this new

social cartography; however, are we able to cope with these new forms of communication and devices?, how is our involvement with interfaces used in the hyperconnected environment that stimulates autonomy, collaboration, organization and operationalization of multiple tasks? The aim is to understand this phenomenon in the light of media competencies.

New learning models and the ubiquitous learning

From the interaction with the new communication technologies, new teaching-learning models have emerged. Santaella (2011) highlights the emergence of e-learning, M-learning and ubiquitous learning. In these paradigms, the support made it possible to shift the educational processes at home, work and street environments, all of them by moving. The consumption and fruition of the information became more individualized and personalized, at the same time, these modalities stimulated more collaborative and participatory practices, which favored self-taught learning modalities.

The intensive use of ICTs in order to search online, access various content and even to build the intellectual repertoire of individuals and establish relationships of sense has reconfigured the relationship of users with informative content, generating spontaneous forms of education.

In the educational perspective, Belloni and Gomes argue that ICT provides an effective environment for educational practices. The learners are related to colleagues, with more experienced adults, who share and debate opinions, building collaborative and participatory knowledge. The authors also argue that autonomy is an essential competence for the learning process and highly stimulated in the content absorption through ICTs. When deciding which tools and functions of the devices to use, the navigation path and how to elaborate a text, the user participates in a more favorable learning environment, mainly in the cases of children and young people who realize that they can learn without adult intervention (Belloni, 2009; Gomes, 2008).

Learning without a teacher in virtual environments (*Autodidaxia no cyberspace*) is only one of the forms that come from ICTs and constitutes a process that should be complementary to more traditional teaching practices. Without dispensing other modalities, this learning acts as a booster of the development of the competencies necessary for the cognition process, as it stimulates autonomy, collaboration, organization and the accomplishment

of multiple tasks. In the ubiquitous learning, the self-taught learning is the central element, since it gives the bases for the constitution of the competencies associated to this new learning style.

On the other hand, E-Learning or electronic learning is a model that replaces the old distance education. In the age of hypermobility and all its transformations, ubiquitous practices changed in individuals the notions of presence, absence, and distance. Online education tools have become sophisticated as new technologies emerge, and through static content platforms, new e-learning environments allow conferences, audiovisual content hosting, and interactive, and also the use of time management tools and study planning.

The media convergence and the emergence of mobile computers created new possibilities for e-learning, resulting in a new paradigm of virtual learning: M-Learning or mobile learning. This adds mobility to online education practices: the student decides, beyond the time and time of study, the location where the content will be accessed. In spite of being used in the new computational tools, these paradigms belong to the field of the formal education, to the extent that they have as main objective a pre-defined system learning process

The technological revolution and the popularization of digital mobile devices promoted a change in the behavior of informational consumption. Multimedia and multitasking devices invaded the daily life of the users and the new interaction habits reflected in the dynamics of social practices. The hybrid, instantaneous, decentralized and fragmented communication —characteristic of cyberspace— with hypermobility went on to invade cities, inaugurating new forms of relationship and social dynamics. In this context, the lack of traditional teaching is accentuated and emphasises the need for a reformulation of educational practices.

In the media field, a few years ago researchers argued that ICT should be incorporated into teaching, to the extent that they present functionalities that can enhance learning processes, as well as are more aligned with the new cognitive profile, mainly of children and young people. María Luiza Belloni, one of the forerunners in the integration study of ICT to the school environment argues that this movement is necessary for an improvement in quality, and above all for a democratization of teaching. The author argues that the aggregation of these technologies can promote an education for citizenship:

The school must integrate information and communication technologies because they are already present and are influential in all spheres of social life, going to school, especially to public school, acting to compensate for the terrible social and regional inequalities that unequal access to these machines are generating (Belloni, 2009, p. 10).

In practice, structural issues complete the process of integrating ICT. Economic difficulties, the lack of public policies to train educators, as well as the need to reformulate teaching methodologies and dynamics seem to make an utopy of a complete change in that system; even more if considering the public education system where the incipient digital inclusion delays the important phases required by the dynamics of digital culture. Because the culture of convergence is a double-hand way, it requires the subject connected technologically and mentally.

The dominance of media skills, in terms of language, allows the citizen to critically analyze the messages he/she receives and also make his/her communication effectively. In the hyperconnected and fluid environment, language is the instance that favors the correlation with the modes of production of what is seen in the product's interface, such as: a social network, a site, an application. It is also through language that the aesthetic competence of the individual and the sensitivity to recognize the aesthetic quality of a production are triggered. Thus, language enhances the cognition process to the extent that it stimulates the connection with other competencies.

Against the difficulties of collective education, the more personalized and individualized learning modalities grow, as digital teaching applications and platforms become popular in virtual environments. E-Learning, M-learning, self-learning and ubiquitous learning models are derived from new practices in hypermobility and pose new challenges for content producers and educators. The idea is to detail these typologies.

The ubiquitous learning derives from this new hyperconnected environment and —although it incorporates characteristics of M-learning— it is not a constituent of an educational plan, it is totally informal, “spontaneous, contingent, chaotic and fragmentary” (Santaella, 2013, p. 303). From the emergence of radio and television, with reports and informational programs, the media became sources of informal education. With computers, that kind of education happened to occupy the day-to-day of users, who can easily access to news, literature, tutorials and videos. With mobile devices,

access to digital content has become more available, anyone who carries one of these devices can access virtual collections, search and get all type of information. However, Santaella argues that this model does not replace the other types of learning and that it must act in conjunction with the previous models. As well as the media that form a network called “Media Ecology”—in which new media and traditional ones are integrated—this hybrid potential of ecology is also shown in the new education practices that derive from the media.

Geekie Games: The new learning modalities

The popularization of mobile devices, mainly smartphones, originated one of the most promising segments of the technology industry: the application¹ development. However, few initiatives, especially free, explore the potential of these programs in teaching practices. Many games, quizzes and hobbies use, informally and spontaneously, learning processes, i.e. stimulating learning practices ubiquitously, but most of them are still related to entertainment productions.

In Brazil can be highlighted Geekie games, an application developed by the Leman Foundation in partnership with other private sector institutions and with the support of the Ministry of Education. The application has as an objective to help the candidates in the studies for the ENEM (*Exame Nacional do Ensino Médio*) and is available in online stores of mobile devices with the Android system. The user can access the simulators, video-animated classes, tutorials, images and exercises specific to each discipline. When downloading the software, the user makes his/her cadastre and selects the course to be followed (Figure 1a). In our access we counted 607 options, between technical courses, baccalaureates and degrees. After choosing the course and weekly dedication time, a curriculum is prepared according to the candidate's needs (Figure 1b and 1c). For each thematic proposal there is an analysis of the repertoire on the subject, the initial X-ray, the class and the final check (an exercise to evaluate and revise the content).

1 Despite the economic situation, Brazil has generated approximately 25 billion dollars in 2015. The Ministry of Science, Technology and innovation foresees to surpass in 2017 70 billion. With all the potential for consumption, hundreds of apps are available daily on the distribution platforms for the most diverse purposes.

Figure 1
Geekie Games initial interfaces



Source: own elaboration

The individual character of the tool can be seen, as it offers the users the possibility to select a more personalized content, aligned to their demands. Each class has approximately 20 slides. They are divided into the four major knowledge areas demanded in the ENEM: mathematics and its technologies; human sciences and its technologies; languages and codes; science of nature and its technologies. Normally, video classes have the teacher's audio followed by the illustration of a board that is changing as the explanation occurs. Digitized texts and images are also displayed. In the exercises integrated to the classes, when selecting the answer, either correct or not, the program marks and justifies the appropriate answer.

It shows that different senses are stimulated while browsing: beyond the view, traditionally used in readings, the learners mobilize the ear and touch. The different elements that make up the interface of the application activate in a high level the perception of the users.

With the “touch screen” the physical relationship between technology and individual is narrowed. In the same way, the navigation path or the fruition mode of the message are individualized. In the interaction, the sensory touch and the experience of material management bring a new form of cognitive processing that extrapolates mental operations. The user, for example, in order to identify some element of an image can increase or decrease it, pause the video, drag and pass the slide and, with respect to the exercises, can effectively modify that content.

McLuhan's ideas comprised the media as extensions of the human and were one of the forerunners of the touch screen study; however, Palacios and Cunha (2012) argue that tactile generates a high sensory involvement, contrary to sense anesthesia promoted by centuries of living in the “Gutenberg Galaxy” (McLuhan, 1972).

The return of physical involvement with the media, propitiated by the new technologies in the haptics interfaces, has its boom in cognitive transformations, as well as in distributed cognition (process that takes into account the relationship with the environment, the social interactions and with computer systems). Neural stimuli materialize in touch. When browsing in touch screens, many decisions are made intuitively and instantly to the touch of our fingers. This functionality, as well as many others in the course of human evolution, has been naturalized by our bodies and minds with communicative efficacy.

Rather than replacing the cursor and mouse function, the tactile simulates the way people handle physical objects in the daily life. It is established a relationship of more intimacy and involvement with the content, approaching the user, which changes his/her way of interacting. The individual, through the touch, seeks to know more about the content and therefore its tactile competence become wider, either by manipulating image, text, video etc.

These multiple stimuli demand new user skills. They need to organize the information they receive and distribute the attention for the various tasks they perform at the same time. These competencies are mainly stimulated outside the learning environment. By managing a profile on Facebook, creating a forum, sending an email, accessing online documents, sending traffic information to Waze, etc., users acquire more operational and mental skills that make them more and more capable of interacting with the new and concomitant media, and spontaneously they increase their cultural repertoires.

According to Ferrés (2012), the competence that the individual possesses to understand the messages in their complexity of codes and the multimodalities of the digital environment are involved in some dimensions such as the technology, the language, the ideology and the values, the processes of interaction, production and diffusion, and also in the aesthetic dimension. Undoubtedly, the technological competence (Ferrés 2012), that is, the understanding of the functioning of the communication tools in order to understand how the messages are elaborated and the ability to use them, is powered when the tactility has the function of passing from a flow to other information through the screen.

As mentioned before, the dominance of media competencies in the language dimension allows to critically analyze the messages and communicate them effectively through the different types of available technology, since it is the language that provides the correlation between all the elements seen in the interface of a product (a social network, a website, an application like Geekie games, etc.).

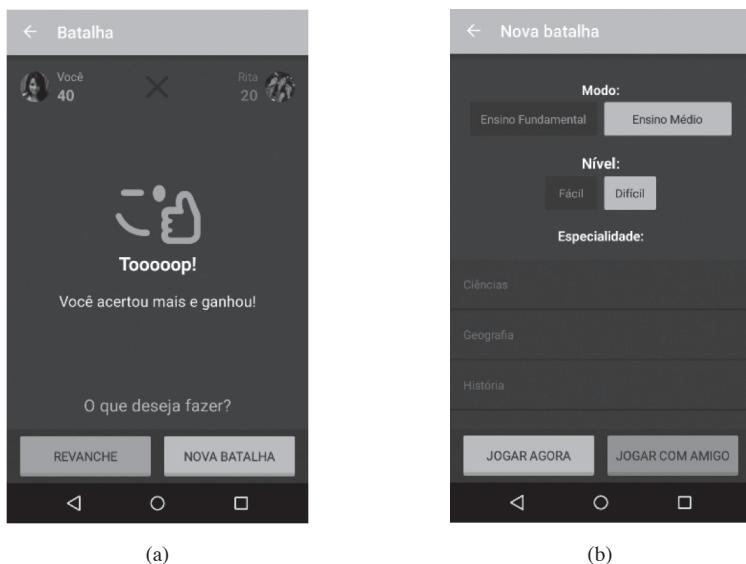
It is also believed in the dimension of the language where the individual's competence for the aesthetic dimension is expressed, because it is understood that the activated skill has to do with the sensibility that, from our point of view, recognizes the quality in the forms, the colors, in the spatial distribution of the elements, in the composition of the scene and —depending on the production language— also in the union of the scenes for the creation of a product. Thus, it is possible to say that the language potentiates the sensitive process and also emotional cognition, now reconfigured by the tactile, to the extent that it stimulates the connection with the other competencies. The language stimulates the sensitivity that guides the production process of the sense and the competence of the interaction processes with an active posture in front of the screens, to interact with the contents and to evaluate critically the emotional elements, rational and contextual message.

The greater the ability of the individual (competition) in the digital universe, bigger the understanding of ideologies, values and polyphonies that the new social ecosystem propitiates (that is, the hyperconnected environment where production and dissemination processes are the managers that articulate knowledge and allow differentiated cognition). To understand the different functions of the production and diffusion processes through which a communication product passes, means to be attentive to the possibilities of being a “prosumer”.

Convergence reconfigures the processes of distribution and dissemination of culture and knowledge. This happens in our own daily life, in the present of the events, at the moment when we can access —in any place and any time— to data banks, files in the clouds, multiple screens that bring information, interactions and connections for the knowledge with various purposes. Although in a timid way, there is no denying that technological competition is the driving source of change.

In the case of Geekie games, the stimulus is for a collective and participatory consumption that occurs in the tools of interaction with the user. In the first access are already synchronized the facebook contacts of the user and it show the friends that use the application and offers the possibility to invite new friends (Figure 2a and B).

Figure 2
The collective consumption of Geekie games



Source: own elaboration

Conclusions

The apprehension of content composed by signs of different natures requires abilities to use multiple sensory stimuli, enhancing the comprehension of the message and activating competencies to flow in different dimensions with the language and the stimuli received. If there is a lack of domain in a code, for example, the user can use other resources.

In today's hypercomplex, hybridized and ubiquitous societies of participatory and collaborative culture, mobile-mediated communication is more suited to reality and the new message-consuming profile. The great change provided by ubiquitous communication is the relationship between virtual environments and physiognomy, with the body itself and the customizable, playful and spontaneous potential of ubiquitous practices. The Geekie Games app, for example, uses gaming and social networking resources to make content attractive and to identify consumption of educational content and entertainment media.

It is believed that the most spontaneous, emergent character of the new teaching-learning modalities should not be despised. Moreover, the new studies that propose to evaluate the communicational capacity of the users must take into account the impact of the multisensory stimuli to which these individuals interact, since much of the decisions and the cognitive processing derive, nowadays, from less rational stimuli than intuitive.

All these changes, the new media ecology, the change of the cognitive profile of the users and the new theories that arise in this panorama imply a reformulation of the educational system: a more decentralized and horizontal teaching, which threatens the traditional Cartesian system. New public policies are needed to educate educators and ensure structure so that school environments can become ubiquitous, and strategies are developed so that, in these ecologies cohabit the potentials of each medium and are created methodologies that include this increasingly hybrid panorama.

In the age of connectivity and in a connective environment there is a subject who experiences the language and who performs many tasks, where ICTs become also TAC (technologies of learning and knowledge) that brings new environment communicative practices that are different according to the desired objectives. Learning and knowledge technologies, in shaping a new educational environment, also shape the cultural experiences of people who actively participate in educational and social media platforms in a profound

way. Then, from this hyperconnected environment must emerge critical subjects with communicative practices different from those of their parents.

There are certainly tensions between the different types of formal and informal learning in and out of schools, because ubiquitous learning also transforms the notion of time and space, and because digital platforms united with mobile devices project education to another qualitative level, through integrative, participatory and collaborative communication. Connectivity is a developing environment with new teaching structures, with the right to dialogue through technology and with a diversity of educational practices, where the media is on the agenda as well as the competencies for enjoying the benefits.

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Global trends marking the development of Ecuador's higher education: relevance, regionalization and expansion of the academic market

*Tendencias globales que marcan el desarrollo
de la educación superior en el Ecuador: pertinencia,
regionalización y expansión de la oferta académica*

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Abstract

Ecuador has achieved great progress in terms of quality, inclusion and relevance of Higher Education. However, the higher education system still shows deep gaps which reproduce the structural characteristics of the economic and demographic asymmetry of the country. This study explores the conception of education as a human right and public assets. From this perspective, the study explores the challenges that the higher education system faces. The analysis starts from the data presented by the entities in charge of higher education, and subjects it to a critical reading while presenting ways to regionalize the impacts of the higher education institutions in Ecuador. The data is contrasted with the different social, legal, planning, and development the Ecuadorian framework as well as the international framework (UNESCO and the UN documents among others).

Keywords

Higher Education, Ecuador, gaps, regionalism, public assets, human right.

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Resumen

Ecuador ha logrado grandes avances en relación a la calidad, la inclusión y la pertinencia de la educación superior, sin embargo, el sistema de educación superior aún conserva profundas brechas que reproducen las características estructurales de la asimetría económica y poblacional del país. El presente estudio explora la concepción de la educación como “derecho humano” y “bien público”, y desde esa perspectiva explora los retos que el sistema de educación superior debe enfrentar. El análisis parte de los datos presentados por los organismos rectores del nivel de educación en mención, para someterlos a una lectura crítica y presentar formas de regionalizar los impactos de las instituciones de educación superior. Los datos son contrastados con los principales discursos presentes en los diversos marcos sociales del Ecuador (legal, planificación y desarrollo) y del contexto internacional (documentos de la UNESCO, la ONU, entre otros).

Palabras clave

Educación superior, Ecuador, brechas, regionalización, bien público, derecho humano.

Introduction

Since 2008, the Government of Ecuador initiated the rescue of higher education as a “human right” and “public good”, emphasizing in its discourse the democratization of access and quality as ways to implement the new model of development and to reach the social pact embodied in the Constitution of 2008. There are several models for the regional development of higher education which will be explored in this document, for their discussion to continue the construction of a model that adapts to the needs and characteristics of Ecuador, and to allow the right to higher education to be exercised with criteria of potential supply expansion, quality, inclusion and relevance.

The country has made important advances in relation to the quality, inclusion and relevance of higher education, but the higher education system still conserves deep gaps that replicate the structural characteristics of economic asymmetry and population of the country. In this sense, the greater coverage in relation to the access and location of universities, polytechnic schools and higher institutes is found in the most populated centers, but there are great challenges in terms of internal mobility of students, teachers and

researchers; despite the significant increase in enrolment, a large number of the population who do not have access to higher education persists.

In this scenario, the main problem that this article explores is the most appropriate ways to regionalize higher education as “human right” and “public good”. To solve this, an analysis of the international context will be presented in relation to the gross enrolment rate of the countries of America and Europe, moving to the localization of the most important speeches that the Ecuadorian norms of higher education have introduced for its configuration, to finally locate the social analysis of the Ecuadorian context.

The international context of higher education in America and Europe

In the Global Compendium of Education (UNESCO, 2012) it can be observed that in America, the countries with the highest gross enrolment rate are: Cuba (95%), USA (95%), Argentina (71%) and Uruguay (63%). Whereas in Europe are Finland (94%), Denmark (74%), Sweden (74%) and Spain (73%). Within these countries, the relationship between public and private sphere in the offer of higher education is as follows:

Table 1
offer of public and private higher education

Country	Academic offer in public institutions	Academic offer in subsidized institutions	Academic offer in private institutions
Cuba	100%	0%	0%
EE.UU.	72.5%	0%	27.5%
Argentina	72.7%	5.5%	21.9%
Uruguay	87%	0%	13%
Denmark	98.3%	1.6%	0.1%
Finland	81.2%	18.8%	0%
Spain	69%	27.9%	3.2%
Sweden	93.4%	6.6%	0%

Source: UNESCO, 2012

To achieve the highest number of enrolments, some countries use the territorial expansion of their higher education systems, but with different strategies. United States, Cuba, Argentina and Spain are committed to “intensive territorialization”. Thus, in the United States it is tried to cover almost all the counties of the country, in Cuba all the municipalities, in Argentina all the provinces and communes, and in Spain all the territories with populations higher than 50 000 inhabitants¹. On the other hand, the cases of Denmark, Finland, Sweden and Uruguay, although they also have an important territorial coverage of the offer in higher education, have a marked feature of internal “student mobility”, where students move from their place of origin to the study centers, normally located outside their locality (Arnesen and Lundahl, 2006; Fägerlind and Strömqvist, 2004; Andersen, 2017).²

It should be mentioned that in the case of Denmark, Finland and Sweden the higher education system has as a fundamental trait, a well-developed student welfare system for comprehensive care that includes, among other things, the granting of scholarships for all students of higher education, the possibility of accessing subsidized housing intended for students only and access to credits for educational purposes at a minimum interest rate.

Therefore, beyond the expansion strategy, high tuition coverage has a direct correlation with the public provision of higher education offerings. Models of increase in enrolment can be based on intensive territorialization —as in the case of the countries exposed in the first place— or an intensive mobility towards university development poles —as in the case of the countries exposed in second place—.

Two basic models were identified in each country in relation to the internal mobility of students, teachers and researchers. On the one hand, systems with a high integration level to allow internal mobility, such as the European system produced by the Bologna Process and the creation of the European Higher Education Area that favors student exchanges

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- 1 For more information on the intensive territorial expansion in these countries the following pages can be consulted by country: USA (<https://goo.gl/Tx5xXQ>), Cuba (<https://goo.gl/fdCet1>), Argentina (<https://bit.ly/2MRNyiw>) and Spain (<https://goo.gl/1spf6N>).
 - 2 For more information on the territorial expansion by mobility in these countries, the following pages can be consulted by country: Denmark (<https://goo.gl/GW52LT>) (<https://goo.gl/FZR9De>), Finland (<https://goo.gl/ZgT7zV>), Sweden (<https://goo.gl/ebhwcl>) and (<https://goo.gl/jRWtqT>) and Uruguay (<https://goo.gl/TxzKhV>).

at the internal and external levels of the member countries, through the development of a common structure of qualifications and mechanisms for the accreditation of knowledge (Pereyra, 2006). On the other hand, higher education systems with a low integration level were identified to allow student, teacher and researcher mobility, where students are difficult to change from one university to another or a semester in a different university in its own country or region; although important efforts have been made in Latin America for the systemic integration of higher education, the results are still below the needs (Aupetit 2006).

Normative framework of the Ecuadorian higher education and its prospects of development

At the international level, to raise the regional development of the higher education system in Ecuador is directly related to four of the 17 objectives of sustainable development, promulgated by the UN General Assembly (2015) —and indirectly with all others— which are:

- Objective 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.
- Objective 8. To promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.
- Objective 10. Reducing inequalities: to reduce inequalities between and within countries.
- Objective 12. To guarantee sustainable consumption and production modalities.

At the national level, the regional development of the system has its legal basis in the Constitution of the Republic of Ecuador, in art. 3, which mentions the duty of the State to guarantee the right to education and to promote the balanced development of the nation; education is defined as a right, establishing the parameters for its fulfillment³. On the other hand, in title VII of the Good Living, various fundamental elements of education are established as a right⁴. Likewise, in relation to the organic Law of Higher

3 Articles 26, 27, 28 and 29.

4 Articles 343, 350, 351 and 352.

Education (LOES),⁵ the aims of higher education and the rights of the “educational community” within the system are defined, among which one can be clearly observed the generation of knowledge for the well-being, and the development of the nation, as well as the guarantee to study and research. Art. 107 defines the relevance principle of higher education and reflects the importance that it should contain in order to develop training processes that meet the expectations and needs of society and territory.

In relation to the national Plan of Good Living (2013-2017), regional development of the higher education system is directly related to five of the national objectives —and indirectly with the remaining seven—:

- Objective 2. To sponsor equality, cohesion, inclusion and social and territorial equity, in diversity.
- Objective 8. To consolidate the social and solidarity economic system in a sustainable way.
- Objective 10. To promote the transformation of the productive matrix.
- Objective 11. To ensure the sovereignty and efficiency of the strategic sectors for industrial and technological transformation.
- Objective 12. To guarantee sovereignty and peace, to deepen the strategic insertion in the world and the Latin American integration.

These objectives are complemented by the current state planning (National Development Plan 2017-2021). In this way, since the social transformation is articulated as a long-term process, in this text the objectives raised in the last decade are considered, where the strategic planning returns to the state. In the last proposal —in line with planning 2013-2017— is raised:

- Objective 1. To guarantee a dignified life with equal opportunities for all people.
- Objective 5. To boost productivity and competitiveness for sustainable economic growth in a redistributive and solidarity way.
- Objective 6. To develop the productive and environmental capacities to achieve food sovereignty and good rural living.

⁵ Articles: 3, 4, 5, 6, 7 and 9.

- Objective 7. To encourage a participatory society with a state close to the service of citizenship.

In the period in which this analysis is focused, Ecuador underwent a process of normative reforms that connected it internationally. In this way, it incorporated into the national planning development concepts that bet on the centrality of the educational processes to promote integral structural changes. It was opted for the fairness of wealth distribution processes as a condition for the expansion of the quality educational offer. In this sense, it broke with the prejudice of the education democratization without quality, because —as seen in international systems— to broaden education coverage with relevance criteria on the context of a disputed concept such as good living implies improving poverty levels and promoting equitable progress in the territories.

Territorial inequality, supply and relevance of the Ecuadorian higher education

Ecuador has a territorial and economic asymmetry, fomented by the relationship of two regional poles of economic and political power called Sierra-Costa (Quito-Guayaquil), where the main populated centers, basic services and social wealth generating companies are agglutinated (SENPLADES, 2009). This phenomenon is also reproduced in the offer distribution of higher education. In this regard, “an inequitable distribution of education generates a negative impact on *per capita* income in most countries” (Muñoz, 2004, p. 28). To help break the economic asymmetry, the asymmetry of the university educational offer must be eliminated: the current regional distribution of the studying possibilities is a hindrance to the potential of economic development of Ecuador (cf. Bourdieu, 1981) and its ability to insert into the knowledge economy.

On this subject, the state planning carried out in the year 2013 mentioned that “sponsoring equality and eradicating poverty requires eliminating the territorial gaps through the promotion of rural development and promoting a polycentric national structure, which permits the urban-rural equilibrium” (SENPLADES, 2013, p. 120).

In this context, the need to deepen the regional development of higher education is given in at least two fundamental factors. The first is the difficulties that an important part of the population has to move to the cities where the institutions of higher education are located. In this way, as there is no offer in their region, the possibility of accessing third-level education is limited. The second factor has to do with local and regional development, where the academic offer should be related to the potentialities and needs of the territory (Díaz, 2000). A vision such as the one raised would allow carrying out research, generating enclaves and productive cluster, solving problems at the level of both the nearest communities and the region in general. It would be a relevant academic offer that relates to the surrounding production sector, enhancing its capacities and scaling up national production. On this, can be mentioned that:

Interdependence relations, together with asymmetric power relations between the countryside and the city, have helped to organize the social and productive dynamics of the territories, including the structuring of inequality gaps, often rooted in patterns of racial discrimination and social dynamics that have provoked strong pressures on natural resources. This evidences serious conflicts of use and sustainable exploitation of local potential. In this context, it is necessary to consolidate the specialization of the various human settlements present in the national territorial system, based on the host capacity of the territories (SENPLADES, 2013, p. 121).

It is also worth mentioning the notion of “relevance” that the LOES presents:

The relevance principle consists that higher education responds to the expectations and needs of society, to national planning, and to the development regime, to the prospective of global, scientific, humanistic and technological development, and to the cultural diversity. To this end, institutions of higher education will articulate their teaching, research and outreach activities with society to academic demand, to the needs of local, regional and national development, to the innovation and diversification of professions and academic degrees, to the tendencies of the local, regional and national occupational market, to the local demographic tendencies, provincial and regional; to the linkage with the current and potential productive structure of the province and the region, and to the national policies of science and technology (LOES, 2010).

The regional development of the higher education system is a fundamental piece in order to consolidate this important human right against the problems related to access to higher education (Cedeño and Machado, 2012). However, it is necessary to think critically about one of the most emblematic issues in territorialization: how to achieve it without detriment to the quality of education? In this sense, quality education is one of the main democratization elements of rights, as a first step towards building a more productive society: “the assumption for such a bet is that a quality education for all is the main means of building a radical democracy of quality, and it is an effective mechanism to transform the primary productive matrix-exporting and secondary-importing” (Ramírez, 2016, p. 6).

The regionalization of the educational offer should take into account the expansion criteria of education as a public good (even if it is administered by a particular institution) and the relevance of knowledge to the community, the productive sectors and the natural potentials of Ecuador.

The right to education from the territories, from relevance, means in today's world to claim the need for the right to alternative knowledge, to be created by a new “epistemology from the South” (De Sousa, 2010). If this structure is not broken, it will be more difficult to achieve the cognitive democracy of the population, the change of the productive matrix, the achievement of the objectives embodied in the constitution and the integral development of Ecuador.

Boaventura de Sousa (2010) proposes that the public good of the university happens to be produced in cooperation, i.e to join the resources, to look for the synergies and to enhance the performance of the system. Thus, the construction of this public cooperation will involve sharing resources and equipment, the mobility of teachers and students, and a minimum standardization of plans and careers, organization of the school year and evaluation systems. None of this should eliminate the specificities in which each institution of higher education aims to respond to the local or regional context in which is inserted. On the contrary, this specificity, when maintained, can be valued much more within the network.

For the production of this cooperation, must be developed the regional system of higher education, promote its interaction, its mobility, its synergy for solution search and transformation of the existing reality into a reality

built by the greatest amount of possible actors, from the intersubjectivities, the development potentialities to achieve the construction of Good Living.

Advances and challenges in the regionalization of the Ecuadorian higher education system

In the last decade, Ecuador went through a reorganization process and quality increase of its institutions of higher education. The so-called “mandate 14” of the constituent process brought with it the evaluation of all the institutions, resulting in the closure due to lack of quality of 14 universities, 40 extensions and 125 technical institutions (Ramírez, 2016). Likewise, the tendency of the system was reversed, the institutional models of knowledge, learning and academic organization were transformed for the creation of learning and research environments that lead this country to the knowledge society, particularly through the generation of bioknowledge (De Sousa, 2010; Ramírez, 2016).

In the period 2006-2014, in absolute terms, enrollment has grown by 136 000 students. In this sense, the enrolment of the two poorest quintiles has doubled from 33% to 67%. Today, one in two Ecuadorians who accesses higher education comes from families where neither the father nor the mother attended this educational level (approximately one hundred thousand students) (Ramírez, 2016). In this sense, the gross university enrolment rate has grown and has gone from 28.8% in 2006 to 33.3% in 2014. This growth is reflected more to the detail between rural and urban areas, from 38% to 42.1% in the cities and from 10.9% to 14% in the peripheries between 2006 and 2014 (INEC, 2016).

Nevertheless, the progress of the higher education system in recent years, and the structural conditions around the regional imbalance of the enrolment have not been able to transform in its entirety, since this is the product of the imbalance structure condition of the Ecuadorian territorial development and the historical tension that has favored, in terms of services, the economic, political and more populated centers of the country to the detriment of the furthest regions.

In this sense, the imbalance in the gross enrolment rate by province can be observed:

Table 2
Gross tuition rate per province (2014)

Provinces	Gross rate
Morona Santiago	10.2%
Sucumbíos	12.2%
Napo	14.3%
Orellana	14.5%
Zamora Chinchipe	15.5%
Pastaza	18%
Carchi	20.3%
Santa Elena	21%
Cotopaxi	22.6%
Los Ríos	22.7%
Santo Domingo de los Tsáchilas	23%
EsmERALDAS	23.7%
Cañar	24.8%
El Oro	27.1%
Chimborazo	29.7%
Manabí	30%
Guayas	34.5%
Imbabura	34.7%
Tungurahua	34.7%
Azuay	34.9%
Bolívar	36.7%
Loja	44.1%
Pichincha	49.1%

Source: INEC, 2016

The provinces with the lowest gross enrolment in higher education are Napo (14.3%), Morona Santiago (10.2%) and Sucumbíos (12.2%). The provinces that are above the national average are Pichincha (49.1%), Loja (44.1%), Bolívar (36.7%), Imbabura (34.7%), Azuay (34.9%), Tungurahua (34.7%) and Guayas (34.5%). In this sense, in seven provinces the institutions of higher education (IES) do not have offer fourth level formation (postgraduate): El Oro, Zamora Chinchipe, Morona Santiago, Orellana, Napo, Sucumbíos and Carchi.

The training that has the greatest territorial occupation is the superior technical and technological, as can be corroborated in the following table 3:⁶

Table 3
IES by province

Province	University or Polytechnic	Technical Institution
Orellana	0	1
Sucumbíos	0	2
Morona Santiago	0	4
Santo Domingo de los Tsáchilas	0	6
Zamora Chinchipe	0	7
Santa Elena	1	0
Galápagos	1	0
Pastaza	1	3
Napo	1	4
Carchi	1	5
Esmeraldas	1	5
Bolívar	1	7
Cañar	1	10
Cotopaxi	1	10
El Oro	1	10
Los Ríos	2	6
Loja	2	17
Chimborazo	2	23
Imbabura	3	12
Tungurahua	3	21
Azuay	4	9
Manabí	5	8
Guayas	13	38
Pichincha	16	78

Source: SNIESE, 2016

⁶ To expand this information consult: <https://goo.gl/zB4wfg/>

Considering the latter, the relationship between the number of IES per province and the gross enrolment rate is as follows:

Table 4
Gross enrolment rate and total IES by province

Province	Gross rate	Total IES
Morona Santiago	10.2%	4
Sucumbíos	12.2%	2
Napo	14.3%	5
Orellana	14.5%	1
Zamora Chinchipe	15.5%	7
Pastaza	18%	4
Carchi	20.3%	6
Santa Elena	21%	1
Cotopaxi	22.6%	11
Los Ríos	22.7%	8
Santo Domingo de los Tsáchilas	23%	6
Esmeraldas	23.7%	6
Cañar	24.8%	11
El Oro	27.1%	11
Chimborazo	29.7%	25
Manabí	30%	13
Guayas	34.5%	51
Imbabura	34.7%	15
Tungurahua	34.7%	24
Azuay	34.9%	13
Bolívar	36.7%	8
Loja	44.1%	17
Pichincha	49.1%	94

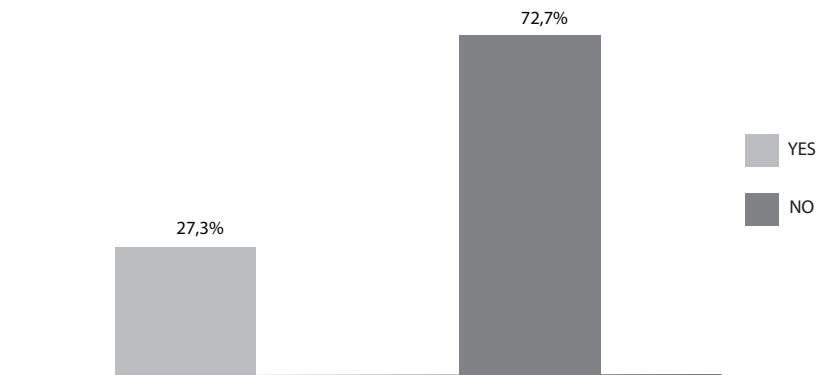
Source: own elaboration

It should be noted that the highest gross enrolment rate corresponds to a high number of IES per province. The gap in the number of institutions from one province to another is a sign of the historically uneven development of the Ecuadorian higher education system.

To start to correct the structural imbalance of this system, three of the four newly created universities are located in the interior of the country: Universidad Nacional de Educación (UNAE) in Cañar, Universidad Regional Amazónica Ikiam in Napo and Universidad de Investigación en Tecnología Experimental Yachay in Imbabura.

Considering the small territorial dimensions of the country compared to others in the region, and part of the correction of these imbalances, it has opted for an interregional academic mobility model, which allows students to be assigned to university centers away from the community of origin and the development of a scholarships system and attention to the university community so that students can go to the universities (Ramírez, 2016). However, according to the national leveling and admission system, by March 2015, the total number of participants in the exams, the percentage that accepted quota outside its province was 27.3%, while those that did not accept was 72.7%, which can be considered as an indicator of the volume of new income mobility in the system (SNNA, 2015).

Figure 1
Percentage of applicants who accept quota that were mobilized according to their province of residence and campus province (March 2015)



Source: SNNA, 2015

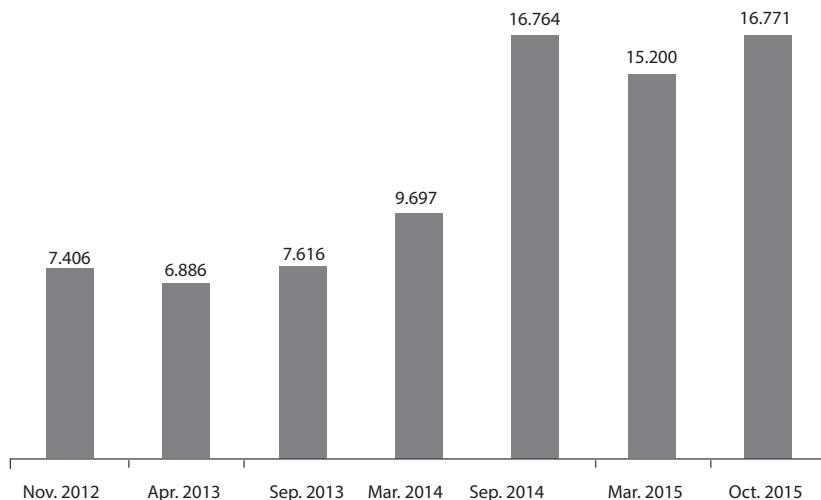
In relation to mobility, it should be mentioned that by opting for such an alternative as a formula for inclusive development of the higher education system, the relevance of the careers studied in relation to the development of the origin community of the student should also be considered, as well as the difficulties that arise for their return once graduated.

Since the formulation of the LOES, the projects of new careers must contain the component of relevance and linkage with the society, so that the Council of Higher Education (CES) can consider its approval, which motivated that all the careers created from 2010 until today consider their contribution to the development of the country.

Among other measures, four premises were set to advance towards the proliferation of relevant careers: services to achieve good living, careers with less saturated or non-existent demands, articulation with the productive structure (strategic sectors, basic industries, public companies, frontier Sciences) and territorial relevance. 67 relevant careers were established at universities, most of them concentrated in engineering, industry and construction, natural sciences, mathematics and statistics. Although the expected results of these careers depend on a long-term process, the national supply of relevant careers has increased by 14% in recent years. Nevertheless, in the efforts for academic relevance, it should be mentioned that more than 90% of the careers offered in technical and technological institutes —especially in the private area— correspond to commercial education (Samaniego, 2016).

On public technical and technological education, it must be said that an effort has been made to revalue it in the official discourse and in the redesign of its academic offer, so that it has social and productive relevance. For 2017, 48 new dual-modal technical and technological careers were created, focused on industry and production, and the number of quotas available for these formations at the national level increased from 7 406 in 2012 to 16 771 in 2015 (SENESCYT, 2015).

Figure 2
Academic offer: Real quotas and total acceptance (2012-2015)



Source: SNNA, 2015

Another important aspect of the regional system development is the multicultural⁷ relevance and its ability to absorb historically marginalized groups in the territories. On this, in 2015 the Ministry of Higher Education, Science, Technology and Innovation (SENESCYT) issued a ministerial decree where it makes binding that public universities reserve 10% and private universities 5% of their tuition for historically excluded populations (indigenous, afro, montubios, disabled citizens and people deprived of liberty, among others). In turn, private universities must provide at least 5% of their scholarships or financial aid to students excluded for social reasons. In addition, a guideline where all the subjects have to be rethought from an intercultural perspective and all the students, before graduating, must practice attending social problems in rural and urban marginal places

⁷ The concept “multicultural” and non-intercultural is used. The multicultural refers to the recognition of the “other”, while interculturality refers to the conditions of such recognition. Ecuador has taken important steps to democratize access. The intercultural system remains a challenge in the epistemological and material level in Ecuador.

(Ramírez, 2016). However, the challenges in intercultural matters are still superior to the capacities developed in the system for their approach.

There are no daily synergies for conducting joint research processes between universities or higher institutes, student exchanges, the possibility of pursuing studies without losing the credits obtained in another institution and structures to facilitate the transit of a student from higher technical institutions to tertiary education institutions (the latter is the result of the debugging process of the system to ensure the academic quality of the universities).

The higher education system, at the regional level, still has limitations on equitable access for all populations and on the mobility of teachers, researchers and students.

Despite this, important steps have been made to promote the internal and external mobility of teachers, researchers and students as a system development element. At the moment, Ecuador has a remarkable advance in legal terms to promote mobility, the most relevant instrument in this regard is the regulation of academic regime of the national system of higher education, dictated by the CES in 2013, which states: "to promote the national and international mobility of professors, researchers, professionals and students with a view to integrating the Ecuadorian academic community into the dynamics of knowledge at the regional and global levels" (CES, 2013, art. 2-E). In addition, it orders that the academic period of the institutions must, obligatorily, develop two regular periods per year, with a minimum of 16 effective weeks "for the purpose of facilitating academic mobility in the higher education system" (CES, 2013, art. 13). Specifically, in relation to the internal mobility of the students it is established that the hours of an approved course or subjects:

Will be susceptible to transfer between subjects and programs of one or different training level, in the same or different IES, in accordance with this regulation. CES will be able to oversee this process and promote academic mobility at the regional, national and international levels (CES, 2013, art. 63).

In the same aspect, but with regard to the professors, it is mentioned that:

In order to ensure the mobility of academic staff, public higher education institutions may grant licenses or commissions of service, as well as carry out position transfers and sign agreements with other institutions of higher education, national or international (CES, 2013, art. 84).

Finally, it is instructed that "the public IES may authorize the position transfer of their academic staff, with or without the corresponding budget, from one IES to another, duly legalized" (CES, 2013, art. 85).

In the interest of the system development and the academic integration, on May 14, 2012, in Quito, representatives of the category A Universities met and constituted the Ecuadorian Network of Universities and Polytechnic Schools for Research and Postgraduate Studies, whose objective is to act for the integration of scientific and academic development, based on reflective practice, innovation and collaborative work, promoting debate and the generation of solutions to the problems of society, by linking between the academy, the company, the community and the state⁸. In this context, the networks developed in this institutional framework, up to 2017, are: robotics, telecommunication, chemical engineering, biotechnology, dairy derivatives, education sciences, language and literature, tourism and hospitality, energy, management of the territory and technology of geospatial information, economics and administration, materials and nanotechnology, mechanics, bioproducts, computer Science and information, earth sciences and environment, law, chemistry, biological sciences, hydrogens and fuel cells, art-design and architecture. A strong challenge for this network is to develop its integrality to integrate several actors, so that all institutions of higher education —as in the case of higher institutes— can participate and benefit from the work of the network.

SENECYT accompanies most of the aforementioned academic networks. The networks with the most institutional participation are the administration (50 IES), informatics (30 IES), economy (26 IES) and languages (24 IES). In addition, it should be mentioned that there are smaller networks, recently constituted, but of great importance for the national development such as: mechatronics, forestry, tourism, psychology, veterinary and animal science, initial education, basic education, dentistry, pedagogy of mathematics, aquaculture and pedagogy of history (SENECYT, 2015).

These networks have already important advances in the harmonization of qualifications (informatics), redesign of the curricula (languages, tourism, aquaculture, automotive engineering, veterinary and animal sciences), redesign of the academic offer (psychopedagogy) and incorporation of new subnets (administration).

Besides the academic networks, the SENEACYT has created transversal networks and interinstitutional networks. One or more universities participate in each network. The transversal networks have constituted three: the national

⁸ To get more information consult: <https://goo.gl/dnc1vf/>

network for the integral prevention of drug use, the network of higher education and gender, and the network of universities promoting health and welfare. Three interinstitutional networks have also been formed: the biotechnology Network, the metalworking network and shipyards, and the network of agriculture, agro-industry and fisheries. Each of these networks seeks to generate knowledge and research, taking into account the local realities and the relevance of higher education in the development of Ecuador.

On the other hand, it should be pointed out as a system development element the strengthening of existing public research institutions and the creation of new institutions dedicated to that purpose, which makes the country now have eleven public institutes specialized in research and organized in a systemic way, which are: National Institute of Research in Public Health (INSPI), National Institute of Geological, Mining and metallurgical Research (INIGEMM), National Institute of Meteorology and Hydrology (INAMHI), National Institute of Cultural Heritage (INPC), National Institute efficiency and renewable energies (INER), National Institute of Agricultural Research (INIAP), National Fisheries Institute (INP), Ecuadorian Antarctic Institute (INAE), Military Geographic Institute (IGM), Navy Oceanographic Institute (INOCAR) and Ecuadorian Space Institute (IEE).⁹

Another advance that should be highlighted in the national system development is the increase percentage in fourth-level studies in tenured professors at 20.7% (20 percentage points) from 2012 to 2014. The following shows the evolution of this data from the 2012 with its growth projection up to 2017.

Table 5
Tenure professors with fourth-level title

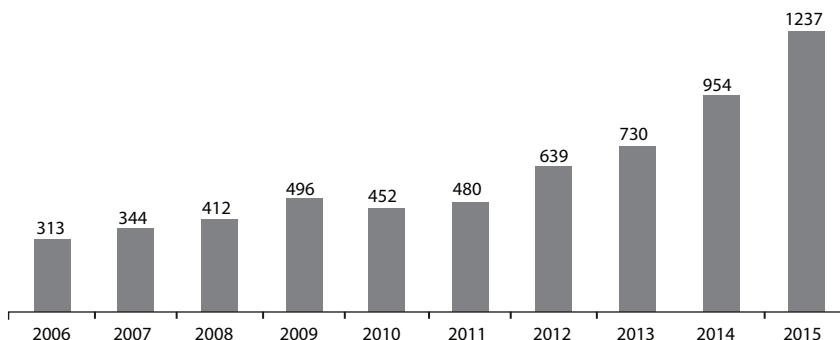
Year	Real data	Projection
2012	54.9%	
2013	67.2%	
2014	75.6%	
2015		78.7%
2016		81.9%
2017		85%

Source: own elaboration

9 To get more information consult: <https://goo.gl/QGckwM/>

The system development in terms of scientific production has also shown considerable improvement. Ecuador has gone from having 313 indexed publications in Scopus in 2006, to 1 237 in 2017, which means it increased its scientific publishing capacity four times. In addition, 75% of these publications have been the product of research carried out in the IES. This effort to publish has led to the location of the country as the largest percentage increase in the region in recent years, reaching 18% of annual growth (SENECYT, 2015).

Figure 3
Total of publications indexed in Scopus



Source: SENEICYT, 2015

The system has diversified, broadening its efforts and results in the research, production and knowledge-appropriation planes. It has been advancing for the national development, as can be seen, but there are also great challenges in this area for the development to be balanced, biocentric and for more population to have access to higher education quality and to make science of all kinds all over the country.

Conclusions

To conclude with this analysis, it is important to point out some lines of work to continue problematizing the Ecuadorian reality in terms of the higher education system. In this sense, if higher education is a fundamental

factor for the general and balanced development of Ecuador, what elements are needed to work to regionalize higher education, based on the principles of relevance and social law? The models of regional development of higher education system are based on the presence of higher education across the country or on the mobility of students towards training centers, in this sense: What model should Ecuador use to work with?, What perspective would be the most suitable in terms of resources and relevance?

On the other hand, understanding higher education as a development factor, and thus the generation of professionals as an element of social growth: Can there be more synergy between technological education and third-level education facilitating the continuity of studies and the greater professionalization of the population, without lowering the quality?, what perspectives can be built in this sense?

Finally, it is necessary to outline a central question for the social context of Ecuador: what advances exist and what challenges should be asked for the stimulation of the multicultural, intercultural and biocentric elements in the development of the system?

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NORMAS EDITORIALES

EDITORIAL GUIDELINES

PUBLICATION GUIDELINES IN «UNIVERSITAS»

UNIVERSITAS

REVISTA DE CIENCIAS SOCIALES Y HUMANAS

ISSN: 1390-3837 / e-ISSN: 1390-8634

1. General Information

«Universitas» is a bilingual scientific publication of the *Universidad Politécnica Salesiana* of Ecuador, published since January 2002 in an uninterrupted manner, with a semi-annual periodicity, specialized in Social and Human Sciences and its interdisciplinary lines such as Sociology, Anthropology, Social Psychology, Social Development, Communities, Latin American Studies, Political Studies, among others.

It is scientific journal, which uses the peer-review system, under double-blind review methodology, according to the publication standards of the American Psychological Association (APA). Compliance with this system allows authors to guarantee an objective, impartial and transparent review process, which facilitates the publication of their inclusion in reference databases, repositories and international indexing.

«Universitas» is indexed in the directory and selective catalog of the Regional Online Information System for Scientific Journals of Latin America, the Caribbean, Spain and Portugal (Latindex), in the Scientific Information System REDALYC, in the Directory of Journals of Open Access DOAJ and in repositories, libraries and specialized catalogs of Latin America.

The journal is published in a double version: printed (ISSN: 1390-3837) and digital (e-ISSN: 1390-8634), in English and Spanish, each work being identified with a DOI (Digital Object Identifier System).

2. Scope and Policy

2.1. Theme

Original contributions in Humanities and Social Sciences, as well as related areas: Sociology, Anthropology, Social Psychology, Social Development, Communities, Latin American Studies, Political Studies, and all related interdisciplinary disciplines with the central theme.

2.2. Contributions

“Universitas” preferably publishes results of empirical research on Human and Social Sciences, written in Spanish and / or English, as well as reports, studies and proposals, as well as selected state-of-the-art literature reviews.

All works must be original, have not been published in any medium or be in the process of arbitration or publication.

- **Research:** 5,000 to 6,500 words of text, including title, abstracts, descriptors, charts and references.
- **Reports, studies and proposals:** 5,000 to 6,500 words of text, including title, abstracts, charts and references.
- **Reviews:** 6,000 to 7,000 words of text, including charts and references. Justified references, would be specially valued. (current and selected from among 70 works)

“Universitas” has a biannual periodicity (20 articles per year), published in March and September and counts by number with two sections of five articles each, the first referring to a **Monographic** topic prepared in advance and with thematic editors and the Second, a section of **Miscellaneous**, composed of varied contributions within the theme of the publication.

3. Presentation, Structure and Submission of the Manuscripts

Texts will be presented in Arial 10 font, single line spacing, complete justification and no tabs or white spaces between paragraphs. Only large blocks (title, authors, summaries, descriptors, credits and headings) will be

separated with a blank space. The page should be 2 centimeters in all its margins.

Papers must be submitted in a Microsoft Word document (.doc or .docx), requiring that the file be anonymized in File Properties, so that the author / s identification does not appear.

Manuscripts must be submitted only and exclusively through the OJS (Open Journal System), in which all authors must previously register. Originals sent via email or other interfaces are not accepted.

3.1. Structure of the manuscript

For those works that are empirical investigations, the manuscripts will follow the IMRDC structure, being optional the Notes and Supports. Those papers that, on the contrary, deal with reports, studies, proposals and reviews may be more flexible in their epigraphs, particularly in material and methods, analysis, results, discussion and conclusions. In all typologies of works, references are mandatory.

1) Title (Spanish) / Title (English): Concise but informative, in Spanish on the first line and in English on the second. A maximum of 80 characters with spaces are accepted. The title is not only the responsibility of the authors, changes being able to be proposed by the Editorial Board.

2) Full name and surnames: Of each of the authors, organized by priority. A maximum of 3 authors will be accepted per original, although there may be exceptions justified by the topic, its complexity and extent. Next to the names must follow the professional category, work center, email of each author and ORCID number. It is mandatory to indicate if you have the academic degree of doctor (include Dr./Dra before the name).

3) Abstract (Spanish) / Abstract (English): It will have a maximum extension of 230 words, first in Spanish and then in English. : 1) Justification of the topic; 2) Objectives; 3) Methodology and sample; 4) Main results; 5) Main conclusions. It must be impersonally written “This paper analyzes ...”. In the case of the abstract, the use of automatic translators will not be accepted due to their poor quality.

4) Descriptors (Spanish) / Keywords (English): 6 descriptors must be presented for each language version directly related to the subject of the work. The use of the key words set out in UNESCO's Thesaurus will be positively valued.

5) Introduction and state of the issue: It should include the problem statement, context of the problem, justification, rationale and purpose of the study, using bibliographical citations, as well as the most significant and current literature on the topic at national and international level .

6) Material and methods: It must be written so that the reader can easily understand the development of the research. If applicable, it will describe the methodology, the sample and the form of sampling, as well as the type of statistical analysis used. If it is an original methodology, it is necessary to explain the reasons that led to its use and to describe its possible limitations.

7) Analysis and results: It will try to highlight the most important observations, describing, without making value judgments, the material and methods used. They will appear in a logical sequence in the text and the essential charts and figures avoiding the duplication of data.

8) Discussion and conclusions: Summarize the most important findings, relating the observations themselves with relevant studies, indicating contributions and limitations, without adding data already mentioned in other sections. Also, the discussion and conclusions section should include the deductions and lines for future research.

9) Supports and acknowledgments (optional): The Council Science Editors recommends the author (s) to specify the source of funding for the research. Priority will be given to projects supported by national and international competitive projects. In any case, for the scientific evaluation of the manuscript, it should be only anonymized with XXXX for its initial evaluation, in order not to identify authors and research teams, which should be explained in the Cover Letter and later in the final manuscript.

10) The notes (optional) will go, only if necessary, at the end of the article (before the references). They must be manually annotated, since the system of footnotes or the end of Word is not recognized by the layout systems. The numbers of notes are placed in superscript, both in the text and in the final note. The numbers of notes are placed in superscript, both in the text and in the final note. No notes are allowed that collect simple bibliographic citations (without comments), as these should go in the references.

11) References: Bibliographical citations should be reviewed in the form of references to the text. Under no circumstances should references not mentioned in the text be included. Their number should be sufficient to

contextualize the theoretical framework with current and important criteria. They will be presented alphabetically by the first last name of the author.

3.2. Standards for references

PERIODIC PUBLICATIONS

Journal article (author): Valdés-Pérez, D. (2016). Incidencia de las técnicas de gestión en la mejora de decisiones administrativas [Impact of Management Techniques on the Improvement of Administrative Decisions]. *Retos*, 12(6), 199-2013. <https://doi.org/10.17163/ret.n12.2016.05>

Journal Article (Up to six authors): Ospina, M.C., Alvarado, S.V., Fefferman, M., & Llanos, D. (2016). Introducción del dossier temático “Infancias y juventudes: violencias, conflictos, memorias y procesos de construcción de paz” [Introduction of the thematic dossier “Infancy and Youth: Violence, Conflicts, Memories and Peace Construction Processes”]. *Universitas*, 25(14), 91-95. <https://doi.org/10.17163/uni.n25.%25x>

Journal article (more tan six authors): Smith, S.W., Smith, S.L. Pieper, K.M., Yoo, J.H., Ferrys, A.L., Downs, E.,..., Bowden, B. (2006). Altruism on American Television: Examining the Amount of, and Context Surrounding. Acts of Helping and Sharing. *Journal of Communication*, 56(4), 707-727. <https://doi.org/10.1111/j.1460-2466.2006.00316.x>

Journal article (without DOI): Rodríguez, A. (2007). Desde la promoción de salud mental hacia la promoción de salud: La concepción de lo comunitario en la implementación de proyectos sociales. *Alteridad*, 2(1), 28-40. (<https://goo.gl/zDb3Me>) (2017-01-29).

BOOKS AND BOOK CHAPTERS

Full books: Cuéllar, J.C., & Moncada-Paredes, M.C. (2014). *El peso de la deuda externa ecuatoriana*. Quito: Abya-Yala.

Chaprter of book: Zambrano-Quiñones, D. (2015). *El ecoturismo comunitario en Manglaralto y Colonche*. En V.H. Torres (Ed.), *Alternativas de Vida: Trece experiencias de desarrollo endógeno en Ecuador* (pp. 175-198). Quito: Abya-Yala.

DIGITAL MEDIA

Pérez-Rodríguez, M.A., Ramírez, A., & García-Ruiz, R. (2015). La competencia mediática en educación infantil. Análisis del nivel de desarrollo en España. *Universitas Psychologica*, 14(2), 619-630. <https://doi.org/10.11144/Javeriana.upsy14-2.cmei>

It is prescriptive that all quotations that have DOI (Digital Object Identifier System) are reflected in the References (can be obtained at <http://goo.gl/gfruh1>). All journals and books that do not have DOI should appear with their link (in their online version, if they have it, shortened by Google Shortened: <http://goo.gl>) and date of consultation in the format indicated.

Journal articles should be presented in English, except for those in Spanish and English, in which case it will be displayed in both languages using brackets. All web addresses submitted must be shortened in the manuscript, except for the DOI that must be in the indicated format (<https://doi.org/XXX>).

3.3. Epigraphs, Figures and Charts

The epigraphs of the body of the article will be numbered in Arabic. They should go without a full box of capital letters, neither underlined nor bold. The numbering must be a maximum of three levels: 1. / 1.1. / 1.1.1. A carriage return will be established at the end of each numbered epigraph.

The charts must be included in the text in Word format according to order of appearance, numbered in Arabic and subtitled with the description of the content.

The graphics or figures will be adjusted to the minimum number required and will be presented incorporated in the text, according to their order of appearance, numbered in Arabic and subtitled with the abbreviated description. Their quality should not be less than 300 dpi, and it may be necessary to have the graph in TIFF, PNG or JPEG format.

4. Submission Process

Two files must be sent through the OJS system of the journal:

1) Presentation and cover, in which the title in Spanish and English will appear, names and surnames of the authors in a standardized form with ORCID number, abstract in both Spanish and English, descriptors and

keywords and a statement that the manuscript is an Original contribution, not sent or in the process of being evaluated in another journal, confirmation of the signatory authors, acceptance (if applicable) of formal changes in the manuscript according to the rules and partial transfer of rights to the publisher (use official cover model).

2) Manuscript totally anonymized, according to the norms referred in precedence.

All authors must register with their credits on the OJS platform, although only one of them will be responsible for correspondence.

No author can submit or have in review two manuscripts simultaneously, estimating an absence of four consecutive numbers (2 years).

NORMAS DE PUBLICACIÓN EN «UNIVERSITAS»

UNIVERSITAS
REVISTA DE CIENCIAS SOCIALES Y HUMANAS

ISSN: 1390-3837 / e-ISSN: 1390-8634

1. Información general

«Universitas» es una publicación científica bilingüe de la Universidad Politécnica Salesiana de Ecuador, editada desde enero de 2002 de forma ininterrumpida, con periodicidad fija semestral, especializada en Ciencias Sociales y Humanas y sus líneas interdisciplinares como Sociología, Antropología, Psicología Social, Desarrollo Social, Comunidades, Estudios Latinoamericanos, Estudios Políticos, entre otras.

Es una revista científica arbitrada, que utiliza el sistema de evaluación externa por expertos (*peer-review*), bajo metodología de pares ciegos (*doble-blind review*), conforme a las normas de publicación de la American Psychological Association (APA). El cumplimiento de este sistema permite garantizar a los autores un proceso de revisión objetivo, imparcial y transparente, lo que facilita a la publicación su inclusión en bases de datos, repositorios e indexaciones internacionales de referencia.

«Universitas» se encuentra indexada en el directorio y catálogo selectivo del Sistema Regional de Información en Línea para Revistas Científicas de América Latina, el Caribe, España y Portugal (Latindex), en el Sistema de Información Científica REDALYC, en el Directorio de Revistas de Acceso Abierto DOAJ y en repositorios, bibliotecas y catálogos especializados de Iberoamérica.

La revista se edita en doble versión: impresa (ISSN: 1390-3837) y electrónica (e-ISSN: 1390-8634), en español e inglés, siendo identificado además cada trabajo con un DOI (Digital Object Identifier System).

2. Alcance y Política

2.1. Temática

Contribuciones originales en materia de Ciencias Humanas y Sociales, así como áreas afines: Sociología, Antropología, Psicología Social, Desarrollo Social, Comunidades, Estudios Latinoamericanos, Estudios Políticos, y todas aquellas disciplinas conexas interdisciplinariamente con la línea temática central.

2.2. Aportaciones

«Universitas» edita preferentemente resultados de investigación empírica sobre Ciencias Humanas y Sociales, redactados en español y/o inglés, siendo también admisibles informes, estudios y propuestas, así como selectas revisiones de la literatura (*state-of-the-art*).

Todos los trabajos deben ser originales, no haber sido publicados en ningún medio ni estar en proceso de arbitraje o publicación. De esta manera, las aportaciones en la revista pueden ser:

- **Investigaciones:** 5.000 a 6.500 palabras de texto, incluyendo título, resúmenes, descriptores, tablas y referencias.
- **Informes, estudios y propuestas:** 5.000 a 6.500 palabras de texto, incluyendo título, resúmenes, tablas y referencias.
- **Revisiones:** 6.000 a 7.000 palabras de texto, incluidas tablas y referencias. Se valorará especialmente las referencias justificadas, actuales y selectivas de alrededor de unas 70 obras.

«Universitas» tiene periodicidad semestral (20 artículos por año), publicada en los meses de marzo y septiembre y cuenta por número con dos secciones de cinco artículos cada una, la primera referida a un tema **Monográfico** preparado con antelación y con editores temáticos y la segunda, una sección de **Misceláneas**, compuesta por aportaciones variadas dentro de la temática de la publicación.

3. Presentación, estructura y envío de los manuscritos

Los trabajos se presentarán en tipo de letra Arial 10, interlineado simple, justificado completo y sin tabuladores ni espacios en blanco entre párrafos.

Solo se separarán con un espacio en blanco los grandes bloques (título, autores, resúmenes, descriptores, créditos y epígrafes). La página debe tener 2 centímetros en todos sus márgenes.

Los trabajos deben presentarse en documento de Microsoft Word (.doc o .docx), siendo necesario que el archivo esté anonimizado en Propiedades de Archivo, de forma que no aparezca la identificación de autor/es.

Los manuscritos deben ser enviados única y exclusivamente a través del OJS (Open Journal System), en el cual todos los autores deben darse de alta previamente. No se aceptan originales enviados a través de correo electrónico u otra interfaz.

3.1. Estructura del manuscrito

Para aquellos trabajos que se traten de investigaciones de carácter empírico, los manuscritos seguirán la estructura IMRDC, siendo opcionales los epígrafes de Notas y Apoyos. Aquellos trabajos que por el contrario se traten de informes, estudios, propuestas y revisiones podrán ser más flexibles en sus epígrafes, especialmente en Material y métodos, Análisis y resultados y Discusión y conclusiones. En todas las tipologías de trabajos son obligatorias las Referencias.

1) Título (español) / Title (inglés): Conciso pero informativo, en castellano en primera línea y en inglés en segunda. Se aceptan como máximo 80 caracteres con espacio. El título no solo es responsabilidad de los autores, pudiéndose proponer cambios por parte del Consejo Editorial.

2) Nombre y apellidos completos: De cada uno de los autores, organizados por orden de prelación. Se aceptarán como máximo 3 autores por original, aunque pudieren existir excepciones justificadas por el tema, su complejidad y extensión. Junto a los nombres ha de seguir la categoría profesional, centro de trabajo, correo electrónico de cada autor y número de ORCID. Es obligatorio indicar si se posee el grado académico de doctor (incluir Dr./Dra. antes del nombre).

3) Resumen (español) / Abstract (inglés): Tendrá como extensión máxima 230 palabras, primero en español y después en inglés. En el resumen se describirá de forma concisa y en este orden: 1) Justificación del tema; 2) Objetivos; 3) Metodología y muestra; 4) Principales resultados; 5) Principales conclusiones. Ha de estar escrito de manera impersonal “El presente trabajo analiza...”. En el caso del abstract no se admitirá el empleo de traductores automáticos por su pésima calidad.

4) Descriptores (español) / Keywords (inglés): Se deben exponer 6 descriptores por cada versión idiomática relacionados directamente con el tema del trabajo. Será valorado positivamente el uso de las palabras claves expuestas en el Thesaurus de la UNESCO.

5) Introducción y estado de la cuestión: Debe incluir el planteamiento del problema, el contexto de la problemática, la justificación, fundamentos y propósito del estudio, utilizando citas bibliográficas, así como la literatura más significativa y actual del tema a escala nacional e internacional.

6) Material y métodos: Debe ser redactado de forma que el lector pueda comprender con facilidad el desarrollo de la investigación. En su caso, describirá la metodología, la muestra y la forma de muestreo, así como se hará referencia al tipo de análisis estadístico empleado. Si se trata de una metodología original, es necesario exponer las razones que han conducido a su empleo y describir sus posibles limitaciones.

7) Análisis y resultados: Se procurará resaltar las observaciones más importantes, describiéndose, sin hacer juicios de valor, el material y métodos empleados. Aparecerán en una secuencia lógica en el texto y las tablas y figuras imprescindibles evitando la duplicidad de datos.

8) Discusión y conclusiones: Resumirá los hallazgos más importantes, relacionando las propias observaciones con estudios de interés, señalando aportaciones y limitaciones, sin redundar datos ya comentados en otros apartados. Asimismo, el apartado de discusión y conclusiones debe incluir las deducciones y líneas para futuras investigaciones.

9) Apoyos y agradecimientos (opcionales): El Council Science Editors recomienda a los autor/es especificar la fuente de financiación de la investigación. Se considerarán prioritarios los trabajos con aval de proyectos competitivos nacionales e internacionales. En todo caso, para la valoración científica del manuscrito, este debe ir anonimizado con XXXX solo para su evaluación inicial, a fin de no identificar autores y equipos de investigación, que deben ser explicitados en la Carta de Presentación y posteriormente en el manuscrito final.

10) Las notas (opcionales) irán, solo en caso necesario, al final del artículo (antes de las referencias). Deben anotarse manualmente, ya que el sistema de notas al pie o al final de Word no es reconocido por los sistemas de maquetación. Los números de notas se colocan en superíndice, tanto en el texto como en la nota final. No se permiten notas que recojan

citas bibliográficas simples (sin comentarios), pues éstas deben ir en las referencias.

11) Referencias: Las citas bibliográficas deben reseñarse en forma de referencias al texto. Bajo ningún caso deben incluirse referencias no citadas en el texto. Su número debe ser suficiente para contextualizar el marco teórico con criterios de actualidad e importancia. Se presentarán alfabéticamente por el primer apellido del autor.

3.2. Normas para las referencias

PUBLICACIONES PERIÓDICAS

Artículo de revista (un autor): Valdés-Pérez, D. (2016). Incidencia de las técnicas de gestión en la mejora de decisiones administrativas [Impact of Management Techniques on the Improvement of Administrative Decisions]. *Retos*, 12(6), 199-2013. <https://doi.org/10.17163/ret.n12.2016.05>

Artículo de revista (hasta seis autores): Ospina, M.C., Alvarado, S.V., Ffferman, M., & Llanos, D. (2016). Introducción del dossier temático “Infancias y juventudes: violencias, conflictos, memorias y procesos de construcción de paz” [Introduction of the thematic dossier “Infancy and Youth: Violence, Conflicts, Memories and Peace Construction Processes”]. *Universitas*, 25(14), 91-95. <https://doi.org/10.17163/uni.n25.%25x>

Artículo de revista (más de seis autores): Smith, S.W., Smith, S.L. Pieper, K.M., Yoo, J.H., Ferrys, A.L., Downs, E.,..., Bowden, B. (2006). Altruism on American Television: Examining the Amount of, and Context Surrounding, Acts of Helping and Sharing. *Journal of Communication*, 56(4), 707-727. <https://doi.org/10.1111/j.1460-2466.2006.00316.x>

Artículo de revista (sin DOI): Rodríguez, A. (2007). Desde la promoción de salud mental hacia la promoción de salud: La concepción de lo comunitario en la implementación de proyectos sociales. *Alteridad*, 2(1), 28-40. (<https://goo.gl/zDb3Me>) (2017-01-29).

LIBROS Y CAPÍTULOS DE LIBRO

Libros completos: Cuéllar, J.C., & Moncada-Paredes, M.C. (2014). *El peso de la deuda externa ecuatoriana*. Quito: Abya-Yala.

Capítulos de libro: Zambrano-Quiñones, D. (2015). *El ecoturismo comunitario en Manglaralto y Colonche*. En V.H. Torres (Ed.), *Alternativas de Vida: Trece experiencias de desarrollo endógeno en Ecuador* (pp. 175-198). Quito: Abya-Yala.

MEDIOS ELECTRÓNICOS

Pérez-Rodríguez, M.A., Ramírez, A., & García-Ruiz, R. (2015). La competencia mediática en educación infantil. Análisis del nivel de desarrollo en España. *Universitas Psychologica*, 14(2), 619-630. <https://doi.org/10.11144/Javeriana.upsy14-2.cmei>

Es prescriptivo que todas las citas que cuenten con DOI (Digital Object Identifier System) estén reflejadas en las Referencias (pueden obtenerse en <http://goo.gl/gfruh1>). Todas las revistas y libros que no tengan DOI deben aparecer con su link (en su versión on-line, en caso de que la tengan, acortada, mediante Google Shortener: <http://goo.gl>) y fecha de consulta en el formato indicado.

Los artículos de revistas deben ser expuestos en idioma inglés, a excepción de aquellos que se encuentren en español e inglés, caso en el que se expondrá en ambos idiomas utilizando corchetes. Todas las direcciones web que se presenten tienen que ser acortadas en el manuscrito, a excepción de los DOI que deben ir en el formato indicado (<https://doi.org/XXX>).

3.3. Epígrafes, tablas y gráficos

Los epígrafes del cuerpo del artículo se numerarán en arábigo. Irán sin caja completa de mayús-culas, ni subrayados, ni negritas. La numeración ha de ser como máximo de tres niveles: 1./ 1.1./ 1.1.1. Al final de cada epígrafe numerado se establecerá un retorno de carro.

Las tablas deben presentarse incluidas en el texto en formato Word según orden de aparición, numeradas en arábigo y subtituladas con la descripción del contenido.

Los gráficos o figuras se ajustarán al número mínimo necesario y se presentarán incorporadas al texto, según su orden de aparición, numeradas en arábigo y subtituladas con la descripción abreviada. Su calidad no debe ser inferior a 300 ppp, pudiendo ser necesario contar con el gráfico en formato TIFF, PNG o JPEG.

4. Proceso de envío

Deben remitirse a través del sistema OJS de la revista dos archivos:

1) Presentación y portada, en la que aparecerá el título en español e inglés, nombres y apellidos de los autores de forma estandarizada con número de ORCID, resumen, abstract, descriptores y keywords y una declaración de que el manuscrito se trata de una aportación original, no enviada ni en proceso de evaluación en otra revista, confirmación de las autorías firmantes, aceptación (si procede) de cambios formales en el manuscrito conforme a las normas y cesión parcial de derechos a la editorial (usar modelo oficial de portada).

2) Manuscrito totalmente anonimizado, conforme a las normas referidas en precedencia.

Todos los autores han de darse de alta, con sus créditos, en la plataforma OJS, si bien uno solo de ellos será el responsable de correspondencia. Ningún autor podrá enviar o tener en revisión dos manuscritos de forma simultánea, estimándose una carencia de cuatro números consecutivos (2 años).

GUIDELINES FOR EXTERNAL REVIEWERS OF «UNIVERSITAS»

The **Council of External Reviewers of «Universitas»** is an independent collegiate body whose purpose is to guarantee the excellence of this scientific publication, because the blind evaluation - based exclusively on the quality of the contents of the manuscripts and carried out by experts of recognized International prestige in the field - is, without a doubt, the best guarantee for the advancement of science and to preserve in this header an original and valuable scientific production.

To this end, the **Council of External Reviewers** is made up of several scholars and international scientists specialized in **Education**, essential to select the articles of the greatest impact and interest for the international scientific community. This in turn allows that all the articles selected to publish in **«Universitas»** have an academic endorsement and objectifiable reports on the originals.

Of course, all reviews in **«Universitas»** use the internationally standardized system of double-blind peer evaluation that guarantees the anonymity of manuscripts and reviewers. As a measure of transparency, the complete lists of reviewers are published on the official website of the journal ([www. http://Universitas.ups.edu.ec/](http://Universitas.ups.edu.ec/)) los listados completos de los revisores.

1. Criteria for acceptance/rejection of manuscript evaluation

The editorial team of **«Universitas»** selects those that are considered more qualified in the subject of the manuscript from the list of reviewers of the Council of Reviewers. While the publication requires the maximum collaboration of reviewers to expedite the evaluations and reports on each original, acceptance of the review must be linked to:

- a. **Expertise.** Acceptance necessarily entails the possession of competences in the specific theme of the article to be evaluated.

- b. **Availability.** Reviewing an original takes time and involves careful reflection on many aspects.
- c. **Conflict of interests.** In case of identification of the authorship of the manuscript (despite their anonymity), excessive academic or family closeness to their authors, membership in the same University, Department, Research Group, Thematic Network, Research Projects, joint publications with authors ... or any other type of connection or conflict / professional proximity; The reviewer must reject the publisher's invitation for review.
- d. **Commitment of confidentiality.** Reception of a manuscript for evaluation requires the Reviewer to express a commitment of confidentiality, so that it cannot be divulged to a third party throughout the process.

In the event that the reviewer cannot carry out the activity for some of these reasons or other justifiable reasons, he/she must notify the publisher by the same route that he/she has received the invitation, specifying the reasons for rejection.

2. General criteria for the evaluation of manuscripts

a) Topic

In addition to being valuable and relevant to the scientific community, the topic that is presented in the original must be limited and specialized in time and space, without excessive localism.

b) Redaction

The critical assessment in the review report must be objectively written, providing content, quotes or references of interest to support its judgment.

c) Originality

As a fundamental criterion of quality, an article must be original, unpublished and suitable. In this sense, reviewers should answer these three questions in the evaluation:

- Is the article sufficiently novel and interesting to justify publication?
- Does it contribute anything to the knowledge canon?
- Is the research question relevant?

A quick literature search using repositories such as Web of Knowledge, Scopus and Google Scholar to see if the research has been previously covered, may be helpful.

d) Structure

Manuscripts that refer to «Universitas» must follow the IMRDC structure, except those that are literature reviews or specific studies. In this sense, the originals must contain summary, introduction, methodology, results, discussion and conclusion.

- The ***title, abstract, and keywords*** should accurately describe the content of the article.
- The ***review of the literature*** should summarize the state of the question of the most recent and adequate research for the presented work. It will be especially evaluated with criteria of suitability and that the references are to works of high impact - especially in WoS, Scopus, Scielo, etc. It should also include the general explanation of the study, its central objective and the followed methodological design.
- In case of research, in the ***materials and methods***, the author must specify how the data, the process and the instruments used to respond to the hypothesis, the validation system, and all the information necessary to replicate the study are collected.
- ***Results*** must be clearly specified in logical sequence. It is important to check if the figures or charts presented are necessary or, if not, redundant with the content of the text.
- In the ***discussion***, the data obtained should be interpreted in the light of the literature review. Authors should include here if their article supports or contradicts previous theories. The conclusions will summarize the advances that the research presents in the area of scientific knowledge, the future lines of research and the main difficulties or limitations for carrying out the research.
- ***Language:*** It will be positively assessed if the language used facilitates reading and is in favor of the clarity, simplicity, precision and

transparency of the scientific language. The Reviewer should not proceed to correction, either in Spanish or English, but will inform the Editors of these grammatical or orthographical and typographical errors.

- Finally, a thorough **review of the references** is required in case any relevant work has been omitted. The references must be precise, citing within the logic of the subject at study, its main works as well as the documents that most resemble the work itself, as well as the latest research in the area.

3. Relevant valuation dimensions

«*Universitas*» uses an evaluation matrix of each original that responds to the editorial criteria and to compliance with the publication normative. In this sense, the reviewers must attend to the qualitative-quantitative assessment of each of the aspects proposed in this matrix with criteria of objectivity, reasoning, logic and expertise.

RESEARCHES	
Valuable items	P.
01. Title and abstract (clarity and structure)	0/5
02. Thematic relevance 03. Originality of the work 04. Review of the literature	0/10
05. Structure and organization of the article 06. Argumentative capabilities 07. Redaction	0/10
08. Methodological rigor 09. Research instruments	0/10
10. Research results 11. Advances 12. Discussion 13. Conclusions	0/10
14. Quotations (variety and richness) 15. References	0/5
Total	50

If the original is a review of the literature (status of the subject) or other type of study (reports, proposals, experiences, among others), the Editorial Board will send to the reviewers a different matrix, including the characteristics of Structure of this type of originals:

REPORTS, STUDIES, PROPOSALS, REVIEWS	
Valuable items	P.
01. Title and abstract (clarity and structure)	0/5
02. Thematic relevance	0/10
03. Review of the literature	0/10
04. Structure and organization of the article	
05. Argumentative capabilities and coherence	0/10
06. Scientific redaction	
07. original contributions	
08. Conclusions	0/10
09. Quotations	
10. References	0/5
Total	50

4. Ethical Considerations

a) Plagiarism: Although the journal uses plagiarism detection systems, if the reviewer suspects that an original is a substantial copy of another work, he must immediately inform the Editors citing the previous work in as much detail as possible.

b) Fraud: If there is real or remote suspicion that the results in an article are false or fraudulent, it is necessary to inform them to the Editors.

5. Evaluation of the originals

After the quantitative-qualitative evaluation of the manuscript under review, the reviewer may make recommendations to improve the quality of the manuscript. However, the manuscript will be graded in three ways:

- a. **Acceptance without review**
- b. **Conditional acceptance** and therefore review (greater or lesser). In the latter case, it is necessary to clearly identify which review is necessary, listing the comments and even specifying paragraphs and pages suggesting modifications.
- c. **Rejection** due to detected deficiencies justified and reasoned with quantitative and quantitative assessment. The report should be longer if a score of less than 40 of the 50 possible points is obtained.

INDICADORES PARA REVISORES EXTERNOS DE «UNIVERSITAS»

El **Consejo de Revisores Externos de «Universitas»** es un órgano colegiado independiente cuyo fin es garantizar la excelencia de esta publicación científica, debido a que la evaluación ciega –basada exclusivamente en la calidad de los contenidos de los manuscritos y realizada por expertos de reconocido prestigio internacional en la materia– es la mejor garantía y, sin duda, el mejor aval para el avance de la ciencia y para preservar en esta cabecera una producción científica original y valiosa.

Para ello, el **Consejo de Revisores Externos** está conformado por diversos académicos y científicos internacionales especialistas en **Ciencias Sociales**, esenciales para seleccionar los artículos de mayor impacto e interés para la comunidad científica internacional. Esto permite a su vez que todos los artículos seleccionados para publicar en «**Universitas**» cuenten con un aval académico e informes objetivables sobre los originales.

Por supuesto, todas las revisiones en «**Universitas**» emplean el sistema estandarizado internacionalmente de evaluación por pares con «doble ciego» (doble-blind) que garantiza el anonimato de los manuscritos y de los revisores de los mismos. Como medida de transparencia, anualmente se hacen públicos en la web oficial de la revista ([www. http://Universitas.ups.edu.ec/](http://Universitas.ups.edu.ec/)) los listados completos de los revisores.

1. Criterios de aceptación/rechazo de evaluación manuscritos

El equipo editorial de «**Universitas**» selecciona del listado de revisores del Consejo de Revisores a aquellos que se estiman más cualificado en la temática del manuscrito. Si bien por parte de la publicación se pide la máxima colaboración de los revisores para agilizar las evaluaciones y los informes sobre cada original, la aceptación de la revisión ha de estar vinculada a:

- a. **Experticia.** La aceptación conlleva necesariamente la posesión de competencias en la temática concreta del artículo a evaluar.
- b. **Disponibilidad.** Revisar un original exige tiempo y conlleva reflexión concienzuda de muchos aspectos.

- c. **Conflictos de intereses.** En caso de identificación de la autoría del manuscrito (a pesar de su anonimato), excesiva cercanía académica o familiar a sus autores, pertenencia a la misma Universidad, Departamento, Grupo de Investigación, Red Temática, Proyectos de Investigación, publicaciones conjuntas con los autores... o cualquier otro tipo de conexión o conflicto/cercanía profesional; el revisor debe rechazar la invitación del editor para su revisión.
- d. **Compromiso de confidencialidad.** La recepción de un manuscrito para su evaluación exige del Revisor un compromiso expreso de confidencialidad, de manera que éste no puede, durante todo el proceso, ser divulgado a un tercero.

En caso que el revisor no pueda llevar a cabo la actividad por algunos de estos motivos u otros justificables, debe notificarlo al editor por la misma vía que ha recibido la invitación, especificando los motivos de rechazo.

2. Criterios generales de evaluación de manuscritos

a) Tema

La temática que se plantea en el original, además de ser valiosa y relevante para la comunidad científica, ha de ser limitada y especializada en tiempo y espacio, sin llegar al excesivo localismo.

b) Redacción

La valoración crítica en el informe de revisión ha de estar redactada de forma objetiva, aportando contenido, citas o referencias de interés para argumentar su juicio.

c) Originalidad

Como criterio de calidad fundamental, un artículo debe ser original, inédito e idóneo. En este sentido, los revisores deben responder a estas tres preguntas en la evaluación:

- ¿Es el artículo suficientemente novedoso e interesante para justificar su publicación?

- ¿Aporta algo al canon del conocimiento?
- ¿Es relevante la pregunta de investigación?

Una búsqueda rápida de literatura utilizando repositorios tales como Web of Knowledge, Scopus y Google Scholar para ver si la investigación ha sido cubierta previamente puede ser de utilidad.

d) Estructura

Los manuscritos que se remiten a «**Universitas**» deben seguir obligatoriamente la estructura IMRyD, excepto aquellos que sean revisiones de la literatura o estudios específicos. En este sentido, los originales han de contener resumen, introducción, metodología, resultados, discusión y conclusión.

- El **título, el resumen y las palabras clave** han de describir exactamente el contenido del artículo.
- La **revisión de la literatura** debe resumir el estado de la cuestión de las investigaciones más recientes y adecuadas para el trabajo presentado. Se valorará especialmente con criterios de idoneidad y que las referencias sean a trabajos de alto impacto –especialmente en WoS, Scopus, Scielo, etc. Debe incluir además la explicación general del estudio, su objetivo central y el diseño metodológico seguido.
- En caso de investigaciones, en los **materiales y métodos**, el autor debe precisar cómo se recopilan los datos, el proceso y los instrumentos usados para responder a las hipótesis, el sistema de validación, y toda la información necesaria para replicar el estudio.
- En los **resultados** se deben especificar claramente los hallazgos en secuencia lógica. Es importante revisar si las tablas o cuadros presentados son necesarios o, caso contrario, redundantes con el contenido del texto.
- En la **discusión** se deben interpretar los datos obtenidos a la luz de la revisión de la literatura. Los autores deberán incluir aquí si su artículo apoya o contradice las teorías previas. Las **conclusiones** resumirán los avances que la investigación plantea en el área del conocimiento científico, las futuras líneas de investigación y las principales dificultades o limitaciones para la realización de la investigación.

- **Idioma:** Se valorará positivamente si el idioma utilizado facilita la lectura y va en favor de la claridad, sencillez, precisión y transparencia del lenguaje científico. El Revisor no debe proceder a corrección, ya sea en español o inglés, sino que informará a los Editores de estos errores gramaticales u ortotipográficos.
- Finalmente, se requiere una profunda **revisión de las referencias** por si se hubiera omitido alguna obra relevante. Las referencias han de ser precisas, citando en la lógica de la temática a estudiar, sus principales obras así como los documentos que más se asemejen al propio trabajo, así como las últimas investigaciones en el área.

3. Dimensiones relevantes de valoración

«Universitas» utiliza una matriz de evaluación de cada original que responde a los criterios editoriales y al cumplimiento de la normativa de la publicación. En este sentido los revisores deberán atender a la valoración cuali-cuantitativa de cada uno de los aspectos propuestos en esta matriz con criterios de objetividad, razonamiento, lógica y experticia.

INVESTIGACIONES	
Ítems valorables	P.
01. Título y resumen (claridad y estructura)	0/5
02. Relevancia de la temática 03. Originalidad del trabajo 04. Revisión de la literatura	0/10
05. Estructura y organización artículo 06. Capacidad argumental 07. Redacción	0/10
08. Rigor metodológico 09. Instrumentos de investigación	0/10
10. Resultados de investigación 11. Avances 12. Discusión 13. Conclusiones	0/10

14. Citaciones (variedad y riqueza)	0/5
15. Referencias	
Total máximo	50

En caso de tratarse el original de una revisión de la literatura (estado de la cuestión) u otro tipo de estudio (informes, propuestas, experiencias, entre otras), el Consejo Editorial remitirá a los revisores una matriz distinta, comprendiendo las características propias de estructura de este tipo de originales:

ESTUDIOS, INFORMES, PROPUESTAS, EXPERIENCIAS	
Ítems valorables	P.
01. Título y resumen (claridad y estructura)	0/5
02. Relevancia de la temática	0/10
03. Revisión de la literatura	0/10
04. Estructura y organización artículo	
05. Capacidad argumental y coherencia	0/10
06. Redacción científica	
07. Aportaciones originales	
08. Conclusiones	0/10
09. Citaciones	
10. Referencias	0/5
Total máximo	50

4. Cuestiones éticas

a) Plagio: Aunque la revista utiliza sistemas de detección de plagio, si el revisor sospechare que un original es una copia sustancial de otra obra, ha de informar de inmediato a los Editores citando la obra anterior con tanto detalle cómo le sea posible.

b) Fraude: Si hay sospecha real o remota de que los resultados en un artículo son falsos o fraudulentos, es necesario informar de ellos a los Editores.

5. Evaluación de los originales

Una vez realizada la evaluación cuanti-cualitativa del manuscrito en revisión, el revisor podrá realizar recomendaciones para mejorar la calidad del original. Sin embargo, se atenderá a la calificación del manuscrito de tres maneras:

- a. Rechazo debido a las deficiencias detectadas, justificadas y razonadas con valoración cualitativa y cuantitativa. El informe ha de ser más extenso si obtiene menos de los 30 de los 50 puntos posibles.
- b. Aceptación sin revisión.
- c. Aceptación condicionada y por ende con revisión (mayor o menor). En este último caso, se ha de identificar claramente qué revisión es necesaria, enumerando los comentarios e incluso especificando párrafos y páginas en las que sugieren modificaciones.

PROTOCOL OF MANUSCRIPT EVALUATION FOR EXTERNAL REVIEWERS

Article Details		
Date of submission for evaluation:	Date of return of evaluation:	Article code: xxxx
Title of the article to be evaluated:		
SECCIÓN: INFORMES, ESTUDIOS, PROPUESTAS Y EXPERIENCIAS		
01. Title and abstract (clarity and structure)	Mandatory comments:	
		Value 0 to 5
02. Thematic relevance	Mandatory comments:	
		Value 0 to 5
03. Review of the literature	Mandatory comments:	
		Value 0 to 5
4. Structure and organization of the article 5. Argumentative capabilities and coherence 6. Scientific redaction	Mandatory comments:	
		Value 0 to 5
7. Original contributions 8. Conclusions	Mandatory comments:	
		Value 0 to 5
9. Quotations 10. References	Mandatory comments:	
		Value 0 to 5
SOCORE	Of the total of 50 foreseeable points, this evaluator grants:	

REDACTED OPINION (More detailed if the work does not get 40 points, to inform the author(s)) This text is sent verbatim to the author (s) anonymously.								
WORTH PUBLISHING	<input type="checkbox"/>	No	<input type="checkbox"/>	<input type="checkbox"/>	Yes	<input type="checkbox"/>	<input type="checkbox"/>	Yes, with minor changes
PROPOSED CHANGES (In case of “Yes, with conditions”)								

PROTOCOLO DE EVALUACIÓN DE MANUSCRITOS PARA REVISORES EXTERNOS

Datos del artículo		
Fecha envío evaluación:	Fecha devolución evaluación:	Código artículo: xxxx
Título del artículo a evaluar:		
SECCIÓN: ESTUDIOS, PROPUESTAS, INFORMES Y REVISIONES		
01. Título y resumen (claridad y estructura)	Comentarios obligatorios:	
	Valore de 0 a 5	
02. Relevancia de la temática	Comentarios obligatorios:	
	Valore de 0 a 10	
03. Revisión de la literatura	Comentarios obligatorios:	
	Valore de 0 a 10	
4. Estructura y organización artículo 5. Capacidad argumental y coherencia 6. Redacción científica	Comentarios obligatorios:	
	Valore de 0 a 10	
7. Aportaciones originales 8. Conclusiones	Comentarios obligatorios:	
	Valore de 0 a 10	
9. Citaciones 10. Referencias	Comentarios obligatorios:	
	Valore de 0 a 5	
PUNTUACIÓN OBTENIDA	Del total de 50 puntos previsibles, este evaluador otorga:	

OPINIÓN REDACTADA (Más detallada si el trabajo no obtiene 40 puntos, para informar al autor/es). Este texto se remite textualmente a los autor/es de forma anónima.							
PUBLICABLE		No			Sí		Sí, con condiciones
MODIFICACIONES PROPUESTAS (En caso de «Sí, con condiciones»)							

Cover Letter

Section (Mark)
Mnographic Dossier ____
Miscellany ____

**Title in Spanish: Arial 14 bold and centered.
Maximum 80 characters with spaces**

*Title in English: Arial 14 cursive.
Maximum 80 characters with spaces*

Name author 1 (standardized)
Professional category, Institution,
Country Institutional email
ORCID

Name author 2 (standardized)
Professional category, Institution, Country
Institutional email
ORCID

Name author 3 (standardized)
Professional category, Institution, Country
Institutional email
ORCID

Abstract (Spanish)

Minimum 210 and maximum 230 words. It must include 1) Justification of the topic; 2) Objectives; 3) Methodology and sample; 4) Main results; 5) Main conclusions. It must be impersonally written “The present paper analyzes ...”

Abstract (English)

Minimum 210 and maximum 230 words. It must include 1) Justification of the topic; 2) Objectives; 3) Methodology and sample; 4) Main results; 5) Main conclusions. It must be impersonally written “The present paper analyzes ...” Do not use automatic translation systems.

Descriptors (Spanish)

6 standardized terms preferably of a single word and of the UNESCO Thesaurus separated by commas (,).

Keywords

The 6 terms referred to in English separated by commas (,). Do not use automatic translation systems.

Financial Support of Research (Optional)

Entity:

Country:

City:

Subsidized project:

Code of the project:

PRESENTATION

Cover Letter

Mr. Editor of «Universitas»

Having read the regulations of the journal «Universitas» and analyzed its coverage, thematic area and approach, I consider that this journal is the ideal one for the dissemination of the work that I hereby attach, for which I beg you to be submitted for consideration for publication. The original has the following title “ _____”, whose authorship corresponds to _____.

The authors (s) certify that this work has not been published, nor is it under consideration for publication in any other journal or editorial work.

The author (s) are responsible for their content and have contributed to the conception, design and completion of the work, analysis and interpretation of data, and to have participated in the writing of the text and its revisions, as well as in the approval of the version which is finally referred to as an attachment.

Changes to the content are accepted if they occur after the review process, and also changes in the style of the manuscript by the editorial process of «Universitas».

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The undersigned author partially transfers the copyrights of this work to the *Universidad Politécnica Salesiana* of Ecuador, for the printed editions.

It is also declared that they have respected the ethical principles of research and are free from any conflict of interest.

In ____ (city), by the ____ days of the month of _____ of 201_____
Signed. (By the author or in the case, all the authors)

Authors' first and last name
Identification document

Signature

Authors' first and last name
Identification document

Signature

Authors' first and last name
Identification document

Signature

Note: Once saved the completed and signed document, it must be register through the OJS system in the section “Complementary Files”.

Cover Letter

Sección (Marcar)

Dossier Monográfico

Miscelánea

Título en español: Arial 14 negrita y centrado.
Máximo 80 caracteres con espacios

Title in English: Arial 14 cursiva.
Máximo 80 caracteres con espacios

Nombre autor 1 (estandarizado)

Categoría profesional, Institución, País

Correo electrónico institucional

ORCID

Nombre autor 2 (estandarizado)

Categoría profesional, Institución, País

Correo electrónico institucional

ORCID

Nombre autor 3 (estandarizado)

Categoría profesional, Institución, País

Correo electrónico institucional

ORCID

Resumen

Mínimo 210 y máximo 230 palabras. Debe incluir 1) Justificación del tema; 2) Objetivos; 3) Metodología y muestra; 4) Principales resultados; 5) Principales conclusiones. Ha de estar escrito de manera impersonal “El presente trabajo analiza...”

Abstract

Mínimo 210 y máximo 230 palabras cursiva. Debe incluir 1) Justificación del tema; 2) Objetivos; 3) Metodología y muestra; 4) Principales resultados; 5) Principales conclusiones. Ha de estar escrito de manera impersonal “El presente trabajo analiza...” No utilizar sistemas de traducción automáticos.

Descriptores

6 términos estandarizados preferiblemente de una sola palabra y del Thesaurus de la UNESCO separados por coma (,).

Kwyword

Los 6 términos referidos en inglés separados por coma (,). No utilizar sistemas de traducción automáticos.

Apojos y soporte financiero de la investigación (Opcional)

Entidad:

País:

Ciudad:

Proyecto subvencionado:

Código de proyecto:

PRESENTACIÓN

Cover Letter

Sr. Editor de «Universitas»

Leída la normativa de la revista «Universitas» y analizada su cobertura, área temática y enfoque, considero que esta revista es la idónea para la difusión del trabajo que le adjunto, por lo que le ruego sea sometida a la consideración para su publicación. El original lleva por título “_____”, cuya autoría corresponde a _____.

El autor/es certifican que este trabajo no ha sido publicado, ni está en vías de consideración para su publicación en ninguna otra revista u obra editorial.

El autor/es se responsabilizan de su contenido y de haber contribuido a la concepción, diseño y realización del trabajo, análisis e interpretación de datos, y de haber participado en la redacción del texto y sus revisiones, así como en la aprobación de la versión que finalmente se remite en adjunto.

Se aceptan la introducción de cambios en el contenido si hubiere lugar tras la revisión, y de cambios en el estilo del manuscrito por parte de la redacción de «Universitas».

Cesión de derechos y declaración de conflicto de intereses

La editorial Abya-Yala (editorial matriz de las obras de la Universidad Politécnica Salesiana de Ecuador) conserva los derechos patrimoniales (*copyright*) de las obras publicadas y favorecerá la reutilización de las mismas. Las obras se publican en la edición electrónica de la revista bajo una licencia Creative Commons Reconocimiento / No Comercial-Sin Obra Derivada 3.0 Ecuador: se pueden copiar, usar, difundir, transmitir y exponer públicamente.

El autor/es abajo firmante transfiere parcialmente los derechos de propiedad (*copyright*) del presente trabajo a la editorial Abya-Yala (Ecuador) (RUC: XXXXXX), para las ediciones impresas.

Se declara además haber respetado los principios éticos de investigación y estar libre de cualquier conflicto de intereses.

En ____ (ciudad), a los ____ días del mes de _____ de 201_____

Firmado. (Por el autor o en su caso, todos los autores)

Nombre y apellido de los autores

Documento de Identidad

Firma

Nombre y apellido de los autores

Documento de Identidad

Firma

Nombre y apellido de los autores

Documento de Identidad

Firma

Nota: Una vez haya guardado el documento cumplimentado y firmado, deberá consignarlo a través del sistema OJS en la sección “Ficheros Complementarios”.

*Call for the dossier “Problems, practices and educational subjects in Latin America:
balances and future perspectives in times of change”*

Dossier Coordinators

Dra. Marina Larrondo, (IDES - CONICET, Argentina)
Dra. Liliana Mayer (UNAM - CONICET, Argentina)
Dra. Pedro Núñez (FLACSO - CONICET/UBA, Argentina)
Mg. Sebastián Granda (UPS, Ecuador)

Theoretical basis

From its beginnings, the social sciences showed their interest in the educational reality, reflecting on their resources, norms, agents, institutions and the practices that take place there. Beyond this foundational interest, the last years witnessed the diversification of the educational field, gaining strength new objects of study and expanding existing ones, also, through diverse disciplines and points of view. At the same time, the expansion of compulsory education coverage also helped to identify new axes in identifying changes in education systems and policies. In fact, the last twenty years the region registered changes in educational legislation in almost all of its countries, which were decisive in these processes, at the same time as the ideology of the Nation State, which was brokered by the educational systems themselves, often went into crisis. In this sense, we can mention in particular the processes of socioeconomic differentiation expressed mainly in the increasing privatization of basic or compulsory education, stressing the ideal of equality that seeks on the one hand the school in its citizenship formation against projects that simultaneously produce fissures and fragmentations in such a unitary project. These fragmentations have not only had an effect on the initial socioeconomic segregation, but also on pedagogical terms. Thus, the processes of extending rights that have occupied a major place in the educational agenda of the region, often driven by “progressive governments”, others by international organizations,

recognize the central place of the school institution in the aspiration to the constitution equitable societies - and incorporate references to coexistence, peace, sexual and reproductive rights or intercultural bilingual education - to mention only a few - face and coexist with the conformation of school spaces that often tend to express or reflect socioeconomic differentiations or their claim to social distinction, affecting the generation and expansion of social inequality and cultural fragmentation. Likewise, the vocation to extend legitimate and practical knowledge (for example, the right to participate and to recognize the voice of students) has found resistance in daily practice as well as shown the difficulties for legislative statements and the design of public policies to be reflected in the institutions. These processes that were initially analyzed by social scientists as belonging to secondary or secondary education, extended to the other levels, showing new forms of production and reproduction of social inequalities and with them, to inhabit institutions in terms of trajectories and educational itineraries.

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Convocatoria del dossier “Problemáticas, prácticas y sujetos educativos en América Latina: balances y perspectivas a futuro en tiempos de cambio”

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Convocatoria

Desde sus inicios, las ciencias sociales mostraron su interés por la realidad educativa, reflexionando respecto de sus recursos, normas, agentes, instituciones y las prácticas que allí tienen lugar. Más allá de este interés fundacional, los últimos años fueron testigo de la diversificación del campo educativo, cobrando fuerza nuevos objetos de estudio y ampliando los ya existentes, también, a través de disciplinas y puntos de vista diversos.

De manera concomitante, la ampliación de la obligatoriedad y cobertura educativa también colaboraron en la determinación de nuevos ejes al identificar los cambios en los sistemas y políticas educativas. En efecto, los últimos veinte años en la región registraron modificaciones en las legislaciones educativas en casi todos sus países, que fueron determinantes en estos procesos, al mismo tiempo que el ideario del Estado Nación agenciado por los propios sistemas educativas entró muchas veces en crisis. En este sentido, podemos mencionar en particular los procesos de diferenciación socioeconómica expresados principalmente en la privatización creciente de la educación básica u obligatoria, tensionando el ideal de igualdad que pretende por un lado la escuela en su formación ciudadana frente a proyectos que producen simultáneamente fisuras y fragmentaciones en tal proyecto unitario. Estas fragmentaciones no han tenido solamente efectos en la segregación socioeconómica inicial, sino también en términos pedagógicos.

Así, los procesos de ampliación de derechos que ocuparon un lugar principal en la agenda educativa de la región, muchas veces impulsados por los “gobiernos progresistas”, otras por organismos internacionales, reconocen el lugar central de la institución escolar en la aspiración a la constitución de sociedades equitativas –sino igualitarias- e incorporan referencias a la convivencia, la paz, los derechos sexuales y reproductivos o la educación intercultural bilingüe -por mencionar sólo algunos- se enfrentan y conviven con la conformación de espacios escolares que muchas veces tienden a expresar o reflejar diferenciaciones socioeconómicas o su pretensión de distinción social, incidiendo en la generación y ampliación de la desigualdad social y o fragmentaciones culturales. Asimismo, la vocación de ampliar saberes legítimos y prácticas (por ejemplo, el derecho a participar y reconocer la voz de los estudiantes) ha encontrado resistencias en la práctica cotidiana así como muestra las dificultades para que los enunciados legislativos y el diseño de las políticas públicas se plasmen en las instituciones. Estos procesos que inicialmente fueron analizados por los científicos sociales como propios de la educación secundaria o media, se extendieron al resto de los niveles, mostrando nuevas formas de producción y reproducción de las desigualdades sociales y con ellas, de habitar las instituciones en términos de trayectorias e itinerarios educativos.

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