Latin American Scientific Journals: from “Lost Science” to Open Access

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Resumen

La ciencia mexicana, como la del resto de países latinoamericanos, ha recibido el calificativo de “ciencia periférica”, e incluso un apelativo más drástico aún, el de “ciencia perdida”, debido a diversos factores, entre ellos los bajos niveles de impacto y difusión de sus revistas científicas. En contrapartida, la necesidad de impulsar la visibilidad y el reconocimiento nacional e internacional de estas publicaciones ha conducido numerosas iniciativas centradas en la creación de sistemas de información y bases de datos especializadas en revistas de la región. Este impulso ha convertido a Latinoamérica en una de las regiones más dinámicas en lo que se refiere a la creación de hemerotecas virtuales adscritas al movimiento de Acceso Abierto – AA (*Open Access - OA*). En esta presentación se ofrece una panorámica sobre el desarrollo de estas iniciativas, mismas que permiten afirmar que el problema de la “visibilidad” ha quedado resuelto y la ciencia latinoamericana ha dejado de estar “perdida”.

Se mantiene, sin embargo, otro gran reto respecto del cual las bases de datos y hemerotecas virtuales latinoamericanas han tenido que plantear respuestas y alternativas. Se trata de las bases de datos bibliométricas, esto es, las bases de datos con capacidad para ofrecer indicadores bibliométricos sobre la producción científica de las instituciones, países y autores que están representados en las revistas científicas. A nivel mundial, existen solamente dos bases de datos que se desempeñan como el referente para la medición de la producción científica cuantificada en número de artículos publicados en revistas académicas reconocidas, así como del impacto de éstas en la comunidad científica. Estas bases de datos son el *Web of Science* (ISI Thompson Reuters) y *Scopus* (Elsevier). La relevancia de los indicadores bibliométricos se ha visto acrecentada últimamente por el surgimiento de diversos Rankings internacionales que comparan y jerarquizan el desempeño de las universidades del mundo. No obstante sus diferencias metodológicas, todos estos Rankings utilizan los análisis de citación ofrecidos por *Web of Science* y *Scopus*. Además de los sesgos cuantitativos que conlleva este tipo de evaluación del desempeño de una institución y de los países de dichas instituciones, para el caso de América Latina y el Caribe la problemática se ve agravada por el escaso nivel de integración que históricamente han logrado las publicaciones de la región en el *Web of Science*, lo cual repercute negativamente en la representatividad y el reconocimiento de la producción científica regional.

Dentro de los esfuerzos regionales enfocados en la generación de indicadores de ciencia, destaca la reciente creación del portal BIBLAT, el cual está basado en dos de las bases de datos más antiguas del subcontinente, CLASE y PERIÓDICA. Por otra parte, el único sistema regional con el soporte informático y bibliométrico para generar indicadores basados en las referencias bibliográficas, en particular el factor de impacto, es la red

SciELO (Scientific Electronic Library Online), con lo cual se ofrece la posibilidad de contar con indicadores de impacto a nivel nacional y regional.

Abstract

The Mexican science has shared with the rest of Latin American science the “peripheral science” definition, and even a more drastic description: “lost science”. One of the reasons that explain this situation is the low impact and dissemination of the Latin American scientific journals. In contrast, necessity to enhance the journals visibility and their national and international recognition, leading a numerous initiatives focused in the production of information systems and specialized regional databases. The increasing number of online libraries belonging to the Open Access movement, has converted Latin America in one of the most dynamic regions of the world in this sense. This presentation offers an overview about the development of these initiatives, concluding that the “visibility” problem has been resolved and the Latin American science is not “lost” anymore.

However, the Latin American databases and digital libraries face another challenge in front of which they have to give new answers. This is the case of bibliometric databases, the databases with the capacity to offer bibliometric indicators about the scientific production from authors, institutions and countries represented in scientific journals.

At a world scale, there are only two databases that play a central role in the measurement of scientific production counted by the number of papers published in prestigious scholarly journals and by their impact on the scientific community. These databases are *Web of Science* (ISI Thompson Reuters) and *Scopus* (Elsevier). Recently, the relevance of bibliometric indicators has been increased by some of new international Rankings that compare and evaluate the performance of all world universities. Notwithstanding the methodological differences between these Rankings, all of them use citation analysis from *Web of Science* and *Scopus*. This kind of evaluations has two disadvantages: first, their quantitative bias, and second, specifically in the case of Latin America and the Caribbean, the historical low representation of the journals from this region in *Web of Science*. This situation affects negatively the recognition of regional scientific production.

In this sense, is important to mention the recent efforts focused in the generation of science indicators. Specially, this paper presents the BIBLAT portal, which is supported by CLASE and PERIODICA, both the oldest and most complete databases from the region. In the other hand, the only regional system with bibliometric and informatic support to generate indicators based in bibliographic citations, particularly the Impact Factor, is the SciELO (Scientific Electronic Library Online) network. By this means, SciELO offers impact indicators of journals both the national and regional scale.

The Mexican science has shared with the rest of Latin American science the "peripheral science" definition, and even a more drastic description: "lost science" (Gibbs 1995). One of the reasons that explains this condition is the low dissemination and impact of the Latin American scientific journals. In contrast, the necessity of enhance journals visibility and their national and international recognition, leading a numerous initiatives oriented towards the creation of regional information systems. The number of on-line libraries belonging to Open Access Movement has converted Latin America in one of the most dynamics regions of the world in this sense. This presentation offers an overview about the development of these initiatives, concluding that "visibility" problem has been resolved and the Latin American is not a "lost" science anymore. However, from the perspective of impact evaluation the "visibility" improvement of Latin American journals does not show the same success.

Open Access (OA): world and regional tendencies

Taking like point of departure the figures offered by Ulrich's (see Table 1), the world total universe of journals classified as "Academic or Scholarly" is 69,994 (according consult to Ulrich's on July 2010) and there are 4,777 open access journals (about 7% in respect to total universe). We can note too, that developed countries like USA, UK, Germany and France are below from world average. Apparently, these figures show that open access movement has, until now, a low impact in scientific international publishing. However, if we assuming that Ulrich's include in open access category only the journals that offer its complete contents "free of charge" (the so-called "gold road" to open access), we can supplement these figures with other tendencies that characterized open access movement. We are referring to the "green road" (articles openly on the Web via e-print repositories) and articles published open after a delay (embargo) period. In this sense, estimates based on 1,346,000 articles published on 2006, calculated a percentage of 4.6% published in the "gold" open access journals, and add to this figure 3.5% of overall articles

became open after an embargo period plus 11.3% of overall papers got available in repositories and on author's personal Web pages. Altogether, these options of open access increased the 4.6% OA availability from "gold" open access journal to 19.4% (Björk et al 2009). Recently, Björk and his colleagues updated these figures (Björk et al 2010): based on articles published in 2008 from 1,837 titles, 8.5% were freely available by "gold" journals, and additional 11.9% were "green" open access. Overall OA percentage was 20.4%.

Latin America, for its part, shows a strong "gold" OA tendency confirmed by Ulrich's data. In the case of largest Latin American countries, their open access percentages are higher than world OA average as well as USA, UK, China, Japan, Germany and France percentages. The case of Brazil and Chile are the most prominent, according to Ulrich's information (see Table 2).

Table 1: Number of Online and OA journals (and percentage) from total of journals classified as Academic or Scholarly by Ulrich's. World total and some developed countries

	Academic / Scholarly Ulrich's	Journals Online	Open access	% Open Access
World	69,994	33,877	4,777	7%
USA	16,676	10,500	872	5%
UK	7,928	5,976	390	5%
Germany	7,767	1,493	179	2%
China	4,529	3,680	26	1%
Japan	2,884	644	99	3%
France	1,848	742	90	5%
India	1,473	557	187	13%

Source: Ulrich's [consulted on July 2010]

Table 2. Number of Online and OA journals (and percentage) from total of journals classified as Academic or Scholarly by Ulrich's. Spain and some Latin American countries

	Academic / Scholarly Ulrich's	Journals Online	Open access	% Open Access
Spain	2,032	860	271	13%
Brazil	1,155	604	404	35%
Mexico	422	214	82	19%
Argentina	498	171	60	12%
Chile	321	164	95	30%
Colombia	357	159	64	26%
Venezuela	202	108	nd	nd

Source: Ulrich's [consulted on July 2010]

The relevant presence of Latin American journals at Directory of Open Access Journals (DOAJ) evinces that "gold" has been the privileged road for OA in the region. There are six Latin American countries in the list of first twenty countries that publish OA journals, and all Latin America countries grouped with Caribbean in a single region are situated in third place at world scale (see Tables 3 and 4).

Table 3. Number of open access journals listed in DOAJ by country (January 2010)

	Country	Number of Journals
1	United States	1,126
2	**Brazil**	**476**
3	United Kingdom	425
4	Spain	305
5	India	233
6	Germany	195
7	Canada	165
8	Turkey	146
9	Italy	132
10	Romania	114
11	**Chile**	**111**
12	Japan	102
13	France	101
14	**Colombia**	**98**
15	Australia	96
16	**Mexico**	**85**
17	**Venezuela**	**80**
18	Poland	80
19	Switzerland	71
20	**Argentina**	**70**

Source: DOAJ <http://www.doaj.org/doaj?func=byCountry>

Table 4. Number of open access journals listed in DOAJ by region (January 2010)

Europe	1,853
North America	1,291
Latin America / Caribbean	1,080
Asia	806
Oceania	164
Africa	84

In order to bolster national and world-wide visibility for its journals, Latin American efforts have been channeled principally towards national and regional journal portals rather than individual publishers. The online multidisciplinary libraries that have reached more notoriety are SciELO and RedALyC, and if it is considered the Iberoamerican region there must be included Dialnet too. SCIELO – Scientific Electronic Library Online (http://www.scielo.org) is a multidisciplinary OA journal portal with 660 full text journals and more than 270,584 articles. Initiated in 1998, SciELO is a network of national collections coordinated by BIREME (Biblioteca Regional de Medicina - Sao Paulo, Brazil) and it is conformed by 15 countries (Argentina, Brazil, Bolivia, Colombia, Costa Rica, Cuba, Chile, Mexico, Paraguay, Peru, Portugal, Spain, Venezuela, Uruguay, and since 2009 South Africa).

REDALYC – Red de Revistas Científicas de América Latina y el Caribe, España y Portugal (http://www.redalyc.org) is a multidisciplinary OA journal portal too, it is developed and centralized by the Autonomous University of State of Mexico (UAEM, Toluca, Estado de México) since 2002. RedALyC includes 628 full text journals and more than 145,500 articles. Dialnet (http://dialnet.unirioja.es) is a multidisciplinary digital library that offers books, theses and journals. Created in 2001 by Universidad de La Rioja, Spain, Dialnet harbors 463 full text journals and it has links to more than 1,350 electronic journals. CLACSO – Red de Bibliotecas Virtuales de Ciencias Sociales de América Latina y el Caribe (http://www.biblioteca.clacso.edu.ar) is a network of virtual libraries specialized in social science publications. It offers over 11,140 full text publications (books, working documents, journals and papers).

The development of digital libraries was preceded by a long history of bibliographic databases. Firstly, it must be mentioned Latindex – Sistema Regional de Información en Línea para Revistas Científicas de América Latina, el Caribe, España y Portugal (http://www.latindex.org). Latindex is a directory of Iberoamerican journals, therefore it plays a similar role like Ulrich's: is a comprehensive inventory of regional journals. Latindex summarizes basic bibliographic information of over 18,700 journals, and this information is offered to users "free of charge" (an important difference with Ulrich's, which is produced by a private company). Latindex was conceived by National Autonomous University of Mexico (UNAM) in 1995, subsequently it became in a collaborative network conformed by 20 countries. In its first phase, Latindex was formed on the basis of CLASE and PERIODICA acquis. For its part, CLASE (Citas Latinoamericanas en Ciencias Sociales y Humanidades – http://clase.unam.mx) and PERIODICA (Indice de Revistas Latinoamericanas en Ciencias) - http://periodica.unam.mx) are analytical bibliographic databases. CLASE includes journals specializing in Social Sciences, Humanities and Arts, from more than 20 countries of Latin America and the Caribbean, and PERIODICA indexes journals specializing in Science and Technology, from more than 20 countries of Latin America and the Caribbean.

CLASE and PERIODICA were launched by UNAM in the 70's (1975 and 1978 respectively), altogether since then they have indexed more than 3,000 journals and offer more than 600,000 records, of which nearly 100,000 provide abstracts and links to the full text of the documents. Finally, in 1982 BIREME created LILACS - Literatura Latinoamericana y del Caribe en Ciencias de la Salud), a bibliographic index that registers the health scientific-technique literature from Latin American and the Caribbean countries, absentee from the international databases.

Another clue that confirms the Latin America leading position in OA movement, is the spreading of Open Journal System (OJS, a journal management and publishing system that has been developed by the Public Knowledge Project, PKP) in the region. In accordance to data provided by PKP, 1,537 journals from South America adopted OJS, followed by North America (1,343 journals), Europe (961), Asia (678), Africa (429) and Oceania (96).[1] However, in order to complete comparison between Latin American and the rest of the world, we must assess correlation between OA "gold" and OA "green". In this respect, we only refer here to the Ranking Web of World Repositories where the first Latin American "flag" appears until site number 26 (it is the institutional repository of a Brazilian University, Universidade de São Paulo Biblioteca Digital de Teses e Dissertações).[2] This data let us assume that in Latin America OA green road in not as strong as gold road.

Impact measuring, recognition, rankings and bibliometric databases

Notwithstanding efforts of Latin American countries for enhance the visibility of their scientific journals, the science developed in the region has a marginal site. There are two basic reasons for that. First, there is an objective reality: underdeveloped

[1] Data until January, 2010 <http://pkp.sfu.ca/files/OJS-Journal-Map-Jan-10-lrg.png>

[2] The Ranking Web of World repositories is an initiative of the Cybermetrics Lab, a research group belonging to the Consejo Superior de Investigaciones Científicas (CSIC), Spain <http://repositories.webometrics.info/top800_rep_inst.asp>

countries have underdeveloped science and technology. Science in less advanced countries is characterized by weak institutional infrastructures, poor funding, and the absence of a critical mass of scientists to form a viable research community (Arunachalam S 1992, Harris E 1996). The developed countries conduct the most important scientific research and its technological application, and in the same way they publish and cite the majority of scientific literature. In this sense, a study focused on comparative analysis of the world's major science producing countries, found that researchers in eight countries — led by the United States, the United Kingdom, Germany and Japan — produce almost 85 percent of the world's most cited publications, while 163 other countries, mostly developing nations, account for less than 2.5 percent (King 2004). Secondly, this situation affects negatively the recognition of scientists and scientific journals from less developed countries. Publication in the so-called mainstream journals represents a problem for developing country scientists, which face some prejudice against their submissions (Horton 2000). Historically, there have been few “local” or “regional” journals indexed by the Science Citation Index, and those that have been indexed are not showing high impact factor (Adam 2002; Coura and Willcox 2003). This can be appreciated by following figures: between 1961 and 2005, 121 journals published in Latin American and the Caribbean (ALC) countries have been indexed in ISI databases (82 journals in Science Citation Index, 23 in Social Science Citation Index, and 16 in Arts and Humanities Citation Index). However, in 2005 only 69 (57%) of these 121 journals were being indexed in these databases, and the rest 43% were canceled (Luna-Morales et al 2007). It explains the reluctance of scientists from developing countries to publish locally. All these difficulties are the cause for the flow of meaningful number of papers from developing countries to “mainstream journals”, a “papers drain” parallel to typical “brains drain” flow from Third to First World. Taken together, these trends enhance the imbalance between core and peripheral journals.

However, this portrait has significantly changed over the last fifteen years, particularly in the second half of this decade. Based on data from SCImago, between 1996 and 2008, the scientific production measured by documents with at least one author from Latin America and the Caribbean (LA&C) had a 190% growth in the number of documents. This figure is over world total growth (74%) and is near to the Asian region growth (200%) (Newsletter VHL 100 31/May/2010). SCImago publishes bibliometric and scientometric indicators at free access on the Internet, and its sources of information are Elsevier databases, particularly Scopus. On the other hand, it is not exaggerated to say that emergence of Scopus in late 2004 was an important factor that boosted inclusion of Latin American journals in international indexes. Scopus database has a wider journal coverage (including Latin American journals) than WoS, and it is frequently speculated that emergence of Scopus, as an alternative metric to measure journal impact, pressed ISI-Thomson to open its gates to more journals. Since late 2007, Thomson Reuters has implemented the Regional Content Expansion program, which plans to incorporate 1,602 new "regional journals" to WoS databases (including 207 Latin American journals). Undoubtedly, these are good news for Latin American journals, but it is interesting to know what are the criteria adopted for this decision. In citing Guédon, "the issue of counting the number of scientific journals is not as neutral and objective as it may seem", and tools such as SCI or Scopus "contribute to the structuring of various markets, some monetary (procurement of journals for libraries) and some symbolic (individuals, programs, and institutions passing muster in front of various kinds of juries, including various national assessment exercises)". In 2008, Guédon interpreted the decision of increase the number of journals indexed in ISI Thomson databases as a response to a competitor's challenge: "It will be interesting to observe how *SCI* evolves its list of titles while confronting the competition from other indexing systems such as Elsevier's Scopus. The recent decision by the *Times Higher Education Supplement*—Quacquarelli-Symonds (THES-QS) ranking of world universities to shift from the Essential Science Indicators (ESI) derived from the Web of Science to Scopus may well mark the beginning of this new form of pressure on the *SCI* list of

titles: Scopus presently covers about 15,000 titles and conference proceedings, or about twice as many as the Web of Science" (Guédon 2008: 44).

By 2009, the number of ALC journals indexed in WoS has increased to 280, leading by Brazil (with 131 journals), and followed for a long distance by Mexico (43 journals) and Chile (43), Colombia (23), Argentina (20) and Venezuela (13) (Rodríguez-Yunta 2010). Latin American journals have a little better representation in Scopus database: according to 2008 data there were 443 ALC journals of the vast universe of 17,000 journals indexed in Scopus. Again, Brazil is the regional leader (206 journals), followed surprisingly by Chile (62 journals) and in a third place Mexico (46), followed by Argentina (36), Venezuela (35), Colombia (27) and Cuba (20). Recently, the relevance of bibliometric indicators has been increased by proliferation of international rankings that compare and evaluate the performance of all world universities. The most known rankings are the Shanghai Jiao Tong University Ranking (SJTUIHE, published since 2003) and the Times Higher Education Supplement (THES, published since 2004). These rankings attracted attention of policy-makers, the scientific world and the public media, particularly because they establish hierarchy of "World Class" universities. Later, the SCImago Research Group, based in Spain, has produced the Institutional Ranking (SIR) using Scopus publication data from 2003 to 2007. Notwithstanding the methodological differences between these rankings, all of them use citation analysis from WoS and Scopus (and Google Scholar in the case of webometrics).

Certainly, the rankings have provoked contrary reactions. On the one hand, because the methodologies adopted by rankings are controversial, and for other part because the rankings influence involves national research councils, policy-makers and consequently resource allocation for universities and research projects. Relating to this point, it is feared that policy-makers will concentrate resources on a few elite universities that can compete in these rankings, which could polarize the education and research system. Critics argue too that metrics-based evaluations are

one-dimensional indicators of quality that over-emphasized the role of publishing in peer-reviewed and indexed journals. Accordingly, some specialists believe that quantitative type of evaluation has to be complemented with a more qualitative assessment. In this sense, there are concerns about the reduction of a university's many complex functions into a single and measurable indicator, which does not do justice to social function and diverse nature of universities. Other concerns are based on the specificities of different sciences. In the case of social science, for example, international peer-reviewed journals are less important than in medical and natural science fields (van Raan 2010), so these knowledge areas are underrepresented in international rankings.

The prevalent rankings have caused unconformity because their regional representativeness. We are referring not only to Third World countries, but also Europe itself. Shanghai ranking is particularly favourable to universities in English-speaking countries: they represented 71% of the world's top 100 universities in 2006 (US-based institutions alone occupy seventeen of the world's twenty top-ranking universities). In the THES ranking, UK and Australian universities are in a better position than in Shanghai ranking. In contrast, continental European universities are badly positioned in both rankings (Erkkilä and Kauppi 2010). This is the reason why, in order to "do justice" to European Universities, in 2008 the European Commission declared that it would create an alternative European ranking list of world universities. Nonetheless Commission's strategy is dual, because it is not only consist in produce a new "fairer" ranking system to replace the existing rankings, but in a far more radical solution consisting in introduce a new global assessment of higher education (Erkkilä and Kauppi 2010: 240).

If European universities are in disadvantage in above-mentioned rankings, the case for Latin American universities only could be worse. Reality dictates than Third World or South universities cannot compete in the global rankings for the first places, which determine that it is necessary a "fairer" assessment, but first of all,

evaluation coherent with their objectives. In this sense, Saleem Badat considers that rankings and assumed notion of the "world-class university" as gold standard "can have perverse and dangerous effects on universities in undeveloped societies in the global South" (Badat 2010: 246). As Badat notes, the global rankings are only marginally concerned with learning and teaching, and not including adequately the value of community engagement, an important dimension of universities of "global South". Badat refused international ranking and proposed to replace them with alternative instruments to monitoring and enhance transparency of universities, although, he doesn't refer specifically to the role of quantitative and metric methods.

Regional initiatives for "regional bibliometrics"

Despite the important development of Latin American open access initiatives that we described above, regional databases and information systems face another challenge in front of which they have to give new answers. This is the case of bibliometric databases, the databases with capacity to offer bibliometric indicators about scientific production from authors, institutions and countries represented in scientific journals. At world scale, there are only two databases that play central role in the measurement of scientific performance based on the number of papers published in prestigious scholarly journals and on its impact on scientific community (*Web of Science* of ISI Thomson Reuters and *Scopus* of Elsevier).

Internet, and overall information and communication technologies (ICTs), have rescued Latin American science from its "lost" status because journals can be accessed from any point on the world, at any hour of any day. Notwithstanding, it cannot be said that Latin American journals "impact" has increased notably, if we understand impact in a strict and bibliometric sense (Factor impact and other bibliometric indicators). The discussion about the convenient methods for evaluation for universities and scientists is a complex one, and we only refer here to alternative tools for quantitative (bibliometric) methods.

In order to overcome the "invisibility" of Latin American journals on a bibliometric basis, the most consistent initiative in the region is SciELO. SciELO is not only an electronic library that offers access to full text articles, but it is a citation and bibliometric database too, based on ISI methodology for deriving Impact Factor,[3] Immediacy Index,[4] Cited Half Life[5], reports of received and granted citations by journals, as well as coauthorship between countries (based on author's institutional affiliation). The SciELO network provides an integral system which enables the electronic publication of complete editions of scientific journals, the organization of searchable bibliographical and full text databases, the preservation of electronic archives and the production of statistical indicators of the scientific literature usage and impact. That means that SciELO system not only measures "impact" on a citation basis, but helps to boost the journals impact by publishing journals in a digital library available for all world users. The importance of SciELO indicators of usage and impact (citation) consists in their national and regional impact orientation. In the case of some knowledge areas, the locality or territoriality matter is determinant, because the natural audience for journals of these areas (for example, public health, tropical medicine, agronomy, and social sciences) is the researchers and public of the same country or region. For all these reasons, we can assert that SciELO capabilities and perspectives are the most robust in comparison with other regional information systems.

[3] The number of current citations to articles published in a specific journal in a two or three year period divided by the total number of articles published in the same journal in the corresponding two year period [http://science.thomsonreuters.com/support/patents/patinf/terms/]

[4] The average number of times that an article published in a specific year within a specific journal is cited over the course of that same year. This calculation, published in the Journal Citation Reports, is one developed by ISI as an indicator of the speed with which citations to a specific journal appear in the published literature. Such information is useful in determining which journals are publishing in emerging areas of research [http://science.thomsonreuters.com/support/patents/patinf/terms/]

[5] Cited half-life is a measurement used to estimate the impact of a journal. It is the number of years, going back from the current year, that account for 50% of the total citations received by the cited journal in the current year. ISI developed this calculation to provide an indicator as to the long-term value of source items in a single journal publication. [http://science.thomsonreuters.com/support/patents/patinf/terms/]

For its part, RedALyC offers a meaningful statistical tool based on usage access, not on citation metrics. Another important effort to mapping Latin American scientific production is BIBLAT (http://biblat.unam.mx). BIBLAT portal is feedbacked by CLASE and PERIODICA databases, both of the oldest and most comprehensive databases of the region. BIBLAT was created recently (2009) and nowadays is in a development phase. Indicators generated by BIBLAT are not based on citation metrics, they are based on measurement of productivity in terms of number of articles published by author, author's institutions/universities and their nationality, journals and their nationality, knowledge areas, and intra and extra regional collaboration. BIBLAT is inspired in comparative analysis that has found different patterns about international collaboration (coauthorship) contrasting WoS and CLASE/PERIODICA databases (Russell et al 2008). CLASE and PERIODICA journals coverage has been valued for some national and regional projects focused on Research and Development (R&D) evaluation. This is the case of a recent project (created by UNAM in February 2010) named *Comparative Study of Mexican Universities* (Estudio Comparativo de las Universidades Mexicanas – ECUM http://www.ecum.unam.mx) which provides comparative statistics between Mexican universities. ECUM project incorporated CLASE and PERIODICA as a complementary source of information to traditional WoS (and now Scopus) data. Collaborative information provision has linked CLASE and PERIODICA with the Ibero-American *Network of Science and Technology Indicators* (RICYT – http://www.ricyt.org), a regional system dedicated to promote the development of instruments for the measurement and analysis of Science and Technology (S&T) in Iberoamerica for the purpose of guiding S&T policy formulation and decision making.

It is true that the SCImago Ibero-American Ranking SIR, released recently (may 2010), is focused on Iberoamerican (Latin-American plus Spain and Portugal) as a single region. This ranking includes the 607 Iberoamerican universities that published at least one scientific paper included in Scopus database during term

2003-2008. Certainly, Scopus is a more representative regional database than WoS, but regional databases like CLASE and PERIODICA offer a supplementary appreciation of regional patterns. BIBLAT was not conceived like a new competitive ranking between individuals, institutions and countries, but as a tool for retrieval of the diverse and richness knowledge of a region with characteristic particularities.

Some conclusions

- Latin American journals have taken advantage from Internet revolution and Open Access movement, in order to overcome their “invisibility” and “lost” status,
- In regard to that, Latin America has become in a dynamic region, where have proliferated many OA libraries,
- However the gains in terms of “impact” show mixed results. Latin American journals have increased their presence in bibliometric databases (Web of Science and Scopus), but it doesn´t mean high Impact Factor.
- For its part, bibliometric databases have acquired new relevance with emergence of international rankings,
- International rankings evaluate universities and countries, putting more pressure on Third World universities, journals and researchers,
- International rankings overemphasizes quantitative evaluation, especially publishing in indexed journals,
- Developing countries need to enhance the visibility of their journals in bibliometric databases,
- But, for other part, developing countries need counterbalance these tendencies with qualitative methodologies for universities evaluation, and with alternative tools (databases) for a more representative quantitative evaluation
- SciELO network is the most advanced resource for the communication and impact measurement for regional journals,
- There are other bibliometric regional databases in development, like BIBLAT.

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