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Qualitative study of the communication processes of *Revista Latina de Comunicación Social* (*RLCS*) from 1998 to 2009

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Abstract: This article presents the results of a metrics study performed the *Revista Latina de Comunicación Social* (Latina Journal of Social Communication) from January 1998 to December 2009. The quantitative analysis explores the communication processes registered in 878 articles, through five bibliometric indicators: gender, academic degree, country of origin, co-authorship and institutional affiliation. This last criterion was applied only to Spanish authors as they account for 55% of the scientific production in the *Revista Latina de Comunicación Social* (hence RLCS). The results indicate that there are 1,047 authors, of which 44% are women and 56% are men. This study addresses the position of RLCS in Latin America and highlights the academic contribution of countries such as Argentina, Mexico, Costa Rica, Brazil, Venezuela, Colombia, Cuba, and Chile. Moreover, the study addresses the participation of 42 Spanish universities in RLCS, which is also Spanish. So of these universities stand out because they have registered more than 20 authors each (e.g. the University of Seville, the Autonomous University of Barcelona, the Complutense University of Madrid, the University of the Basque Country, the University of Santiago de Compostela, the University of Malaga, and the Rey Juan Carlos University). Finally, the article identifies the institutional affiliation of 285 (27%) authors who published in co-authorship, and classifies the types of collaboration of the Spanish authors in three categories: intra-institutional, inter-institutional and international.

Keywords: metrics studies; scientific production; academic networks; co-authorship; information analysis; bibliometric indicators.

Translation by **Cruz Alberto Martínez-Arcos** (University of London)

1. Introduction
1.1. Background and characteristics of the object of study

Founded and edited by José Manuel de Pablos Coello, the *Revista Latina de Comunicación Social* (Latino Journal of Social Communication) started publishing online in January 1998, after several months of study and planning throughout 1997 and backed up by the research team of the University of La Laguna: the Laboratory of Information Technologies and New Analysis of Communication [1]. Produced in the Faculty and Department of Information Sciences at the 13-year-old University of La Laguna, the *Revista Latina de Comunicación Social* (hereafter RLCS) keeps on consolidating itself as an online, peer-reviewed publication that is indexed in major databases of the area of communications. In fact, according to the *Internet Guide for Journalists*, published by the Spanish University of Navarra, RLCS has become a bridge of academic collaboration between two continents:

[It is a monthly] online journal published since 1998 by the University of La Laguna (Tenerife, Canary Islands) that offers free and full access to academic articles on various areas of communication on both sides of the Atlantic (*Directory of Academic Publications*, 2002, p.1). [The journal became a yearly publication in recent years, after having initially been monthly, then quarterly, and later half-yearly.]

Identified by Daniel E. Jones (2005) as the "oldest and most consolidated specialised online publication", RLCS has strengthened its prestige and academic trajectory against the disbelief on the digital media when it was created, when "the scientific material was only conceived on paper" (López-Ornelas, 2007). However, more than a decade after its first issue, the journal has become a scientific-technological prototype in the editorial area of the Communication Sciences since it also manages the *Plataforma de Revistas de Comunicación, PRC* (Platform for Journals of Communication) [2].

This initiative has contributed to the consolidation of projects focused on the online dissemination of scientific communication like, for example: the *Revista Mediterránea de Comunicación* (Mediterranean Journal of

Communication), which is available at http://www.rmedcom.org/ and is edited at the Department of Communication and Social Psychology at the University of Alicante (Spain); the *Miguel Hernández Communication Journals* (http://mhcj.es/), accredited by the Miguel Hernández University (Elche, Spain), and *Pangea* (http://revistapangea.org/), a journal constituted by the Ibero-American Academic Network of Communication (*RAIC*, according to its initials in Spanish) [3] (http://www.redraic.com/), which is responsible for seven editions of the Ibero-American Biennial of Communication, and is aimed at promoting interdisciplinary cooperation, interaction and research among scholars of the communication and information sciences from Spanish speaking countries (RAIC 2010).

The platform will provide support from 2011 onwards to two new scientific journals: *Fonseca, Journal of Communication*, which will be edited at the University of Salamanca, and the *Revista TecCom, Estudios de Tecnología y Comunicación* (TecCom Journal of Technology and Communication Studies), which will be edited at the Complutense University of Madrid.

These online initiatives were created following the idea of RLCS's editor, who considers that the indexed journals in Spain are very few (the smallest number in the Social Sciences), and proposes that all departments should have a journal that should be always useful for professors from other centres, which is a demand of the concept of "editorial endogamy", which implies that people "need to travel" in order to publish.

The advances in ICTs have encouraged online publications to enter spaces that were never designed for scientific dissemination, like the social networks of *Twitter* and *Facebook* [4], which RLCS started using as dissemination platforms in early 2010.

With regards to this scientific-social alliance, Flores (2009) points out that Facebook is being considered as a social medium of communication endowed with tools that facilitate and develop the involvement of users in the generation of online content. Regarding Twitter, Flores indicates that one of its most outstanding features is the help it provides to the members of informal networks to reaffirm their presence and identity in a given topic.

On the same line, Muriel (2008) explains that Twitter, apart from being perceived as an alert system, is also seen as a tool for the interactive dissemination of conversations in formal and informal spheres. This is very encouraging because Spain ranks third in the world in the use of this network, while Japan is the second and the US the first.

This information alleviates the speculation regarding the value of Twitter because the majority of users are looking online for news and social networks to channel their academic concerns or concerns related to scientific research, as indicated by the sociologist and former journalist Alberto Arébalos, the co-author of the book *La revolución horizontal* (The horizontal revolution), which was published by La Gaceta, 2010.

So far we have dealt with the most basic features of the object of study in terms of dissemination and visibility, which is the basic criterion for informative quality:

In order for a scientific journal to reach a basic level of quality it must meet a series of criteria that make reference to informational, editorial and scientific quality (Guillamón, 2006: 6).

1.2. Scientific and technological recognition and positioning of RLCS
1.2.1. Impact factor

In 2001, four years after its creation, RLCS joined the Impact Factor of the Spanish Journals of Social Sciences (IN-RECS/Comunicación), which is a study conducted by the Research Group for the Evaluation of Science and Scientific Communication (EC³) of the University of Granada.

This first step becomes a stepping stone towards academic recognition, as it confirms that in the so called digital era the importance of publishing has not changed because the academic systems continue to be structured to reward and encourage the publication of good ideas for the scientific community (Varian, 1998).

Table 1 summarises the trajectory and positioning of RLCS in the analysis conducted by the EC³; which as a preliminary result exposes the need to strengthen the presence of the publication in international areas.

Table 1: Annual summary of RLCS in the IN-RECS

Year	Position	Impact Factor	Total N. of articles	Total N. of Citations	National citations	International citations	Journals Population
1999	5ª	0.006	143	1	1	0	16
2000	4ª	0.000	291	0	0	0	16
2001	7ª	0.006	301	2	2	0	17
2002	7ª	0.004	238	1	1	0	19
2003	6ª	0.005	173	1	1	0	21
2004	5ª	0.000	126	0	0	0	24
2005	6ª	0.014	68	1	1	0	24
2006	3ª	0.090	55	5	5	0	25
2007	11ª	0.013	76	1	1	0	20

2008	1ª	0.507	67	34	33	1	20
2009[5]	1ª	1.380	84	116	116	0	21

Source: EC³ Evaluation of Sciences and Scientific Communication

The provisional version of the 2009 Impact Factor, published on 18 October 2010, showed for the first time in the area of communication an impact above 1. While none of the 260 indexed journals of juridical sciences reached 1, of the 620 journals of social sciences four did reached one, in this order: *International Journal of Clinic and Health Psychology* (1.643 - Psychology); RLCS (1.380 - Communication); *El Profesional de la Información* (The Information Professional) (1.183 - Library Science) and *The Spanish Journal of Psychology* (1.100 - Psychology).

1.2.2. Presence in English-speaking countries

The dissemination of a publication must be conceptualised based on its capacity to gain visibility in the scientific community it targets, because the interest of authors to publish their work on it depends largely on this capacity (Delgado, Ruiz-Pérez and Jiménez-Contreras, 2006), which is maximum if the journal is online and is included in important specialised databases.

Aware of the importance of being included, consulted, and cited by English-speaking academic communities (see table 1), in 2010 RLCS started the full English translation of its articles and the percentage of visitors from the United States went up to 1.5%, according to the statistics of visits to its homepage. Paraphrasing Delgado *et al* (2006), RLCS gave this step after reflecting on strategies needed to reach other readers and other databases, such as the former Institute for Scientific Information (ISI), which is responsible for the major analysis of citation in the Anglo-Saxon world.

To reinforce and close this point it is important to remember that, as Abadal and Rius (2008) indicate, the publications that offer articles in a foreign language improve significantly their “dissemination and impact”, and that while it is true that this is a considerable effort and expensive process, it actually increases the possibilities of indexation and inclusion in the most prestigious databases.

1.2.3. Digital Object Identifier System (DOI)

In May 2009, with the support of a group of specialised scholars [6], RLCS moved forward on the issue of intellectual property by starting to gradually incorporate the Digital Object Identifier System (aka DOI) to all of its scientific production [7]. The decision was motivated primarily by the interest in raising the quality, visibility of the journal and its access to new databases, catalogues, newspapers and periodicals libraries, and electronic directories. This is the reason why the subject of indexing had been addressed prior to the incorporation to the DOI. Table 2 presents the classification and the number of indexes where RLCS had been indexed until August 2010.

Table 2: Indexing and dissemination of RLCS. Source: RLCS (2010).[8]

Types of indexing	Number
International selective databases	16
Platforms of journals evaluation	5
Selective directories	7
Selective newspapers and journals libraries	8
Specialised websites	15
Open access search engines of scientific literature	10
Library Catalogues	24
Total	**85**

It is important to note that the indexing to these sites has not been a simple task because each inclusion involves, apart from time, the obligation to keep the level of quality, as well as the adequacy of the articles to specific codes and formats, which sometimes requires the aid of a computer specialist.

It is also worth highlighting that the benefits are not limited to dissemination and visibility, but also include the academia’s appraisal which generates future citations, because today the databases have become the evaluators and certifiers of the scientific quality (Cordero, López-Ornelas, Nishikawa and McAnally, 2009).

1.2.4. Open access to scientific knowledge

Also important is the inclusion of RLCS in the Directory of Open Access Journal, DOAJ, of Lund University (Sweden), because the visibility and use of scientific findings increases with the open access to that knowledge, which generates, in addition, the possibility of increasing the rate of citation of articles (Canessa and Zennaro, 2009).

Within the area of Media and Communication of DOAJ, there are 75 affiliated journals, of which 7 are Spanish (9.33%). RLCS is one of these Spanish publications and one of the two that use the DOI. Table 3 presents the relationship of the journals affiliated to the DOAJ and *REC* (the Portal of Spanish Scientific Journals of Communication), in order to indicate the position of RLCS among its Spanish counterparts.

Table 3: Journals in DOAJ and REC with DOI

Name of the publication	DOAJ	REC	DOI
Ámbitos. Revista Internacional de Comunicación (Fields. Internacional Journal of Communication)		•	
Análisi. Quadems de comunicació i cultura (Analysis. Journal of Communication and Culture)	•	•	
Círculo de Lingüística Aplicada a la Comunicación (Network of Linguistics applied to Communication)	•		
Comunicación y Hombre (Communication and Humankind)	•		
Comunicación y Sociedad (Communication and Society)		•	
Comunicar. Revista Científica Iberoamericana de Comunicación y Educación (Communicate. Latino Journal of Communication and Education)	•	•	•
UOC Papers. Revista Sobre la Societat del Coneixement (UOC Papers. Journal of the Knowledge Society)	•		
Estudios sobre el mensaje periodístico, EMP (Studies on the journalistic message)		•	
Revista Latina de Comunicación Social, RLCS (Latina Journal of Social Communication)	•	•	•
Trípodos	•		
Zer. Revista de Estudios de Comunicación (Zer. Journal of Communication Studies)		•	

DOAJ: Directory of Open Access Journal (http://www.doaj.org)
REC: Portal of Spanish Scientific Journals of Communication (http://www.revistasrec.org/)
DOI: Digital Object Identifier System

So far we have addressed three aspects inherent to RLCS: a) the dissemination of its scientific findings, b) the 'open' protection of the intellectual property of its authors and, c) the academic recognition that generates a cyclic and fundamental process in any scientific journal (Macías-Chapula, 2001).

The following section tries to expose the close relationship between the communication processes of a journal and the science metrics.

1.3. Quantitative study of the communication processes through the science metrics

The evaluation processes of a scientific publication have evolved significantly. Currently, the quality level is measured through complementary ways: the first -and oldest- evaluation is based on the opinion of experts and peers validation; the second and most-recent is achieved through the implementation of metric indicators (Macías-Chapula, 2001; Aguillo and Begoña, 2006). In this way, the study of the communication that is produced in an academic publication has renewed the main function of journals because apart from of disseminating the scientific findings of a given area, they become their own object of study (López-Ornelas, 2007).

The paradigm of the science metrics is increasingly integrated to the general structure of the system of scientific communication, where its main role involves the analysis of communication processes generated in printed and electronic periodic publications. In this sense the traditional is subject to further analyses in a context that is determined by the information technologies (Ubarría, 2005), so that the data obtained by bibliometrics, scientometrics, informetrics, cybermetrics and webmetrics are presented as an added value, because they allow to identify, analyse, and register the trends, phenomena and regularities of a publication (Arroyo *et al*, 2005; Aguillo, 2008; Chiroque-Solano and Padilla-Santoyo, 2009).

The following table presents the definition, classification and comparison of these sciences according to the work of McGrath W. (1998) (as cited in Macías-Chapula, 2001). The particular interest of the table is not only to expose their content, but also to motivate the future analysis of the communication processes generated in RLCS and similar publications.

Table 3: Adaptation of the typology for the definition and classification of bibliometrics, scientometrics, and informetrics, according to McGrath W. (1998, as quoted in Macías-Chapula, 2001).

Typology	Bibliometrics	Scientometrics	Informetrics	Webmetrics	Cybermetrics
Object of study	Books, documents, journals, articles, authors and users.	Disciplines, subjects, fields, areas.	Words, documents and databases.	Quantitative aspects of the construction and use of information resources, structures and technologies on	Information resources, structures and technologies on the Internet (Martínez-Rodríguez, 2006).

				the Internet (Arroyo et al., 2005).	
Variables	Numbers in circulation, quotations, frequency of words, sentences length, etc.	Aspects that distinguish the disciplines. Journals, authors, works, ways in which scientists communicate.	Differs from the scientometrics in the purposes of the variables. For example, measuring the recovery, the relevance, the reminders, etc.	Number of web hosts, servers, users, domains, sites, institutional sites, etc. (Aguillo, 2005).	Search tools, journals, authors, downloading of articles in PDF, DOC, PPT, PPS, word density, domains, comments, etc. (RABiD 2007).
Methods	Classification, frequency, distribution.	Comprehensive and correspondence analysis.	Rector-space Model, Boolean retrieval models, probabilistic models, processing language, approaches based on the knowledge of thesauri.	Bibliometric techniques for the study of the relationship between different websites (Aguillo, 2005).	Classification, frequency, distribution, statistical models (Martinez, 2006).
Objectives	To assign resources, time, money, etc.	To identify areas of interest in the subjects; to understand how and with what frequency scientists communicate.	To increase the efficiency of the retrieval.	To analyse the components of the Internet (Gregory, 2004).	To undertake quantitative research on the electronic information available on the Internet (Dahal, 1999 in RABiD, 2007).
Pioneers	It was first defined by Alan Pritchard in 1969 (Araujo, et al., 2002), although there are serious discrepancies about who was the precursor of this discipline.	Originated in Eastern Europe, reaching its peak popularity in 1977 (Araujo, et al., 2002).	Otto Nacke, who used it first in 1974 (Martinez, 2006).	In 1990 William Paisley, noted the importance of the implementation of the bibliometric methods in the field of electronic communication. In 1997, Almind and Ingwersen conducted one of the major investigations on the metrics of cyberspace (Martinez, 2006).	Its origin can be placed in the middle 1990s, with the publication of works applying the principles of bibliometrics and Informetrics to the study of the Internet (Aguillo 2005).

Note: The two left columns referring to cybermetrics and webmetrics were not included in the original table and were added by the author of this article as comparative points.

1.4. Communicational perspective of the science metrics

The following figure is a diagram classifying the communication processes generated in the periodic publications: a) study of the interrelationships generated by articles and authors (internal communications) and b) study of the interrelationships and information consumption among its users (external communication).

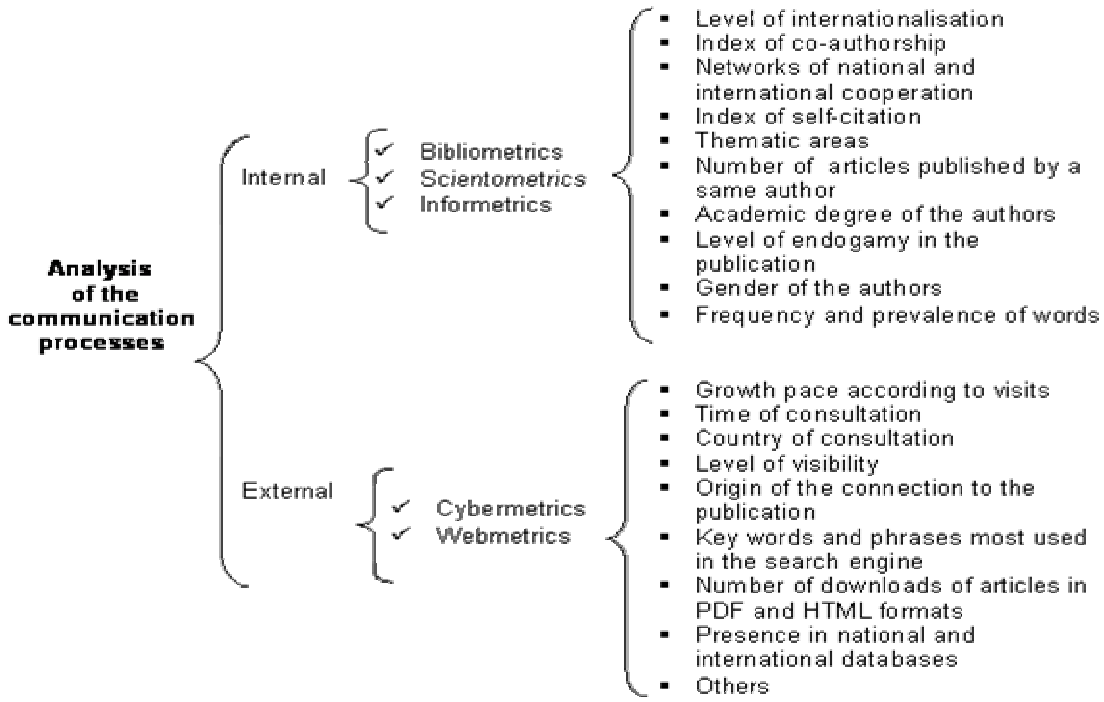


Figure 1: Communicational perspective of the processes of internal and external communication, through the analysis of the science metrics

The bibliometric indicators selected in this study are gender, academic degree, country of origin, co-authorship, and institutional affiliation of the Spanish authors. It is necessary to note that the approach of these criteria only provides a tenuous analysis of what can be perform with the science metrics, as seen in figure 1.

2. Objective

The purpose of this article is to use the aforementioned bibliometric indicators to analyse RLCS and obtain results that allow making predictions and decisions for the scientific development of the publication (Pérez-Matos, 2002), and to develop a process of cybermetrics analysis that goes beyond descriptive statistics.

3. Methodology

This is a quantitative and descriptive study. The data was obtained from RLCS's website (http://www.revistalatinacs.org/), and was based on the examination of a sample of 64 numbers which comprise a total of 878 articles published from January 1998 to December 2009. Microsoft Office Excel 2007 was used for the transcript, processing and charting of the data.

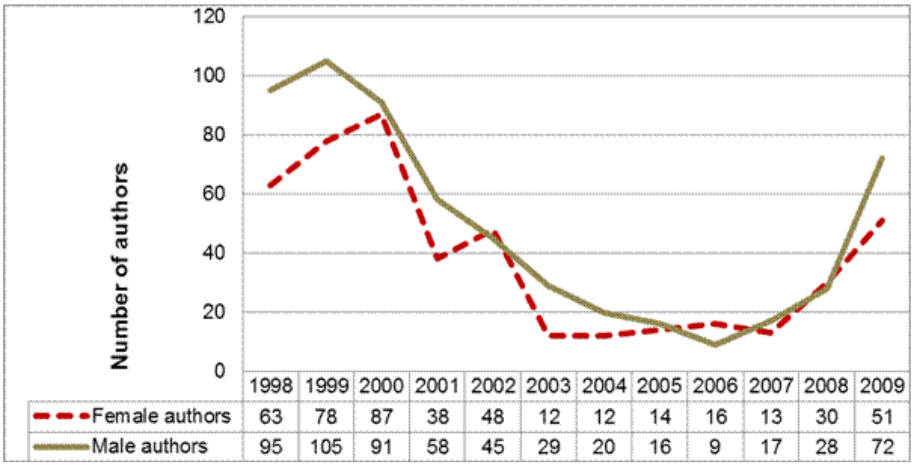
4. Analysis of the results

The analysis was performed with five bibliometric indicators and the following results were obtained:

a) Number of authors who published from January 1998 to December 2009
b) Identification of the gender of the total sample of authors (1,047)
c) Annual entry of single authors across gender
d) Annual entry of co-authors across gender
e) Academic degree of authors
f) Number of international and national (Spanish) authors
g) Most incident Spanish higher education institutions
h) Types of collaboration made by national authors: intra-institutional, inter-institutional and international

4.1. Gender of authors

Graph 1 shows the annual participation across gender, which has a presence of 462 women (44%) and 585 men (56%). The data also reveal that men were 12% more productive than women during the evaluated period.



Graph 1: Annual registration of authors across gender (1998-2009)

Considering that 1999 was the year when more authors registered (183), it was relevant to break down some of its characteristics: 150 articles were published in 12 numbers, 130 (87%) were works signed by a single author and 20 (13%) were co-authored. Table 5 shows authors' country of origin, which highlights a meaningful participation of authors from Spain, Argentina, Costa Rica, and Brazil. Figure 2 shows the percentages of national and international authors.

Table 5: Nationality of authors who published in 1999

Nationality	N. of authors
Germany	1
Cuba	2
Portugal	3
USA	4
Undisclosed	4
Mexico	6
Chile	7
Colombia	7
Venezuela	8
Brazil	16
Costa Rica	19
Argentina	22
Spain	84

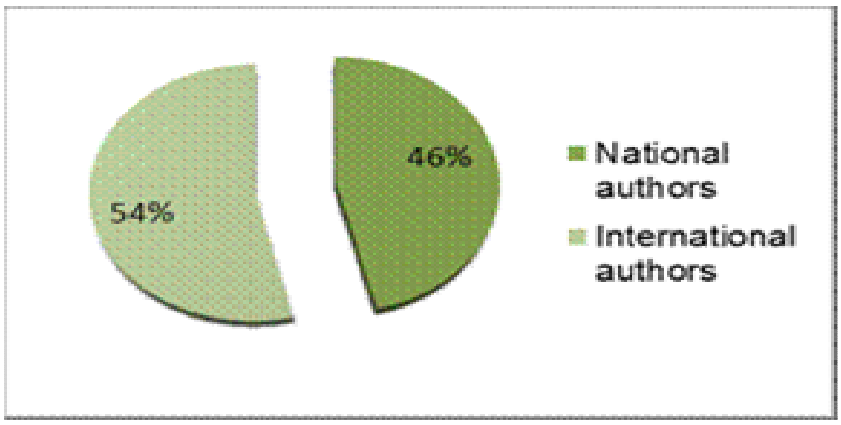
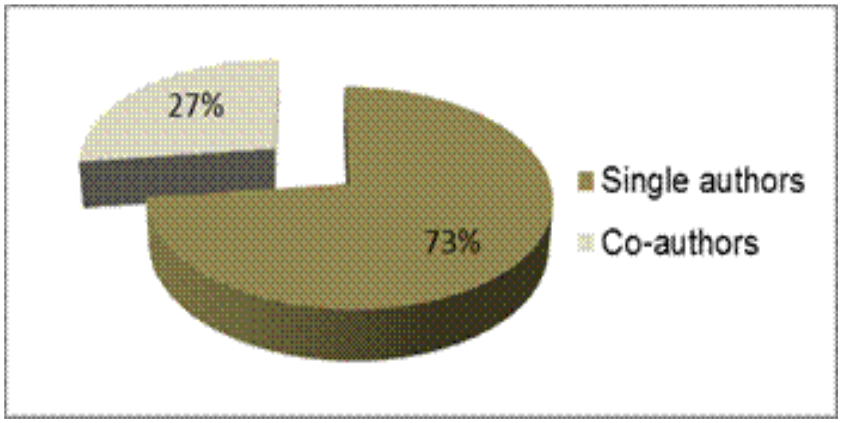


Figure 2: National and international of authors who published in 1999

4.2. Identification of single authors and co-authors

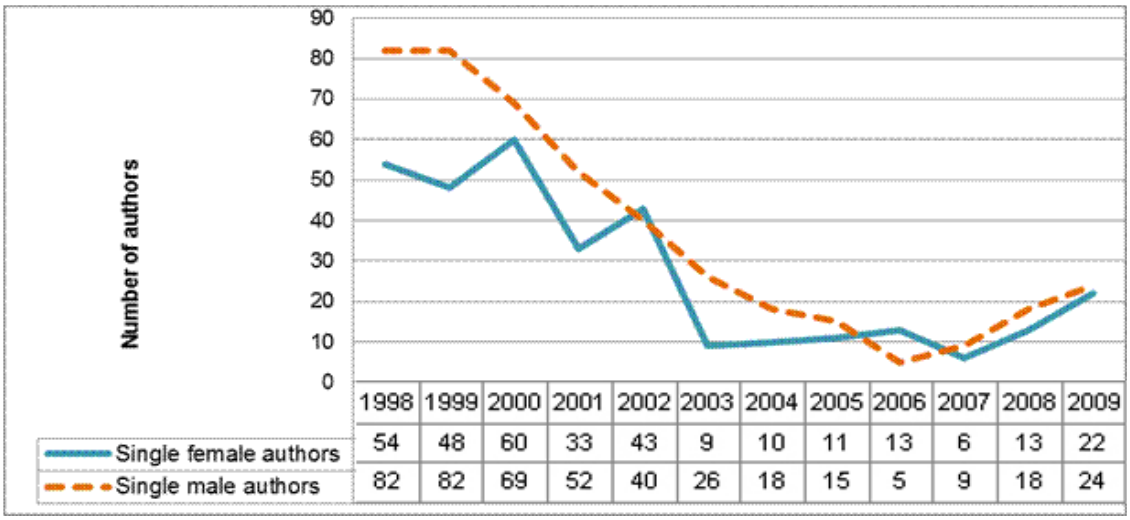
The theme of collaboration between authors is paramount as it is perceived as necessary for the advancement of any science (González-Alcaide, *et al*., 2008). Through the information on institutional affiliation, it is feasible to obtain indicators of collaboration, which are understood as the co-authorship indexes, number of signatory institutions per article, and level of national and international collaboration between the signatory institutions (De-Filippo, Sanz and Gómez, 2007). Graph 3 shows the corresponding percentages of the 1,047 authors, where 762 are single authors and 285 are co-authors.



Graph 3: Registration of single authors and co-authors (1998-2009)

4.3. Gender of single authors

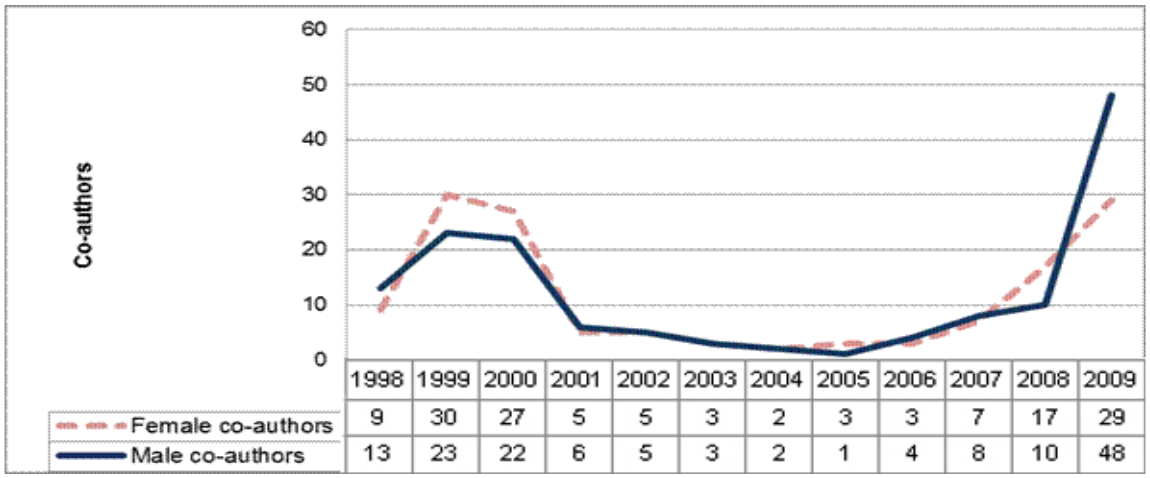
Regarding the genre of single authors, 42% (322) are women, and 58% (440) are men, which means that there is 16% more male collaboration (see graph 4).



	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Single female authors	54	48	60	33	43	9	10	11	13	6	13	22
Single male authors	82	82	69	52	40	26	18	15	5	9	18	24

Graph 4: Annual registration of co-authors across gender (1998-2009)

Of the 27% (285) of authors who published in collaboration, 49% (140) are women and 51% (145) are men. The difference is minimal However there were contrasts in the years 1999 and 2009 (see graph 5).



	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Female co-authors	9	30	27	5	5	3	2	3	3	7	17	29
Male co-authors	13	23	22	6	5	3	2	1	4	8	10	48

Graph 5: Gender distribution of the co-authors who published in the 1998-2009 period

4.4. Academic degree of authors

The academic degree of the authors was classified in 8 categories. Table 5 shows the number of authors and the percentages obtained in each category. It is necessary to note that the authors that did not disclose their academic degree were located in the "unspecified" category.

Table 5: Authors' academic degree

Bachelor's Degree	Master's Degree	Ph.D. Degree	Ph.D. Student	M.A. Student	B.A. Student	Technical Studies	Unspecified
421	**38**	**440**	**109**	**1**	**1**	**1**	**36**
40.21%	3.62%	42.02%	10.41%	0.09%	0.09%	0.09%	3.43%

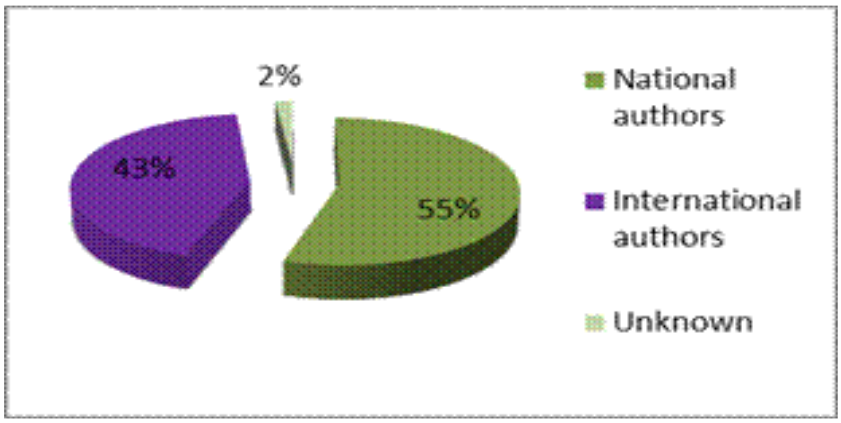
Table 5 shows that 45.64% of authors hold postgraduate degrees (M.A or Ph.D.); 40.21% only holds Bachelor's degrees; 10.41% are Ph.D. students; and 3.62% are M.A. students.

4.5. Number of international and national (Spanish) authors

One of the rules established by the Spanish Foundation for Science and Technology (FECYT) to guarantee the scientific quality of the Spanish peer-reviewed journals is that a minimum of 15% of their authors must be foreigners. It should be noted that other Spanish agencies stipulate that the international authorship is related to conventional and dissemination criteria (Delgado, Ruiz-Pérez and Jiménez-Contreras, 2006).

What follows is the description of the number of national and foreign authors registered in this analysis; such results show that regardless of the type of criterion used to classify this information, RLCS amply meets the aforementioned percentage.

Graph 6 shows that 43% of the authors are foreigners, while table 7 breaks down the amount of authors by country and year. As the journal has gained weight in Spain, the proportion of Spanish authors has increased progressively. The large number of Latin Americans is explained by the high rate of Ibero-American professors who have completed their Ph.D. studies at the University of La Laguna (the headquarters of the journal) and, as a requisite to achieve the degree, published in RLCS in the two years prior to the defence of the thesis.



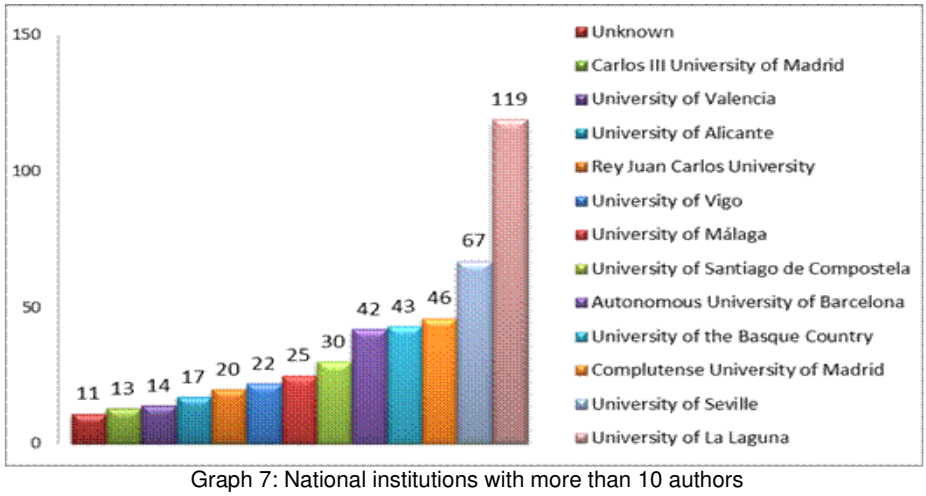
Graph 6: Percentage of national and international authors

Table 7: Nationality and number of authors per year

Country	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	
France	1												1
Italy	1												1
Nicaragua	1												1
Germany	1	1											2
Panama					1	1							2
Peru									2		1		3
Portugal		3											3
Puerto Rico					3								3
Uruguay			1			1						1	3
El Salvador	2			3	2	2	1						10
USA	4	4				2		1					11
Cuba	2	2	1	1	5		1	1		1	1	1	16
Colombia	3	7	1		3		1				1	1	17
Unknown	4	4	2	2	4		2						18
Chile	4	7	3	1	2	5	1	2			3	3	31
Brazil	5	16	8	1	4				1	1	1	2	39
Costa Rica	5	19	8	4	5	1		2					44
Venezuela	13	8	10	7	6	1	2		5			1	53
Mexico	7	6	14	15	4	4	3	5	1	9	4	10	82
Argentina	29	22	48	14	5		4	6	1	1	1	1	132
Spain	76	84	82	48	49	24	17	13	15	18	46	103	575
	158	183	178	96	93	41	32	30	25	30	58	123	1047

4.6. Spanish universities with higher incidence

Graph 7 presents the number of Spanish authors and their institutional affiliation. The category “unknown” includes the total of Spanish authors who did not disclose information about the university they were working for.



Graph 7: National institutions with more than 10 authors

4.7. Types of collaboration established by national authors

As mentioned, the participation of national authors accounts for 55% of the total sample, and for this reason it is appropriate to determine the types of collaboration they established, based on the definitions posed by González-Alcaide *et al* (2008, p.643). See table 8:

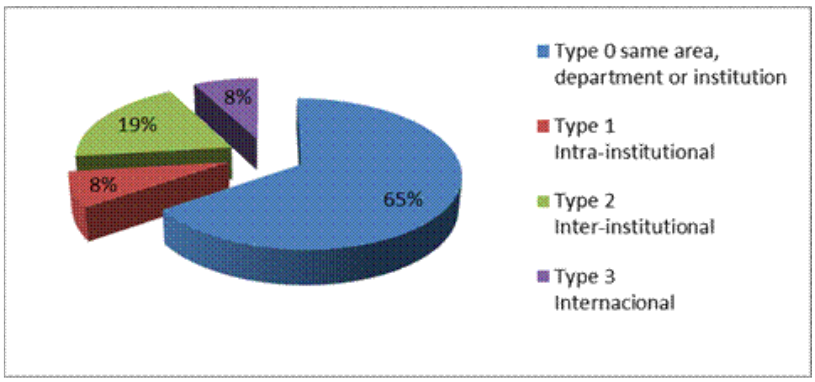
- **Type 1:** Intra-institutional collaboration: a work produced by one macro-institution but signed jointly by different departments, faculties, or units
- **Type 2:** Inter-institutional collaboration: a work produced by at least two institutions from a same country.
- **Type 3:** International collaboration: a work signed by institutions of more than one country.

Table 8: Types of collaboration established by national authors, according to the classification of González-Alcaide *et al.* (2008).

	Collaborating Institutions	Countries	N. Authors	Type			Year
				1	2	3	
1	Vigo University and Autonomous Universidad of Barcelona	Spain	2				1998

2	University of La Laguna and University of Augsburg	Spain and Germany	2				1998
3	University of Salamanca and Salamanca School of Arts	Spain	2				1998
4	University of Murcia and Federal University of Goiás	Spain and Brazil	2				1999
5	University of the Basque country and Department of education and universities of the Basque Government	Spain	2				1999
6	University of Vigo and UAB Autonomous Universidad of Barcelona	Spain	2				1999
7	University of Syracuse, University of La Laguna, Superior School of Business, and Federal University of Paraná.	United States, Spain and Brazil	8				1999
8	Autonomous University of Barcelona and University of Brasilia	Brazil and Spain	3				2000
9	Structure of the journalistic information and Image theory of the University of the Basque Country	Spain	2				2001
10	Area of constitutional law and Department of information sciences, University of La Laguna	Spain	2				2002
11	University of La Laguna and Carlos III University	Spain	2				2003
12	Area of Audiovisual Communication and Advertising, and Areas of Business Organization, University of Extremadura	Spain	2				2004
13	University of La Laguna and Carlos III University of Madrid	Spain	2				2003
14	San Jorge University, Zaragoza, and Open University of Catalonia	Spain	2				2007
15	University of Navarra and The Pontifical Bolivarian University	Spain and Colombia	2				2008
16	University of Santiago de Compostela and Autonomous University of Tamaulipas	Spain Mexico	2				2009
17	Pompeu Fabra University and Pontifical University of Salamanca	Spain	2				2009
18	University of Alicante and Miguel Hernández University	Spain	4				2009
19	Complutense University of Madrid, Antonio de Nebrija University and Open University of Catalonia	Spain	5				2009
20	Complutense University of Madrid, Antonio de Nebrija University	Spain	2				2009
21	San Jorge University, Zaragoza, and Catholic University of San Antonio	Spain	2				2009
22	Complutense University of Madrid, and European University of Madrid	Spain	3				2009
23	Miguel Hernández University of Elche, University of Alicante	Spain	4				2009
24	Department of Audiovisual Communication and Advertising, and Department of Sociology	Spain	3				2009
25	University of Navarra and San Jorge University	Spain	2				2009
26	Department of media business and Department of Culture and Audiovisual Communication of the University of Navarra	Spain	2				2009
27	Rey Juan Carlos University and University of Navarra	Spain	2				2009

As table 8 shows, there have been 6 intra-institutional collaborations, 15 inter-institutional and 6 international. The tendency is towards a greater proportion of this type of collaborations. The collaborations not reflected in this typology correspond to national authors who collaborated with colleagues from the same department/area and institution. For the purpose of a better classification these co-authorships are identified as “type 0” in graph 8.



Graph 8: Types of collaborations established by national authors

The total of articles produced through co-authorship was 114 of 878, of which 71 (62%) were written by national academics and 43 (38%) by internationals (11%).

5. Conclusions

The main objective of this research was to make predictions and decisions on the scientific development of RLCS; in this sense, it has been gratifying for the author to see that RLCS is clearly going in the right direction, particularly because it has implemented precise strategies to increase the citation of its articles in international fields (see table 1).

However, the study recognises that 43% of foreign authors do not necessarily augur international citation nor constitutes a high degree of internationalisation, because a scientific publication can be considered international only when it manages to join the communication channels of the global science and manages to impact the international science (Russell, 2009: 9). Therefore, the next objective for RLCS should be to raise the citation of its articles in international fields, and the route to achieve this goal seems to be the production of an English-language edition and its inclusion in Anglo-Saxon databases.

Another significant decision taken by RLCS in terms of growth is the innovations in its rules for publication, which have allowed the restructuration of essential criteria of content and format. This decision, apart from strengthening its quality, will remedy some gaps related to the lack of authors' information (lack of academic degree, university affiliation, country of origin, etc.).

As a final point, it must be acknowledged that this article has only addressed a small part of all of what can be studied through the science metrics (see figure 1), particularly because cybermetrics and webmetrics will allow the analysis of the interrelationships generated between the publication and its users, i.e., to determine who consulted it, when, from what country, using what browser, through what search engines, through which phrases and keywords, etc. Some of this information can be found in the statistics about the visitors to RLCS's homepage, which is another open door for scholars (http://webstats.motigo.com/s?id=4621075). The statistics about the visitors to RLCS's homepage show that it is mostly visited by Spain, with 69.1% of all the visits, followed by Mexico (7.6%); Argentina (5.5%); Venezuela (3.1%); Colombia (2.4%); Peru (1.6%); USA (1.5%); Chile (1.3%); Brazil (0.8%); Cuba (0.8%) and the rest 6.1%.

Studies on the communicative interrelations generated between journals, their authors and users still require the recognition from the editors, because the more constant the processes of introspection are, the more effective decisions about the needs, trends and future of the scientific publications can be taken.

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7. Notes

[1] This research team continues registered in the Vice-chancellorship of research, development and innovation of the University of La Laguna (http://viinv.ull.es/grupos/1164/)

[2] The PRC is a virtual space of cooperation for academic journals of communication: http://www.facebook.com/pages/Plataforma-de-Revistas-de-Comunicacion/123281487704824#

[3] The RAIC project was conceived as part of the 5th Ibero-American Biennial of Communication held at the Monterrey Technological Institute of Advanced Studies (ITESM), Campus Estado de Mexico in 2005, to bring together Latin American professors who have concluded doctoral theses in Spanish universities. The project was developed at the University of La Laguna (Tenerife, Canary Islands).

[4] RLCS account on Twitter is http://twitter.com/revistalatinacs and Facebook is http://www.facebook.com/pages/Revista-Latina-de-Comunicacion-Social/353509473274

[5] Information updated on 19 October 2010

[6] José Ignacio Aguaded, editor of *Comunicar*; Elea Gómez Toledo from CINDOC-CISC; Carmen Fonseca, consultant for *Comunicar* and RLCS and manager of RLCS's incorporation to the DOI; Alejandro Ruiz Trujillo, computer specialist of *Comunicar*; Susan Collins and Lisa Hart of Publishers International Linking Association - Crossref, and Alejandro Álvarez Nobell, Professor at the National University of Córdoba, Argentina, responsible for the transmissions.

[7] The DOI is recognized by the International Organization for Standardization (ISO) and is additional to the ISSN (International Standard Serial Number) (López and Estrada, 2005).

[8] The data in this table were obtained in August 2010. For more information, visit http://www.revistalatinacs.org/directorios_intensivo.html which contains the names and electronic addresses of RLCS's indexes and databases.

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