ANALYSIS OF BRAZILIAN RESEARCHERS' SCIENTIFIC PRODUCTION IN COMMUNICATION SCIENCES BETWEEN 2000 AND 2009[1]

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Abstract: Analysis and mapping of Brazilian researchers' scientific production in communication sciences, as from the curriculum available at the *Lattes* system of the Brazilian National Council of Scientific and Technological Development (CNPq), so as to systemize and to identify which documental typologies were most used for disseminating research results between 2000 and 2009 (books, book chapters and papers in scientific journals). The results were analyzed as to the actuation profiles of the different graduate programs and as to the researchers' profiles, which made evident that there is no substantial difference between the use of "journal papers" and "books" as media for publishing their results.

Keywords: Bibliometrics. Communication Sciences. Lattes Curriculum. Scientific production.

1 Paper resulting from research activities in the METRICS Project – "Metrics for the assessment of scientific production in social sciences: focusing the Brazilian communication sciences area", FAPESP Process no. 2009/ 08808-1 and CNPq.

1 Introduction

The development of the current information and communication technologies, added to the advanced stage of digital technologies, has considerably impacted the ongoing scientific communication model and, and much more markedly, the resulting scientific production assessment models. Projects rediscussing the metrics in use, the distinct emerging documental typologies and their characteristics, the production contexts of the distinct and unique knowledge for each knowledge area reflecting their cultures for result generation, yearly grow in number and in quality.

One of these projects is METRICS – Metrics for assessing scientific production in social sciences focusing on the Brazilian communication sciences area, developed at the USP School of Communications and Arts, supported by FAPESP and CNPq. The project aims to propose and test alternative indicators to assess the scientific production in the social sciences area, more specifically the communication sciences area. Taking into account the diversity of products in the area, as well as their relevance and specific acknowledgement, concerning both monographs and journals for social sciences, it intends to survey such indicators by crossing citations between the journal papers and the books published between 2000 and 2009. The study corpus will be composed of the production by Brazilian researchers/authors or those linked to Brazilian institutions, such as: (a) papers published in the Brazilian graduate programs communication sciences journals and (b) books (monographs resulting from research) published by Brazilian authors, resulting from research projects. The focus lies on the review of the current metrics, starting from the identification, comparison and assessment of the citation standards used by authors of Brazilian scientific papers and monographs.

As stated by Ferreira (2010), the assessment of the scientific activities in all knowledge areas is conducted as from indicators based on citation counting[2], the expression of which is the Impact Factor (IF)[3], and such metrics take as a base a single type of publication: scientific periodicals. According to the author, the IF has been the most common indicator used by the different upper assessment instances so as to qualify and direct policies towards researches. An example of this is the qualification

2 Citation indicators are constructed by counting the number of citations received by a periodical paper publication. (KOBASHI and SANTOS, 2006, p. 32)

3 The IF was proposed by Eugene Garfield in the early 1960s, in the ambit of the *Institute for Scientific Information* (ISI), the content of which is made available at the *Science Citation Index* (SCI), *Social Science Citation Index* (SSCI) and *Arts and Humanities Citation Index* (AHCI) databases.

established in Brazil by the Qualis system from the Coordination for the Improvement of Higher Education Personnel (Capes), which adopts this indicator for assessing professors and graduate courses (MUGNAINI, 2006; VILHENA and CRESTANA, 2002). Strehl (2005, p. 20) says that the fostering agencies "[...] are an assiduous audience of the index published by ISI [...] identifying the institutions that best correspond to the goals and objectives defined by them."

Nevertheless, centralizing scientific assessment in only one type of publication annuls the intrinsic singularities of each area knowledge – exact, biological and social – once there are different methodologies, theories and approaches used by each of them and their respective subareas/disciplines. As pointed out by Ferreira (*op cit*, p. 330) social sciences assessment is conducted as from citations in scientific journals, without considering that

> [...] the structures, the disciplines and the specificities in the social sciences area, significantly differ from the equivalent entities in the natural sciences areas. In Brazil, this difference starts from the perception of the implicit heterogeneity in the different disciplines involved and covered by the social sciences label: Arts, Information Science, Communication Sciences, Philosophy, Law, Languages, Literature and Linguistics, Psychology, Business Administration and Economics, Anthropology, Archeology, Political Science [...]. It is also worth stressing that many of these disciplines, by themselves, already carry many and distinct subareas and specificities within them, as is the case of the Arts area, which involves music, plastic arts, theater, dance and others, or Communication Sciences which cover journalism, publicity, marketing, cinema, radio, editing, public relations and television.

Besides, several are the communication channels and publication typologies used by researchers in the social sciences areas to disseminate the results of studies or to exchange experiences. These may also vary as to the nature of the knowledge area, target public and purpose (MEADOWS, 1999). Consequently, citation standards are also different. Kobashi and Santos (2006), referring to the specificities and communicational behaviors of sciences, warn that

> It is a known fact that the exact and biological science areas do not have the same publication culture as that of social sciences and humanities. Whereas the former two tend to privilege the publication of papers in journals, in humanities and social sciences, book publication is privileged. (p. 33)

Other evidences on the behavior of social sciences publications are highlighted in Diana Hicks's (2005) study, whereby the author points to the existence of three other types of literature used by the area, besides papers published in scientific journals, and the impacts of which have

great importance at local level: monographs/books; national character literatures; and the non-scientific publications directed to non-experts (such as secondary school teachers or the public in general, as for example, informative magazines, newspapers, catalogues, etc.). According to the author, books receive 40% of the citations of the articles published in journals indexed by the *Social Science Citation Index* (SSCI), which reveals the value of this documental typology for the area, evidencing that such publication format should not be despised.

In a study related to the communication sciences field, which uses Brazilian theses and dissertations as a base, Romancini (2006) demonstrates that books are more referenced, reaching 51.6% of the citations.

The analysis of the citations of the works approved by the XVII Meeting of the Brazilian Association of the Communication Graduate Programs – Compós 2008, Primo and others (2008, p. 7) confirm the trend of using books as the main consultation source: 57.7% citations for books, 13% for book chapters and 14.1% for papers.

Faced with the results mentioned, the METRICS project objectives were defined, focused on in depth studies into the communication sciences researchers' behavior standards, that is, what and how much they publish, which the preferential communication channels of this scientific community are and their dispersion over the Brazilian territory. By systemizing the different activities and stages possible and necessary for the aforementioned behavior study, the proposal of outlining the Brazilian researcher publication profile in the communication sciences area was elected as a first analysis as from the "*mapping of their scientific production*" disseminated by means of the Lattes CV. This paper describes the methodology used and the results obtained in this first stage of the larger project (METRICS).

Our purpose, therefore, is to analyze and to map the scientific production of communication sciences Brazilian researchers, as from the curriculum available at the Lattes Platform from the Brazilian National Council of Scientific and Technological Development (CNPq), in order to systemize and to identify which documental typologies were most used for disseminating the research results between 2000 and 2009.

2 Methodological procedures

The study specifically focuses the identification of Brazilian researchers in the communication sciences area, and establishing the criteria for identifying this sample is initially made necessary. Aiming to ensure that the profiles analyzed were actually those of Brazilian researchers, the survey of all the professors registered in the 37

communication sciences graduate programs authorized by CAPES was defined as a strategy. An individual visit to the sites of such programs allowed the identification of the professors/researchers and their full name recovery.

Based on this list, the second stage was finding the individual Lattes curricula and collecting the productions there declared, concerning journal papers, books and book chapters, published between 2000 and 2009.

As a third stage, all the metadata collected, concerning the distinct productions, were stored in an Excel file. At that moment, co-authored works were identified and repetitions were excluded.

Next, at the fourth stage, an extense normalization activity on the metadata surveyed concerning the books, chapters and papers published was necessary, so as to equalize contents and ensure the possibility of compatibility and comparison of the data.

Lastly, at the fifth stage, the final computation and analysis of the production of Brazilian researchers in papers and in books/book chapters observed two indicators: a) production of papers versus production of books and chapters and b) production as per documental typology distributed throughout the graduate programs and their respective regions.

3 Collection /analysis of data and results

3.1 Identification of Brazilian researchers in the focused area

The survey was initially conducted at the Brazilian Association of the Communication Graduate Programs (Compós) site, and later these programs certification was confirmed at the Capes portal of the Ministry of Education (MEC). 37 Graduate Programs in Communication Sciences (PPG/COM) were identified, all of them with master's and 15 with doctoral programs.

Out of the 37 PPG/COM identified, three are located in the Center-West Region of Brazil; five in the Northeast; a single PPG/COM in the North Region; seven in the South Region; and 21 of them are in the Southeast Region, as shown in Figure 1.

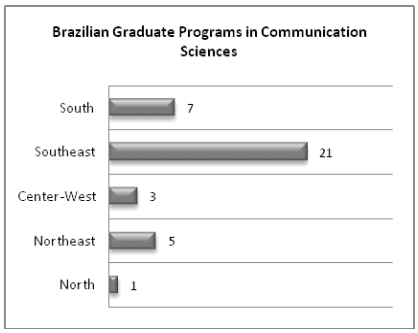

Figure 1. Distribution of the 37 Graduate Programs per geographic region.

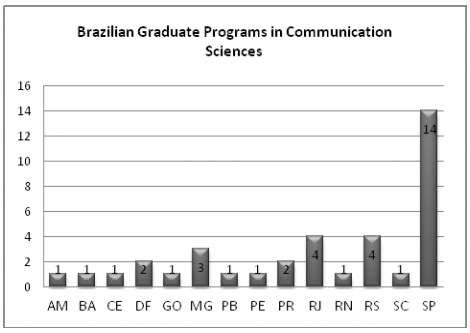

Figure 2. Distribution of the Communication Sciences Graduate Programs per Federation Units.

Figure 2 above shows the distribution of the PPG/COM per federation units, which allows observing that the State of São Paulo concentrates the largest number of programs: 14 overall. The other 23 programs are distributed as follows: four in Rio Grande do Sul; four in Rio de Janeiro; three in Minas Gerais; two in the Federal District; two in Paraná; and Amazonas, Bahia, Ceará, Goiás, Paraíba, Pernambuco, Rio Grande do Norte and Santa Catarina each host one PPG/COM.

In relation to the administrative sectors (public and private) to which the PPG/COM are linked, the scenario is presented as follows: 14 programs in the private sector and 23 in the public sector, 16 being federal, six state and one municipal program, as observed in Figure 3 below.

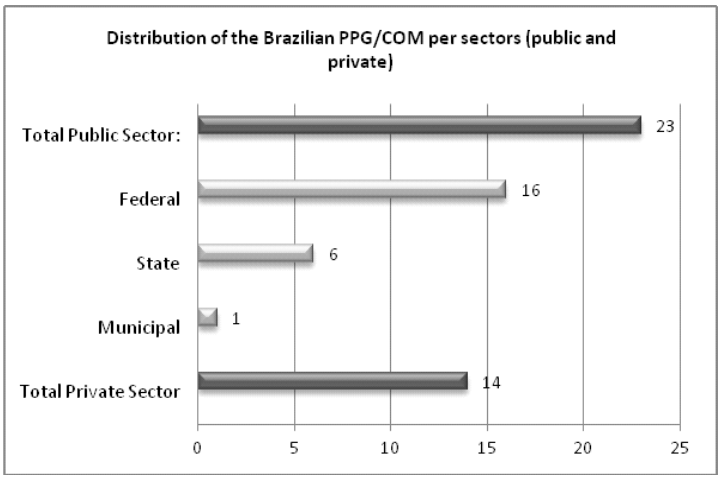

Figure 3. Distribution of the 37 Brazilian Graduate Programs in Communication per sectors (public and private).

As to the distribution per geographic regions they are observed to be: 14 PPG/COM of the private sector, one located in the Center-West, ten in the Southeast Region and three in the South Region. The 23 PPG/COM linked to the public sector are distributed as follows: out of the 16 linked to the federal government, one is located in the North Region, five in the Northeast, two in the Center-West, five in the Southeast and three in the South of Brazil; linked to state governments, there are six PPG/COM, five of which in the Southeast Region and one in the South Region; linked to the municipal government, there is only one in the Southeast Region, as schematized in figure 4 below:

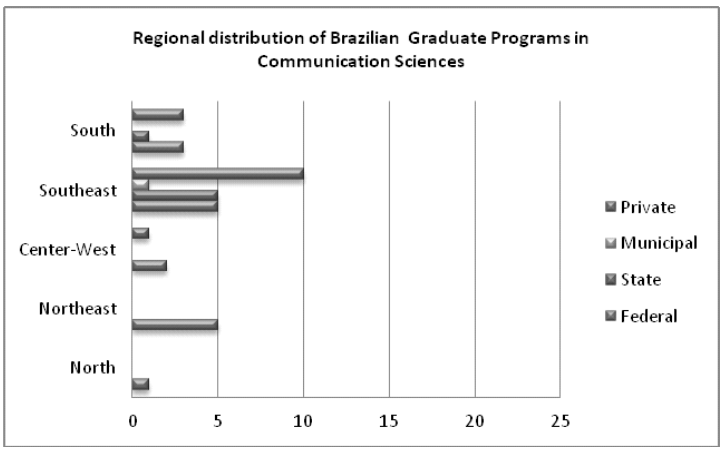

Figure 4. Regional distribution of Communication Sciences Graduate Programs between the public sector (divided by sphere of government) and the private sector.

A visit to the individual graduate programs sites provided the professors' name list and, when possible, the URL of the curriculum in the Lattes Platform of the CNPq. As a result, a bulk total of 519 names were obtained, being 498 tenured professors, three visiting professors, 14 collaborating professors and four associate professors, as shown in Table 1. Nevertheless, 16 professors appear in more than one PPG/COM. For this reason, repetitions were eliminated, hence obtaining a real total of 503 names.

Table 1
Professors identified in the PPG/COM

Higher Education Institution (HEI)	Professors per PPG/COM				Total per PPG/COM
	Tenured	Visiting	Collaborating	Associate	
PUC-SP – Pontifícia Universidade Católica de São Paulo/SP	19	–	–	–	19
UFBA – Universidade Federal da Bahia/BA	13	–	–	–	13
UFRJ – Universidade Federal do Rio de Janeiro/RJ	27	–	–	–	27
UMESP – Universidade Metodista de São Paulo/SP	15	–	–	–	15
UNICAMP – Universidade Estadual de Campinas/SP	08	–	04	–	12
USP – Universidade de São Paulo/SP (Communication)	46	–	–	–	46
USP – Universidade de São Paulo/SP (Audiovisuais)	13	–	–	–	13
PUC-RS – Pontifícia Universidade Católica do Rio Grande do Sul/RS	16		03		19
UNISINOS – Universidade do Vale do Rio dos Sinos/RS	16	–	–	–	16
UFMG – Universidade Federal de Minas Gerais/MG	11	–	02	–	13
UFRGS – Universidade Federal do Rio Grande do Sul/RS	17	–	–	–	17
UFF – Universidade Federal Fluminense/RJ	20	–	–	–	20
UTP – Universidade Tuiuti do Paraná/PR	11	02	–	–	13
FCL – Faculdade Cásper Líbero/SP	15	–	–	–	15
UFPE – Universidade Federal de Pernambuco/PE	14	–	–	–	14
UERJ – Universidade do Estado do Rio de Janeiro/RJ	12	–	–	–	12
UNIP – Universidade Paulista/SP	11	–	–	–	11

UNESP/BAU – Universidade Estadual Paulista Júlio de Mesquita Filho/Bauru/SP	17	–	–	–	17
PUC-RJ – Pontifícia Universidade Católica do Rio de Janeiro/RJ	09	–	–	–	09
UNIMAR – Universidade de Marília/SP	12	–	–	–	12
ESPM – Escola Superior de Propaganda and Marketing/SP	07	–	–	–	07
UFSM – Universidade Federal de Santa Maria/RS	09	–	–	–	09
UNISO – Universidade de Sorocaba/SP	09	–	–	–	09
UAM – Universidade Anhembi Morumbi/SP	09	–	–	–	09
PUC-MG – Pontifícia Universidade Católica de Minas Gerais/MG	09	–	–	–	09
UFJF – Universidade Federal de Juiz de Fora/MG	17	–	–	–	17
UFG – Universidade Federal de Goiás/GO	10	–	–	–	10
UFSC – Universidade Federal de Santa Catarina/SC	11	–	–	–	11
UEL – Universidade Estadual de Londrina/PR	09	–	–	–	09
UFSCar – Universidade Federal de São Carlos/SP	08	–	–	–	08
UCB – Universidade Católica de Brasília/DF	07	–	02	–	09
UFPB/J.P. – Universidade Federal da Paraíba/João Pessoa/PB	11	–	–	–	11
UFC – Universidade Federal do Ceará/CE	12	–	–	–	12
UFAM – Universidade Federal do Amazonas/AM	12	–	–	–	12
USCS – Universidade Municipal de São Caetano do Sul/SP	08	–	–	–	08
UFRN – Universidade Federal do Rio Grande do Norte/RN	08	–	03	–	11
UnB – Universidade de Brasília/DF	20	01	–	04	25
Totais	**498**	**03**	**14**	**04**	**519**

The data schematized in the table above evidence the programs and the respective total professors affiliated to them. The largest number of professors is concentrated at the USP PPG/COM (46), followed by UFRJ (27), UnB (25) and UFF (20), the four of them belonging to the public sector and three of them located in the Southeast Region. Among the programs with a smaller number of professors, are ESPM (07), USCS and UFSCar (08

each), PUC-RJ, UFSM, UNISO, UAM, PUC-MG, UEL and UCB (09 each), six of them affiliated to private sector institutions and four affiliated to the public sector.

With such a list completed, the localization of the Lattes curricula for collecting the professors' scientific production was started, as well as the standardization of names according to the ones in the Lattes Platform which, at times, differed from the list of names contained in the site of each graduate program. Some curricula were verified to be outdated, and one curriculum could not be found.

3.2 Survey into the Brazilian researcher bibliographic production between 2000 and 2009

The 503 professors' curricula were analyzed individually and each registration of documents listed by them in the categories "*full papers published in periodicals*", *"published/organized books or editions" and "book chapters",* published between 2000 and 2009, was recovered and inserted in an Excel spreadsheet.

A total bulk number of 6520 was obtained in documents categorized as *"papers"*, 1772 *"books"* and 4635 *"book chapters"*, which were distributed according to the author's affiliation to the graduate program – Table 2.

Table 2
Scientific production of the Communication Graduate Programs
(Brazil 2000-2009)

PPG/COM	Papers	Books	Book chapters	Total per PPG/COM
USP – Universidade de São Paulo (Communication)	503	214	431	1148
UFRJ – Universidade Federal do Rio de Janeiro	416	133	407	956
PUC-SP – Pontifícia Universidade Católica de São Paulo	312	101	414	827
PUC-RS – Pontifícia Universidade Católica do Rio Grande do Sul	383	87	247	717
UFF – Universidade Federal Fluminense	332	100	207	639
UMESP – Universidade Metodista de São Paulo	294	101	241	636
UNISINOS-RS – Universidade do Vale do Rio dos Sinos	350	70	202	622
UnB – Universidade de Brasília	236	67	156	459
UFRGS – Universidade Federal do Rio Grande do Sul	245	49	138	432
UFPE – Universidade Federal de Pernambuco	231	35	146	412

UFJF – Universidade Federal de Juiz de Fora	222	52	129	403
UERJ – Universidade do Estado do Rio de Janeiro	234	39	126	399
UNESP – Universidade Estadual Paulista	212	38	141	391
UTP – Universidade Tuiuti do Paraná	204	40	107	351
UFBA – Universidade Federal da Bahia	155	40	151	346
UFSM – Universidade Federal de Santa Maria	147	59	130	336
PUC-RJ – Pontifícia Universidade Católica do Rio de Janeiro	135	34	103	272
FCL – Faculdade Cásper Líbero	167	33	62	262
UFMG – Universidade Federal de Minas Gerais	135	22	102	259
UFSC – Universidade Federal de Santa Catarina	139	34	86	259
UFPB – Universidade Federal da Paraíba	152	36	47	235
UFC – Universidade Federal do Ceará	80	56	84	220
UAM – Universidade Anhembi Morumbi	96	21	102	219
ESPM – Escola Superior de Propaganda and Marketing	131	22	60	213
USCS – Universidade Municipal de São Caetano do Sul	139	18	49	206
UFRN – Universidade Federal do Rio Grande do Norte	112	14	64	190
UNICAMP – Universidade Estadual de Campinas	91	24	59	174
UNIP – Universidade Paulista	80	34	54	168
UCB – Universidade Católica de Brasília	63	34	67	164
UFG – Universidade Federal de Goiás	102	18	38	158
UNIMAR – Universidade de Marília	77	43	34	154
PUC-MG – Pontifícia Universidade Católica de Minas Gerais	61	18	71	150
UEL – Universidade Estadual de Londrina	104	6	38	148
UNISO – Universidade de Sorocaba	69	31	26	126
UFSCar – Universidade Federal de São Carlos	32	12	79	123
UFAM – Universidade Federal do Amazonas	46	34	13	93
USP-SP – Universidade de São Paulo (Audiovisual)	33	3	24	60
Total	**6520**	**1772**	**4635**	**12927**

Most of the Graduate programs (72.2%) produced up to 400 documents (papers, books and book chapters), whereas seven programs are above the 500 documents range, with detachment to the University of São Paulo PPG/COM, which exceeded the 1,000 documents range. The systematization of the production per documental typology of the

researchers allowed the elaboration of a graph with the total production of documents per Graduate Program, as shown in figure 5 below.

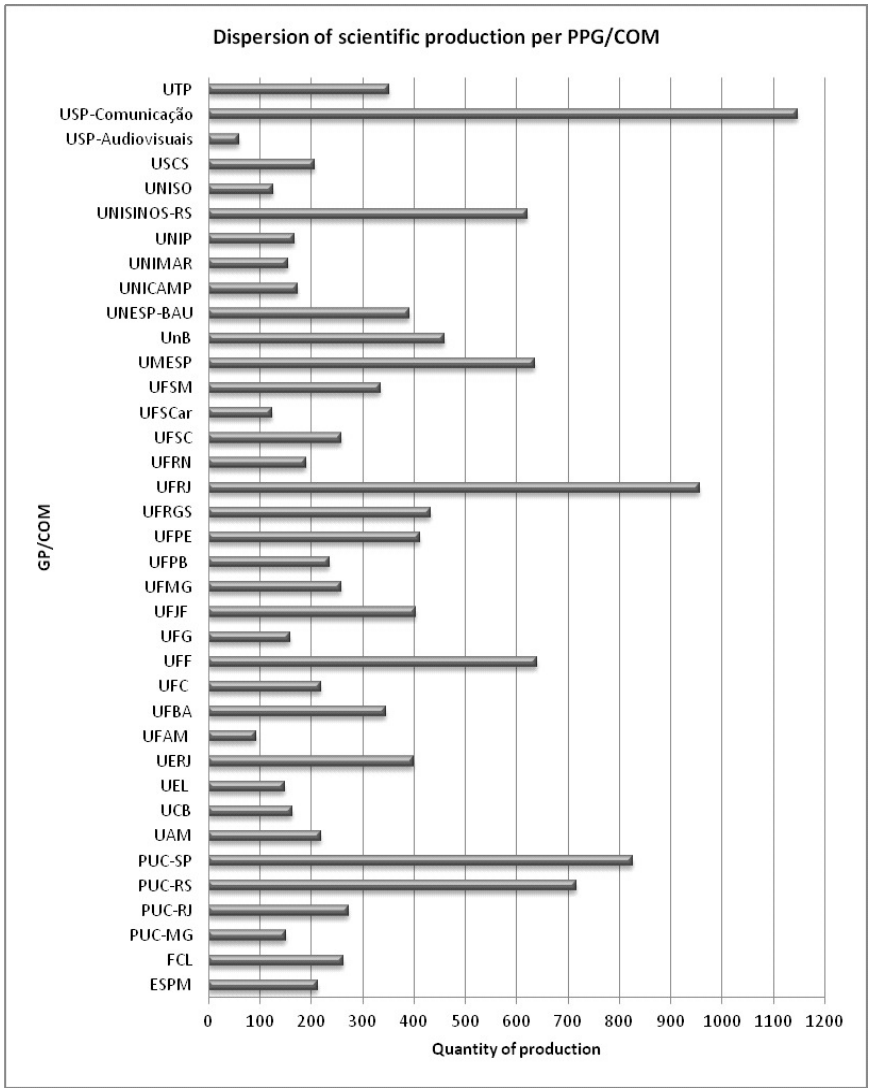

Figure 5. Scientific production in papers, books and book chapters of the Communication Sciences Graduate Programs in Brazil between 2000 and 2009.

3.2.1 Analysis and selection of the journal papers published between 2000 and 2009

At the end of the collection and preparation of the Excel spreadsheet with all the data originated in LATTES, their identification was conducted and standardization was started. This was strenuous and slow work due

to the large amount of missing information, typing errors and to the incorrect classification of the production. Many of the documents declared by professors as "periodical articles" were actually reviews, interviews, presentations, sites, etc., sometimes published in magazines. Several other documents were published in magazines, but not necessarily scientific journals. Therefore, the scientificity concept of the articles was many times compromised.

Hence, as a basis for this study, articles published in journals identified as effectively scientific were considered, either due to their affiliation to a graduate program, or for being indexed in a scientific database (for example; SciELO, WOS, SCOPUS, REDALYC, etc.).

Out of the 6520 articles identified, 766 (12%) articles were published in international scientific journals (Spanish, French, Colombian, Argentinian, etc.), 1659 (25%) were published in Brazilian graduate programs journals. The remaining 4095 documents were partly:

a) published in other periodicals in the area, but not the ones coordinated by the PPG/COM (among them articles published in LOGOS, Verso and Reverso, etc.);
b) published in journals of other areas, and;
c) other types of documents (reviews, interviews, works presented in events, catalogues, documents reporting study group works, documents in sites, etc.).

Table 3
Classification of articles

Initial number of articles collected	Articles published in journals coordinated by the PPG/COM		Articles published in international journals		Articles published in journals of other areas/ other types of documents	
	Number	%	Number	%	Number	%
6520	**1659**	**25**	**766**	**12**	**4095**	**63**

By specifically analyzing the 1659 papers published in the 24 Brazilian journals along those ten years, the publication average per PPG/COM was verified to be 44.8 papers, and the publication average per researchers to be 3.3 papers. However, dividing this number per year, one has: 4.48 papers per PPG/COM and 0.33 papers per professor.

Figure 6 below demonstrates the distribution of these papers (1659) among the journals coordinated by the graduate programs.

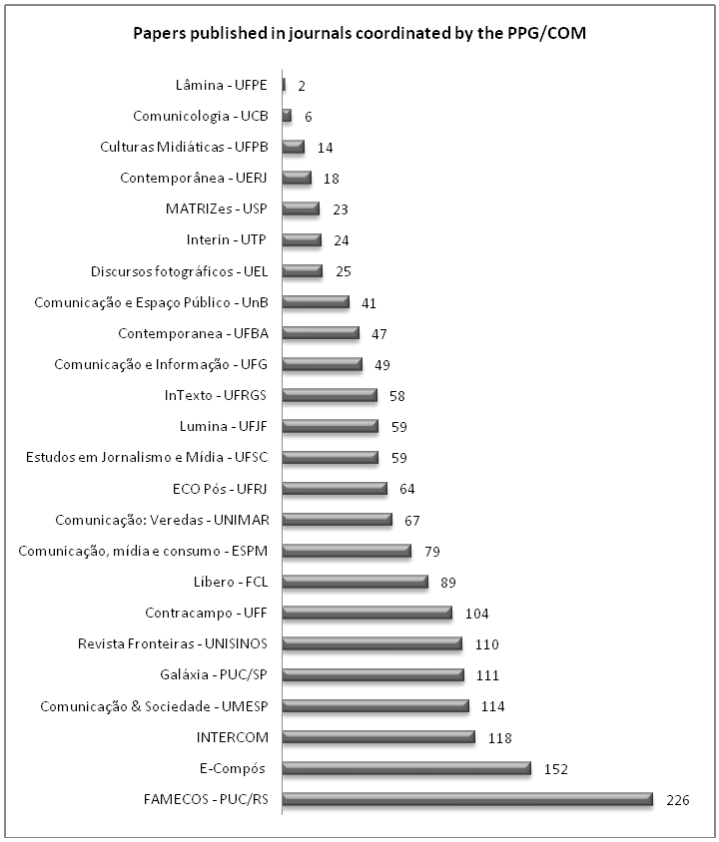

Figure 6. Dispersion of papers published in journals coordinated by the PPG/COM.

The four national journals most sought by Brazilian researchers for publication are observed to be: Famecos, Compós, Intercom and Communicação & Sociedade, with 226, 152, 118 and 114 papers, respectively. In turn, the journals that published the least were Lâmina from UFPE and Comunicologia from UCB in Brasília, with two and six papers, respectively.

Distributing these values per Geographic regions, in relation to the journals origin, the following results are obtained: the Southeast and South regions account for 51% and 30% of the paper publications, respectively. Next comes the Center West Region with 15% of the production; the Northeast region with 4% and, lastly, the North Region which scored no points.

Out of the federation units, the ones publishing the most are: São Paulo with 36%; Rio Grande do Sul with 24%; Federal District with 12%; and Rio de Janeiro with 11%. Adding the other federation units (BA, PB, PE, GO, MG, PR and SC), they total 18.12%. These data are expressed in Table 4.

Table 4
Geographic distribution of the journals coordinated by the PPG/COM

Geographic region	FU	Journals per FU	Journals per region	Papers published per FU	Papers published p/ region	Papers published x FU (%)	Papers published x region(%)
North	–	0	0	0			
					0		**0**
	BA	1		47		3	
Northeast	PB	1		14		1	
	PE	1		2		0.12	
			3		**63**		**4**
Center West	DF	3		199		12	
	GO	1		49		3	
			4		**248**		**15**
Southeast	MG	1		59		4	
	RJ	3		186		11	
	SP	7		601		36	
			11		**846**	**51**	
South	PR	2		49		3	
	RS	3		394		24	
	SC	1		59		4	
			6		**502**		**30**
Total					**1659**	**100**	**100**

It was also possible to obtain an overview of the papers per year of publication (Table 5), in which 2007 and 2008 were the most productive, with 229 and 240 publications, respectively.

Table 5
Papers published in journals coordinated by Communication Sciences Graduate Programs per year of publication

Year of publication	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Nº of papers	**80**	**84**	**117**	**129**	**174**	**220**	**227**	**229**	**240**	**159**

The publications in national journals follow an upward trend from 2000 to 2008, with a drop in publications in 2009. Figure 7 allows a better visualization of this evolution.

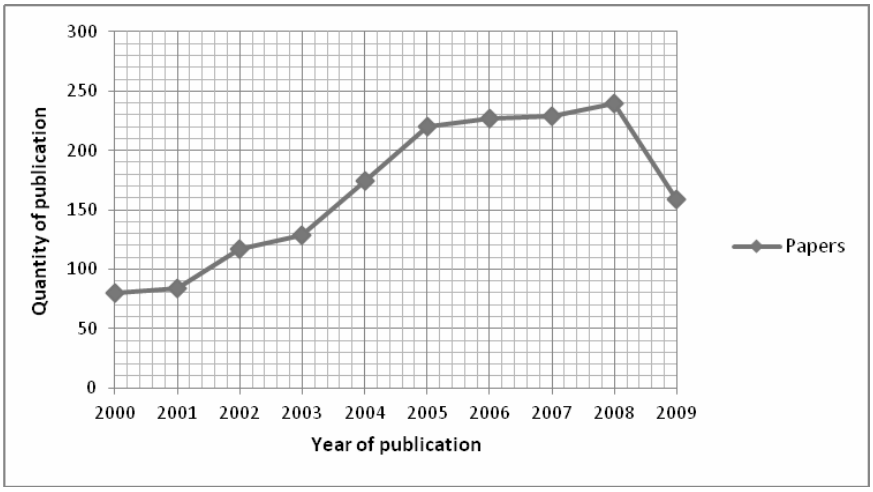

Figure 7. Dispersion of papers per year of publication (2000-2009).

3.2.2 Analysis and selection dos books published/organized by the PPG/COM professors

The analysis and selection of this documental typology were prioritized due to the difficulty in locating the works, once their availability in electronic means is not so common, as opposed to what occurs with journal papers. The activity aimed to conduct a first selection in the database. Based on the definition by Cunha and Cavalcanti (2008, p. 231), in which a "book" is characterized for being a "[...] an individual publication, containing at least 50 pages [...]", all the documents with a smaller number of pages were discarded. Besides this first criterion, it was established that the following would not be part of the study:

– publications previous to 2000;
– translated books;
– titles not deriving from scientific research (technical, didactic books / text; products of events and annals; institutional and project reports; books with institutional authorship);
– and the documents that failed to correspond to this documental typology, despite their being included in the LATTES as such.

Additionally to these characteristics, it was adopted as a rule that only one title would be kept independently of multiple authors and the books most recent editions, the former ones being eliminated.

Even though the book chapters published by Brazilian researchers and disseminated in their respective Lattes curricula have been collected and previously mentioned, they will not be treated herein seeing that the

major focus of this paper is to observe the use standard of the book means *versus* the paper means.

As from this first selection, the 1772 books spotted were classified into three categories, as shown in Table 6.

Table 6
Book production after the selection and establishment of categories

Monograph works	Organized Works	Reference Works	**Documents not selected for the study**	Total works initially collected
684	646	29	413	1772

The 413 documents not selected for this study refer to materials that did not meet the requirements previously established (they are thus translations, non-scientific books, events annals and other non-monographic documents).

In a comparative analysis between the monographic and the organized works, at that first moment, a balance was verified to exist, once the numerical difference between the two categories is of only 38 items. Individually, the largest difference between the two categories of books (organized and monographic) is that of UMESP, with 24 titles, followed by UNIMAR, with 14; FACASPER and PUCRS with 13; ESPM and UFSM with 12 and; UFF and UNICAMP with an 11-title difference.

For the social sciences area, an organized book is a common practice, deriving from the various meetings and work meetings that eventually lead to the organization of books containing the compilations of the major researchers' and/or guests' texts.

Table 7, as follows, presents the distribution of the production of monographs, organized books and reference sources per PPG/COM.

Table 7
Production of books, after the selection, of Communication graduate programs (Brazil 2000-2009)

Affiliation/Institution	Professors per PPG/COM	Mono-graphs	Organized Books	Reference Books	Total books per PPG/COM
PUC-SP	18	47	39	0	86
UFBA	13	12	20	1	33
UFRJ	27	51	50	2	103
UMESP	15	29	53	1	83
UNICAMP	12	16	5	1	22
ECA/USP/Communication	46	82	80	3	165
ECA/USP/Audiovisual	3	1	1	0	2
PUC-RS	19	47	34	1	82
UNISINOS	16	20	27	0	47
UFMG	13	5	10	0	15
UFRGS	17	14	20	1	35
UFF	20	35	46	1	82
UTP	13	13	11	0	24
FACASPER	15	18	5	2	25
UFPE	14	14	11	0	25
UERJ	12	12	14	0	26
UNIP	10	15	10	0	25
UNESP	17	11	16	0	27
PUC-RJ	9	18	10	0	28
UNIMAR	12	23	9	0	32
ESPM	7	14	2	0	16
UFSM	9	16	28	0	44
UNISO	9	15	10	0	25
UAM	9	6	10	0	16
PUC-MG	9	5	10	0	15
UFJF	17	17	20	1	38
UFG	10	11	4	0	15
UFSC	11	13	15	0	28
UEL	9	5	1	0	6
UFSCAR	7	4	3	0	7
UCB	9	14	13	2	29
UFPB	10	18	13	1	32
UFC	12	14	13	0	27
USCS	8	11	4	0	15
UFRN	9	6	6	0	12
UnB	25	26	23	1	50
UFAM	12	6	0	11	17
37	503	684	646	29	1359
				Average per PPG/COM	36.7
				Average per professor	**2.7**

Based on this distribution and classification of books, the average production of books per professor was verified to be 2.7 and the average

of books per PPG/COM to be 36.7. In turn, the average per PPG/COM/year is 3.67 books and the average per researcher/year is 0.27 books.

Table 8 presents the distribution of the books published per typology and year of publication:

Table 8
Book production per category x year of publication

Year of publication date	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Without
Monographs	53	50	66	59	80	67	67	76	105	60	1
Organized Books	27	41	60	60	52	61	70	92	94	89	–
Reference works	3	4	5	5	2	3	4	1	1	1	–
Total	**83**	**95**	**131**	**124**	**134**	**131**	**141**	**169**	**200**	**150**	**1**

By analyzing the yearly production of books, the years 2007 and 2008 concentrated the largest number of publications, with 169 and 200 publications respectively. Figure 8 indicates that there was an increase in publications from 2000 to 2002, a slight fall in 2003, a new growth from 2004 to 2008 and another fall in 2009. This low productivity in 2009 may be explained by taking into account the collection period for the study (between late 2009 and early 2010), and the curricular updating of each professor.

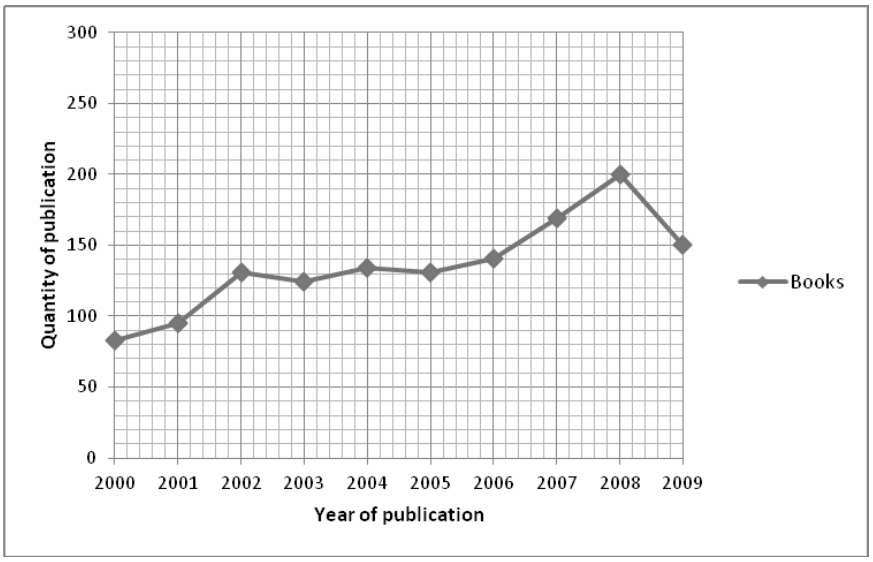

Figure 8. Dispersion of books per year of publication (2000-2009).

During the selection activity and the establishment of book categories, some inconsistencies were detected concerning the standardization of the references made available in the professor's curricula, as for example, publication place and publisher, incomplete titles

and documents not consistent with the "book" category, demanding a longer time than that foreseen for completing the activity.

4 Final considerations

Along this study, a scenario of the Brazilian production was obtained both in terms of documents and their dispersion over the Brazilian territory, and in relation to the number of graduate programs, their regional distribution and per federation units. The data collected and analyzed in the period have, at each completed activity, provided a fundamental base for carrying on the research, as well as the necessary subsidies to the greater project in which it is inserted, that is, *METRICS.*

The results so far obtained not only demonstrate the Graduate Programs concentration in the Southeast region, but also the larger number of professors and of publications in the same region, especially in the State of São Paulo, in detriment, for example, of the North Region in Brazil, which may point to a greater directioning of financial, human and infra-structure resources to the communication sciences Graduate Programs located in the Southeast region. These findings may, in turn, provide elements for a future, more thorough study into these regional differences.

Concerning the behavior of scientific production, the study evidenced that there is no significant difference between the results found referring to the publication of papers (6.520) and books/book chapters (6.407). Such a result corroborates Hicks's (2005) study, evidencing a balance in the choice of the documental typology to be used for disseminating research results.

Yet, a point calling and deserving attention is the lack of standadization and completeness of data of the references, a negative factor, once this hinders data handling and filtering, which may lead to errors in data tabulation and, obviously, in the definition of quality and production indicators for the area. Another and equally complex finding, concerning the accurate results of scientific production, was the existence of different types of documents inserted in the paper and book categories of the Lattes curricula (for example, editorials, interviews, forewords, reviews, articles in non-scientific newspapers and magazines among others).

It is worth stressing that, at this first moment of the study, papers published in journals coordinated by PPG/COM and books, always by Brazilian authors, were analyzed covering the period between 2000 and 2009. In the next step of the research, a study into the citation of the books and papers here identified will be conducted aiming to verify the crossing of citations among them. That is, we seek to map which books are cited in journal papers and which journals are cited in the books.

Hence, the continuity of the study and its results may still serve as the base for a future comparative analysis related to scientific production both within the area and among the different areas of knowledge. They will also allow the prospection of a relationship network of researchers intra and inter-programs, of the research trends in Communication Sciences.

Mapeamento da produção científica de pesquisadores brasileiros de ciências da comunicação: período de 2000 a 2009

Resumo: Análise e mapeamento da produção científica de pesquisadores brasileiros em ciências da comunicação, a partir do currículo disponível no sistema *Lattes* do Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq), a fim de sistematizar e identificar quais tipologias documentais foram mais utilizadas para disseminação dos resultados de pesquisas no período de 2000-2009 (livros, capítulos de livros e artigos em revistas científicas). Os resultados foram analisados quanto ao perfil de atuação dos distintos programas de pós-graduação e quanto ao perfil dos pesquisadores deixando evidente que não existe diferença substancial no uso dos veículos "artigos de revistas" e "livros" para a publicação de seus resultados.

Palavras-chave: Bibliometria. Ciências da Comunicação. Curriculum Lattes. Produção científica.

Analyse de la production scientifique des chercheurs brésiliens en sciences de la communication: la période de 2000 à 2009

Résumé: Analyse et systématisation de la production scientifique des chercheurs brésiliens en sciences de la communication, à travers de l'utilisation du curriculum disponible sur le système Lattes (Conseil National de Développement Scientifique et Technologique - CNPq), pour identifier et systématiser les types de documents les plus fréquemment utilisés pour la diffusion des résultats de recherches dans la période 2000-2009 (des livres, des chapitres de livres et des articles de revues cientifiques). Les résultats ont été analysés en fonction du profil d'action des différents programmes d'études supérieures et le profil des chercheurs, indiquant clairement qu'il n'y a pas de différence substantielle dans l'utilisation des véhicules "articles de revues" et "livres" pour la publication de ses résultats.

Mots-clés: Bibliométrie. Sciences de la Communication. Lattes. Production scientifique.

Planeamiento de la producción científica de los investigadores brasileños en ciencias de la comunicación: período de 2000 hasta 2009

Resumen: Análisis y planeamiento de la producción científica de los investigadores brasileños en ciencias de la comunicación con base en el currículum Lattes disponible en el sistema del Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq), con el fin de sistematizar y identificar qué tipologías documentales se utilizaron más para diseminar los resultados de investigación en el período de 2000-2009 (libros, capítulos de libros y artículos de periódicos científicos). Se analizaron los resultados en función del perfil de acción de los diferentes programas de posgrado y del perfil de los investigadores, por lo que es claro que no existe una diferencia sustancial en el uso de los vehículos "artículos de periódicos" y "libros" para la publicación de sus resultados.

Palabras-clave: Bibliometría. Ciencias de la Comunicación. Currículum Lattes. Producción científica.

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