

Analyzing gray literature from postgraduate programs in Social Communication in Brazil: network of influence and citation analysis

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Introduction

The importance of the scientific indicator production has been discussed for a long time in many fields of knowledge (BARRE, 1997; VELHO, 1986). More recently, the necessity of the regional indicators began to be evident (SPINAK, 1998). In this sense, this research studies the profile of scientific communication in the Social Communication field in Brazil.

Methodology

The citation data was extracted from 100 dissertations approved between 1998 and 2000 in three different postgraduate programs in Communication in South Brazil: Universidade Federal do Rio Grande do Sul (PPGCOM/UFRGS), Pontifícia Universidade Católica do Rio Grande do Sul (PPGCOM/PUCRS) and the Universidade do Vale do Rio dos Sinos (PPGCOM/UNISINOS). The whole group of dissertations defended during the period was analyzed, except for one text that could not be obtained. Data has been extracted from the reference section in the texts, tabulated and analyzed in a database created in the software Statistics Packet for Social Science (SPSS) version 13.0. Network analysis and visualization were made by the softwares UCINET version 6.142 (BORGATTI & EVERETT & FREEMAN, 2002) and Netdraw, respectively. Citation frequency was analyzed using the computer program LOTKA 1.02 (ROUSSEAU & ROUSSEAU, 2000). After the quantitative analysis, interviews were carried out with advisors involved in the dissertations in study. Seven professors, who were considered influential or related to the results of this study, therefore being able to explain them, were interviewed. The reports were analyzed and they were incorporated to the data discussion.

Data analysis

The data collected resulted in 7,648 citations. The citation analysis shows a high incidence of citations to books and chapters of books (72.5%), what brings into evidence the predominance of this kind of document in the grey literature of

Communication field in Brazil. Papers from national and international journals were responsible for only 7.8% of citations, almost the same amount represented by newspaper and magazine articles (7%). Personal communication, interview and lecture took up 2.2% of citations. Portuguese was the predominant language in the citations (76.1%). English was found to be the second most cited language (9.8%), followed by Spanish (9.6%) and French (2.5%). However, this result does not indicate that the majority of texts were from Brazilian authors, but yet that translated texts, mainly from French are used a lot. The distribution of citations by date of publication revealed that the majority of cited documents were published in the 90's (60.4%). However, we found that classic authors are the majority of the core of most cited authors, which reinforces the idea that most of the cited work consists of translations or reedited material, not originals. Five national journals, two Latin-American journals, a Spanish journal and a British journal can be found amongst the most cited journals. A total of 3,435 authors were cited. The results show the lack of a concise group of authors who are strongly cited, since 32% of authors were cited only once. The most cited author, the Italian Umberto Eco was cited 83 times, representing only 1.1% of the total citations. The citation frequency observed follows a power law distribution ($R^2=0.9853$) and fits Lotka's Law. When data about citation per author was tested using LOTKA program the result obtained was $C = 0.7116$ and $\beta = 2.3531$, and the maximum deviation is 0.0049, leading to the acceptance of the Lotka's Law (1%, critical value=0.0278, max D=0.0049; 5%, critical value=0.0232, max D=0.0049; 10%, critical value=0.0208, max D=0.0049). In order to prove the existence of a relationship between the cited authors and the three postgraduate programs, we proceeded to a correspondence analysis with the core of authors cited 20 times or more. The independence hypothesis was rejected with a sig .000. The social network analysis - SNA - provides an illustration of this relationship (Figure 1). During the interview with advisors they were asked about the possible relationship between the

postgraduate program and specific authors. One of the advisors states the existence of a relationship between the most cited authors in the dissertations and programs, in the scope of visiting professor contracts and also in technical collaboration, co-authorship of books between author being cited and

advisors, and so on. Case and Higgins (2000) have already mentioned these trends in Communication, showing that the advisors are prone to have previously worked with cited authors or even have a friendship with them.

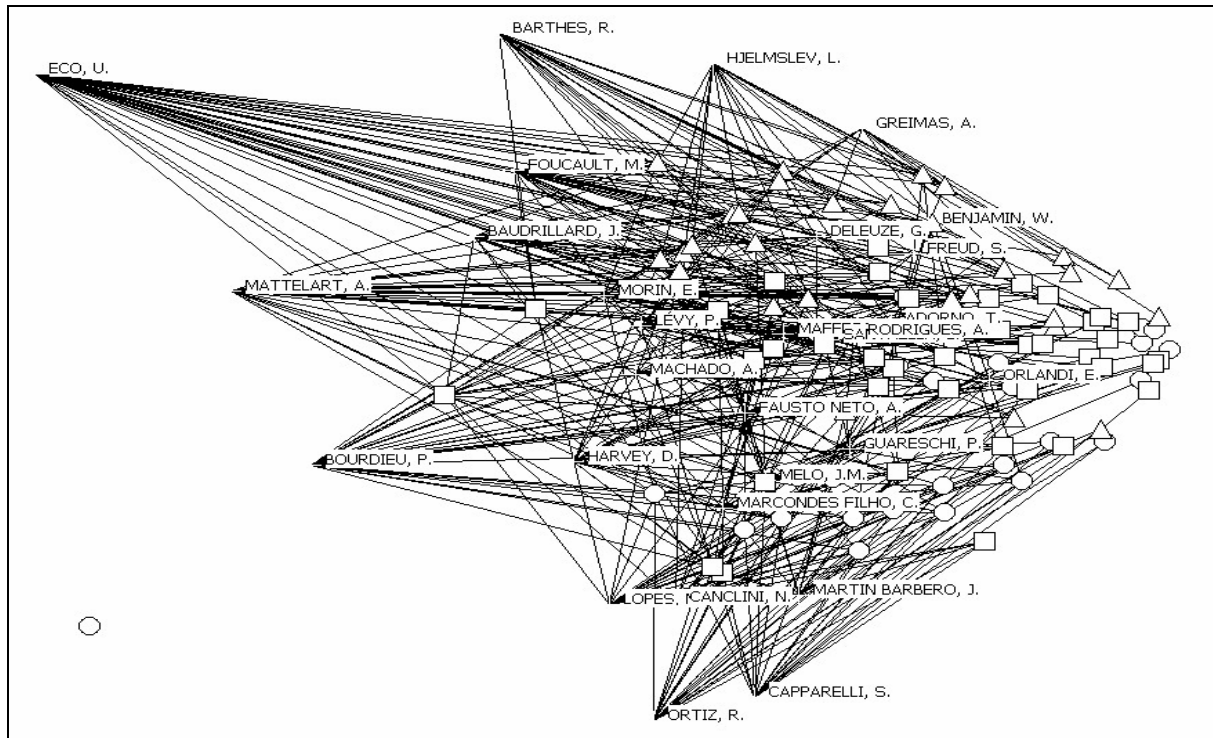


Figure 1: Citation network of the cited authors and the three postgraduate programs: PPGCOM/UFRGS (O), PPGCOM/PUC (□) e PPGCOM/UNISINOS (Δ)

Conclusion

The analyses carried on show a high incidence of citations to books and chapters of books (72.5%). Portuguese was the predominant language in the citations (76.1%), showing the preference for translations into the native language. The distribution of citations by date of publication revealed that the documents were published in the 90's (60.4%). The bibliometrics and network analysis applied indicated the relationship between the cited author and the three postgraduate programs. The frequency of cited authors followed a power low distribution and fitted the Lotka's Law. The advisors interviewed recognize the lack of a theoretic *corpus* of its own. However, the studies about the literature used in Brazilian national publications is still in its beginning and, citation studies allow us to know and monitor the authors who are cited in the period of theoretical formation in which Communication is found to be. It is necessary that the field sheds knowledge on itself in order to make decisions, and, if that is the case, decide to change its course.

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