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Three Decades of Spanish Communication Research: Towards Legal Age

Tres décadas de investigación española en comunicación: hacia la mayoría de edad

ABSTRACT
This paper analyses the evolution of Spanish communication research published as scientific articles between 1980 and 2010. It quantifies the volume of this production with two different samples: the first sample includes national journals and offers original and unprecedented data; the second one includes international journals, defined as those indexed by the Web of Science. As a whole, more than 6,000 articles were analysed. Additionally, the collaboration patterns in authorship and internationality were also studied. On the one hand, collaboration was measured through indicators of multiple authorship and the evolution of co-authorship indexes. On the other hand, internationality was measured through the share of Spanish authors in international journals, the weight of international collaborations and the language used in national journals. Data obtained illustrate a growth and maturity process of communication as a scientific discipline: at the end of the period analysed, a tension between growing collaboration and internationalization and traditional publication patterns was found. Through the period studied, the birth of new faculties with communication studies and the growing number of journals have feed the own growth of the number of articles. However, other elements such as scientific assessment have also played a role in the internationalization of authors. As a whole, this article offers a first image of the evolution of communication as an academic discipline in Spain.

RESUMEN
Este artículo analiza la evolución de la investigación española en comunicación publicada en forma de artículos científicos entre 1980 y 2010. Cuantifica este volumen de producción con dos muestras de revistas, una del ámbito nacional que aporta datos originales e inéditos hasta ahora y otra internacional a partir de Web of Science. En total, se analizan más de 6.000 artículos, estudiando las pautas de colaboración en la autoría y las de internacionalidad. Para las primeras, mediante el peso de la autoría múltiple y la evolución de los índices de coautoría. Para las segundas, mediante el peso de los autores españoles en las revistas internacionales, el volumen de colaboraciones internacionales y el idioma empleado en las revistas españolas. Los datos obtenidos muestran un proceso de crecimiento y madurez de la comunicación como disciplina científica que al final del período analizado se debate entre las tendencias crecientes a la colaboración y la internacionalización y los patrones más tradicionales de comunicación científica. A lo largo del período, el crecimiento de las facultades de comunicación y del número de revistas ha retroalimentado el propio incremento en el número de artículos. No obstante, otros elementos como la evaluación científica también han impulsado la internacionalización de los autores. Así, el artículo ofrece una primera imagen de la evolución de la disciplina en España.

KEYWORDS / PALABRAS CLAVE
Quantitative analysis, scientific communication, scholarly context, research, journals.
Análisis cuantitativo, comunicación científica, contexto universitario, investigación, revistas.

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1. Introduction

Communication as a scientific discipline is quite young. In Spain, for example, it has only been four decades since the first communication faculties were opened. Therefore, we lack solid longitudinal studies on its evolution, a situation exacerbated by the limitations of official statistics. At present, therefore, the construction of the history of this discipline has been based on theoretical essays (Martínez-Nicolás, 2006, 2008).

The aim of this paper is to close this gap in our knowledge of the discipline itself, by analysing the evolution of Spanish academic articles on communication. Based on this objective, four research questions are posed:

• RQ1): What is the volume of output of scientific articles by Spanish researchers in communication? To answer this question, we quantified the number of publications that included authors attached to Spanish institutions nationally and internationally since the first academic article was published. Although the results of scientific research are published and disseminated in various forms, journals have become key elements in communication and are valued as such by the various university assessment bodies. In addition, international longitudinal data is available through databases such as Web of Science (WoS), the most widely used in bibliometric studies and which includes the category «Communication» in its Social Sciences Citation Index (SSCI). Another part of the production in communication can be found in the «Film, Radio, Television» category of the Arts & Humanities Citation Index (AHCI).

• RQ2): How and to what extent does the degree of collaboration between authors vary in Spanish communication research? This question is intended to measure the level of collaboration between the Spanish authors to establish the proportion of co-authorship in the total output and how it has varied over time. The reason for this is that previous bibliometric research shows that multiple authorship tends to increase the impact of research and thus becomes synonymous with maturity (Franceschet & Constantini, 2010; Katz & Hicks, 1997; Persson, Glänzel & Danell, 2004; The Royal Society, 2011). In the case of Spain, we know that in a recent period (2007-10) there was a significant growth in collaboration in the core of leading journals in the discipline (Fernández-Quijada, 2011a); however we do not know if this applies to other journals nor whether this extends throughout the period studied here.

• RQ3): How and to what extent is Spanish research in communication internationalised? Bibliometric studies associate internationalisation with a greater impact of the research (Elsevier, 2011; Katz & Hicks, 1997), hence the international nature of the research is considered to be an asset. Specifically in communication, internationalisation has also been applied to the study of the journals. In this regard, Lauf (2005) analysed the journals in the field and drew a division between nationally and internationally-orientated journals based on two factors: an explicit statement of internationality and a high impact factor. In the specific case of Spanish journals, Fernández-Quijada (2011b) found that the internationality was limited in terms of attracting foreign authors and the publication of texts in other languages, although it was reflected in the use of bibliographic references. In any case, the trend towards the internationalisation of research illustrates the tensions between the local and the global and raises questions regarding the role of national journals (Schönbach & Lauf, 2006). From the findings of the first three research questions, a final question arises with two variants:

• RQ4a): What factors account for the variation in the output of scientific articles by Spanish researchers in communication? RQ4b): What factors account for the variation in co-authorship and the internationalisation of Spanish research in communication? Science as a social system is determined by a number of internal and external factors which influence the productive behaviour of the authors. Based on this premise and the existing literature, this research analysed factors that could explain the growth in and internationalisation of communication research. Önder, Sevkli, Altinok and Tavukçuoğlu (2008) found that the increasing internationalisation of Turkish research was due to the model of academic promotion, increased funding for research and an explicit goal of internationalisation understood in the Western (i.e. Anglo-Saxon) sense. In the Spanish case, the increase in productivity is explained by the growing international academic networks in which the academics are involved, the availability of additional human and financial resources and a new culture of assessment (Jiménez, Moya & Delgado, 2003).

2. Material and method

The longitudinal intention of this study is shown by the chosen period of the analysis, from 1980 to 2010. 1980 was chosen as the starting year because in that year the first issue of «Anàlisi» was published; this is the first communication journal published in Spain, which is still active today. The analysis finishes in

2010 in order to trace the development over three whole decades, a period that corresponds to the establishment of the studies in this discipline in Spain: whereas in 1980 there were only three universities offering communication studies, in that decade its rapid expansion in multiple universities began, and by 2010 communication courses could be taken in 50 centres across the country. The creation of educational structures requires the recruitment of teachers, who by law in Spain have to carry out both teaching and research work. The academic promotion of this staff is also largely dependent on their research work and, within this, on publication in academic journals. Hence also the importance of the chosen subject-matter of the study.

For journals published in Spain, we used those that appeared in DICE, the most extensive national bibliographic database. Additionally, DICE is used by various university evaluation bodies to determine the formal quality of national journals. On this basis, on 1 January 2013, there were a total of 45 journals indexed in the subject areas of Journalism and Audiovisual Communication and Advertising, the two areas making up the communication discipline. For this research, «Ad comunica» and «Revista de comunicación y salud» were discarded, since they were first published in 2011, after the period studied. The study therefore used 43 publications[1]. These journals published 9,240 articles during the period analysed, of which 5,783 were signed by at least one author attached to a Spanish institution. Foreign authors signed 1,907 articles, while in 1,624 cases there was no or insufficient indication of authorship to be assigned to a specific country. This lack of data is concentrated proportionally at the beginning of the period analysed, so the findings for this period are limited. Electronic and printed editions were assimilated as a single publication even though each had their own ISSN. Issues of journals relating to months between two years were assigned to the first of the years. From the general structure of articles, we selected only those that could be considered minimally scientific, excluding texts that did not fit with this premise, such as interviews, manifestos or scripts, as well as reviews and editorials or presentations of special issues or sections. Having made the selection of articles, we proceeded to extract them from the original texts in a database created ad hoc, using descriptive variables relating to the year of publication, the issue of the journal, title, language, number of authors, institutional affiliation and country of origin.

The selection of articles from international journals was carried out based on those included in the «Communication» categories of the SSCI and «Film, Radio, Television» of AHCI. In total, 296 articles included at least one author affiliated to a Spanish institution. From this list, the Spanish journals which formed part of these indexes during this period («Círculo de Lingüística aplicada a la Comunicación», «Comunicar», «Comunicación y Sociedad», «Estudios sobre el Mensaje Periodístico», «Historia y Comunicación Social» and «L'Atalante») were excluded, as these are already included in the sample of national journals, and have a publication pattern which is more defined by nationality than by membership of WoS. Thus, the type of authorship, the number of authors per article, their institutional affiliation, the number of references per article and the journals cited show a high degree of commonality with other Spanish journals, differentiated from the patterns shown by the WoS Anglo-saxon journals (Fernández-Quijada, Masip & Ber-

> In fact, the increase in the number of publications and the acceleration of this growth in recent years itself would seem to indicate that the discipline has not yet reached maturity. However, other signs such as the increased co-authorship index or the various aspects of the incipient internationalisation do point to a qualitative change in line with the internationally accepted standards of maturity of scientific disciplines. This conflicting evidence may indicate a time of change within the discipline, with a division between authors who are committed to collaboration and internationalisation and those who still follow traditional patterns of publication.

gillos, 2013). Moreover, historically they have shared the same context as agents of the discipline in Spain. In this case, the articles were recovered automatically using the Web of Science export facility, and the database was normalised using the same parameters as the national articles database.

To analyse the internationality of scientific production, three different indicators were applied. The first indicator examines the evolution of the papers published in international journals. A second indicator measures the co-authorship of Spanish researchers with authors from institutions in other countries, in relation to articles published in both national and international journals. The third indicator relates to the language used in national journals. The study by González, Valderrama and Aleixandre (2012) presents an analysis similar to the one proposed in this paper, applied in this case to the Spanish research in science and technology. It uses the same type of indicators as employed here, such as participation in scientific publications included in major international databases and the analysis of papers signed in collaboration with other countries.

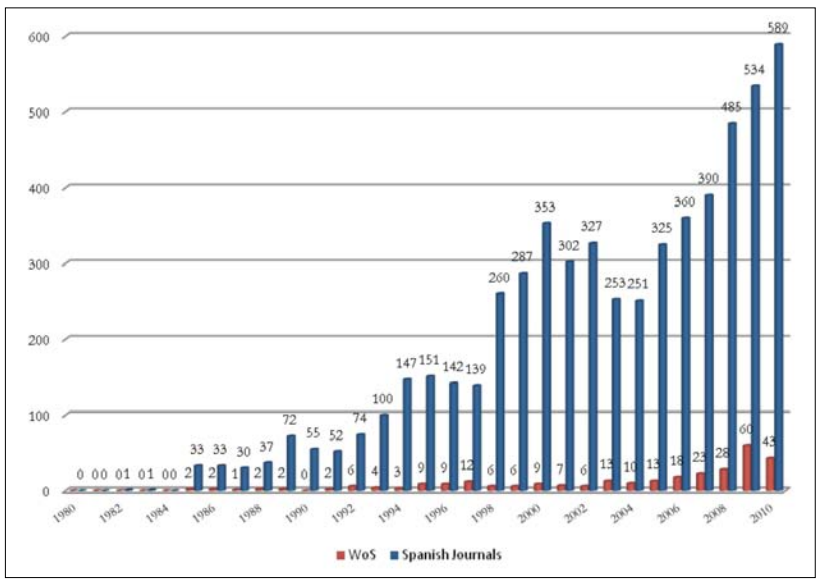

Figure 1. Number of articles by Spanish authors in communication journals (1980-2010).

3. Analysis and findings

The findings are presented in large groups that relate to the first three research questions: firstly, the volume of production and authorship, secondly, the information relating to collaboration, and lastly, internationalisation.

3.1. Production

The volume of Spanish production in communication published in national journals underwent a progressive increase between 1980 and 2010 (Figure 1). In the early years the numbers are very low, both due to it being a period of few publications and because journals did not specify the institutional affiliation of the authors. Later, there is a gradual increase, while significant jumps occur in specific years such as 1998, 2000, 2005 or the last three years. The last five years are particularly significant given that after 2005 there is a constant increase, which even accelerates from 2008. For example, in just four years, from 2004 to 2008, production almost doubled. And in 2010, the last year analysed, the figures are equivalent to one tenth of the total accumulated production over the three decades studied.

Internationally, during the period analysed, Spanish researchers published a total of 296 articles in the journals indexed in SSCI and AHCI. Of these, 274 are within the «Communication» section of the SSCI and 23 in the «Film, Radio, Television» section of AHCI (one article appears in both categories). The first Spanish article in these databases does not appear until 1985. From that time there is a permanent Spanish presence (except in 1990), although the figures are merely token. This trend changes drastically in the last five years (2006-2010), in which almost 60% of the Spanish production is concentrated and culminates an upward trend which had already begun in the first years of the 21st century.

Although the addition of new publications in the «Communication» category could explain this increase, the analysis of the figures allows us to rule out that effect. The increase in the Spanish production accelerates above the average from 2005, intensifying its development and its international importance.

3.2. Authorship

One aspect of authorship that also shows its evolution is the co-authorship index, i.e. the average num-

ber of authors who sign each article. Over the period analysed, the co-authorship index also increases for the articles published in Spanish journals, from 1.00 in the early years to 1.46 in 2010, reaching its highest point. The anomaly of 1985, with an index of 1.27 which is only exceeded from 2008, is due to the limited availability of data, given that this figure is based on a single journal. The fluctuations of the period seem to be overcome by 2006, the year in which growth becomes constant.

Among the sample of international journals, the co-authorship index reaches 2.76 and by 2010 rises to 3.23, more than double that of Spanish journals. Over the years analysed no significant differences were observed, except for 2001 and 2003, which showed co-authorship rates well above average. This anomaly is explained by the low level of production that coincides with work signed by multiple authors. In those years there were papers attributed to 26, 23 and 17 researchers. In general, the increase in the volume of articles in recent years helps to stabilise the data and makes it more reliable, not being dependent on fluctuations due to specific articles with high levels of co-authorship.

In articles published in Spanish journals, single authorship is the predominant form (Figure 2). Over the last five years, however, there is a slight change in the patterns of type of authorship in Spain for over 30 years, with collective authorship amounting to almost a third of all articles.

In contrast, joint authorship is predominant in the international journals during most of the period of analysis and grows steadily from the last few years of the last century, although the increase is particularly marked after 2000 (Figure 3). Over these three decades, it amounts to 63% of total authorship. Despite the high international co-authorship, it is worth noting the different behaviour of the authors according to the areas of publication. Among international journals, all the articles published in the journals in the «Film, Radio, Television» section of AHCI are signed by a single author, with the exception of a paper published in a journal that was also included in the «Communication» category of the SSCI.

3.3. Internationalisation

International collaboration in national journals is a phenomenon of the last few years of the period analysed. After a first example in 1985, the next case of this is in 1994, and then in 1998, after which it is always present and increases to 12 collaborations in 2010, just a year after the maximum of 11 in 2009. Over the three decades, 66 collaborations between Spanish and foreign authors are identified, only 1.1% of the total articles attributed to Spanish authors.

International collaboration is common among Spanish authors who publish in WoS journals: it accounts for over 45% of the joint contributions. In absolute terms, international collaborations are limited and fluctuate until 2005. After that date, there is a clear upward trend, especially evident in the last two years. Despite these figures, a more detailed analysis enables us to detect that in relative terms the incidence of international collaboration declines in importance. Whereas for years the limited Spanish presence in major communication journals was in conjunction with foreign researchers, especially Anglo-Saxons, from the beginning of 2000 they have increased autonomy, and the percentage number of articles of Spanish researchers in collaboration with Spanish colleagues increases.

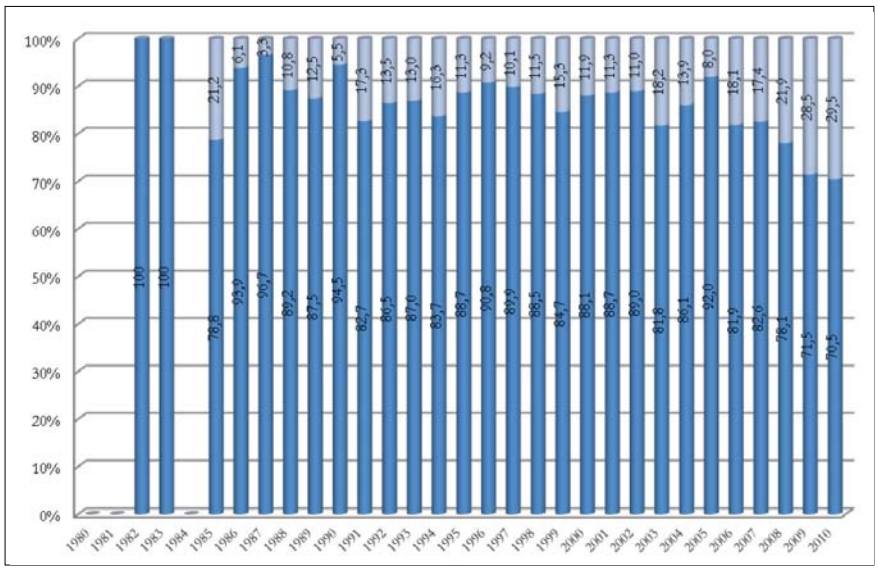

Figure 2. Development in the type of authorship in Spanish journals (%).

Logically, some countries are favoured over others in this international collabo-

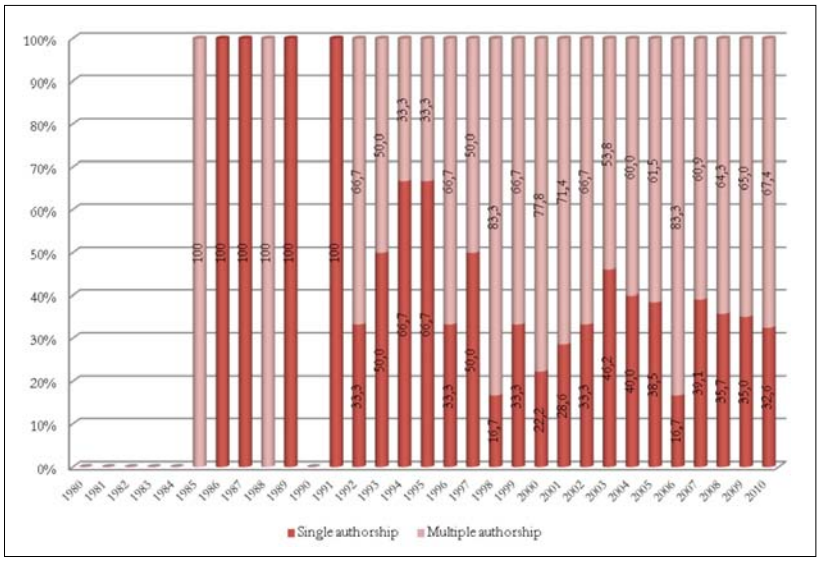

Figure 3. Changes in the type of authorship in international journals (%).

ration, with a total of 20 countries involved in the case of articles published in national journals. In this regard, the data show a clear preference for cooperation with Latin American countries, which account for two thirds of the co-authorships. The list is led by Brazil, Mexico, Peru and Argentina. In fifth place are the first countries outside this geopolitical region, the US and the UK. Overall, Europe accounts for only one-sixth of total contributions whereas if the Anglo-Saxon countries are grouped, the figure is one fifth.

International collaboration in WoS journals is spread over 39 countries, although most of the research work is signed by US and UK researchers; the two countries together represent over 40% of international cooperation. Some distance away are the Netherlands, Italy and Ireland, which have ten, seven and five papers signed with Spanish researchers respectively. The prevalence of joint work with the US, UK and the Netherlands can be considered logical given that these countries are the leaders in global output in communication. The close relationship with Ireland and Italy must be attributed to other factors, such as the specific participation in international projects in which researchers from those countries take part.

Contrary to the situation for national journals, collaboration with Latin American countries is limited. Over the 30 years analysed, only 13 joint projects were published with 14 different authors, which involved researchers from seven countries: Brazil, Argentina, Chile, Peru, Mexico, Bolivia and Venezuela. This represents 9.5% of the total international collaboration.

The last internationalisation factor considered was language. Many Spanish journals allow authors to submit their texts in various Romance languages and almost all of them also accept English. The data, however, show a predominance of Spanish, the language used in 92.1% of the articles published by Spanish authors. The other official languages of Spain account for another 6.7%, almost entirely attributable to Catalan. Thus the group of official languages of Spain is used in 98.8% of the articles published by Spanish authors in the country's journals. Of the remainder, 1% relates to English, 0.1% to each of Portuguese and French and, lastly, Italian does not even amount to a tenth. The year with the greatest use of foreign languages was 2002, when it represented 2.4% of the total.

4. Discussion and conclusions

This article analyses the changes in Spanish research in communication throughout its three decades of consolidation as a university discipline. The longitudinal nature of the study enables us to detect significant changes over the period which confirm the rapid path towards the coming of age as a scientific discipline.

In relation to the first question posed, we observe that the volume of published articles constantly increases, especially significantly after the turn of century. Although this increase is observed both in articles published in international journals and in Spanish journals, the patterns are slightly different. In the case of production in Spanish journals, the increase has taken place especially since 1998, and coincides with the proliferation of new journals. In terms of production in international journals, the increase is equally evident and, although somewhat later, has led to Spain being positioned among the leading European countries. In 2009, Spain had become the fourth European country in volume of output (Masip, 2010, 2011a, 2011b), only behind the United Kingdom, the Netherlands and Germany, moving up four positions from the period 1994-2004 (Masip, 2005). This jump is in line with other areas of Spanish science (González, Valderrama & Aleixandre, 2012; Jiménez, Faba & Moya, 2001),

although the reasons, as discussed below, vary.

The second research question was aimed at identifying the forms of authorship and collaboration followed by Spanish researchers. In this case, the patterns observed are diametrically different depending on the nature of the journals in which they are published. Thus, while in Spanish journals individual authorship predominates, averaging 83% over the 30 years of analysis, when Spanish researchers publish in international journals they tend to do so with other colleagues, multiple authorship reaching 63.2%. This indicator is reinforced by the co-authorship index figures, which in the case of Spanish journals is 1.24, much lower than the figure of 2.76 for international journals.

The third research question focused on the internationalisation of Spanish research. Of the three indicators analysed, different patterns again emerged, confirming previous research (Fernández-Quijada, Masip & Bergillos, 2013). In Spanish journals, there is a token internationalisation, 66 articles in collaboration with foreign researchers in three decades. Although in recent years this form of cooperation has increased slightly (more than 50% were in the last five years), the numbers are still very small. The absolute dominance of Spanish as the usual language in national journals also explains the limited international collaboration with Latin American researchers.

These data contrast with those offered by researchers who publish in WoS journals. Collaboration is the norm and international collaboration, almost as widespread as the collaboration between Spanish researchers, accounts for 45% of the joint contributions. There are also differences regarding with whom they publish. Cooperation with Anglo-Saxon countries is usual, whereas with Latin America cooperation is little more than symbolic.

The fourth question, with its two variants, opens the door to future research of an explanatory nature that allows a deeper causal analysis to be carried out. The data presented in this article merit greater discussion which would go beyond the scope of this paper. However, we offer some pointers as to possible lines of work.

Firstly, there is a clear correlation between the increase in research published in scientific articles and the increase in the number of researchers. The first communication faculties opened in the early 1970s. The Complutense University of Madrid, the University of Navarra and the Autonomous University of Barcelona took up the baton from the former «Escuelas oficiales», which had previously undertaken the training of journalists, advertising and audiovisual professionals. Since then, the number of schools offering communication studies has grown steadily (Figure 4). According to data collected in the «Libro Blanco de los Títulos de Grado de Comunicación» (White Paper on Degrees in Communication) (ANECA, 2005), in 2003, the year in which the report was issued, there were 40 faculties of communication, which have proliferated especially since the nineties. At present, according to the registry of qualifications of the Ministry of Education, Culture and Sport, as many as 50 Spanish universities offer at least one degree in the field of communication science.

To meet the growing demand, a substantial community of teachers has grown up, who carry out important teaching but also research activity. Although there are no reliable recent official data, the figures provided in the «Libro Blanco de los Títulos de Grado de Comunicación» enable us to state that the number of lecturers is well over 2,000. Although undoubtedly the increased critical mass affects the increase in output, it should be noted that the group that has had the

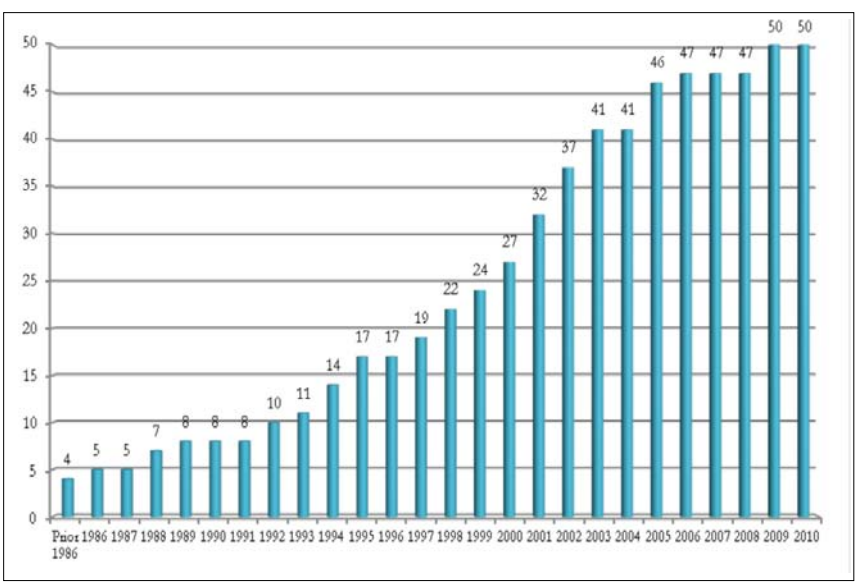

Figure 4. Universities that offer at least one degree in communication.

greatest growth in recent years is that of associate professor, which corresponds to the profile of a part-time teacher who, in principle, has no obligation to carry out research.

Another relevant factor is the presence of the scientific journals in which the articles are published. Throughout the period new publications start up and die. From the original «Anàlisi» in 1980, 43 journals were started up and five were discontinued. However, irregularity in the frequency of appearance is fairly common, with gaps of up to 12 years in some cases. It is for this reason that we have chosen to count the active journals, meaning those which published at least one article in any given year. This number allows us to have a permanent vision over the period of the journals available to publish the research in communication (Figure 5). In the early years, the availability of journals is very limited. It is not until the 1990s that a more or less constant growth starts, with some peaks and troughs, to reach its peak in 2010, the last year of the series, in which the number increased from 29 to 38 journals.

There has been a remarkable development in scientific publishing during the period analysed. In this sense, the first contribution of this paper is to quantify the production in scientific journals for the short history of communication as a scientific discipline. Progress has also been made qualitatively, developing a proper sense of a scientific journal that did not exist at the beginning of the period, in which academic and professional journal were used as synonyms (Caffarel, Domínguez & Romano, 1989).

Furthermore, this significant increase in the volume of publications has led some writers to label it disparagingly as publicacionitis, which we can equate to the English «publish or perish», in an academic environment that rewards volume above excellence (Perceval & Fornieles, 2008; Sabés & Perceval, 2009). In fact, the increase in the number of publications and the acceleration of this growth in recent years itself would seem to indicate that the discipline has not yet reached maturity. However, other signs such as the increased co-authorship index or the various aspects of the incipient internationalisation do point to a qualitative change in line with the internationally accepted standards of maturity of scientific disciplines. This conflicting evidence may indicate a time of change within the discipline, with a division between authors who are committed to collaboration and internationalisation and those who still follow traditional patterns of publication.

Based on the examples provided by the literature on the subject and data previously noted, it seems clear that there is a feedback between the emergence of new faculties of communication (and the expansion of the courses offered within them), with its critical mass of researchers, and their output. We can also point tentatively to the incentives for financial promotion (six-year periods of research), academic promotion (accreditation) and prestige and recognition as causes of the increased output.

While the impact of financial incentives on this increase in production has been noted in other disciplines (Jiménez, Moya & Delgado, 2003), this «CNEAI effect» does not seem to occur in communication, at least in the early years of its start-up (1989), as no significant increase in production is observed in subsequent years. However, the significant growth in production and the internationalisation of Spanish research in communication does coincide in time with the start-up of the national assessment agency, ANECA. The agency was created in 2002 and lays down more precise evaluation criteria, that favour publication in scientific journals above that in monographs, a very common type of publication in the discipline.

The publication and internalisation of these criteria and the resulting need to standardise scientific production to that conventionally accepted by the assessment institutions would have swung the type of production to articles, in what has

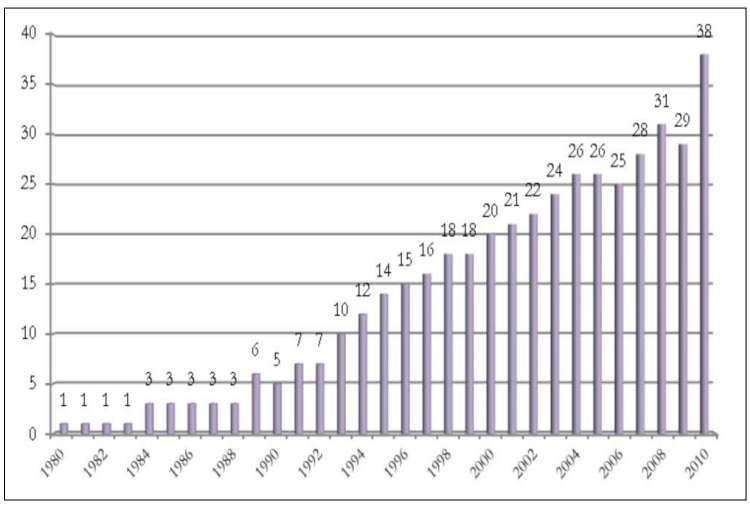

Figure 5. Active national communication journals.

been called «ANECA effect» (Soriano, 2008). Accepting this premise, we believe that the data show that this effect would occur in two stages: firstly, an increase in the volume published in national journals, and the consequent emergence of new publications in which to publish, and secondly, a growth in the volume of publication in international journals, another criterion usually considered for quality and applied in teacher assessments.

With regard to other disciplines, this internationalisation is still limited, although Spain is well-positioned in the European context. Maintaining this position will require positioning in projects at a European level, of which there are currently very few, and internationalising the results of national projects, which, although they have increased in recent years, have to date only seemed to be reflected in national publications.

Notes

[1] Some issues could not be located in electronic or printed format and were excluded from the sample. Specifically, numbers 7 of «Revista de Ciencias de la Información», 35 of «Revista Latina de Comunicación Social» (2000), 0-3 of «Revista Universitaria de Publicidad y Relaciones Públicas» (1990-93) and 47 of «Telos» (1996) were not included. The extra issues published without the sequential numbering have also not been included. The number of articles analysed per journal may be viewed in the attached document.

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