

Chapter #15

CHARACTERIZATION OF THE “EDUCATION & EDUCATION RESEARCH” JOURNALS INCLUDED IN THE JOURNAL CITATION REPORTS (JCR)

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ABSTRACT

The evaluation of the quality of scientific journals is a topical issue. The implementation of an evaluation policy based on international indicators has contributed to improving the quality and visibility of journals from different countries, measured through their indexing in the Journal Citation Reports (JCR) databases. Currently, in some countries, such as Spain, the main criterion used to evaluate the performance of individuals, institutions or research groups is the number of publications made, especially in high impact journals in the JCR. However, the adoption of international evaluation criteria based on the JCR has been the subject of numerous criticisms by researchers, who are forced to send their research papers to foreign journals to the detriment of the journals of their own country, since in order to obtain a positive evaluation it is fundamental to publish in high demand journals, mainly published in English. In this competitive environment, where the pressure to publish in quality journals is a reality, it is useful to know the profile of the journals of your specialty in order to be able to select the one that is most appropriate for the dissemination of your own work.

Keywords: education journals, scientific journals, impact factor, JCR, bibliometrics.

1. INTRODUCTION

Contemporary science needs powerful communication tools to fulfil its functions of universalization, updating and certification of knowledge (Villamón, Devís, & Valenciano, 2005). Scientific publications are the main vehicle for the dissemination of science and play a fundamental role in the different stages of research activity. Its study and evaluation allows to obtain data of great value that, applied to countries, institutions, geographical communities, etc., and make it possible for decision-making in scientific polity to be made with greater objectivity. For this reason, the use of bibliometric indicators, which quantify and analyse research through scientific publications, has experienced a great boom (Claudio-González, Martín-Baranera, & Villaroya, 2017). These indicators are currently an objective and effective method for analysing the activity of scientific communities in a specific country, region or institutional sector. They also allow obtaining valuable information about the structure of the different areas or scientific disciplines, as well as analysing their evolution over time. However, not all journals reflect the same prestige, professionalism, respectability, specialization, universality and transcendence. For that reason, it is not possible for every publication to have the same curricular value. Therefore, it is necessary to establish criteria that allow for the elaboration of a hierarchy or classification to mediate the quality of the various publications.

The institutional pressure exerted on the group of researchers for their promotion and consolidation increases the need to have widely disseminated and recognized scientific journals for the valuation of their contributions. Not all scientific journals have the same relevance as a means to disseminate research production. Researchers tend to select those journals that allow them greater opportunities for professional growth and recognition, make their work more accessible and, therefore, have greater guarantees that their articles can have an impact on the scientific community (Molina, Gómez, Cañadas, Gallardo, & Lupianez, 2011). Every community requires a means of expression through which it registers, transmits and exchanges experiences among its own members and those of other groups. The scientific community, as evidenced by the development of the first scientific journals in the seventeenth century, is no stranger to this situation. Scientific culture cannot exist outside scientific publications, but not all have the same prestige and degree of influence in the scientific community. Its recognition depends to a large extent on its quality and visibility (Osca-Lluch, González-Sala, Fonseca, & Civera, 2017).

Studies on publications frequently use the Web of Science, a multidisciplinary database suitable to analyse science in its most international aspect, since it covers a selection of journals that meet quality criteria and international interest. The current system of evaluation of the scientific activity of some countries, consists in the recognition of publication in journals indexed in the databases of the Web of Science (WoS) that currently belongs to the Clarivate Analytics company and, especially, those included in the Journal Citation Reports (JCR), which constitute one of the most influential and prestigious resources on an international scale. The special relevance of this product is not exempt from criticisms that question some of its shortcomings or the Anglo-Saxon bias of the selection of journals that are considered as data sources, therefore, in recent years, the most developed Ibero-American countries have led to rigorous policies to promote national publications of higher quality (García-Pereira & Quevedo-Blasco, 2015; Quevedo-Blasco & López-López, 2011).

The evaluation of scientific journals with bibliometric indicators has been dominated by the impact factor. Since its launch in the early seventies, the impact factor has been an indicator that has been criticized as a determining factor in the processes of scientific evaluation (Garfield, 1972; Jacsó, 2009; Saha, Saint, & Christakis, 2003; Torres-Salinas & Gimenez-Contreras, 2010). In some countries, such as Spain, for most evaluators there seems to be only one star indicator, the impact factor, which is published annually in the JCR (Quintas-Froufe, 2016) and, for this reason, for some researchers, one of the most important criteria when choosing a journal to publish a work is its impact factor. In this way, we do not choose the publication that will divulge our work among experts in the field, but we choose the option that will have the most favourable impact on promotion and professional recognition.

The objective of this work is to carry out a bibliometric analysis of the education journals included in the “Education & Education Research” thematic category of the JCR database, in order to know the countries that lead the publications in this discipline, their position, language of publication and its relationship with other related disciplines.

2. METHODOLOGY

The 236 journals (see annex) included in the “Education & Education Research” category of the 2016 JCR (corresponding to the 2017 edition) were analysed. It is a descriptive study through document analysis. In the study, the educational journals were analysed and compared, collecting all the data referring to title, country of publication,

language of publication, publishing institution, quartile, thematic area in a database designed ad hoc for this work. For this statistical calculation, the Excel program was used and the Pakej and UCINET programs were used to create the network graphic.

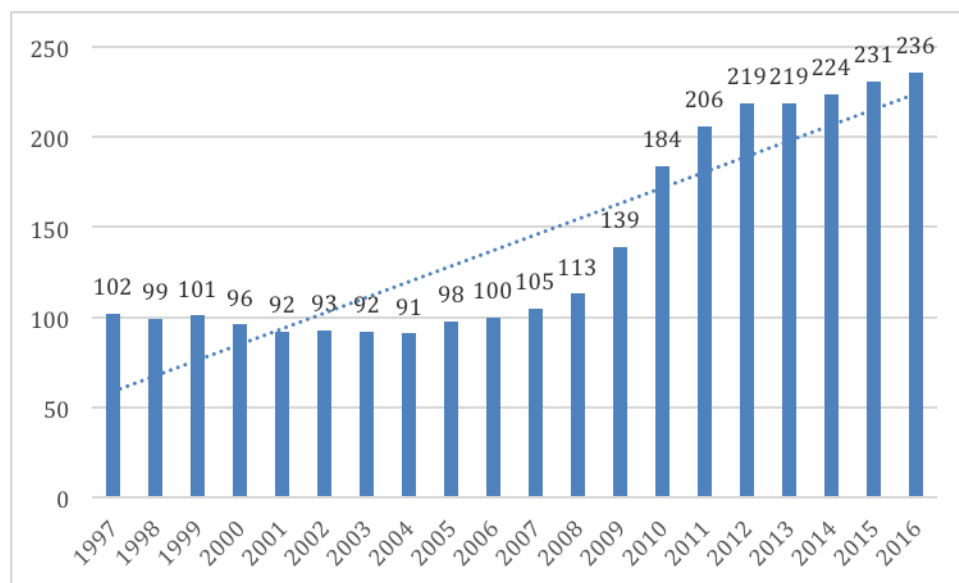
3. RESULTS

The results obtained from the bibliometric analysis of the 236 journals analysed are shown.

3.1. Temporary evolution of the journals in the “Education & Educational Research” category of the JCR

The current number of education journals included in the “Education & Educational Research” category of the JCR Social Sciences edition database is 236. As can be seen in figure 1, the presence of education journals included in this thematic category has grown considerably over the years. The increase in the number of education journals in 2016 compared to 1997 is 131 per cent.

Figure 1.
Evolution of the number of journals.



3.2. Countries where journals are published

When analysing the countries of edition of the journals included in the thematic category under study, it can be seen that they are edited by 18 countries, being USA and UK, the countries that have indexed a greater number of journals, 89 and 88 respectively. These two countries represent 75% of all journals included in this thematic category. Other countries that stand out for having a greater number of journals are the Netherlands, Australia and Spain.

Table 1.
Distribution of the number of journals by country.

Countries	Number of journals	%
Australia	8	3,39
Belgium	1	0,42
Brazil	1	0,42
Canada	1	0,42
Croatia	1	0,42
Germany	5	2,12
Italy	1	0,42
Lithuania	1	0,42
Mexico	1	0,42
Netherlands	18	7,63
New Zealand	4	1,69
Philippines	1	0,42
South Africa	4	1,69
South Korea	2	0,84
Spain	7	2,97
Turkey	3	1,27
United Kingdom	88	37,29
United States	89	37,71
Total journals	236	100,00

3.3. The publication languages

It is observed that more than 94% of the journals use English as the language of publication. The other languages used by the journals analysed to publish their works are German (3 journals), Spanish (2 journals), Croatian (1 journal), Italian (1 journal) and Turkish (1 journal). There are 5 journals (2.12%) that use several languages to publish their work (multi-lingual), being in these cases, the publication of works in English and Spanish.

3.4. Publishing institutions

An aspect of particular importance is to know the weight that the different publishing entities of the journals have. For the study of the scientific activity of institutions, at a general level, the centres were grouped in the following types: Universities, Commercial Publishers, Professional Foundations and Associations and Others. Most of the journals included in the thematic category “Education & Educational Research” of the JCR, are edited by Commercial Publishers (78.39%) and Universities (12.29%). The other two sectors responsible for the publication of journals are the Professional Foundations and Associations (5.08%) and the Other sector (4.24%).

3.5. Distribution of the number of journals by countries and quartiles

One of the most important criteria when choosing a journal to publish a work is its impact factor. For researchers it is increasingly important to know the position of the journals of their scientific field in the JCR databases, since it is one of the criteria taken into account in many countries by the evaluation agencies of the research activity (De Filippo, Pandiella-Dominique, & Sanz-Casado, 2017) and, for this reason, a large part of the time is dedicated by researchers who are concerned in studying the impact factors and quartiles of

journals and sometimes pressured by the evaluation that will be received by the evaluation agencies, assessments that affect the researcher’s professional career.

The evaluation of scientific contributions according to location by scientific areas in the JCR, with the impact factor as a basis to know how to place the researcher in his scientific field is quite wrong, because not a high number of publications is the same quality, or that it is published in journals with a high impact factor is equivalent to a greater scientific significance (Reverter, 2012).

Table 2 shows the distribution of the number of journals indexed in the thematic category “Education & Educational Research” by countries and quartiles. The same journal can be indexed in more than one thematic category within the JCR databases and, therefore, can occupy different quartiles. In order that the distribution of the number of journals per quartile coincide with the actual number of journals, journals have been only counted once, including it in the quartile in which the journal is better positioned. It is observed that of the 18 countries that publish journals included in the “Education & Educational Research” category of the JCR, there are only 6 countries that have a journal positioned in the Quartile 1, being the UK and USA those that have a greater number of journals in this position of privilege.

*Table 2.
Distribution of the number of journals per countries and quartiles.*

Countries	Quartile 1	Quartile 2	Quartile 3	Quartile 4	Total journals
Australia		1	3	4	8
Belgium			1		1
Brazil				1	1
Canada	1				1
Croatia				1	1
Germany			3	2	5
Italy				1	1
Lithuania				1	1
Mexico			1		1
Netherlands	5	8	2	3	18
New Zealand	1	1	1	1	4
Philippines				1	1
South Africa			2	2	4
South Korea				2	2
Spain	1	1	2	3	7
Turkey			1	2	3
United Kingdom	29	17	27	15	88
United States	35	24	21	9	89
Total	72	52	64	48	236

3.6. Network analysis applied to the thematic areas of journals

In JCR databases, the same journal can be included in more than one thematic category. In order to know the relation of the journals indexed in the thematic category “Education & Educational Research” with other thematic areas of the JCR, a network

analysis has been carried out to the subjects in which the journals included in this category have been classified. The starting point of our work has been to create a matrix where all the thematic categories in which the 236 journals under study have been classified have been collected. The matrices allow collecting the data of all these cases. The matrices allow gathering the data of all these cases, however, when it comes to very large matrices it is difficult to intuit through reading a relationship. With the graphics, the opposite happens. The network graphs allow intuiting clearly the existing relationships between the actors. Network graphics have two basis elements: points and lines, which represent, respectively the actors and their relationships. In this case, the points are the thematic categories of the journals and the lines that are established between them.

Figure 2 shows the network formed with all the thematic areas in which the journals indexed in the “Education & Educational Research” category have also been classified. The total number of thematic categories of the JCR in which these journals have been included is 33. This means that journals indexed in the “Education & Educational Research” thematic area also included simultaneously in one of the other 32 thematic areas of the JCR. When looking at the graph of the network, the first thing that draws attention is that all the thematic areas are part of a single component and that the thematic areas with which there is a greater relationship is with “Psychology Educational” and “Linguistics”, this means that these are the areas in which there are a greater number of journals included simultaneously. As expected, there is a relationship with thematic categories related to education or psychology, but draws attention to the relationship with other more unexpected thematic areas, such as those related to sociology and economy, sports sciences, anthropology or criminology & penology.

Figure 2.
Network of journal thematic areas.



4. CONCLUSIONS

Scientific journals are the main vehicle for the dissemination of science. Its study and evaluation is reaching an important development in recent years in the different areas or scientific disciplines, due to the relevant role they play in the framework of scientific research, as tools that are fundamental for scientific dissemination and that, moreover, enable the advancement of knowledge and achieve scientific excellence. Scientific publications become the main requirements for academic promotion, to obtain funding through research projects or for recognition among the scientific community. Every community requires a means of expression through which it registers, transmits and exchanges experiences among its own members and those of other research groups. Its recognition depends to a large extent on its quality and visibility (Osca-Lluch, 2012).

The objectives for which a scientific journal is created and maintained are apparently the dissemination of research results within the same scientific-professional community. However, currently publication in international media has become one of the hallmarks of scientific activity and the computation of publications is used to measure the relative weight of a country or a group of countries in world scientific production for a certain discipline. The validity of the figures obtained obviously depends on the quality of the databases used and their representativeness (Callon, Courtial, & Penan, 1995). However, for some authors, the assessment of scientific contributions according to the impact of the journals where the papers have been published is quite wrong, because the fact that it is published in journals with a high impact factor is not equivalent to a greater scientific significance and, above all, when there are studies that show that most articles published in high impact factor journals do not receive too many citations among the works of other researchers, and that about 50% do not receive any (Reverter, 2012) and that can cause pathologies in researchers who, obsessed with publishing in impact factor journals, manipulate the data of their research (Buela-Casal, 2014). Still, currently, one of the most important criteria when choosing a journal to publish a work is its impact factor.

One of the conclusions drawn from this study is that it is relevant that the edition of journals included in the thematic category “Education & Educational Research” of the JCR, increases with the years, going from the 102 journals included in that category in the year 1997 to 236 that there is currently. It is observed that the increase in the number of journals takes place in 2009 (with 139 journals) and that, since then, it has not stopped growing. As expected, although there are journals that admit works in different languages, nevertheless, English is the most used language by almost all journals in this discipline, exceeding 94%. One aspect related to the publication of publications is that they are published, mainly by Commercial Publishers (78.39%) and Universities (12.29%).

Regarding the countries where the publications are published, it is noteworthy that although the journals analysed belong to 18 different countries, however, there are only 7 countries that have a journal located in privileged positions (Quartiles 1 and 2) and that two countries, the UK and USA, are those that have not only a greater number of journals indexed in this thematic category of the JCR, but also they are those that have a greater number of journals occupying the best positions, along with the Netherlands.

It is observed that the fact that the same journal can be classified in more than one thematic category in the JCR, does not imply that this journal will occupy a better position (Quartile), although it is observed that the journals that occupy a greater impact factor and, therefore, better positions are those that are related to other scientific disciplines such as “Linguistics” and “Psychology Educational”. It is important to highlight that journals are the source of information that will allow us to know the relationship between different

scientific disciplines and that the application of network analysis to the representation of the thematic areas used to classify scientific journals in different databases, can be used as a support tool for the location of journals and works that may be related to the object or subject of study and which, because they are classified in other thematic areas, could go unnoticed.

In short, education journals have a greater presence in the “Education & Education Research” category. It would be desirable that these journals not only continue to increase in number, but that the journals published in some emerging countries were increasingly accepted by the scientific community and occupy positions of privilege. The data obtained in this study show that educational journals are the most visible at the international level, however, we consider it would be interesting to analyse, in later studies, the circulation of education journals in other databases, such as Scopus, as well as the emerging education magazines included in the WoS database, which are not yet included in the JCR.

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