

Importance Of ICT Fort Social Science Teaching In Higher Education

Jacksson Yamil Montoya Asprilla

Universidad Tecnológica del Chocó, Colombia. ORCID: 0000-0001-8669-0505

Abstract

A documentary review was carried out on the production and publication of research papers concerning the study of the variable Importance of ICT in the teaching of social sciences in higher education. The purpose of the bibliometric analysis proposed in this document, is to know the main characteristics of the volume of publications registered in Scopus database during the period 2015-2020 in Latin American countries, achieving the identification of 50 publications. The information provided by this platform was organized by means of graphs and figures categorizing the information by Year of Publication, Country of Origin, Area of Knowledge and Type of Publication. Once these characteristics were described, a qualitative analysis was used to refer to the position of different authors in relation to the proposed theme. Among the main findings of this research, it is found that Brazil, with 18 publications, is the Latin American country with the highest production. The area of knowledge that made the greatest contribution to the construction of bibliographic material concerning the study on the importance of ICT in the teaching of social sciences in higher education was computer science with 25 published documents, and the type of publication that was most used during the period mentioned above was the journal article, which represents 56% of the total scientific production.

Keywords: ICT, social sciences, higher education

1. Introduction

ICT has become a very important tool in educational processes in the last 5 years, this thanks to the digital transformation that society is facing and that increasingly makes easier a lot of procedures and formalities; of course, education is part of that change, by implementing ICT as a mechanism of inclusion allowing access to education from anywhere through digital tools. ICT helps to develop technological skills in future professionals in careers related to social sciences as they implement technological sciences to these studies making them more integral professionals and with greater capabilities to

implement an interdisciplinary formation. This implementation of ICT in the teaching of social sciences can vary, as CarriónCandel(2018) considers, that ICT depends on the problems faced by each community or the area of knowledge that is being taught, taking into account that the problems in the social sciences are very changeable since there are personal, school and socio-environmental conditioning factors as general factors of learning difficulties in the Social Sciences.

The use of ICT in the teaching of social sciences helps to promote autonomous learning in which the student is no longer a spectator or just a listener, but is part of the creation of their own knowledge through autonomous work depending on the knowledge they have previously obtained, thus selecting the knowledge truly necessary for their training in the field of social sciences. Therefore, it is also important a training in technological skills for teachers to ensure the best use of these digital platforms in order to convert the role of teacher in a guide in the search for knowledge of students rather than the main source of information. From the above, it is evident the importance of ICT in the teaching of social sciences in higher education as the ideal tools for inclusion and educational innovation to transform educational processes depending on the needs that are being created in society, specifically talking about the needs created from the digital transformation in the industry thus offering more competitive professionals and according to what the labor market requests. Therefore, it is important to know in terms of bibliographic resources, the current state of research concerning the Importance of ICT in the teaching of social sciences in higher education, so it is proposed a bibliometric analysis of the scientific production registered in Scopus database during the period 2015-2020 that allows to answer the question: How has been the production and publication of research papers related to the study of the variable Importance of ICT in the teaching of social sciences in higher education during the period 2015-2020?

2. General Objective

To analyze from a bibliometric and bibliographic perspective, the production of high impact research papers on the variable The Importance of ICT in the teaching of social sciences in higher education during the period 2015-2020.

3. Methodology

Quantitative analysis of the information provided by Scopus under a bibliometric approach on the scientific production concerning the Importance of ICT in the teaching of social sciences in higher education is performed. Also, it is analyzed from a qualitative perspective, examples of some research papers published in the area of study mentioned above, from a bibliographic approach to describe the position of different authors on the proposed topic.

The search is carried out through the tool provided by Scopus and the parameters referenced in Table 1 are established.

3.1 Methodological design

	PHASE	DESCRIPTION	CLASSIFICATION
PHASE 1	DATA COLLECTION	The data collection is carried out by means of the Search tool in the Scopus web page, by means of which a total of 50 publications are identified.	Published papers whose study variables are related to the Importance of ICT in the teaching of social sciences in higher education. Research papers published during the period 2015-2020. Limited to Latin American countries. Without distinction of area of knowledge. Without distinction of type of publication.
PHASE 2	CONSTRUCTION OF ANALYSIS MATERIAL	The information identified in the previous phase is organized. The classification will be done by means of graphs, figures and tables based on data provided by Scopus.	Word Co-occurrence. Year of publication Country of origin of the publication. Area of knowledge. Type of publication
PHASE 3	DRAFTING OF THE CONCLUSIONS AND FINAL DOCUMENT	After the analysis carried out in the previous phase, the study proceeds to the drafting of the	

	conclusions and the elaboration of the final document.	
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Table 1. Methodological design.
Source: Own elaboration (2021)

4. Results

4.1 Co-occurrence of words

Figure 1 shows the co-occurrence of keywords within the publications identified in the Scopus database.

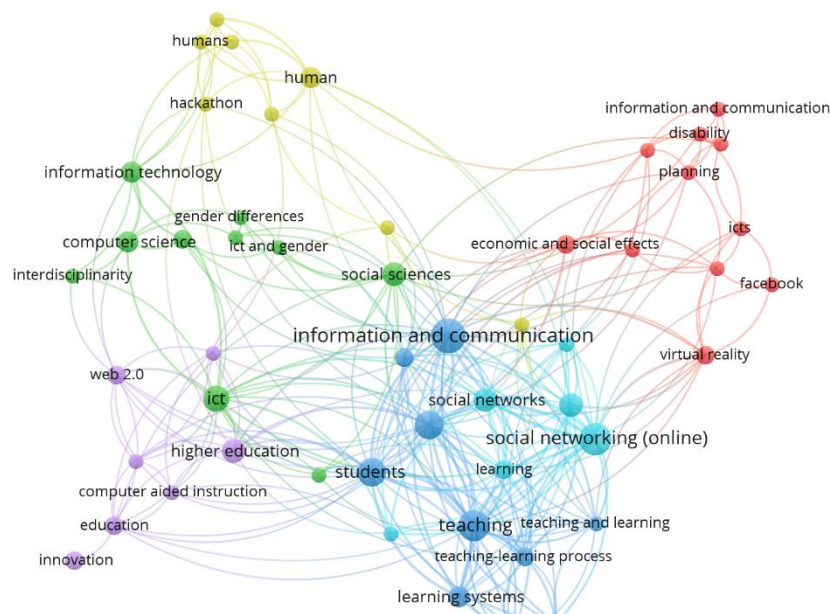


Figure 1. Co-occurrence of words
Source: Own elaboration (2021); based on data provided by Scopus.

The most used keywords are information and communication and social sciences which are the variables studied in this research, linked to keywords such as ICT higher education and learning; these are related to studies that analyze and determine educational innovations in the implementation of ICT in the teaching of social sciences and education in general. There are teaching-learning processes, computer science and learning systems which refer to the modifications in the learning methods used in education by integrating digital tools for teaching in higher education institutions, this in order to train professionals in line with what the labor market demands at this time and at the same time offer a quality education making them more competitive and with a resume more in line with the needs created thanks to the digital revolution.

4.2 Distribution of scientific production by year of publication.

Figure 2 shows how the scientific production is distributed according to the year of publication, taking into account that the period between 2015 and 2020 is taken.

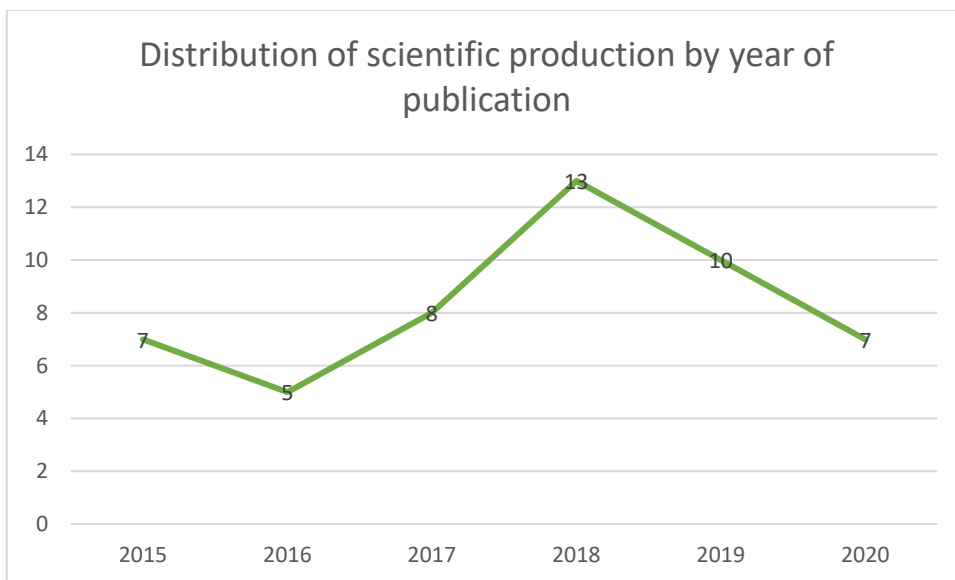


Figure 2. Distribution of scientific production by year of publication.
Source: Own elaboration (2021); based on data provided by Scopus.

2018 was the year with the highest number of publications registered with 13 in total, within which is “Tracking assemblies and controversies in an ecosystem for educational innovation”(Alcibar, Monroy, & Jiménez, 2018). The main objective of this study is to analyze the use of information and communication technologies (ICT) and its impact on higher education through a semi-structured survey on the use of ICT for the development of academic activities within the Interdisciplinary Professional Unit of Engineering and Sciences, so it is concluded that the use of digital tools helps to promote learning in an entertaining way. 2019 is the second year with the highest number of publications with a total of 10 publications, followed by 2017 with 8 publications.

The year 2020 presents a total of 7 registered publications, among which is the one entitled “Impact and use of information and communication technologies in higher education”(Aguilar-Forero & Cifuentes, 2020). The main objective of this study is to understand how the Educational Innovation Ecosystem is configured in Bogota (Colombia), through the analysis of its nodes (assemblies) and controversies. The findings obtained thanks to this study are relevant for the field of social sciences and especially for those interested in the sociology of education since it was possible to identify the fragility of the notion of ecosystem when certain conditions such as their conceptions of innovation with ICT and certain essential factors to connect the nodes of an innovation ecosystem.

4.3 Distribution of scientific production by country of origin.

Figure 3 shows how scientific production is distributed according to the nationality of the authors.

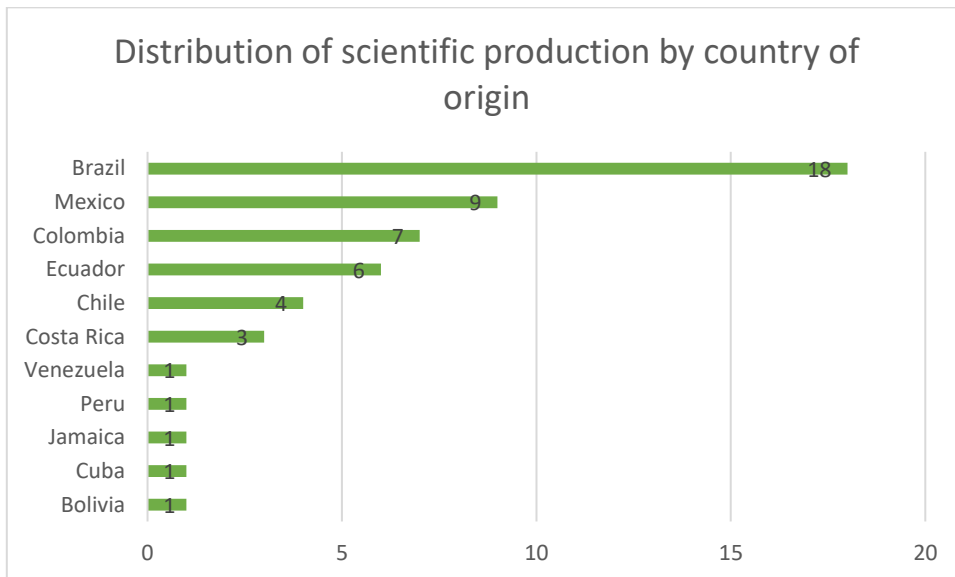


Figure 3. Distribution of scientific production by country of origin.

Source: Own elaboration (2021); based on data provided by Scopus.

Brazil is the Latin American country with the largest number of registered publications related to the variables under study having a total of 18 documents, among which is the one entitled “Classroom adaptations and social climate for blended learning practices”(Sarmiento, Gomes, & Moreira, 2020). this study aims to understand the educational conditions to meet the needs of students, the connection between physical learning environments, new technologies and a social climate favorable to educational changes in order to offer hybrid models in which they can develop all the necessary skills in the teaching-learning process. Therefore, it is concluded that for a comprehensive education, both an education in physical environments that leads to experimentation seeking the apprehension of knowledge and an education where digital platforms are used in order to develop in students the technological skills necessary for the use of ICT in educational models are needed.

At this point, it is worth noting that the production of scientific publications, when classified by country of origin, presents a special characteristic and that is the collaboration between authors with different affiliations to both public and private institutions, and these institutions can be from the same country or from different nationalities, so that the production of an article with co-authorship of different authors from different countries of origin allows each of the countries to add up as a unit in the general publications. This is

best explained in Figure 4, which shows the flow of collaborative studies from different countries.

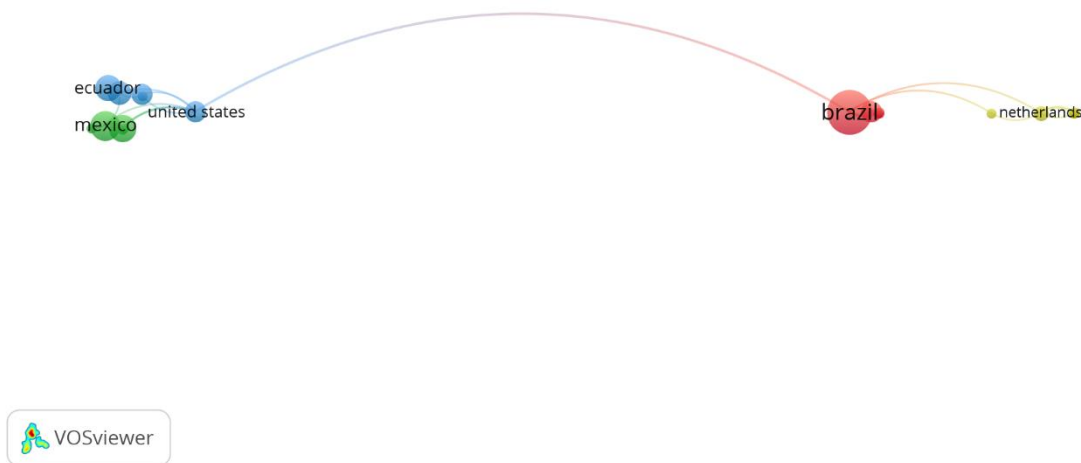


Figure 4. Co-citations between countries.

Source: Own elaboration (2021); based on data provided by Scopus.

As mentioned above, Brazil is the Latin American country with the greatest contribution to research related to the implementation of ICT in the teaching of social sciences, presenting publications in collaboration with authors affiliated with organizations from countries that do not belong to Latin America such as low countries, which demonstrates the importance of offering the reader a broader view of the topic under study. Mexico is the second country with more publications registered having a total of 9 publications, having collaborations with authors affiliated to organizations in the United States and Spain, within these publications we can identify “Valuations of Mexican and Spanish students on the use of ICT as a resource to work inclusive education”(Sampedro & Maldonado, 2018). This study determines ICT as a mechanism of educational inclusion considering that both inclusion and ICT are fundamental for current education, so 7 web 2.0 in Mexico and Spain were studied where it was evidenced that Mexican students prefer the use of social networks and Spanish students prefer educational digital platforms as the main difference of the university education systems of Mexico and Spain, in consideration of the qualifications given to the principles of inclusive education through the use of ICT.

4.4 Distribution of scientific production by area of knowledge

Figure 5 shows how the production of scientific publications is distributed according to the area of knowledge through which the different research methodologies are executed.

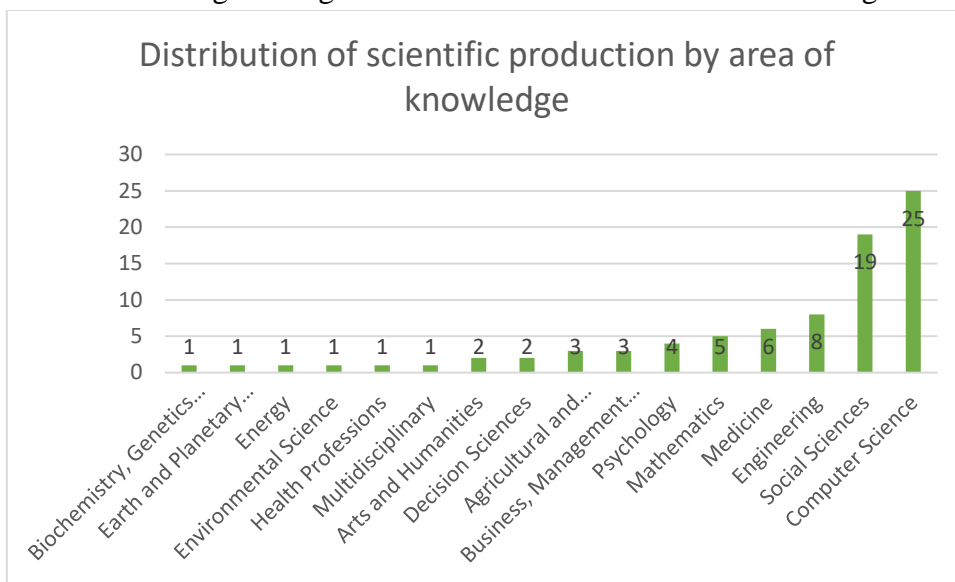


Figure 5. Distribution of scientific production by area of knowledge.

Source: Own elaboration (2021); based on data provided by Scopus.

Computer Science is the area of knowledge with the greatest contribution to research related to the variables under study with a total of 25 publications, among which is “Evaluation of students and teachers on Information and Communication Technologies in the teaching-learning processes: A look from the career of Sociology at UC Temuco. A case study”(Seguel & Viveros, 2015). which identifies and analyzes the perception that students and teachers of the career of Sociology at the Catholic University of Temuco have of Information and Communication Technologies in teaching-learning. This study showed that students facilitate learning-teaching processes and the need to increasingly implement higher education technologies in the teaching of careers related to social sciences, on the other hand, teachers although agree that help improve educational processes question the use of ICT as the main tool in education.

In second place is the area of social sciences with 19 publications registered in Scopus, within which is “Bibliometric review on the teaching-learning of ergonomics in virtual and distance modalities”(Duarte, 2018) . In this research, a literature review is carried out in 9 databases about the measures taken in ergonomics in virtual distance education, being ICT increasingly used in the educational field and thus creating new problems. This study concludes by suggesting the need for the responsible staff to have notions in pedagogical competences. It highlights that more studies with analytical scope are needed.

4.5 Type of publication

Figure 6 shows how the bibliographic production is distributed according to the type of publication chosen by the authors.

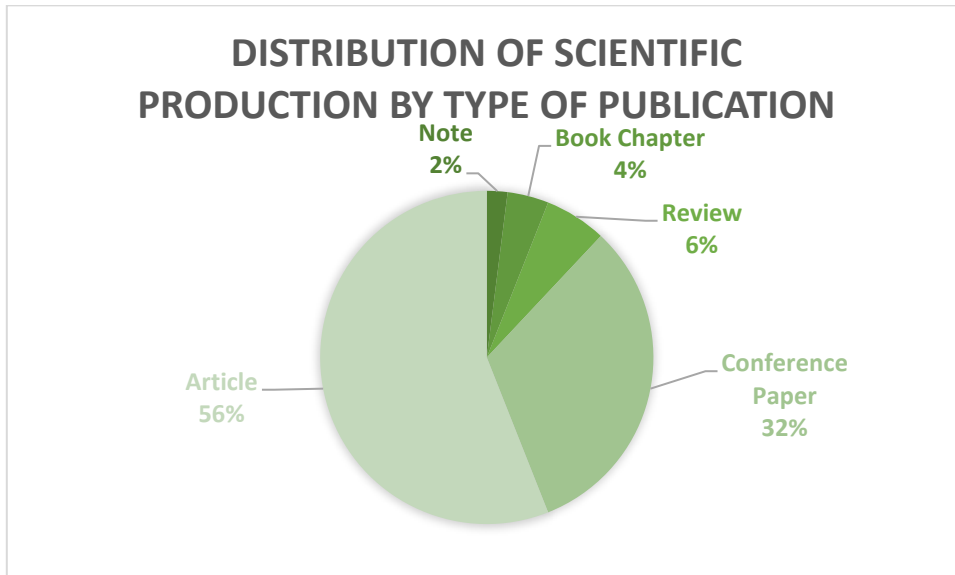


Figure 6. Type of publication.

Source: Own elaboration (2021); based on data provided by Scopus.

As shown in Figure 6, within the different types of publications, 56% of the total number of documents identified through Phase 1 of the Methodological Design, correspond to Journal Articles, within which is the one entitled “ICT Education: teaching to use, teaching to protect oneself and teaching to create technology” (Rueda-Rueda, Rico-Bautista, & Flórez-Solano, 2019) . This research analyzes the implementation of ICT in educational methods under 3 axes, the first of them seeks to generate awareness spaces to guide children and parents about the care that should be taken in the use of digital platforms; the second, to create strategies to encourage the study of information technologies and the third promotes the use of technological tools in the creation of new digital tools for education. With this study, it is concluded that ICT in education are no longer just a pedagogical tool, the current conditions demand that they become areas of study to prepare professionals with digital skills to meet the challenges of the new century, which have great responsibility higher education institutions in the implementation of these innovative measures. In second place are conference proceedings with 32% of the total number of publications identified in this study, followed by reviews with 6% of the registered documents within which we can identify “Adaptation of the value chain of Research, Development and Innovation (R + D + i) in psychology to the area of educational psychology”(de la Fuente, Kauffman, Díaz-Orueta, & Kauffman, 2018). This research studies and analyzes the methods necessary to facilitate a paradigm shift from an almost exclusive focus on social sciences to the

scientific-technological focus of a discipline that produces innovation and significant transfer of science and technology, so it can become an academic, research or professional advantage in the pisco-educational processes.

5. Conclusions

Thanks to the bibliometric analysis proposed in this research, it can be determined that Brazil is the Latin American country with the largest number of bibliographic records in Scopus database during the period between 2015 and 2020 with a total of 18 documents. The scientific production related to the study of The Importance of ICT in the teaching of social sciences in higher education, has presented an irregular growth during the aforementioned period, having 7 publications in 2015 and 7 units in 2020 reaching the highest number of publications related to the variables under study in 208 with a total of 13 publications in total. This indicates the need to create new bibliographic references related to the implementation of ICT in the teaching of social sciences in higher education institutions as innovative measures that help facilitate learning processes for both teachers and students.

The implementation of ICT in higher education is an innovative and inclusive measure that helps students to develop autonomous learning through their own experiences by means of educational tools that promote the correct apprehension of knowledge depending on the needs of each student. The usefulness of information and communication technologies lies in the strengthening of technological skills in students of higher education institutions, specifically in studies related to social sciences, as a way to prepare them depending on the new demands of the industry thus offering a quality education and providing society with more competitive professionals better prepared and in line with what the labor market requests thanks to the digital revolution that we are living today. Therefore, the importance of the integration of ICT in educational processes is evident as it helps to promote learning in an entertaining and effective way and to develop technological skills necessary to develop different activities in the exercise of professions related to the social sciences. That is why it highlights the need for studies such as the one presented in this document, which make a tour of those texts that address this issue, in order to give the reader a broad view of the current situation of the literature on the importance of ICT in teaching social sciences in higher education.

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