

Legal framework for hasty digitization in educational institutions of Latin American countries during the Covid-19 epidemic

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Received: 05.11.2021; Revised: 30.11.2021, Accepted: 08.12.2021, Published Online: 30.12.2021

DOI: 10.5489/jpsp.5015145

Abstract

This research addresses a documentary review on the production and publication of studies on the legal framework for the digitization of academic content in Latin American educational institutions, in the context of the Covid-19 epidemic, in the period between 2020 and 2021. The purpose of the bibliometric analysis proposed in this document is to know the main characteristics of the volume of publications registered in the Scopus database during the years 2020 and 2021, by Latin American educational institutions, achieving the identification of 43 publications. The information provided by this platform was organized through tables and figures, categorizing the information by year of publication, country of origin, area of knowledge, and type of publication. Subsequently, the position of different authors on the proposed topic was referenced through qualitative analysis. And, among the main findings materialized through this research, it was found that Brazil and Peru, with 13 publications each, are the countries with the highest editorial production. The area of knowledge that made the greatest contribution to the construction of bibliographic material concerning the study of the legal framework for the digitization of academic content in educational institutions in Latin America was the social sciences, with 19 published documents; and the type of publication that was most used during the study period was the journal article, which accounted for 65% of the total scientific production.

Keywords: Legal framework, hasty digitalization, educational management, educational institutions, Latin America, Covid-19.

1. Introduction

In March 2020, the World Health Organization (WHO) made a statement in response to the critical health situation in the world due to the Covid-19 disease, which originated in China in 2019 and quickly spread to most countries. A pandemic was then declared, due to the rapid spread and the high number of deaths, without even having found medical treatments that would directly attack the unexpected virus; much less was there the remote possibility of a vaccine to

reduce the fatality of those infected by the virus. Thus, the world markets, in their multiple economic sectors, entered into a situation of uncertainty, to which education was no exception (Inter-American Development Bank, 2020). The immediate response of all governments was to decree mandatory quarantine and social distancing measures, which led to the cessation of activities such as sports, recreation, commerce, and education, among others,

paralyzing a large percentage of the common rhythm of cities worldwide.

Likewise, nations were affected by the health crisis that took the installed capacity of clinics and health care centers unawares, aggravating the situation in terms of public health. Because of this, and to protect the right to education, educational institutions initiated a program of virtualization of academic contents to give continuity to training processes, based on models such as the one proposed by Dave Cormier and Bryan Alexander in Canada in 2008, called the Massive Open Online Course (MOOC) (Lopez-Meneses & Vazques, 2020), whose purpose was to offer the possibility of academic training through technological resources to serve the population that, for different reasons, could not attend educational institutions in person.

Because of the above, the need was to keep the teaching staff trained in the use of technological tools, based on models such as the one mentioned above, hoping to have the acceptance and affinity of students through the motivation that educators should first feel to thus transmit it to the students (Artavia & Castro, 2019) as one of the fundamental principles in virtual training. However, a social debate arose about the generation or widening of a social gap that left without tools a significant percentage of the population, who due to their socio-economic condition, was unable to access technological resources or an Internet connection, thus violating one of the fundamental human rights. However, the regulations in the different governments have initiated a vertiginous race to legislate programs of support, subsidy, and accompaniment to the society that for some reason was difficult for them to access virtual training.

The above is the subject of study in this article, since knowing the current state of the

literature published on the proposed topic, allows to build theoretical foundations for the generation of new knowledge, so this research work is proposed to formulate an answer to the following research question: how has been the production and publication of research papers on the study of the legal framework for the digitization of academic content in educational institutions in Latin America, during the pandemic by Covid-19 during the period 2020-2021?

2. General Objective

The general objective of this presentation is to analyze, from a bibliometric and bibliographic perspective, the production of high-impact research papers on the legal framework of digitization in educational institutions, during the Covid-19 pandemic during the period 2020-2021, in the case of Latin American countries.

3. Methodology

A quantitative analysis was made of the information provided by Scopus, under a bibliometric approach on the scientific production regarding the legal framework of digitization in educational institutions in Latin America, during the Covid-19 pandemic. Also, from a qualitative perspective, examples of some research papers published in the area of the study mentioned above were analyzed from a bibliographic approach to describe the position of different authors on the proposed topic. The search was carried out through the tool provided by Scopus and, likewise, the parameters referenced in Table 1 were established.

3.1 Methodological Design

The methodology used in this study is set out in Table 1 below.

	Phase	Description	Ranking
Phase 1	Data collection	The data collection was carried out using the Scopus electronic page search tool.	Published papers whose study variables are related to education during the Covid-19 epidemic and inequality gaps. Research papers published by authors affiliated with Latin American institutions. Research papers published during 2020 and the first semester of 2021. 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 was organized. And the classification was done by means of graphs, figures and tables, based on data provided by Scopus.	Co-occurrence of: words; year of publication; country of origin of the publication; area of knowledge; and type of publication.
PHASE 3	Drafting of conclusions and final document	After the analysis carried out in the previous phase, the conclusions were drawn and the final document was prepared.	

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. Thus, it shows how the use of the different keywords has been related to the research identified through the execution of Phase 1 of the Methodological Design proposed for the development of this article.

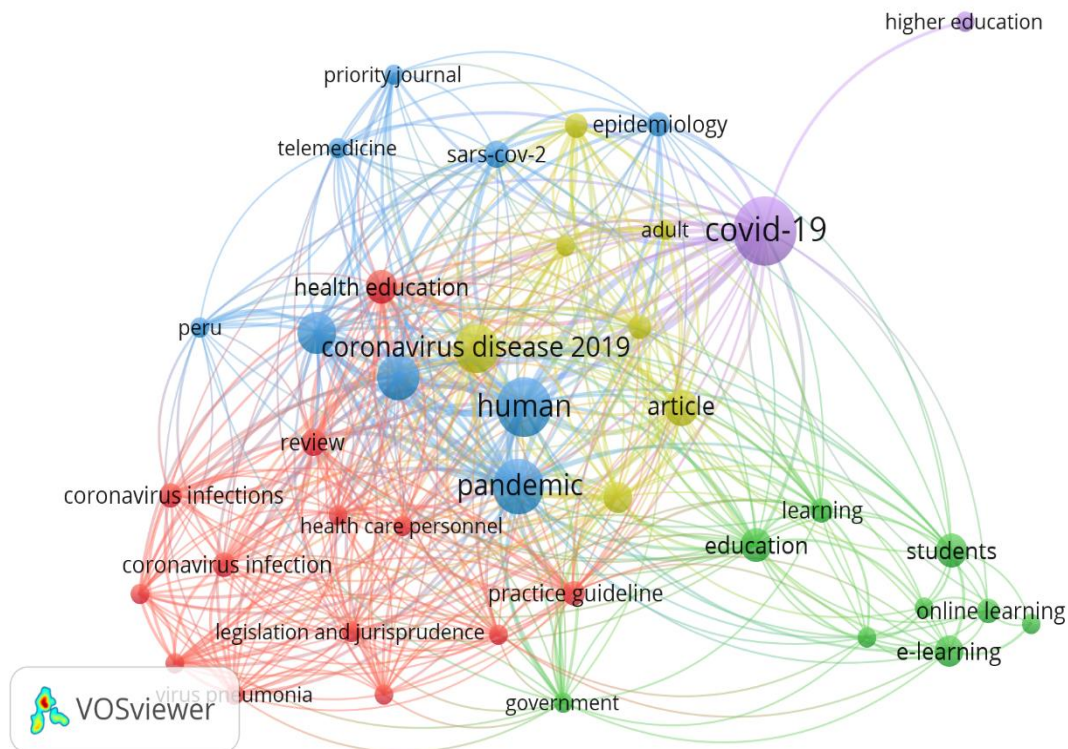


Figure 1. Word co-occurrence.

Source: Own elaboration, based on data provided by Scopus.

The words *Covid-19* and *higher education* show a high frequency within the development of the different methodologies applied, framing the publications within the study referring to the impact that the emergence of Covid-19 has had on university educational management. In this way, it was possible to verify the relevance of the studies identified with the thematic studied in this document. Similarly, the words *online learning*, *e-learning*, *government*, *legislation and jurisprudence*, demonstrate the focus on which the proposed analysis was specialized since it sought to measure how efficient governmental actors have been in the design

and implementation of strategies for the digitization of academic content, as a preventive measure against the high cases of infection and death due to the disease mentioned above; as well as the legal measures adopted to guarantee compliance with the right to education in an environment of tension and uncertainty due to the social isolation measures imposed by governments, not only in Latin America but also worldwide, in response to the measures suggested by international health authorities such as the WHO, following the declaration of a pandemic.

4.2 Distribution of scientific production by year of publication

Figure 2 shows the distribution of scientific production according to the year of publication, taking into account the period from 2020 to 2021.

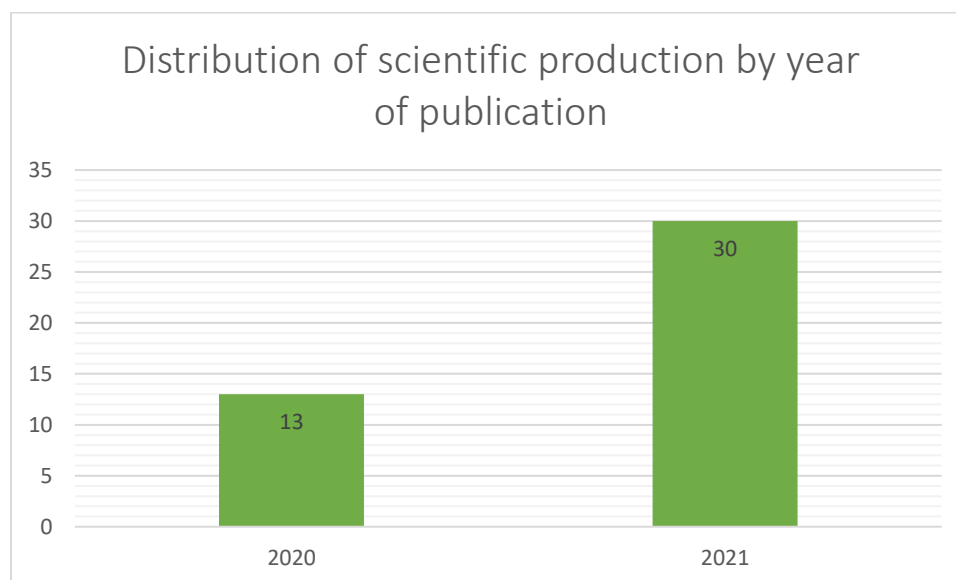


Figure 2. Distribution of scientific production by year of publication.

Source: Own elaboration, based on data provided by Scopus.

Based on the intention of establishing a concise review of the data obtained in the proposed bibliometric analysis, it was necessary to distinguish the scientific production given by the Scopus database, by periods; and take into account the implications within the framework of the Covid-19 pandemic as a health crisis, which took place between the years 2020 and 2021. It was considered that the 2020 period had a scientific production of 13 publications by different authors, among which the article entitled “Educational segregation in times of pandemic: Balance of the initial actions during the social isolation by COVID-19 in Argentina” stands out (Álvarez, Gardyn, Iardevlevsky, & Rebello, 2020) which aimed to establish, through an exploratory study and qualitative and quantitative methods using interviews with direct actors of the educational community, the incidence of the health crisis caused by Covid-19 on academic segregation, through the compulsory isolation measures imposed by the Argentine government. This study determined that state

policies in the face of an event of such magnitude represented a real challenge for those in power since the determination of compulsory isolation revealed the social, economic, and even political inequalities of the population itself, reflected in the existing gaps in access to technological tools, which led to a large percentage of student desertion in academic institutions throughout the country, a fact that generated uncertainty and gaps in state policies. The latter, finally, must in any case promote access to education as a fundamental pillar of a social state and as a right of first necessity in any society.

On the other hand, in the year 2021, there was a production of 30 publications, according to the records of the Scopus database, establishing a clear increase concerning the immediately preceding period, for which the importance of the study of the variables object of this research work is inferred. It is important to highlight the 2021 article entitled “Applications used and recommendations provided by university

teachers for the self-regulation of learning in the context of the covid-19 pandemic”(Infante-Villagrán et al., 2021). The purpose of this exploratory study was to establish which digital applications are used and recommended by the faculty (17 teachers) of higher education in the context of virtual education in Chile, in response to the Covid-19 pandemic. The methodology used was qualitative with a phenomenographic approach and a content analysis of the results, for which it was concluded that there are 27 applications for self-regulating education; 16 used for academic preparation; 19 for the

implementation phase; 11 for self-reflection, and finally, 8 for Zimmerman's cyclical model. The results of this exploratory study allow to present the tools that help to face the current challenges faced by academic institutions in the scourge of the pandemic, in addition to contributing to the academic field as a reference against events such as student segregation, adaptation to new models of education, etc., and, ultimately, to answer the challenges faced by the academic institutions in the face of the pandemic. In short, to make better use of technological tools to achieve quality levels of education in Latin America.

4.3 Distribution of scientific production by country of origin

Figure 3 shows the distribution of scientific production according to the nationality of the authors.

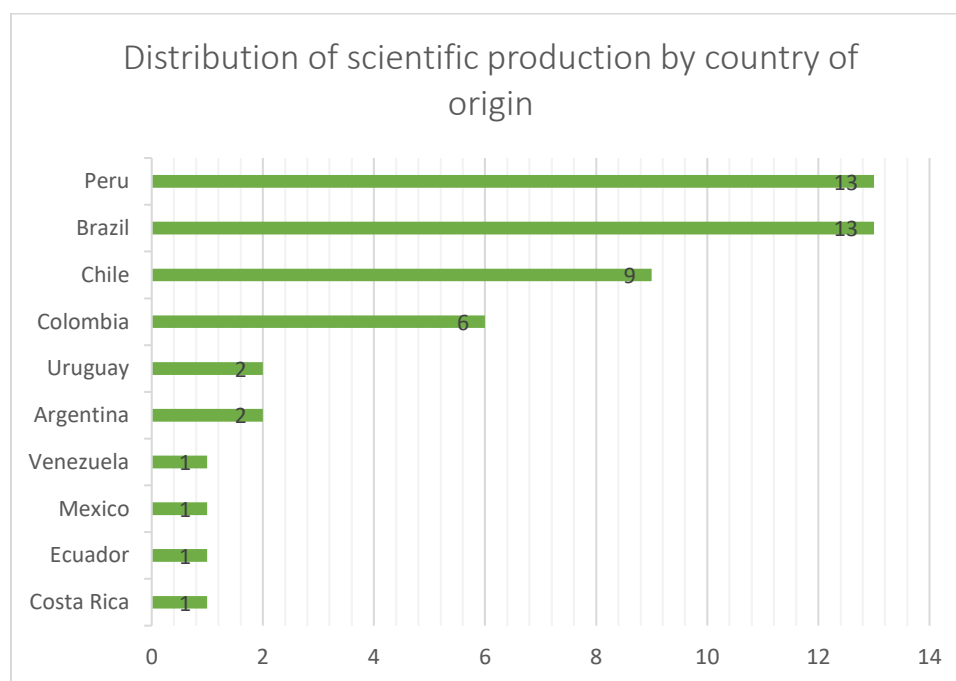


Figure 3. Distribution of scientific production by country of origin.

Source: Own elaboration, based on data provided by Scopus.

Peru and Brazil appear as the two Latin American countries with the highest number of publications registered in Scopus during the period 2020-2021, with 13 studies related to the analysis of the legislation designed for the development of strategies for the digitization of academic content to support

education in the framework of the Covid-19 pandemic, within the group of Latin American countries. Among the Peruvian publications, the article entitled “Methodology of work with public universities in Peru during the pandemic-continuity of virtual/online teaching and learning” was found (Martín-Cuadrado et al.,

2021), whose objective was to describe the consultancy provided by the UTEC-UNED-TECSUP University Consortium to six national universities in Peru during the state of emergency caused by Covid-19. The analysis was able to identify the governmental guidelines for the digitalization of pedagogical material, within the academic training, as a fundamental tool to continue guaranteeing access to education during the restrictive measures created to face the difficult sanitary situation worldwide. In this way, it was possible to identify three fundamental stages that are taken into account to propose policies within the educational management such as diagnosis, design, and training, to strengthen didactic and digital competencies, accompaniment, and technopedagogical follow-up.

The study revealed the government's need to strengthen coverage in education and based the virtualization of contents on strategies for open and distance education as a strategy to give continuity to academic training, and

therefore facilitate access to education by remote communities; thus opening the space to institutionalize policies that guarantee connectivity and availability of technological resources, as well as teacher training, among other aspects to be improved, identified from an efficient study of the results and feedback of educational processes.

At this point, it should be noted 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 different nationalities so that the production of an article co-authored by different authors from different countries of origin allows each of the countries to add up as a unit in the overall publications. This is best explained in Figure 4, which shows the flow of collaborative work from different countries.

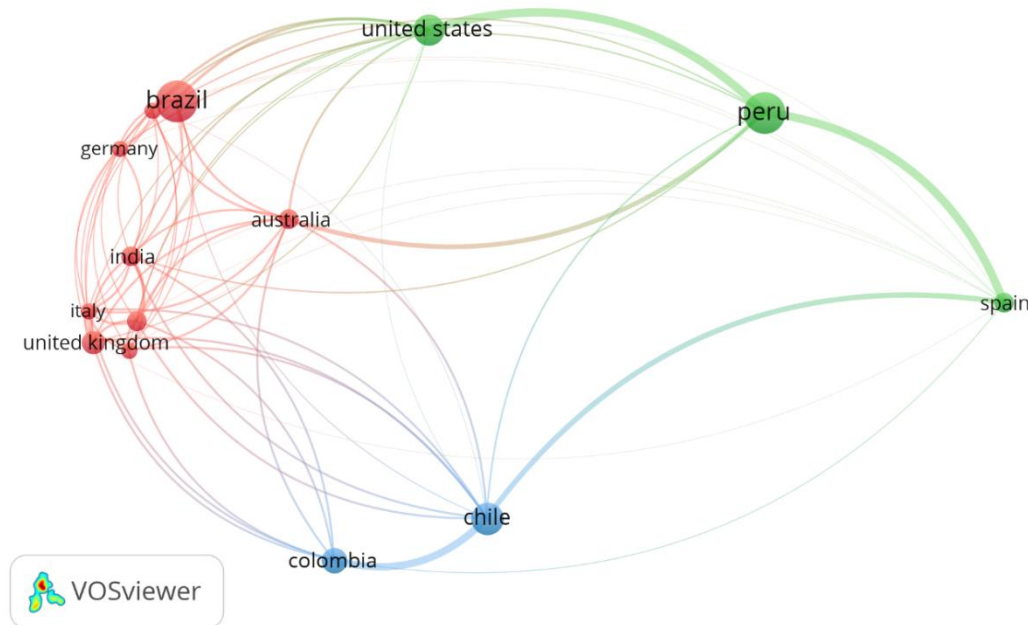


Figure 4. Co-citations between countries.

Source: Own elaboration, based on data provided by Scopus.

Figure 4 shows the formation of two main groups of countries whose institutions have presented publications with the participation

of authors of different nationalities; these two groups are led by Peru and Brazil. The former shows important proximity with authors

affiliated with institutions in Spain and the United States, and the latter with Germany, Australia, India, and the United Kingdom. Another example of Latin American countries

with international participation in their publications is Colombia, which has co-authored articles with Chilean researchers.

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.

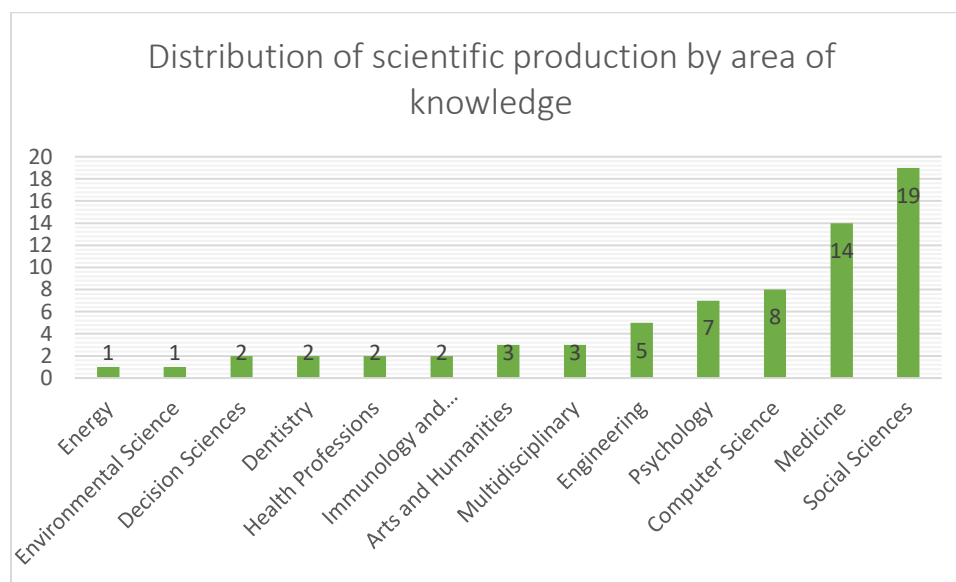


Figure 5. Distribution of scientific production by area of knowledge.

Source: Own elaboration, based on data provided by Scopus.

The appearance of the Covid-19 epidemic and its global impact brought with it problems of all kinds and in all possible fields of human development in society. Therefore, the different areas of knowledge turned their interest in the search for knowledge and problems related to this topic, as shown in Figure 5. Areas such as social sciences made a highly relevant contribution with 19 publications, according to the Scopus database, followed by medicine, with 14 records; and in third place, computer sciences, with 8 scientific productions. It is necessary to highlight, under the nature of this scientific article, the production of the area of medicine concerning the variables under study with this scientific document entitled “Fatalism, emotional regulation and risk of suicide in Colombian adults during the SAR-Cov-2 disease epidemic” (Caballero-

Domínguez et al., 2021). This study was carried out on a population of 435 Colombian adults, between the ages of 18 and 79 years, with a cross-sectional design, through sociodemographic variables, to determine factors such as the risk of suicide and its association with fatalism as a mental health problem that is ultimately the responsibility of the state. This is because it is considered a public health phenomenon, due to the spread of severe acute syndrome (SAR-COV-2).

This analysis concluded that in the sectors with less presence of the state, with precarious education that in turn leads to ignorance of the disease itself, its causes and consequences and that are mostly attributed to fatalistic beliefs, there is a higher percentage of suicide risks and emotional affectation, situations that pose and require from every point of view the creation of a

legal framework that regulates the presence, monitoring, and accompaniment of the state to all sectors of the population, taking into account the scope and effective spread of the health crisis resulting from the spread of Covid-19 and its scourges.

It was also observed the contribution of different authors in productions from the areas of Psychology, Engineering, and Arts and Humanities, as shown in the database, which can be used as academic references for research, analysis, and knowledge on the subject.

4.5 Type of publication

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

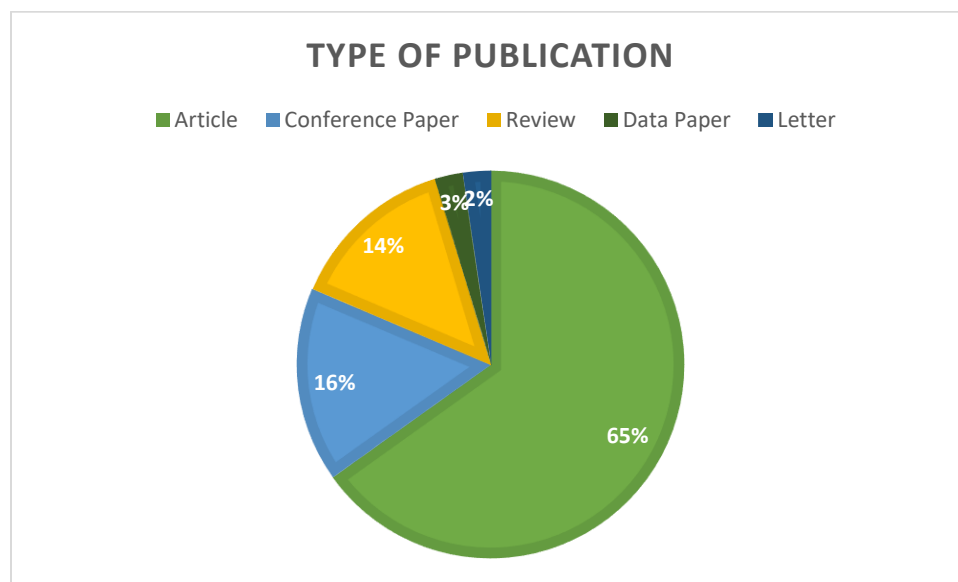


Figure 6. Type of publication.

Source: Own elaboration, based on data provided by Scopus.

After the bibliometric analysis of the scientific production related to the study of the legal framework of hasty digitalization in Latin American educational institutions during the Covid-19 pandemic, it was established that 65% of the identified publications correspond to *journal articles*, as the main type of publication used by the authors in this topic to make known the findings derived from the application of the different research methodologies. In the second place, it was found that 16% corresponds to *conference articles*, followed by *Reviews* with 14%.

It should be noted that the information provided by Scopus regarding the topic of the study analyzed in this paper is of great importance thanks to studies such as the

journal article entitled “From the classroom to Zoom: Changes in the teacher-student interaction in two Peruvian law schools”, whose purpose was to analyze in detail the changes in the interaction between teachers and students in two Peruvian law schools, and which was published in the journal “From the classroom to Zoom: Changes in the interaction between teachers and students in two Peruvian law schools”(del Mastro Puccio & Albuja, 2021) whose purpose was to analyze in detail the opinions and experiences of law students regarding the changes in their interaction with professors as well as their perception of the regulations applied for the change in the study methodology, which abruptly went from a classroom system to a virtual methodology, which had been an

option for the training of thousands of students until before the appearance of Covid-19.

As a result of the aforementioned study, it can be highlighted that students initially showed some dissatisfaction with the way students interacted with their teachers synchronously through platforms such as Zoom, and asynchronously through e-mail, or platforms such as Moodle. However, the strengthening of motivation when facing this new methodology was increasingly greater thanks to the coupling between teachers and students and the possibility of finding a more didactic method to make known the different opinions, allowing information to be shared in a bidirectional way between trainers and students, which was the result of the willingness of the students and the training of the teachers.

Conclusions

From the bibliometric analysis carried out in this document, it was possible to identify Peru and Brazil as the two Latin American countries with the highest number of scientific publications registered in Scopus with 13 scientific papers that were reported by said platform during the period 2020-2021, referring to the study of the regulations established for the regularization in the methodological change in the academic training of Latin American students.

Due to the nature of the subject matter presented in this article and its social impact, the area of knowledge with the greatest influence on the development of the research identified here was the social sciences, with 19 scientific documents that made it possible to measure the scope of the legal framework established to address the high number of Covid-19 infections and deaths; and the decrees socialized to reduce these figures through social distancing policies, mandatory use of masks, virtualization of procedures before the state and even the digitization of academic content, specifically talking about the educational management involved as a variable of study in this research work, and

how the perception of students, teachers, families, and different interest groups around and within educational institutions, have been adapting and welcoming the virtual methodology as an opportunity to give continuity to academic training at different levels.

Virtuality then became an obligation due to the restrictive measures proposed by governments, not only in Latin America but all over the world. This led to a great debate on the part of the different interest groups because, although this guaranteed the continuity of academic training for thousands of students, it could be seen as a neglect of remote communities that, due to their socioeconomic characteristics, did not have the technological resources or even internet access to attend virtual sessions or comply with the obligations granted using platforms such as e-mail or programs designed for education management. The central government thus sought to expand the coverage of subsidies and access to technological tools financed with public resources to benefit low-income families. The central government also provided free Internet connectivity during the period of compulsory quarantine.

In conclusion, it can be seen that the beginning could be one of the greatest disasters in recent history in terms of education, as an opportunity to expand its coverage in compliance with one of the Fundamental Rights through different strategies such as those mentioned in the course of this writing. It is worth highlighting the importance of documentary reviews such as the one presented above. And, have on the generation of new knowledge in search of new and better alternatives to apply to education in scenarios such as the one experienced because of the pandemic by Covid-19, hoping to be an important support material to expose the current situation of the written bibliography concerning the regulations within the digitization of academic content, by the educational institutions of Latin America.

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