

ANALYSIS OF HYBRID EDUCATIONAL MODALITIES IN LATIN AMERICA AND THEIR IMPACT ON THE QUALITY OF EDUCATION

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Abstract

A documentary review was carried out on the production and publication of research papers related to the study of the variables Hybrid Educational Modalities and their impact on the Quality of Education in Latin America. The purpose of the bibliometric analysis proposed in this paper is to know the main characteristics of the volume of publications registered in the Scopus database during the period 2017-2021, achieving the identification of 16 publications. The information provided by the said platform was organized through tables and figures categorizing the information by Year of Publication, Country of Origin, Area of

Knowledge and Type of Publication. Once these characteristics were described, the position of different authors regarding the proposed topic was referenced by employing a qualitative analysis. Among the main findings of this research, it is found that Brazil, with 7 publications, was the Latin American country with the highest scientific production registered in the name of authors affiliated with institutions of that country. The Area of Knowledge that made the greatest contribution to the development of bibliographic material referring to the study of Hybrid Educational Modalities and their impact on the Quality of Education was Social Sciences with 10 published documents, and the Type of Publication that was most used during the above-mentioned period was the Journal Article, representing 56% of the total scientific production.

Keywords: Hybrid Education, Hybrid Educational Modalities, Quality in Education.

I. Introduction

Education has evolved at the same pace as Information and Communication Technologies (ICT). Their use has been a fundamental key in the development of strategies to expand educational coverage and even improve the perception of its quality. An example of this is the proposal made by Dave Cormier and Bryan Alexander in Canada in 2008, called MOOC (Massive Open Online Course) (Lopez-Meneses & Vazques, 2020), which was implemented to give the possibility of continuing their training process to those who for some reason could not access it in person, as it was traditionally done. In this way, virtual programs were gaining ground within the educational offer and gradually became a valid and recognized modality by students, teachers and, of course, educational institutions at all academic levels. It is important to emphasize that online education must take into account factors of great relevance such as course structure, learning activities, didactic materials offered, communication guidelines and strategies, evaluation and the role of the tutor and/or moderator (Rosales-Gracia, Gómez-López, Durán-Rodríguez, Salinas-Fregoso, & Saldaña-Cedillo, 2008).

Currently, multiple social, economic and political sectors are developing their activities within the framework of the pandemic decreed in March 2020 by the World Health Organization (WHO), which put all public and private organizations in “check” due to the uncertainty generated in the markets, due to the restrictive measures that forced almost absolute confinement with the purpose of reducing the number of contagions and deaths caused by the Covid-19 infection (Inter-American Development

Bank, 2020), a disease that originated in the Wuhan region, China at the end of 2019 and that quickly spread to countries in all continents. Due to the above, educational institutions were forced to virtualize academic content to provide continuity to students' education, which undoubtedly represented an unprecedented challenge in recent history.

Once the health crisis was partially overcome, a model already known before has been implemented, called Hybrid Educational Modality, or mixed, for some authors, which consists of the possibility of alternating teaching sessions between face-to-face and online education. Now, face-to-face classes are directed to small groups of people, still respecting the measures of social distancing and through some other rules of self-care, such as the use of masks, and constant hand washing, among others. On the other hand, online classes can be taught synchronously or asynchronously, which means that, in some cases, teachers maintain real-time contact with students through programs designed for this purpose. Asynchronous sessions, on the other hand, consist of the assignment of tasks and assignments through the use of digital platforms, which the student can access at any time within the time stipulated by the teacher. In the first instance, the hybrid model has to rely on technology, but focus on a pedagogical innovation that facilitates the same learning experience for remote students as those who are in the classroom (De Obesso & Nuñez, 2020), from this, the perception of quality in the education provided under this modality will depend to a large extent.

2. General objective

To analyze from a bibliometric and bibliographic perspective, the production of research papers on the variable Hybrid Educational Modalities and its impact on the Quality of Latin American Education during the period 2017-2021.

3. Methodology

Quantitative analysis of the information provided by Scopus under a bibliometric approach on the scientific production related to the study of Hybrid

Educational Modalities and their impact on the Quality of Education is carried out. Likewise, it is analyzed from a qualitative perspective, examples of some research papers published in the area of the 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 Figure 1 are established.

3.1 Methodological design

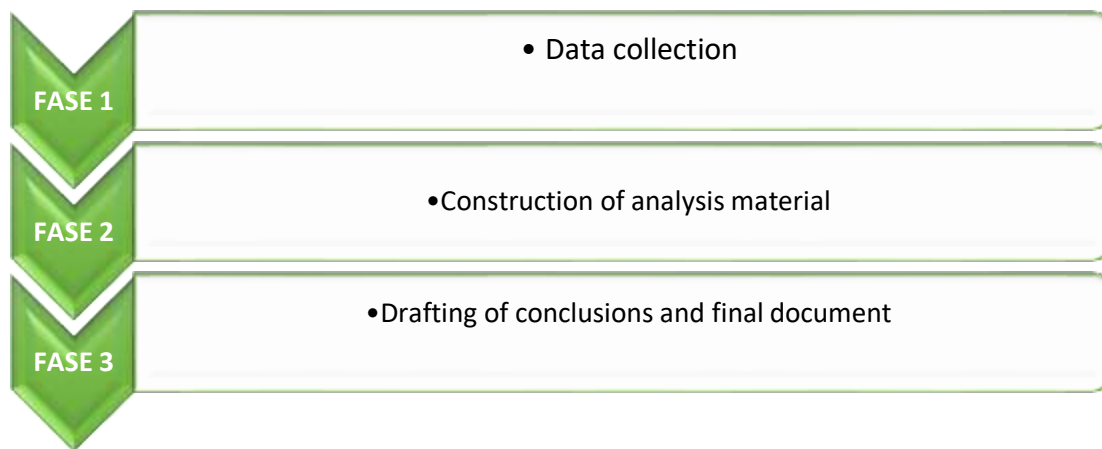


Figure 1. Methodological design

Source: Own elaboration

3.1.1 Phase 1: Data collection

✓ The data collection was carried out using the Scopus web page search tool, through which a total of 38 publications were identified. For this purpose, search filters were established consisting of:

- ✓ Published papers whose study variables are related to the study of Hybrid Educational Modalities and their impact on the Quality of Education.
- ✓ Limited to Latin American countries.
- ✓ Without distinction of the area of knowledge.
- ✓ Without distinction of the type of publication.

3.1.2 Phase 2: Construction of analysis material

The information identified in the previous phase is organized. The classification will be done

employing 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.

Type of publication.

3.1.3 Phase 3: Drafting of conclusions and final document

After the analysis carried out in the previous phase, the conclusions are drawn up and the final document is prepared.

4. Results

4.1 Co-occurrence of words

Figure 2 shows the co-occurrence of keywords within the publications identified in the Scopus database.

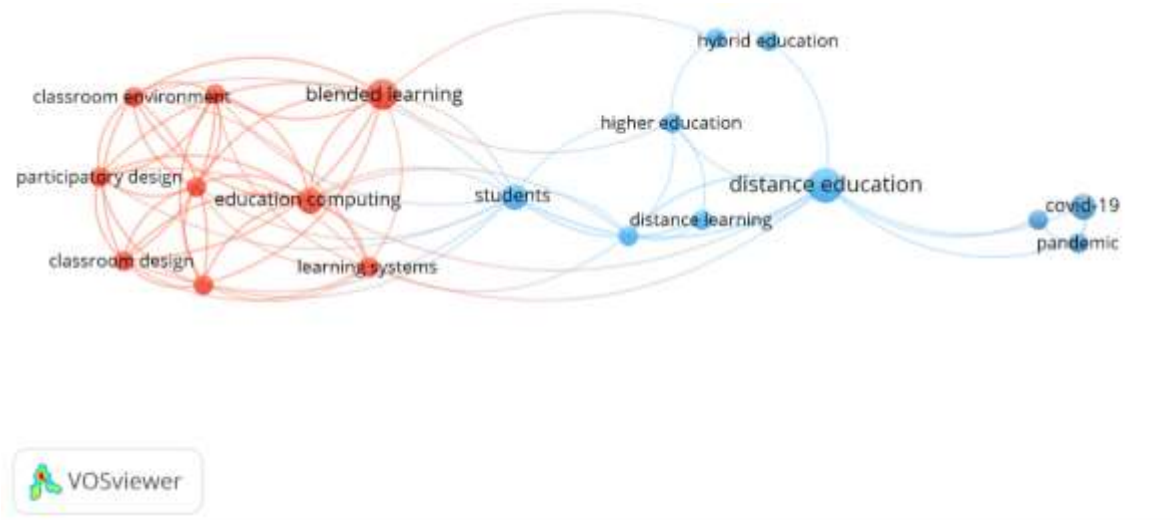


Figure 2. Co-occurrence of words

Source: Own elaboration (2022); based on data provided by Scopus.

Within the study of hybrid modalities for education and their impact on the perception of quality by all stakeholders associated with educational institutions, there is evidence of a high frequency in the use of keywords such as Blended Learning, Virtual Education, and Classroom Design, which allow inferring the intention of the researchers to frame the teaching methodology, new strategies to provide a quality education through the use of ICT. Similarly, the central axis of the research identified through Phase 1 of the Methodological Design proposed for the development of this article, was the Student variable, since it is precisely part of their needs, the creation of strategies designed by the

educational management to meet their expectations through mixed or hybrid mechanisms. On the other hand, the studies identified also address topics such as Distance Education as a function of Higher Education, Distance Learning, Hybrid Education, and even research works identified in the context of the Covid-19 pandemic, which was decisive for the implementation of virtual modalities to give continuity to academic training even when there were still confinement measures to safeguard the health of students, teachers and administrators.

4.2 Distribution of scientific production by year of publication.

Figure 3 shows how the scientific production is distributed according to the year of publication, taking into account the period from 2017 to 2021.

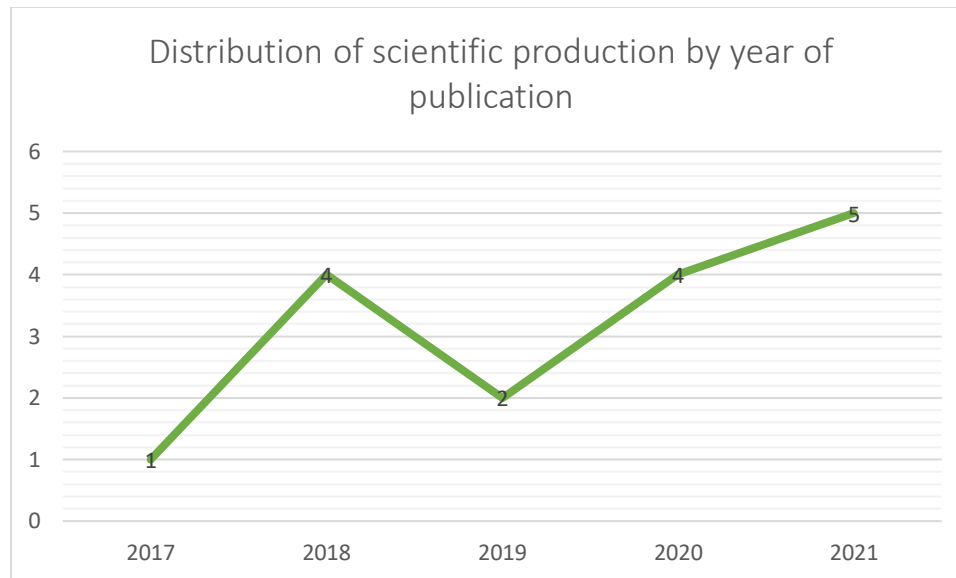


Figure 3. Distribution of scientific production by year of publication.

Source: Own elaboration (2022); based on data provided by Scopus.

One of the main characteristics of the scientific production identified in Scopus, regarding the study of hybrid education modalities and their impact on the quality of Latin American education, is the low volume of records in journals indexed in this platform. As shown in Figure 3, in 2017 only one article was submitted among all Latin American institutions. In 2018, 4 scientific papers were registered, being surpassed only by the products reported by Scopus in 2021 with 5 publications. Within the latter is the article entitled “From distance education in pandemic to the hybrid model in post-pandemic” (Carbonell *et al.*, 2021) whose objective was to explore the factors that influence the implementation of distance education in the context of the pandemic, globally. The study consisted of carrying out a systematic review of the study variable in the Education Resources Information Center, ScienceDirect, Scopus and Web of Science databases. Among the most relevant findings, it was found that thanks to the implementation of measures such as mandatory total quarantine, educational

institutions resorted to the use of ICTs to allow teachers and students to continue meeting academic commitments, however, a problem is also identified in terms of accessibility to electronic devices and even Internet connectivity. Thus, the authors propose alternatives such as the hybrid modality as part of the solution to this problem, once, of course, efficient measures are established for the health care of students and teachers, in conditions similar to those experienced by the pandemic caused by Covid-19. It is important to highlight that as a result of the implementation of online education, a social gap and high margins of inequality became evident, since not all students' families, mainly from public institutions, had technological devices or Internet connections that would allow them to actively participate in the virtual sessions. Thus, the study emphasizes the possibility of institutionalizing mixed modalities within the academic offer.

4.3 Distribution of scientific production by country of origin.

Figure 4 shows the distribution of scientific production according to the nationality of the authors.



Figure 4. Distribution of scientific production by country of origin.

Source: Own elaboration (2022); based on data provided by Scopus.

As shown in Figure 4, Brazil was the Latin American country with the highest number of publications registered in Scopus with 7 documents in total, followed by Colombia with 3, Mexico and Chile with 2 and Ecuador, Peru, and Argentina with 1. Of the articles published by authors affiliated with Brazilian institutions, the one entitled “The dynamism of distance and hybrid education in Latin America and Brazil” (Vitale *et al.*, 2020) was found, whose main objective was to present relevant elements related to hybrid and distance education, data from America and Brazil. The authors manage to uncover the main characteristics of training through the hybrid modality and show the reader a broader view of the benefits that the implementation of this teaching method in Latin American institutions can bring. However, it also shows a reality associated with the application of this methodology and it is that mixed strategies should not be proposed from a static sense, on the contrary, the policies proposed by the educational management should be flexible and sensitive to change, since in an increasingly globalized world, where everyday new and better alternatives arise to virtualize academic content, it is necessary to

maintain a constant update in the use of applications and devices that help to meet the objectives set at each level of training. For their part, authors with affiliation to Colombian institutions, publish the article entitled “Learning from a transformation of pedagogical practices in master's degree courses in the hybrid learning modality” (Galvis *et al.*, 2018) whose objective was to share a critical reflection on the motivation, development and results derived from a pedagogical transformation of a course of the MPTIC-Master's Degree in ICT Pedagogy-Information and Communication Technologies-University of La Guajira, in Riohacha, Colombia. In this way, the interest and motivation of the students in innovative strategies are highlighted and the proposal of the integration of the face-to-face and virtual modality is strengthened, as a necessary change in an ever-changing world and with increasingly efficient technological advances to carry out this type of activities.

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.

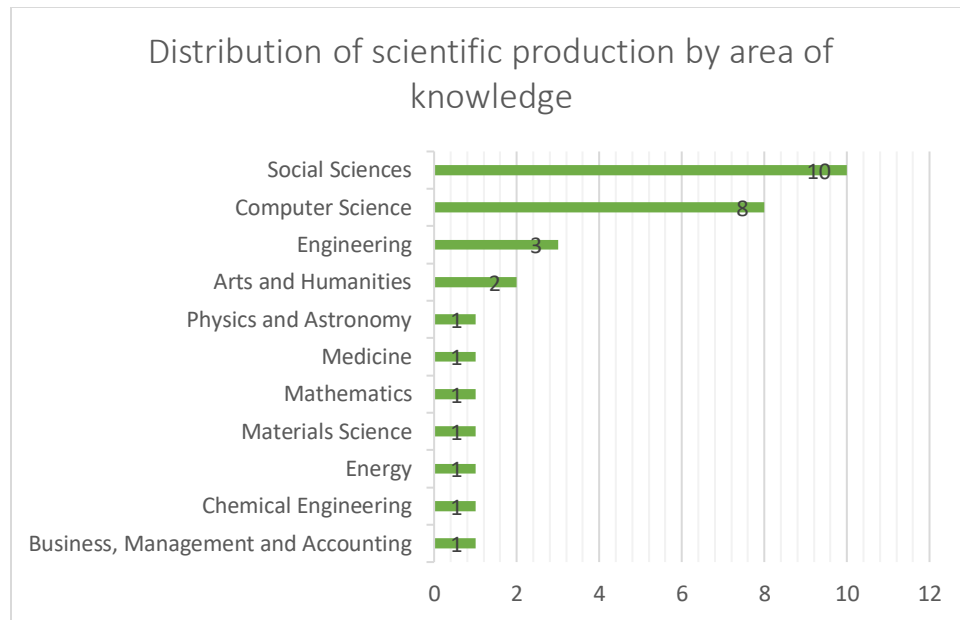


Figure 5. Distribution of scientific production by area of knowledge.

Source: Own elaboration (2022); based on data provided by Scopus.

Social Sciences was the most influential area of knowledge in researching the study of hybrid modalities in education and their impact on educational quality, with a total of 10 publications, followed by Computer Sciences with 8. Within this last group of research is the conference article entitled “Implementation and evaluation of hybrid classes in a biostatistics course for dentistry” (Paiva *et al.*, 2021) which aimed to describe the implementation of synchronous hybrid activities in the UC dentistry biostatistics course to determine whether student satisfaction and learning are equivalent in the hybrid and online format. The study was based on observation following the implementation of classrooms for learning activities in a synchronous hybrid modality to facilitate safe and voluntary face-to-

face activities. Satisfaction and learning were assessed through online questionnaires sent to all participating students (84% and 64% response rates). It was found that one of the most frequent reasons for not attending the classrooms was the mandatory quarantine in the communities where the students live. The students who did attend the activities in the hybrid classroom reported that this helped them feel part of the university (100 %), get closer to their classmates (96 %) and encouraged them (91 %). Even more important, however, was the evidence that no differences were observed between students in sessions with and without face-to-face activities, nor between those in the classroom versus those at home.

4.5 Type of publication

Figure 7 shows how the bibliographic production is distributed according to the type of publication chosen by the authors.

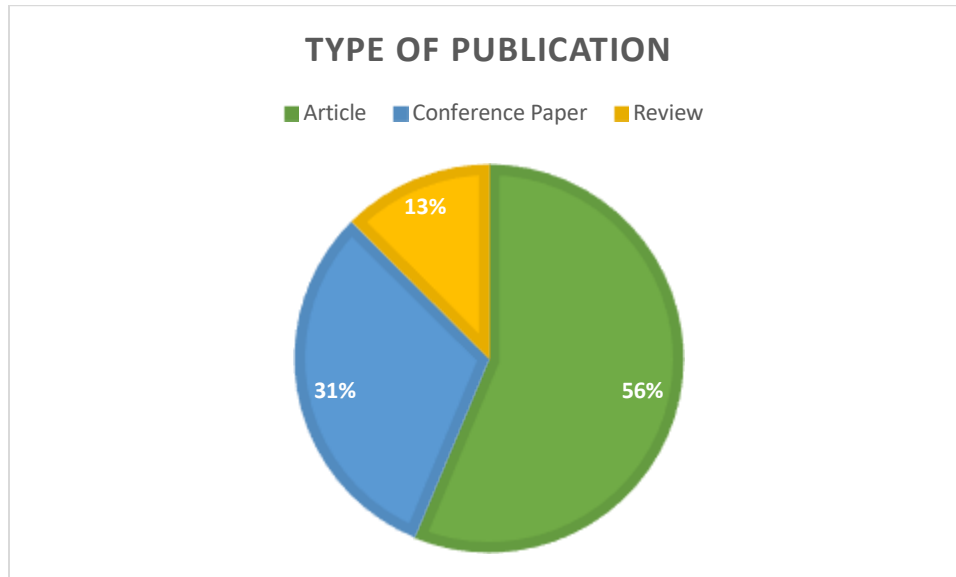


Figure 6. Type of publication.

Source: Own elaboration (2022); based on data provided by Scopus.

Fifty-six percent of the research identified through the execution of Phase 1 of the methodological design proposed for this article corresponds to Journal Articles, followed by Conference Articles with 31% and Reviews with 13%. Among the reviews with the greatest impact is the one entitled “Supporting decision-making processes on blended learning in higher education: literature review and good practices” (Galvis, 2018) whose purpose was to support decision-making processes in higher education institutions interested in using blended learning as a complement to other learning ecologies. The main contribution of this study was to show an analysis of how to achieve the process of institutional transformation, including how to articulate the bLearning modality with existing pedagogical approaches so that bLearning innovations become institutionalized and sustainable.

5. Conclusions

Thanks to the bibliometric analysis carried out in this article, it is possible to determine that within the main characteristics in the volume of scientific production regarding the study of Hybrid

Educational Modalities and their impact on the quality of Latin American education, the low participation by the scientific community in the publication of this type of topics as an object of research prevails, even so, it is established that Brazil, was the Latin American country with the highest number of reports through its institutions to Scopus with a total of 7 documents registered during the period 2017-2021.

Due to the nature of the study, which seeks to measure the perceived quality in both public and private education, through the implementation of hybrid methodologies for teaching-learning processes, it is established that Social Sciences was the area of knowledge with the greatest influence in the identified research, since 10 of the 16 publications related to the present analysis, actively participate with theories framed in that area of knowledge. Similarly, and following the nature of the study and the technological component, Computer Science also played a fundamental role in the execution of 8 publications. It is worth noting that within the analysis presented regarding the position of different authors concerning the study of the topic proposed in this research, it can be concluded that the proposal to combine face-to-face strategies with virtual strategies, and not to limit training to one of the two modalities, expands much more the possibilities of receiving quality academic training, minimizing the inequality gap evidenced

after studying the consequences of the total virtualization of academic contents as a means of prevention against the threat of contagion by Covid-19. Likewise, keeping the teachers of the different areas updated in the use of digital tools represents a fundamental element in the search for quality in all the formative processes, through the use of ICT as a tool proven in its efficiency, to carry out the teaching-learning process.

Thus, this study concludes by highlighting the great contribution that the hybrid modality within current education makes to the levels of educational quality in Latin America; however, it is expected that from bibliographic and bibliometric reviews such as the one proposed in this document, the current situation of hybrid education in Latin America will be taken into account. It is hoped that the current situation of the literature on the subject will be taken into account and that the scientific community will devote even more effort in the search for the generation of new knowledge on the subject to have more and more new and better tools for the analysis, evaluation and implementation of mixed or hybrid teaching strategies in educational institutions at all academic levels in Latin America.

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