

## Distance higher education; A review of digital tools for effective communication

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**Abstract .-** Distance professional training became as a necessary and effective method for students whose need is to be trained in a knowledge and that for different reasons do not have the possibility of attending the classroom in person. The use of digital tools is vital for the teaching-learning process and for the distance method to be effective and fulfill its purposes. In order to analyze the current context of the use of these tools, a bibliometric analysis was carried out to measure the scientific production of research works in the area of distance education, and a bibliographic analysis that allowed to obtain as a result, the main characteristics of what implies the use of digital tools for an effective communication in the development of distance higher education programs.

**Keywords:** communication, distance education, digital tools, communication channels, communication in education.

### 1. INTRODUCTION

The increase in the demand for professional training caused by advances in technological and socio-political issues, urged higher education institutions to diversify teaching methodologies (Garcia, 1999) that determined an important contribution to the satisfaction of students' need for preparation in a know-how. The training based on the use of digital tools has been as successful and efficient as the same face-to-face education, multiple factors such as flexibility, accessibility, motivation, inclusion, economy, among others, manage to develop in the student a real commitment to their training process. (Garcia A. L., 2017).

Currently, the world is going through one of the biggest health problems in recent history, the pandemic generated by the high contagions of Covid-19 that has affected multiple sectors of the world economies since its appearance in 2019. Education then faces a major challenge in not being able to provide the service in a face-to-face way as traditionally done since its inception thanks to the social distancing measures (Inter-American Development Bank, 2020) which has provided the opportunity for educational institutions to implement the use of technologies and digital tools to train their students, a practice that the higher education modality has implemented since its inception (Artavia & Castro, 2019). This has led to a high number of students being forced to migrate their processes to virtual education. The challenge is precisely to develop skills in both students and teachers to efficiently take advantage of the use of technological tools and thus optimize the teaching process.

The bibliometric analysis of the variables named Distance Education and Digital Tools for education, allows to know the evolution in terms of production of research works, and the analysis from a bibliographic approach allows to know the position of different authors regarding the main characteristics of effective communication in the learning process through the use of technological tools, so the present study is framed in the following objective:

To analyze, from a bibliometric and bibliographic perspective, the production of high impact research papers on the variable Distance Education and Digital Tools in order to determine the characteristics of effective communication in the teaching process.

## 2. METHODOLOGY

A bibliometric analysis was performed based on data provided by Scopus, where the information of interests was filtered as scientific publications in journals indexed in the same database during the period 2010-2020 to know a recent evolution of research on the topic of study related above. The result of the search yielded a total of 125 research papers that were subjected to classification according to the year of publication, authors with greater participation in the research, country of origin of the same and the specific area of knowledge that developed the articles or papers.

Through its *Analyze search results* tool Scopus allows classifying the information identified in the items mentioned in the previous paragraph, to facilitate its understanding, and in this way identify the bibliography of greater impact to identify the main characteristics that allow reaching a conclusion in compliance with the general objective.

## 3. RESULTS

Figure 1 shows the co-occurrence of words among the scientific papers identified for the development of the bibliometric analysis of the variables named Distance education and Digital tools.

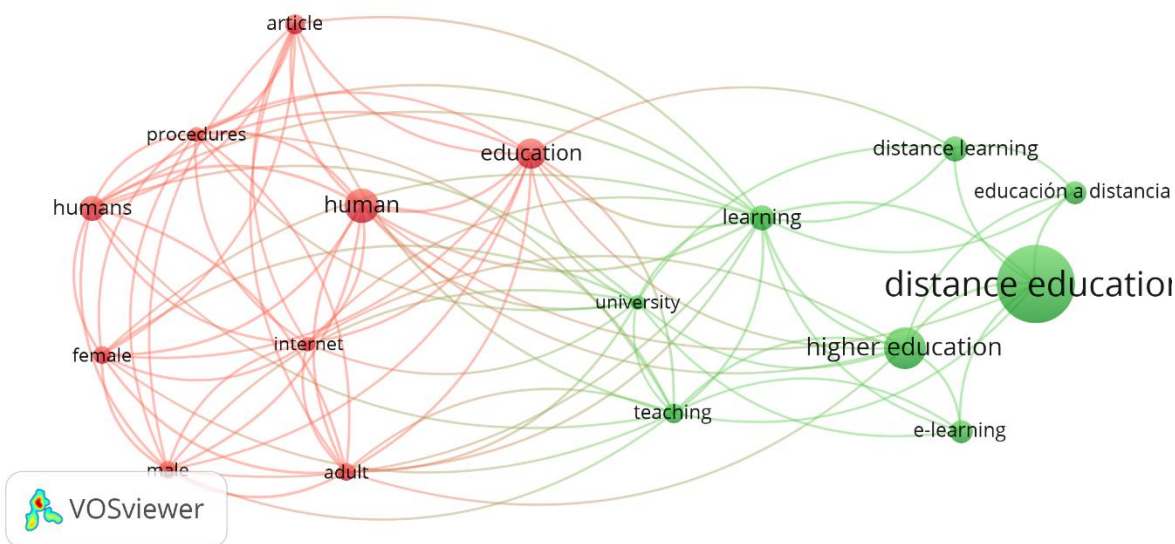


Figure 1. Cooccurrence of words in the study of the variable.

Source: Own elaboration (2021), based on data provided by Scopus through the VOSviewer tool.

Distance Education is the central theme of this study and the Figure 1 shows that it is precisely this variable that is most used in similar publications, keeping a close relationship with terms such as Higher Education, *E-learnign*, *Learning*. This allows inferring that the topics related to distance learning through the use of technological platforms focus their efforts on the constant improvement of study techniques included in the strategies applied in distance or virtual higher education programs.

**3.1 Classification of scientific production according to the year of publication.**

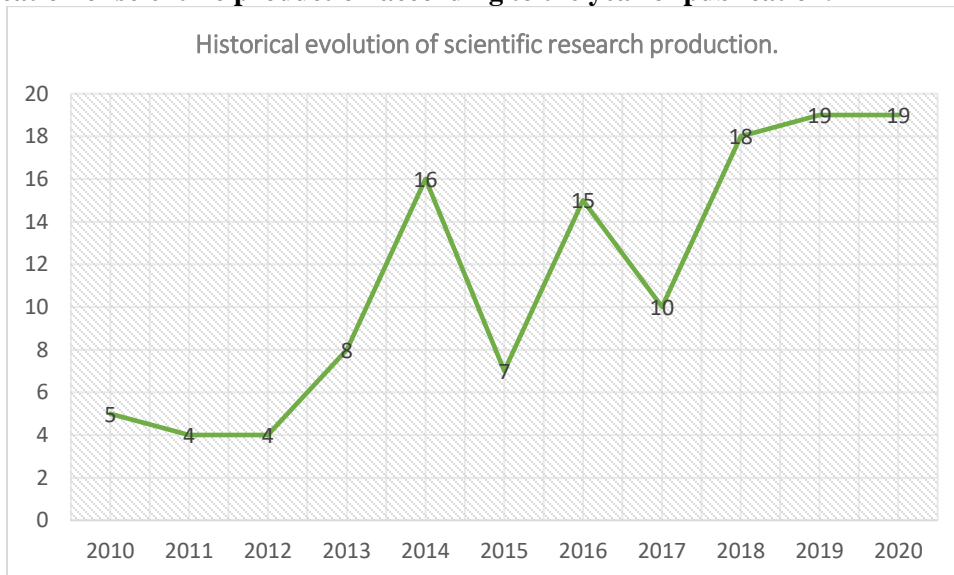


Figure 2. Historical evolution of scientific research production.

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

The annual growth of the production of research papers taken since 2010, according to Graph 1, shows marked fluctuations between 2013 and 2018 and a sustained growth between the latter year and 2020.

The peak in scientific production is located precisely in the years 2019 and 2020 with a total of 19 research papers registered by high impact journals, which allows inferring that precisely the increase in the demand for distance education by the pandemic of Covid-19 has interested the opinion of different authors worldwide who seek to generate new knowledge through the new conditions in which different sectors of the economy have had to develop, education being perhaps one of the sectors that has had to migrate towards a total virtualization of the academic contents and what this implies for the development of the teachers' functions and of course the different learning styles of the students.

The research referenced the journal article entitled "Research trends in language MOOC studies: a systematic review of the published literature (2012-2018)" which performs a systematic review of how has the scientific production been on studies related to distance education or MOOC (*Massive Open Online Course*) showing such production from different points of view as, type of research, institutions that have most developed this type of research and countries where they have been conducted (Sallam, Martín-Monje, & Li, 2020) . The results show that there is a lack of papers related to MOOC techniques focused on language teaching and that most of the analyzed publications are conference *papers*, Spain being the country with the highest number of research records on the mentioned topic. The research concludes with the opportunity for improvement in terms of the production of scientific papers focused on the MOOC modality with emphasis on language teaching. (Sallam, Martín-Monje, & Li, 2020) made important contributions for the development of other researches that are close to the main topic, presenting a total of 8 citations as registered by Scopus in its platform.

**3.2 Classification of scientific production according to country of origin.**

Figure 3 shows the frequency and relationship with which different countries around the world conduct research related to the use of digital platforms or tools in the implementation of distance learning strategies or techniques.

Spain is shown as the country with the highest scientific production in the subject related above with a total of 42 records in high impact journals (See Table 1), presenting a high collaboration with

authors of Cuban origin, Cuba being the fifth country with the highest participation with 11 publications in total.

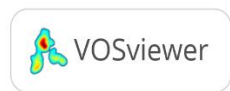
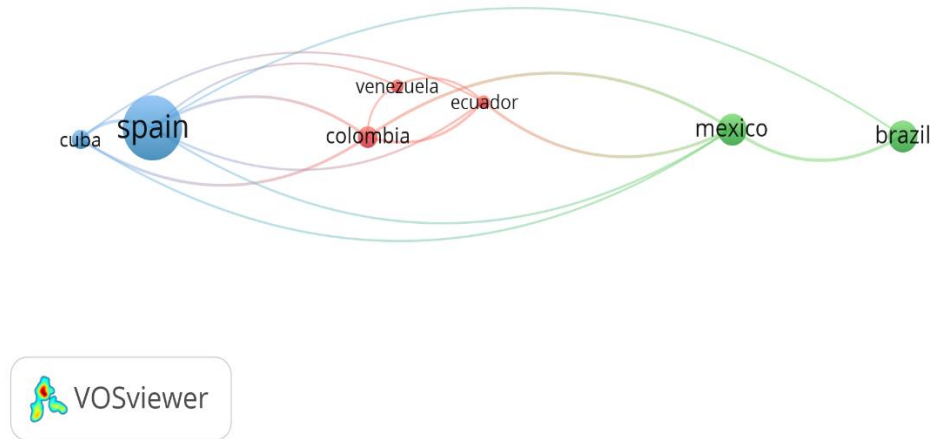


Figure 3. Classification of papers by country of origin

Source: Own elaboration (2021), based on data provided by Scopus through the VOSviewer tool.

Table 1. Total registration of research papers, by country of origin.

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

COUNTRY	DOCUMENTS	COUNTRY	DOCUMENTS
Spain	42	Egypt	1
Brazil	19	Finland	1
Mexico	19	Germany	1
Colombia	12	Greece	1
Cuba	11	Honduras	1
Ecuador	7	Jordan	1
Venezuela	7	Malta	1
Chile	5	Nicaragua	1
Peru	3	Portugal	1
Argentina	2	Singapore	1
France	2	Turkey	1
Russian Federation	2	Ukraine	1
United States	2	United Kingdom	1
Australia	1	Yemen	1
Canada	1	Undefined	2
China	1		

As shown in Table 1, Brazil occupies the second place with 19 papers in total and a direct relationship with authors affiliated with Mexican institutions, among which the journal article "Life stories and teaching experiences in the supervised practice of physical education academics - Distance mode (EAD)" stands out (Quaranta & De Lorenzi Pires, 2013). which aims to establish the relationship between the

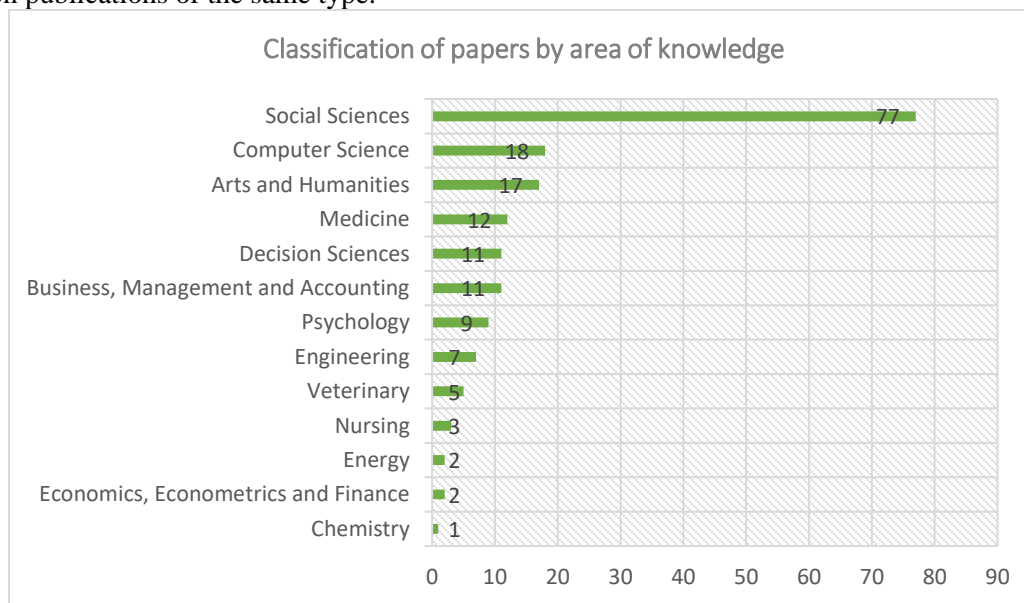
different methodologies adopted for teaching physical education and their choice based on life stories and experiences, establishing the influence between these two aspects at the time of applying these strategies.

It is worth noting that, as shown in Figure 3, the countries analyzed in this research have a large majority of authors affiliated with institutions in other countries, so the count in Table 1 does not include the total number of papers selected for analysis (125), since the same paper may have the collaboration of authors from two or more nationalities, which means that the same paper will add the two or more countries that have collaborated in its authorship.

### 3.3 Classification of scientific production according to area of knowledge.

Graph 4 shows that 77 of the 125 publications are in areas related to the social sciences, followed by Computer Sciences and Arts and Humanities with 18 and 17 publications, respectively.

The paper "*The higher education sustainability through virtual laboratories: The Spanish University as case of study*" (Salmerón-Manzano & Manzano-Agugliaro, 2018) which supports its objective in the analysis and influence of digital tools through a case study where the digitization of contents of virtual laboratories is implemented, where it is demonstrated the contribution that the strategies used in distance education, improve in most cases the effective communication between students and the institution. This study has been cited 20 times since its publication in 2018, thus being the most cited paper within those registered under the area of social sciences, allowing inferring its high impact on publications of the same type.



Graph 4. Classification of scientific production by area of knowledge.

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

Medicine occupies fourth place in the count shown in Figure 4, with a total of 12 scientific publications, among which the paper "*Usage and effectiveness of a fully automated, open-access, Spanish web-based smoking cessation program: Randomized controlled trial*" stands out. (Mañanes & Vallejo, 2014). which demonstrates the efficiency in the use of technological applications in the control of smoking patients, as through online learning, a level of commitment comparable to the implementation of face-to-face strategies is achieved, which defines very well the success of the digitalization of processes even in the management of health conditions.

## 4. CONCLUSIONS



The pandemic generated by Covid-19 has forced to change to a great extent the strategies used in education, as well as in many other sectors. Higher education institutions that did not have distance education programs, had to make use of the tools offered by technological advances which allow the digitization of academic content, which are strategies precisely implemented since the emergence of MOOCs. The above is supported by the sustainability that scientific production has shown between 2019 and 2020 when it has managed to reach the highest numbers historically speaking, on the scientific production of papers related to distance education, digital tools and effective communication in the educational process.

Spain is the country with the highest scientific production on the above-mentioned variables, which allows to conclude that the educational sector boosted the interest of researchers after going through agonizing moments in terms of the volume of Covid-19 infections, seeking to satisfy the demand of students who continued their professional training through the virtualization of contents.

The use of digital strategies for the teaching-learning process implies a growth in the levels of use of new knowledge by students, also a challenge for teachers who are forced to be updated in the provision of educational services, which translates into the quality of education and of course in the improvement of communication between the parties involved in the process. The tools currently offered by technological advances allow a contact, although not face-to-face due to its virtual nature, but effective between those who are involved in the different moments of the educational process.

## References

1. Artavia, K., & Castro, A. (2019). Implementación de herramientas tecnológicas en la educación superior universitaria a distancia. *Educacion Superior*, 13-30.
2. Banco Interamericano de Desarrollo. (2020). *La Educacion Superior en los Tiempos del Covid-19*. Washington, D.C. Obtenido de <https://publications.iadb.org/publications/spanish/document/La-educacion-superior-en-tiempos-de-COVID-19-Aportes-de-la-Segunda-Reunion-del-Di%C3%A1logo-Virtual-con-Rectores-de-Universidades-Lideres-de-America-Latina.pdf>
3. Garcia, A. L. (2017). Educacion a distancia y virtual: Calidad, disrupcion, aprendizaje adaptivo y movil. *Revista Iberoamericana de Educacion Superior*, 9-25.
4. Garcia, L. A. (1999). Historia de la Educacion a Distancia. *REVISTA IBEROAMERICANA DE EDUCACION A DISTANCIA*.
5. Mañanes, G., & Vallejo, M. (2014). Usage and effectiveness of a fully automated, open-access, spanish web-based smoking cessation program: Randomized controlled trial. *Journal of Medical Internet Research*.
6. Quaranta, A., & De Lorenzi Pires, G. (2013). Life stories and teaching experiences in the supervised internship of undergraduate students of physical education - distance education mode (ead). *Movimento*, 185-205.
7. Sallam, M., Martín-Monje, E., & Li, Y. (2020). Research trends in language MOOC studies: a systematic review of the published literature (2012-2018). *Computer Assisted Language Learning*.
8. Salmerón-Manzano, E., & Manzano-Agugliaro, F. (2018). The higher education sustainability through virtual laboratories: The Spanish University as case of study. *Sustainability (Switzerland)*.
9. Agüin, V., Melendez, R., & Cisneros, L. E. (2011). Prevention of intestinal parasitosis based on the distance learning techniques. [Prevención de parasitosis intestinal mediante técnicas de educación a distancia] *Revista Cubana De Salud Publica*, 37(2) Retrieved from [www.scopus.com](http://www.scopus.com)
10. Alfonso Sánchez, I. R. (2003). Distance education. [La educación a distancia] *ACIMED*, 11(1), 3-4. Retrieved from [www.scopus.com](http://www.scopus.com)
11. Almazán, O. M., & Cárdenas López, M. G. (2012). Distance education: New mode, new students profiles of students of psychology in mexico. [Educación a distancia: Nueva modalidad, nuevos

- alumnos Perfiles de alumnos de Psicología en México] *Perfiles Educativos*, 34(136), 118-136. Retrieved from [www.scopus.com](http://www.scopus.com)
12. Andersen, C. L., & West, R. E. (2020). Improving mentoring in higher education in undergraduate education and exploring implications for online learning. [Mejorando la mentoría en la educación universitaria y explorando las implicaciones para el aprendizaje en línea] *Revista De Educacion a Distancia*, 20(64) doi:10.6018/RED.408671
  13. Araya-Castillo, L. A., & Bernardo, M. (2019). Distance higher education service quality: Proposal of the DIHESQ and SIBDHE models. [Calidad de servicio en educación superior a distancia: Propuesta de los modelos DIHESQ y SIBDHE] *Espacios*, 40(44), 1-12. Retrieved from [www.scopus.com](http://www.scopus.com)
  14. Archer, A. B., Crispim, A. C., & Cruz, R. M. (2016). Assessment and feedback of students' performance in distance education courses. [Avaliação e feedback de desempenho de estudantes na educação a distância] *Avances En Psicología Latinoamericana*, 34(3), 473-485. doi:10.12804/apl34.3.2016.03
  15. Aretio, L. G. (2010). Are there still doubts about distance education? [Se sigue dudando de la educación a distancia?] *Revista Espanola De Orientacion y Psicopedagogia*, 21(2), 240-250. doi:10.5944/reop.vol.21.num.2.2010.11528
  16. Aretio, L. G. (2011). Theoretical perspectives of distance and virtual education. [Perspectivas teóricas de la educación a distancia y virtual] *Revista Espanola De Pedagogia*, 69(249), 255-272. Retrieved from [www.scopus.com](http://www.scopus.com)
  17. Aular, A. J. (2012). Distance education to train public servants in the area of ICTs. Paper presented at the *CISCI 2012 - Undecima Conferencia Iberoamericana En Sistemas, Cibernética e Informatica, Noveno Simposium Iberoamericano En Educacion, Cibernética e Informatica, SIECI 2012 - Memorias*, 299-304. Retrieved from [www.scopus.com](http://www.scopus.com)
  18. Avella-Forero, F., Rodriguez-Hernandez, A., & Limas-Suarez, S. J. (2019). Proposal of a human talent management by competences model for the distance and on line education. [Propuesta de un modelo de gestión de talento humano por competencias para la educación a distancia y en línea] *Espacios*, 40(39) Retrieved from [www.scopus.com](http://www.scopus.com)
  19. Avello Martínez, R., & Requeiro Almeida, R. (2018). About the article "experience in the adaptation of activities to the learning styles from postgraduate distance education". [A propósito del artículo "Experiencia en la adaptación de actividades a los estilos de aprendizaje desde la educación de posgrado a distancia"] *Revista Cubana De Educacion Medica Superior*, 32(1) Retrieved from [www.scopus.com](http://www.scopus.com)
  20. Avilés, R. F., Lucio, N. V., & Nava, J. D. (2020). Legal model of virtual distance education towards its implementation in the latin american context. [Marco legal de la educación virtual a distancia hacia su implementación en el contexto latinoamericano] *RISTI - Revista Iberica De Sistemas e Tecnologias De Informacao*, 2020(E25), 87-102. Retrieved from [www.scopus.com](http://www.scopus.com)
  21. Bernabé, M., Lisboa, A., Palací, F. J., & Martín-Aragón, M. (2014). Social identity, passion and well-being in university students, the mediating effect of passion. *Spanish Journal of Psychology*, 17(2) doi:10.1017/sjp.2014.85
  22. Bordel, B., & Mareca, P. (2020). Results and trends in educational MOOCs in the engineering area with MIRIADAX platform. A case study. Paper presented at the *Iberian Conference on Information Systems and Technologies, CISTI, , 2020-June* doi:10.23919/CISTI49556.2020.9140967 Retrieved from [www.scopus.com](http://www.scopus.com)
  23. Boticario, J. G., & Gaudioso, E. (2000). Adaptive web site for distance learning. *Campus-Wide Information Systems*, 17(4), 120-128. doi:10.1108/10650740010350693
  24. Braga, I. C. M., Guimarães-Iosif, R., & Shultz, L. (2018). The postgraduate in education in brazil and canada: Similarities and differences in the evaluation criteria. [Le études de troisième cycle en éducation au Brésil et au Canada: Approximations et distances dans les critères

- d'évaluation.] *Revista Lusofona De Educacao*, 41(41), 205-218. doi:10.24140/issn.1645-7250.rle41.13
25. Cachia, R., Aldaoud, M., Eldeib, A. M., Hiari, O., Tweissi, A., Villar-Onrubia, D., . . . Jariego, I. M. (2020). Cultural diversity in the adoption of open education in the mediterranean basin: Collectivist values and power distance in the universities of the middle east. [La diversidad cultural en la adopción de la educación abierta en las universidades de Oriente Medio: Colectivismo y distancia del poder] *Anuario Colombiano De Historia Social y De La Cultura*, 22(44), 53-82. doi:10.12795/araucaria.2020.i44.03
  26. Calle, H. R., & Isidro, S. N. (2013). Use of a virtual platform as a supporting element for the acquisition of basic mathematical skills in engineering students. Paper presented at the *Iberian Conference on Information Systems and Technologies, CISTI*, Retrieved from [www.scopus.com](http://www.scopus.com)
  27. Carrascosa, J. R. (2010). Labour insertion of uned graduates. continuous training and ways to access employment. [La inserción laboral de los titulados de la uned. Formación continua y vías de acceso al empleo] *Revista Espanola De Orientacion y Psicopedagogia*, 21(2), 412-422. doi:10.5944/reop.vol.21.num.2.2010.11555
  28. Carvajal, N. M. H. (2017). Using smartphones for ubiquitous english language learning in a higher education blended modality. [Uso Del teléfono inteligente para el aprendizaje ubicuo en la enseñanza del inglés en una modalidad de educación superior a distancia] *Revista De Pedagogia*, 38(102), 144-163. Retrieved from [www.scopus.com](http://www.scopus.com)
  29. Castrillo de Larreta-Azelain, M. D., & Martín Monje, E. (2016). Students' engagement in online language learning through short video lessons. [La participación de los estudiantes en el aprendizaje de lenguas en línea a través de vídeo clases breves] *Porta Linguarum*, 2016(26), 177-186. Retrieved from [www.scopus.com](http://www.scopus.com)
  30. Castro-Rodríguez, Y., & Lara-Verástegui, R. (2018). Perception of blended learning in the teaching-learning process by post-graduate students of dentistry. [Percepción del blended learning en el proceso enseñanza aprendizaje por estudiantes del posgrado de Odontología] *Educacion Medica*, 19(4), 223-228. doi:10.1016/j.edumed.2017.03.028
  31. Cedazo, R., Sánchez, F. M., Sebastián, J. M., Martínez, A., Pinazo, A., Barros, B., & Read, T. (2006). Cyclope chemical: A remote laboratory to control a spectrograph. Paper presented at the *IFAC Proceedings Volumes (IFAC-PapersOnline)*, , 7(PART 1) 517-522. doi:10.3182/20060621-3-es-2905.00089 Retrieved from [www.scopus.com](http://www.scopus.com)
  32. Chib, A., Bentley, C., & Wardoyo, R. -. (2019). Distributed digital contexts and learning: Personal empowerment and social transformation in marginalized populations. [Entornos digitales distribuidos y aprendizaje: Empoderamiento personal y transformación social en colectivos discriminados] *Comunicar*, 27(58), 51-60. doi:10.3916/C58-2019-05
  33. Cifuentes-Medina, J. E. (2019). Analysis of the evaluative practices of teachers in the distance program degree of bachelor in elementary education. [Análisis de las prácticas evaluativas de los profesores en el programa a distancia de licenciatura en educación básica] *Formacion Universitaria*, 12(6), 93-102. doi:10.4067/S0718-50062019000600093
  34. Colucci, B., & González, G. (2005). A new approach in leadership and professional development. Paper presented at the *ITHET 2005: 6th International Conference on Information Technology Based Higher Education and Training*, 2005, , 2005 T2A-17-T2A-27. doi:10.1109/ITHET.2005.1560226 Retrieved from [www.scopus.com](http://www.scopus.com)
  35. Contreras-Mendieta, J. A., Sarango-Lapo, C. P., Jara-Roa, D. I., & Agila-Palacios, M. V. (2019). Implementation of a remote laboratory (LR), as a support resource in an education system at distance. [Implementación de un laboratorio remoto (LR), como recurso de apoyo en un sistema de educación a distancia] *RISTI - Revista Iberica De Sistemas e Tecnologias De Informacao*, (E17), 923-935. Retrieved from [www.scopus.com](http://www.scopus.com)
  36. Cookson, P. S. (2002). Editorial: Online postgraduate education: Some reflections. *International Review of Research in Open and Distance Learning*, 3(2), 1-7. doi:10.19173/irrodl.v3i2.113



37. Córdoba Martínez, F., Castelblanco Castro, J. L., & García-Martínez, Á. (2018). Development of cognitive-linguistic skills in science through online education. [Desarrollo de las habilidades cognitivo-lingüísticas en ciencias bajo la modalidad de educación virtual a distancia] *Enseñanza De Las Ciencias*, 36(3), 163-178. doi:10.5565/rev/ensciencias.2189
38. Cornélio, R. A., & Wasner Vasconcelos, F. C. (2015). Evasion and stay student in distance education. [Evasão e permanência estudantil na educação a distância] *Opcion*, 31, 204-222. Retrieved from [www.scopus.com](http://www.scopus.com)
39. Da Silveira Borne, L. (2016). Technologies in distance music education within brazilian university settings: Looking towards teaching practice. [Tecnologías en la educación musical a distancia en contextos universitarios Brasileños. Una mirada hacia la práctica docente] *Cuadernos De Musica, Artes Visuales y Artes Escenicas*, 11(1) doi:10.11144/Javeriana.mavae11-1.temd
40. de Albuquerque, I. N. M., de Mesquita, R. F., Matos, F. R. N., Sales, R. K. L., & Sousa, L. R. M. (2015). Resistance of students to the methodology of distance education. [Resistencia del educando a la metodología de la educación a distancia] *Espacios*, 36(24) Retrieved from [www.scopus.com](http://www.scopus.com)
41. de Armas Rodríguez, N., & Osuna, J. M. B. (2020). Interactivity in distance education: An instrument for diagnosis. [La interactividad en la educación a distancia: Un instrumento para su diagnóstico] *Revista Fuentes*, 22(2), 190-202. doi:10.12795/revistafuentes.2020.v22.i2.06
42. de Jesús, H. R. M., Noel, R. O., Desiderio, B. G. D., & Lizbeth, M. H. M. (2018). Quality of distance learning in mexico: A study on accreditation processes. [Calidad de la educación a distancia en México: Un estudio sobre procesos de acreditación] *Revista Venezolana De Gerencia*, 23(1 Special Edition), 256-277. doi:10.37960/revista.v23i1.24467
43. de la Rosa, E. V., Vergara Tam, R. O., Vargas, M. A., Saavedra, L. C., & Olortegui, J. G. (2020). Distance medical education in the times of covid-19. [Educación médica a distancia en tiempos de covid-19] *Revista Cubana De Educacion Medica Superior*, 34(2), 1-10. Retrieved from [www.scopus.com](http://www.scopus.com)
44. De Oliveira Costa, M. E., & Anna, J. S. (2019). Open access and distance education: New configurations for the democratization of knowledge. [Acesso aberto e educação a distância: Novas configurações para a democratização do conhecimento] *Ciencia Da Informacao*, 48(3), 536-546. Retrieved from [www.scopus.com](http://www.scopus.com)
45. de Palma, V. M., Delgado, H., & Fischer, M. (1991). INCAP: Update of medical knowledge using long distance educational techniques. [INCAP: actualización de conocimientos de médicos, utilizando técnicas de educación a distancia.] *Educación Médica y Salud*, 25(3), 315-324. Retrieved from [www.scopus.com](http://www.scopus.com)
46. Doval, Y. (2021). Seeking robustness in a multilingual world: From pipelines to embeddings. [Buscando robustez en un mundo multilingüe: De pipelines a embeddings] *Procesamiento De Lenguaje Natural*, 66, 209-212. doi:10.26342/2021-66-20