Journal of Ecohumanism
2024
Volume: 3, No: 5, pp. 1575 – 1598
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i5.6511

Contributions and Contributions of Technological Mediations in Achieving Significant Improvements in the Teaching-Learning Process. A Systematic Review.

Rafael Cecilio Navarro[1]

Abstract

The objective of this research was to carry out a systematic review of the contribution of technological mediations in the teaching-learning process in Latin America. Regarding the methods used, the PRISMA methodology was used for systematic review work. Through the search carried out in Google Scholar, and the Dialnet and Scielo databases, and the application of the steps established by the PRISMA methodology, the final amount equivalent to 25 selected scientific articles was obtained. Indeed, the highest proportion of scientific articles (24%) has corresponded to the years 2021, 2022 and 2023 with 6 articles selected for each case, followed by the statistical figures for the years 2020 (20%) and 2019 (8%) with 5 and 2 articles selected, respectively. On the other hand, it was possible to determine that the highest proportion of selected scientific articles (36%) has corresponded to the country of Colombia with the figure of 9 studies; followed by the countries of Ecuador (20%), Mexico (16%), Costa Rica (12%) and Argentina (8%). It was concluded that, in the 25 selected articles, positive effects or implications of technological mediation on the teaching-learning process have been reported, mainly in the subjects of Reading, Mathematics, Chemistry and Physics. The positive effects of technological mediation have materialized in the improvement of the teaching-learning process, the increase in academic performance, the development of skills, a more active role of the student population, and greater motivation and attention in students.

Keywords: *Reading, Pedagogical Practice, Technology, ICT, Virtual.*

Introduction

In general terms, the education sector has undergone a set of variations and modifications as a result of the appearance of the Covid-19 pandemic; specifically, in educational institutions there was an accelerated transition from the face-to-face to the virtual modality, as well as the development of the blended modality. In close correspondence with the above information, for this particular context a transcendental question arises around the effects of innovation and technological advances on teaching-learning processes. Since the emergence of Information and Communication Technologies (ICT), the internet, digital transformation and the increase in connectivity, the development and subsequent strengthening of capacities and knowledge in technology have been required. (Perez- Vertel et al., 2023; Saladino et al., 2020)

With respect to the previous premise, it is relevant to specify the relevance that the agents responsible for the execution of educational policies and the lines of action around teaching practice can take into consideration the use of these technological tools. In a context where the strengthening of teaching-learning processes is required, the development of learning structures mediated by technology plays a very important role, even more so in the digital age. In accordance with the previous statement, through technological mediation the conjunction between the technological and the pedagogical can be carried out, so that through this synergy it can have a direct and significant contribution to the formation, development and enhancement of new knowledge and learning. For this scenario, it is essential to apply certain strategies that can be in line with existing technological innovations, and that, based on this, improvements can be introduced on the relevance and coherence in the process of training teachers, consequently, in the quality of the education provided. (Perez- Vertel et al., 2023)

Taking as a starting point the process of migration from traditional study classrooms to virtual classrooms characterized by technological mediation, it is necessary that in these new spaces the motivation of students in terms of their participation in these new teaching-learning processes can be fostered and promoted. In

[1] Tecnológico de Antioquia, Institución Universitaria, Antioquia, Colombia, Email: rayaic@hotmail.com, https://orcid.org/0009-0005-5756-2834

Journal of Ecohumanism
2024
Volume: 3, No: 5, pp. 1575 – 1598
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i5.6511

relation to the previous analysis, the term technological mediations can be conceptualized as a set of strategies or new methodologies that have a direct contribution to the achievement of significant knowledge and the development of technological skills and competencies linked to a certain subject or academic area. With respect to the above information, given the close relationship between technological mediation and learning, teachers are responsible for guiding and strengthening the learning process through the application of certain strategies aimed at this particular objective. (Landinez, 2020; Ortega et al., 2022)

In this sense, it is important to specify that the role played by the teaching staff is fundamental for the training process of the student population, because teachers are responsible for contributing to the development of appropriate environments for learning, through the performance of certain activities within the classroom. In close correspondence with the previous premise, it is required that the teaching staff has the ability to generate those strategies that contribute to the construction of a learning scenario, based on a previous analysis of the circumstances and conditions that characterize a given educational environment. (Heredia et al., 2022; Hoyos & Torres, 2023)

Regarding the importance of technological mediation in terms of introducing improvements in the teaching-learning process, vocational training and educational quality, the central objective of this research work is to carry out a systematic review of the contribution and contribution of technological mediations in the teaching-learning process, for the context of Latin America.

Materials and Methods

In this section, the steps followed in the research will be detailed, focusing on the methodology used to address the objective of the study regarding the contribution of technological mediations in the teaching-learning process, for the context of Latin America. In close agreement with the previous information, it is important to specify that this research work has been based on a systematic review of the literature on the topic of study of the work in question. With regard to the rigor and compliance with certain quality criteria, a sequential set of standardized phases has been developed in the development of systematic review processes. In fact, the present research has adhered to the quality standards of the PRISMA declaration; around the following aspects: the study selection process, the eligibility criteria for this process, the sources of information, the process of synthesis of results and data extraction activities.

Eligibility Criteria

For the purposes of this research, those studies that have addressed the analysis of the contribution of technological mediations in the teaching-learning process of a particular subject or academic area have been selected, as well as works whose period of seniority is not more than five years old. With respect to the above information, those works that are conference proceedings, editorial notes, theses, books and reviews or reviews, as well as studies that have restrictions on their access (not open access), have been excluded. In this sense, those articles that do not closely fit the object of study of this research work have not been considered.

Data Collection Procedure

Regarding the above information, the data required for the systematic review process have been collected both from the Google Scholar search engine, as well as from the Dialnet and Scielo databases. In fact, it is important to point out that, for the search process in these databases mentioned above, the use of certain connectors has been required, such as "OR" and "AND". In close agreement with the previous information, the initial search through the use of the phrase "technological mediations" resulted in a considerable number of studies related to the topic addressed in this work, as well as works that had little relationship with the object of study of this research. Faced with this scenario, we proceeded to include more specifications in the study search process, such as the words "teaching" and "learning", in order to carry out a more detailed search around the contribution of technological mediations in the teaching-learning process of a certain subject or academic area.

Journal of Ecohumanism
2024
Volume: 3, No: 5, pp. 1575 – 1598
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i5.6511

In this sense, for the selection of the most relevant studies on topics that are closely linked to the contribution of technological mediations in the teaching-learning process, the use of the specification based on the inclusion of the words "technological mediations", "teaching", and "learning", in conjunction with the connectors described above, has been required. In specific terms, this search resulted in the following statistics: 48 studies from Google Scholar, 75 from the Dialnet database, and 29 in the case of Scielo, a total figure equivalent to 152 papers. Through the search carried out in Google Scholar, and the Dialnet and Scielo databases, and the application of the steps established by the PRISMA methodology, the final amount equivalent to 25 selected scientific articles was obtained, as presented in Figure 1.

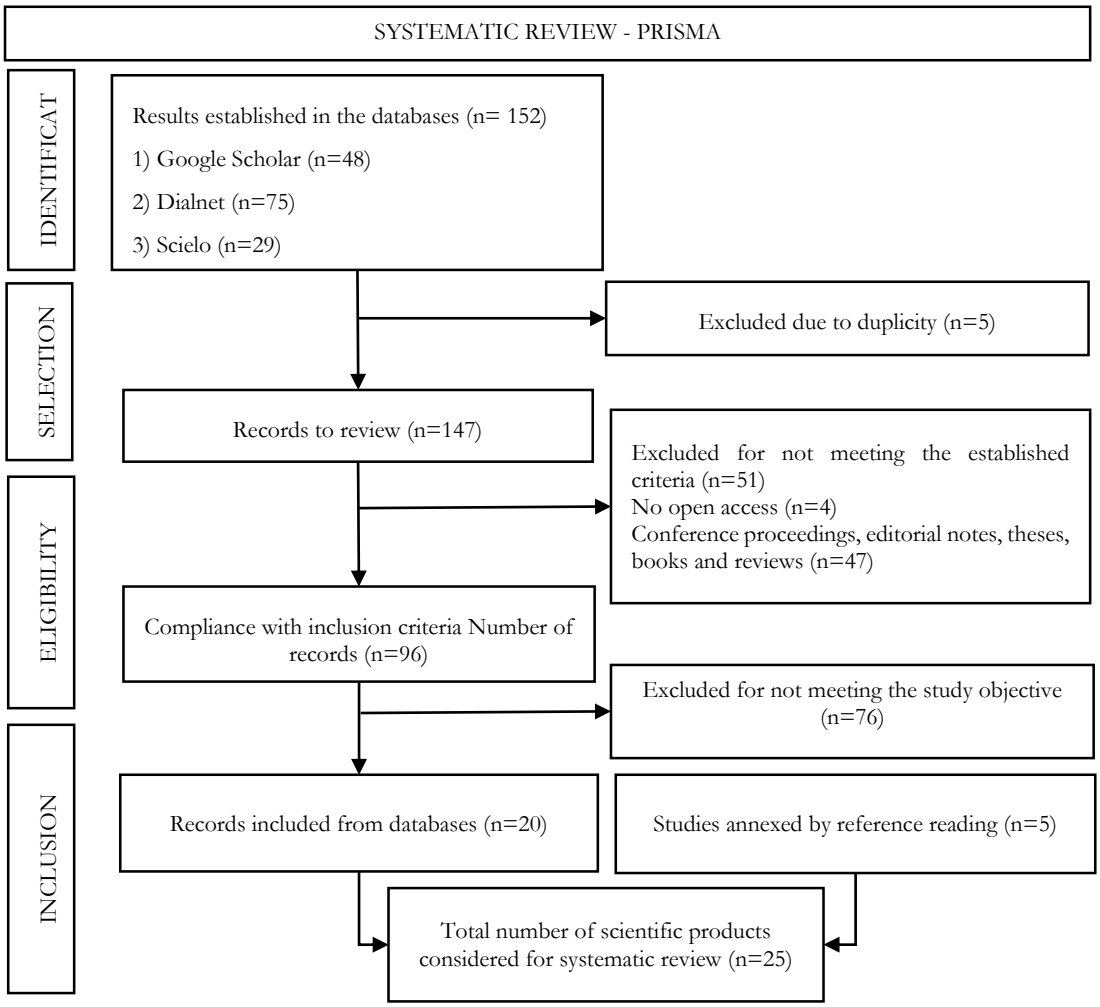


Figure 1.

PRISMA Methodology

Regarding the data presented in Figure 1, it was possible to determine that, of the 152 articles initially identified in the Google Scholar search engine and the Dialnet and Scielo databases, the figure was reduced as those studies that did not meet the established criteria were discarded. In close agreement with the previous information, after the reduction according to the criterion of linkage with the study objective, the figure was equivalent to 20 articles, which together with those studies that were added through the review of the reference sections (5), gave as a final result the figure of 25 selected articles.

Journal of Ecohumanism
2024
Volume: 3, No: 5, pp. 1575 – 1598
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i5.6511

Results and Discussion

Regarding the works finally chosen for the systematic review of this research work, Table 1 presents the synthesized information (title, results, authors, date and journal) of the 25 selected articles.

Table 1. Articles Selected for Systematic Review

Nro.	Title	Authors	Results	Country	Year	Magazine
1	Technological Mediations for the Development of Communicative Semantic Competence - Inferential Reading in Elementary School	María C. Bárcenas Morales, Paolo D. Mercado Gómez and Nohemy Carrascal Torres	Regarding the determination of the degree of incidence of environments mediated by Information and Communication Technologies (ICT), it was possible to determine that the applicability of new practices and methodological strategies has contributed to the generation of an adequate climate at the school level, characterized by high levels of motivation in students. Likewise, improvements were introduced in the semantic competencies of the students, who went from having a low to a medium level in inferential reading.	Colombia	2019	Assensus. Journal of Educational and Pedagogical Research
2	Analysis of the educational environment and technological mediations in the virtual teaching of morphological sciences in a pandemic	Javier Elías Fernández Calderón and Mario Anibal Sambrizzi Vicenzotti	The approach of the study has focused on carrying out an exploratory analysis on the use of technological means by students of the Faculty of Dentistry of the National University of Córdova, for the context of the relationship between technological mediations and the teaching process. 64% of the total number of students surveyed stated that the virtual teaching modality was deficient, in addition, the existence of inequities in the availability of the technological means required for learning could be evidenced.	Argentina	2021	REFO. Journal of the Faculty of Dentistry

Journal of Ecohumanism
2024
Volume: 3, No: 5, pp. 1575 – 1598
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i5.6511

3	Inferential Reading and Technological Mediations in Elementary School in Colombia	Alexander Montes Miranda, Gerson Fredy Morales Rodríguez and Andrés Antonio Alarcón Lora	The objective was to carry out an evaluation of m-learning as a strategy that greatly contributes to the strengthening of reading comprehension at the inferential level, in the case of students from an educational institution in Valle del Cauca. In specific terms, the low level in inferential reading was reduced from 36% to 0%, as well as the basic level where the decrease was from 7% to 3%, while an increase was reported both in the high level (from 17% to 37%) as well as in the higher level (from 7% to 60%). It was determined that the mediation of m-learning had a direct impact on the strengthening of reading comprehension processes at the inferential level.	Colombia	2023	Oratores Magazine
4	Transformative pedagogical practices with technological mediations in teachers in Montería – Córdoba – Colombia	Viviana Carlota Pérez Monterroza	Regarding the teachers of Montería-Córdoba in Colombia, an important clarification has been made about the need for these agents to have better professional training in the context of Information and Communication Technologies, and their integration into pedagogical practices. In close agreement with the previous premise, ICTs are tools that contribute greatly to the transformation of teaching and learning processes; it also had direct effects on students' academic performance. Similarly, these tools have had a positive impact on the role of the teacher in terms of methodological practices.	Colombia	2023	Latin Science. Multidisciplinary Scientific Journal

Journal of Ecohumanism
2024
Volume: 3, No: 5, pp. 1575 – 1598
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i5.6511

5	Technological mediations as opportunities for didactic innovation at the higher level	Ana Griselda Díaz	The results of the study have been prepared based on the perspective of the students of the National University of Catamarca (UNCA) around the features that have characterized the use of digital technologies (innovation). Given that the inclusion of technological-educational mediations represents a challenge to current knowledge in terms of pedagogy, they also constitute an opportunity for the construction of knowledge and skills in accordance with the educational demands of contemporary societies.	Peru	2023	SIDED
6	Analysis of teachers' perceptions of the implementation of e-assessment in universities	Bibiana María Cuervo Montoya, Katerin Johana Valencia Posada, Victor Daniel Calvo Betancur and Tarcilo Torres Valois	Regarding the main findings of the study, it was possible to determine that the surveyed population has stated that e-evaluation contributes greatly to the achievement of improvements in learning environments, for the context of the courses taught in the university training process. Based on the opinions and perceptions collected through the corresponding instruments, it was possible to conclude that improvements in teaching and learning are reported as a result of the implementation of the e-evaluation methodology.	Colombia	2023	Technology, Science and Education Journal
7	Student Perceptions and Use of GeoGebra in Mathematics Teaching: A Comparative Analysis Across Grades	Francisco Javier Córdova Gómez, Luis Fernando Mariño and Carlos Antonio Pavón Galán	In this sense, the objective has been linked to the analysis of students' perception of the use of GeoGebra as a tool that directly contributes to mathematical learning. In general, the perception of students towards this application has been positive, regarding its use in the classroom. Regarding the previous premise, the use of	Colombia	2023	Perspectives Magazine

Journal of Ecohumanism
2024
Volume: 3, No: 5, pp. 1575 – 1598
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i5.6511

			GeoGebra can be a mediating tool both at the pedagogical and technological level, which can be used to support the processes of mathematics teaching.			
8	Education and technology. a relational analysis on the didactic contribution of ICT	Milton César Bermúdez Obandol	The research has been directed towards the evaluation of the relationship between the variables of technology and face-to-face education, for the context of the Institute of Diversified Secondary Education - INEM - Jorge Isaacs. In fact, it was possible to determine that the relationship between the variable of technology and education in the learning process is one of complementarity and reciprocity; therefore, an adequate management of digital resources and tools can directly contribute to the development of competencies required in the case of the topics that make up the area of social sciences.	Colombia	2022	Academia y Virtualidad Magazine
9	University didactics in virtual environments. Social Science Expertise	Isabel Araya-Muñoz and Jilma Majano-Benavides	In terms of results, it was determined that the incorporation of technological means contributes greatly to the process of learning diversification. In relation to what has been described above, training agents are required to strengthen their basic, technical and technological competencies, so that innovative spaces can be generated, not only among their peers, but also with the agents that are part of their virtual teaching and learning environments.	Costa Rica	2022	Educare Electronic Journal

Journal of Ecohumanism
2024
Volume: 3, No: 5, pp. 1575 – 1598
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i5.6511

10	Innovative Teaching of Mathematics with Technological Mediation: Experience in a Higher Education Institution	Prisila Alexandra Mantilla Crespo	This study was directly linked to the analysis of a teaching model of Financial Mathematics, with the mediation of Information and Communication Technologies. Based on the processing of the results through the SPPS software, it was possible to conclude that innovative learning environments mediated with ICT have greatly contributed to promoting the following aspects: collaborative work, debate, reflection, inquiry, exchange of ideas and experimentation; and, therefore, they tend to enhance learning processes.	Ecuador	2022	Educare
11	Technological tools and their impact on English language teaching in the rural area of the Jipijapa canton	Glenda Yasmín Mantuano-Cedeño and Julio Cesar Rivadeneira-Barreiro	The approach of the research has been oriented to the evaluation of the incidence of the use of technological tools on the teaching-learning process of English in rural areas of Ecuador, specifically in the context of the Dr. Miguel Moran Lucio Educational Unit. Based on the results derived from the application of surveys to students and teachers, a high satisfaction was reported regarding the use of technological tools. Regarding the previous premise, it was possible to determine that Information and Communication Technologies offer a wide variety of resources that can have a direct contribution to the development of communicative competencies in the case of the English language.	Ecuador	2022	Peer-Reviewed Multidisciplinary Scientific Journal "YACHASUN"
12	VR and AR Apps for Chemistry and Geography in High School	Cristian Ulises Barenca Sotelo, Guillermo Emanuel Villegas	In this sense, the objective of the research work has been closely related to the development of two Augmented Reality (AR) applications for the subjects of Chemistry and	Mexico	2022	INVURNUS

Journal of Ecohumanism
2024
Volume: 3, No: 5, pp. 1575 – 1598
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i5.6511

		Guevara, Jeniffer Diego García, Fernando Rodríguez Haro, Efraín Villalvazo Laureano and Juan Miguel González López	Geography, and a Virtual Reality (VR) application for everything related to immersive navigation. Based on the main findings of the work, it was concluded that the use of AR and VR complements the learning process; Likewise, immersion has been a stimulating experience because it transmits the sensation of being physically in a different place from the current one, in the case of the participating agents.			
13	Virtual Club. Teaching and learning strategy for strengthening critical reading	Ángela María Bonilla Vergara, Andrea Carolina Triana Guerra and Alexandra María Silva Monsalve	The approach of the study has focused on the analysis of the implementation of a virtual reading club, which is constituted as a teaching and learning strategy, whose purpose has been to strengthen critical reading. In general terms, the results have been positive, due to the fact that improvements were reported in the performance of students in critical reading. Likewise, it was possible to determine that technological mediation in the teaching-learning process has had a direct contribution both to the motivation of students, as well as to the strengthening of the process.	Colombia	2021	Ibero-American Journal of Education
14	Perception of the usability of the VISIR remote laboratory as a tool for learning physics in secondary school	Jorge Andrey Lobo Castellón, Luis Felipe Paniagua Orozco and Carlos Arguedas-Matarrita	The research has focused on the use of the remote laboratory called Virtual Instruments System in Reality (VISIR) in the process of teaching the topics of electrical circuits, for the context of two secondary education institutions in Costa Rica. Based on the results derived from the quantitative analysis on the perception regarding the usability of remote laboratories, it was concluded that these	Costa Rica	2021	Journal of Physics Teaching

Journal of Ecohumanism
2024
Volume: 3, No: 5, pp. 1575 – 1598
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i5.6511

			resources have been very useful for carrying out experimental work, applied in remote mode. In the same way, these tools are attractive for students, for the context directly linked to the use of technological tools as complements to virtual education.			
15	Pedagogical practices supported by mobile technologies opportunities to enhance the learning of the student population	Melissa Villalobos-García and Olmer Núñez-Sosa	Based on the results of the comparative analysis, it was possible to determine that those students who received pedagogical support in the incorporation of mobile technologies in their learning processes, were considered more competent users of these tools. Similarly, these students have reported a greater repertoire of knowledge about the inclusion of these tools in the educational context; likewise, in this population the conditions for the efficient use of social networks have been presented.	Costa Rica	2020	Educational Innovations
16	Techno-pedagogical mediation strategies in virtual learning environments	Moramay Ramírez-Hernández, Elizabeth Cortéz Palma and Angelina Díaz Alva	In this sense, the importance of establishing techno-pedagogical mediation strategies in the context of the implementation of a virtual learning environment (VLE) is highlighted. With respect to the previous premise, the role of the VPA is synthesized in its support function in tutoring, as well as its important contribution to the enrichment of students' learning experiences with respect to the strengthening of their professional training. It is also important to make a clarification regarding the use of ICTs, because technological skills are determining elements in the professional training of students, for the context of higher education.	Mexico	2020	Opening: Journal of Educational Innovation

Journal of Ecohumanism
2024
Volume: 3, No: 5, pp. 1575 – 1598
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i5.6511

17	Teaching and learning the design sketch through technological mediators	Camilo Angulo-Valenzuela and María Cristina Ascuntar-Rivera	The research approach has been directed towards the analysis of the potentialities of technological mediators in the teaching and learning processes of the sketch in the subject of industrial design, for the context of the cities of Pasto and Bogotá. For the purposes of the study in question, it was possible to articulate the project-based learning variable and design teaching, through the use of technological tools and digital environments. Regarding the main results, it was concluded that technological mediation contributes greatly to the development of new pedagogical dynamics for sketching in industrial design.	Colombia	2020	Latin American Journal of Educational Studies
18	Technological Mediation of Teaching and Learning in Higher Education	Ingrid Tornay and Carla Villagran	An evaluation of mediation through Virtual Teaching and Learning Environments (VLEs) has been carried out based on the value that students give to these tools. According to the opinions of the students, these tools have become a means by which students can be in permanent contact with the teachers, with the aim of clarifying doubts or making certain queries. The importance of considering everything related to the relationship between pedagogy and didactics, and technological knowledge, is highlighted.	Argentina	2020	Hologrammatics
19	Mobile technological environments as a space for learning mathematics and their value in the transformation of	Norelis Espitia Ramos and Isabel Sierra Pineda	Regarding the main findings, it was possible to determine that the implementation of mobile technological environments in the teaching-learning processes for the context of the subject of mathematics, has greatly contributed to the transformation in pedagogical practice, as well	Colombia	2019	Dialogue

Journal of Ecohumanism
2024
Volume: 3, No: 5, pp. 1575 – 1598
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i5.6511

	educational practices		as to the improvement of the quality of learning. Regarding the positive effects of this implementation, the following aspects stand out: a didactic integration of technological tools as mediation to the curricular guidelines, a greater organization in the pedagogical work, and transparency in the learning process			
20	University students reading through Information and Communication Technologies and the skills demanded	María Isabel Ñunez Flores and Marcela del Rocío Ramírez Mercado	The approach of the work has focused on the evaluation of the changes introduced in reading as a result of the mediation of Information and Communication Technologies (ICT), based on the application of a survey aimed at 132 students belonging to two professional schools of the University of Guadalajara. Based on the results derived from the application of the survey, it was possible to determine that reading through the use of these technological tools was characterized by greater diversity and complexity, as well as a globalizing stance. Similarly, it is important to specify that the use of ICT has had a direct impact on the increase in motivation in students.	Mexico	2022	Zincography
21	Learning technologies and knowledge in the teaching process	Iris María Girón Sánchez	The research has focused on the analysis of the use of Learning and Knowledge Technologies (TAC), and its close relationship with the development of meaningful learning, based on the information collected from students of the University of San Carlos de Guatemala. All teachers have stated that technology has become an essential element in didactics, due to its innovative nature;	Guatemala	2021	International Scientific Journal

Journal of Ecohumanism
2024
Volume: 3, No: 5, pp. 1575 – 1598
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i5.6511

			likewise, it was concluded that, through ICT and TAC, improvements in teaching practices were produced. Similarly, through the application of these technological tools, improvements were introduced in the variable of better academic performance			
22	Use of Technology as a Preponderant Resource in Distance Learning in Times of Social Confinement	Kristian Armando Pineda-Castillo	Based on the empirical data that were obtained through the application of online questionnaires, Learning and Knowledge Technologies (TAC) have had a direct and very significant contribution to the learning process, especially in terms of the training of proactive students. In this sense, since TACs represent a varied set of possibilities for access to learning and knowledge, these tools enable better management of the learning process. Similarly, through the use of TACs, students have organized and ordered their corresponding learning process.	Mexico	2021	Technological-Educational Journal Teachers 2.0
23	Contribution of learning and knowledge technologies to the digital skills of students in higher basic education	Aracely Yoza and Carlina Vélez	Regarding the main results, it was possible to determine that students value the importance of these tools within learning, in terms of their innovative nature. It was concluded that the implications of the application of TACs are positive, because the use of these tools produces an increase in motivation in classrooms, and has also made it possible to introduce improvements in terms of attention and student engagement. In contrast, among the barriers that contribute to a deficient application of these tools are both the digital divide and the low level of training of teaching staff.	Ecuador	2021	Innova Education Magazine

Journal of Ecohumanism
2024
Volume: 3, No: 5, pp. 1575 – 1598
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i5.6511

24	Technology in the learning of students of the Faculty of Chemical Sciences, Central University of Ecuador	Elithsine E. Espinel Armas	Regarding the main findings, students have positively valued the use of new technologies in their learning process, so ICT is an element that needs to be pedagogically included in this process as mediating elements of learning. In this sense, the efficient planning and use of these mediating elements inside the classroom will greatly contribute to the achievement of skills and abilities.	Ecuador	2020	Journal of Investigative News in Education
25	Emerging educational technologies to strengthen the teaching-learning process in third year high school students in times of pandemic.	María Guadalupe Mendoza Zambrano, Geilert De la Peña Consuegra and María Fernanda Linzán Santos	The approach of the research study has been directed towards the analysis of the use of emerging educational technologies to strengthen the teaching-learning process, in the context of the "4 de noviembre" Fiscal Educational Unit in Ecuador. Regarding the main findings, the use of these educational technologies in training processes guarantees meaningful learning in students. Similarly, through this type of emerging technological tools, teachers can be trained in the application of these tools, and they also contribute to the development of higher levels of motivation in the student population.	Ecuador	2023	MQRInquire

Note. Own elaboration

Regarding the above information, the results of a study are highlighted, whose objective was directly linked to the determination of the degree of incidence of environments mediated by Information and Communication Technologies (ICT), it was possible to determine that from the applicability of new practices and methodological strategies has contributed to the generation of an adequate climate at the school level, characterized by high levels of motivation in students. Likewise, improvements were introduced in the semantic competencies of the students, who went from having a low performance to a medium level in terms of inferential reading. (Bárcenas et al., 2019)

In accordance with the previous premise, it is important to make a clarification regarding a work whose approach has focused on carrying out an exploratory analysis on the use of technological means by students of the Faculty of Dentistry of the National University of Córdova, for the context of the relationship between technological mediations and the teaching process. 64% of the total number of students surveyed stated that the virtual teaching modality was deficient, in addition, it was possible to evidence the existence

Journal of Ecohumanism
2024
Volume: 3, No: 5, pp. 1575 – 1598
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i5.6511

of inequities in the availability of the technological means required for learning. (Fernández & Sambrizzi, 2021)

Similarly, it is important to mention the results of a study whose objective was to carry out an evaluation of M-learning as a strategy that greatly contributes to the strengthening of reading comprehension at the inferential level, in the case of initial level students belonging to an educational institution in Valle del Cauca. In specific terms, the low level in inferential reading was reduced from 36% to 0%, as well as the basic level where the decrease was from 7% to 3%, while an increase was reported both in the high level (from 17% to 37%) as well as in the higher level (from 7% to 60%). It was determined that the mediation of M-learning had a direct impact on the strengthening of reading comprehension processes at the inferential level. (Montes et al., 2023)

Regarding the teachers of Montería-Córdoba in Colombia, an important clarification has been made about the need for these agents to have better professional training in the context of Information and Communication Technologies, and their integration into pedagogical practices. In close agreement with the previous premise, ICTs are tools that contribute greatly to the transformation of teaching and learning processes; it also had direct effects on students' academic performance. Similarly, these tools have had a positive impact on the role of the teacher in terms of methodological practices. (Pérez, 2023)

It is also important to mention a study, the results of which have been prepared based on the perspective of students of the National University of Catamarca (UNCA) around the features that have characterized the use of digital technologies (innovation). Given that the inclusion of technological-educational mediations represents a challenge to current knowledge in terms of pedagogy, they also constitute an opportunity for the construction of knowledge and skills in accordance with the educational demands of contemporary societies. (Díaz, 2023)

Regarding the previous premise, it is necessary to highlight the findings of a study, whose objective has focused on an analysis based on the description of teachers' perceptions regarding the relevance of the implementation of e-evaluation in their corresponding university training courses. Regarding the main findings of the study, it was possible to determine that the surveyed population has stated that e-evaluation contributes greatly to the achievement of improvements in learning environments, for the context of the courses taught in the university training process. Based on the opinions and perceptions collected through the corresponding instruments, it was possible to conclude that improvements in teaching and learning are reported as a result of the implementation of the e-evaluation methodology. (Cuervo et al., 2023)

In close agreement with the previous premise, the findings of a study whose approach has focused on GeoGebra are highlighted, an application used with the purpose of introducing improvements in the process of understanding the topics corresponding to the area of mathematics, for the context of elementary and middle level students. In this sense, the objective has been linked to the analysis of students' perception of the use of GeoGebra as a tool that directly contributes to mathematical learning. In general, the perception of students towards this application has been positive, regarding its use in the classroom. Regarding the previous premise, the use of GeoGebra can be a mediating tool both at the pedagogical and technological level, which can be used to support the processes of mathematics teaching. (Córdoba-Gómez et al., 2023)

Similarly, it is important to mention the results of a research that has been directed towards the evaluation of the relationship between the variables of technology and face-to-face education, for the context of the Institute of Diversified Secondary Education - INEM - Jorge Isaacs, located in the city of Cali - Colombia and for the specific case of the secondary level. In fact, it was possible to determine that the relationship between the variable of technology and education in the learning process is one of complementarity and reciprocity; therefore, proper management of digital resources and tools can directly contribute to the development of competencies required in the case of the topics that make up the area of social sciences. (Bermúdez, 2022)

Journal of Ecohumanism
2024
Volume: 3, No: 5, pp. 1575 – 1598
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i5.6511

Regarding the above information, the findings of a study whose approach has focused on the analysis of the incorporation of technological means in the teaching-learning processes (virtual modality), for the context of the social sciences area of the National University in Costa Rica, are highlighted. In terms of results, it was determined that the incorporation of technological means contributes greatly to the process of learning diversification. In relation to what has been described above, training agents are required to strengthen their basic, technical and technological competencies, in order to generate innovative spaces, not only among their peers, but also with the agents that are part of their virtual teaching and learning environments. (Araya-Muñoz & Majano-Benavides, 2022)

Likewise, it is important to make a clarification about the results of a study, which is directly linked to the realization of an analysis of a teaching model of Financial Mathematics, with the mediation of Information and Communication Technologies, for the context of the careers of Economics and Business Administration corresponding to a private university. Based on the processing of the results through the SPPS software, it was possible to conclude that innovative learning environments mediated with ICT have greatly contributed to promoting the following aspects: collaborative work, debate, reflection, inquiry, exchange of ideas and experimentation; and, consequently, they tend to enhance learning processes. (Mantilla, 2022)

In close correspondence with the above information, the results of a study whose approach has been oriented to the evaluation of the incidence of the use of technological tools on the teaching-learning process of English in rural areas of Ecuador, specifically in the context of the Dr. Miguel Moran Lucio Educational Unit, are highlighted. Based on the results derived from the application of surveys to students and teachers, a high satisfaction was reported regarding the use of technological tools. Regarding the previous premise, it was possible to determine that Information and Communication Technologies offer a wide variety of resources that can have a direct contribution to the development of communicative competencies in the case of the English language. (Mantuano-Cedeño & Rivadeneira-Barreiro, 2022)

The use of complementary tools for education with technological mediation has a direct contribution to the achievement of improvements in the teaching-learning process. In this sense, it is important to highlight the results of a study, whose research objective has been closely related to the development of two Augmented Reality (AR) applications for the subjects of Chemistry and Geography, and a Virtual Reality (VR) application for everything related to immersive navigation. Based on the main findings of the work, it was concluded that the use of AR and VR complements the learning process; Likewise, immersion has become a stimulating experience because it transmits the sensation of being physically in a different place from the current one, in the case of the participating agents. (Barenca et al., 2023)

Similarly, it is necessary to mention the main findings of a research work that has focused on the analysis of the implementation of a virtual reading club, which constitutes a teaching and learning strategy, whose purpose has been to strengthen critical reading in students of basic primary education. in the case of the Nuestra Señora de Fátima Educational Institution in Tolima - Colombia. In general terms, the results have been positive, due to the fact that improvements were reported in the performance of students in critical reading. Likewise, it was possible to determine that technological mediation in the teaching-learning process has had a direct contribution both to the motivation of students, as well as to the strengthening of the process in question. (Bonilla et al., 2021)

Regarding the above information, the results of a study that has focused on the use of the remote laboratory called Virtual Instruments System in Reality (VISIR) in the process of teaching the topics of electrical circuits, for the context of two secondary education institutions in Costa Rica, are highlighted. Based on the results derived from the quantitative analysis on the perception regarding the usability of remote laboratories, it was concluded that these resources have been very useful for carrying out experimental work, applied in remote mode. In the same way, these tools are attractive for students, for the context directly linked to the use of technological tools as complements to virtual education. (Lobo et al., 2021)

In accordance with the previous premise, it is important to specify the main findings of a study whose approach was oriented towards the identification of those key aspects that contribute to the use of mobile

Journal of Ecohumanism
2024
Volume: 3, No: 5, pp. 1575 – 1598
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i5.6511

technologies in learning processes, based on a comparative analysis carried out for two populations of secondary school students belonging to the beneficiary and non-beneficiary institutions of the educational proposals of the Area of Learning with Mobile Technologies (MTT). Based on the results derived from the comparative analysis, it was possible to determine that those students who received pedagogical support in the incorporation of mobile technologies in their learning processes were considered more competent users of these tools. Similarly, these students have reported a greater repertoire of knowledge about the inclusion of these tools in the educational context; Likewise, in this population, the conditions required for the efficient use of social networks have been presented. (Villalobos-García & Núñéz-Sosa, 2020)

Indeed, the importance of establishing techno-pedagogical mediation strategies in the context of the implementation of a virtual learning environment (VLE) is highlighted. Likewise, the results of a research whose central objective has been narrowly oriented to the introduction of improvements in the efficiency of a virtual tutoring platform in the teaching-learning process are highlighted. With respect to the previous premise, the role of the VPA is synthesized in its support function in tutoring, as well as its important contribution to the enrichment of students' learning experiences with respect to the strengthening of their professional training. It is also important to make a clarification regarding the use of ICTs, because technological skills are determining elements in the professional training of students, for the context of higher education. (Ramírez et al., 2020)

Similarly, it is necessary to mention the findings of a study that has been directed towards the analysis of the potentialities of technological mediators in the processes of teaching and learning the sketch in the subject of industrial design, for the context of the cities of Pasto and Bogotá. For the purposes of the study in question, it was possible to articulate the project-based learning variable and design teaching, through the use of technological tools and digital environments. Regarding the main results, it was possible to conclude that technological mediation contributes greatly to the development of new pedagogical dynamics for sketching in industrial design. (Angulo-Valenzuela & Ascuntar-Rivera, 2020)

For its part, it is important to mention the findings of a research where an evaluation has been carried out regarding the mediation of Virtual Teaching and Learning Environments (VLEs) based on the value that students give to these tools. For the purposes of this analysis, the use of Edmodo as an educational platform and technological tool has been included; In general terms, this type of tool has various uses, and its design has been structured in order to facilitate the process of exchanging information and knowledge. According to the opinions of the students, these tools have become a means by which students can be in permanent contact with the teachers, with the aim of clarifying doubts or making certain queries. In this sense, the importance of considering everything related to the relationship between pedagogy and didactics, and technological knowledge, is highlighted. (Tornay & Villagran, 2020)

In close correspondence with the previous premise, it is important to mention the results of a work focused on the analysis of the value that mobile technological environments have both in the transformation of teaching practices, as well as in the quality of learning in the subject of mathematics. Regarding the main findings, it was possible to determine that the implementation of mobile technological environments in the teaching-learning processes for the context of the subject of mathematics, has greatly contributed to the transformation in pedagogical practice, as well as to the improvement of the quality of learning. Regarding the positive effects of this implementation, the following aspects stand out: a didactic integration of technological tools as mediation to the curricular guidelines, a greater organization in the pedagogical work, and transparency in the learning process. (Ramos & Sierra, 2019)

Regarding the above information, the findings of a research whose approach has focused on the evaluation of the changes introduced in reading as a result of the mediation of Information and Communication Technologies (ICT) stand out, based on the application of a survey aimed at 132 students belonging to two professional schools of the University of Guadalajara; in specific terms, 73 students of Design for Graphic Communication and 59 of the Law career. Based on the results derived from the application of the survey in question, it was possible to determine that reading through the use of these technological tools was characterized by greater diversity and complexity, as well as a globalizing stance. Similarly, it is important

Journal of Ecohumanism
2024
Volume: 3, No: 5, pp. 1575 – 1598
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i5.6511

to specify that the use of ICT has had a direct impact on the increase in motivation in students. (Núñez & Ramírez, 2022)

Likewise, it is relevant to mention the main results of a research work that has focused on the analysis of the use of Learning and Knowledge Technologies (TAC), and its close relationship with the development of meaningful learning, based on the information collected from university students, who are part of the Master's Degree in University Teaching. in the context of the University of San Carlos de Guatemala. All teachers have stated that technology has become an essential element in didactics, due to its innovative nature; likewise, it was concluded that, through ICT and TAC, improvements in teaching practices were produced. Similarly, through the application of these technological tools, improvements were introduced in the variable of better academic performance. (Girón, 2021)

Based on the empirical data that were obtained through the application of online questionnaires, Learning and Knowledge Technologies (TAC) have had a direct and very significant contribution to the learning process, especially in terms of the training of proactive students. In this sense, since TACs represent a varied set of possibilities for access to learning and knowledge, these tools enable better management of the learning process. Similarly, through the use of TACs, students have organized and ordered their corresponding learning process, because through these technological-digital resources, the levels of organization in the students' work have increased. (Pineda-Castillo, 2021)

In close agreement with the above information, the findings of a study whose approach has been oriented towards the analysis of the incidence of the application of CAT on the digital skills of students belonging to the José María Santana Salazar educational institution in Ecuador are highlighted. Regarding the main results, it was possible to determine that students value the importance of these tools within learning, in terms of their innovative nature. Regarding the previous premise, it was possible to conclude that the implications of the application of CAT are positive, because the use of these tools produces an increase in motivation in classrooms, likewise, they have made it possible to introduce improvements in terms of attention and commitment of students. In contrast, among the barriers that contribute to a deficient application of these tools are both the digital divide and the low level of training of teaching staff. (Yoza & Vélez, 2021)

Similarly, it is important to mention the findings of a research that has been closely linked to the evaluation of the criteria of the higher education student population regarding the use and contributions of technological tools in the teaching-learning process. Regarding the main findings, students have positively valued the use of new technologies in their learning process, so ICT is an element that needs to be pedagogically included in this process as mediating elements of learning. In this sense, the efficient planning and use of these mediating elements inside the classroom will greatly contribute to the achievement of skills and abilities. (Espinel, 2020)

In this sense, the main findings of a research work whose approach has been directed towards the analysis of the use of emerging educational technologies to strengthen the teaching-learning process, in the context of high school students of the "4 de noviembre" Fiscal Educational Unit in Ecuador, are highlighted. Regarding the main findings, the use of these educational technologies in training processes guarantees meaningful learning in students. Similarly, through this type of emerging technological tools, teachers can be trained in the application of these tools, and they also contribute to the development of higher levels of motivation in the student population. (Mendoza et al., 2023)

Regarding the process of synthesis of the information collected from the databases used for the purposes of this research work, it was possible to determine that in the 25 selected articles, positive effects or implications of technological mediation on the teaching-learning process of the subject or the specific academic field corresponding to each study have been reported. In specific terms, the results of these studies have been derived from the application or implementation of technological tools mainly in the context of the subjects of Reading, Mathematics, Chemistry and Physics; It is also important to specify that, in the case of the application of questionnaires or surveys, the study population has been mainly made up of students and teachers from those educational institutions where the analysis of the relationship between

Journal of Ecohumanism
2024
Volume: 3, No: 5, pp. 1575 – 1598
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i5.6511

technological mediation and learning was carried out. Similarly, apart from the mention that is generally made about Information and Communication Technologies (ICT) and Technologies for Learning and Knowledge (TAC), in the 25 selected articles the effects of certain tools in particular have been evaluated: Mobile Technologies (m-learning or mobile learning), Virtual Reality (VR), Augmented Reality (AR), virtual teaching platforms, technological applications (such as GeoGebra), among others.

In specific terms, it is important to mention that the positive effects of technological mediation have materialized in the improvement of the teaching-learning process, the increase in academic performance, the development of skills and abilities, a more active role of the student population, and higher levels of motivation and attention of students, based on the information that has been extracted from the articles finally selected for the systematic review. With respect to the previous premise, among those elements that constitute barriers to the positive impact of technological mediation on the teaching-learning process, both the existing gaps in digital transformation and the low levels of training of the teaching staff of a given educational institution stand out. In close correspondence with the above information, most of the selected studies have determined that technological mediation contributes greatly to the introduction of improvements in the learning process, the transformation of pedagogical practice and a higher quality in the teaching provided.

Based on the statistics that can be extracted from this final number of selected works, Figure 2 shows the data corresponding to the year of publication of these research works.

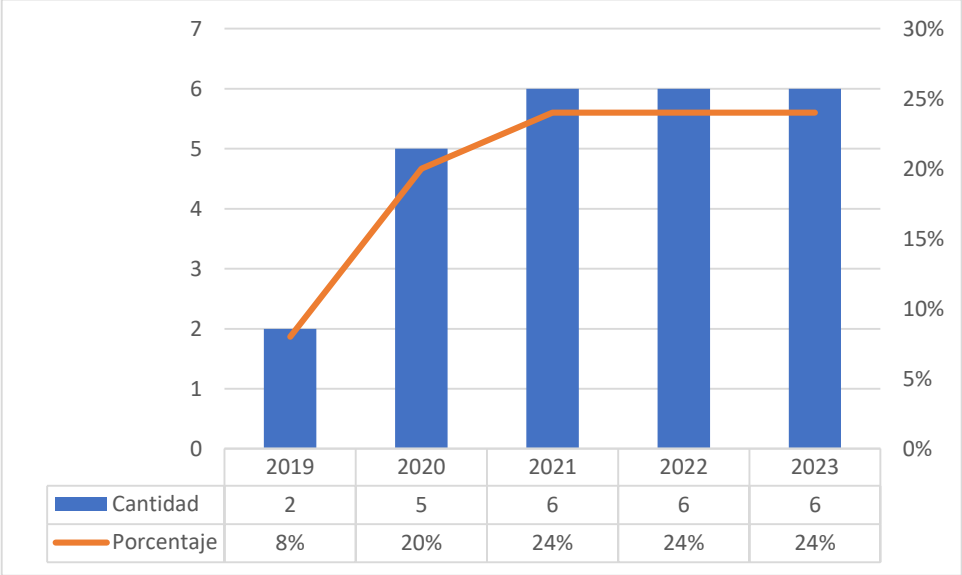
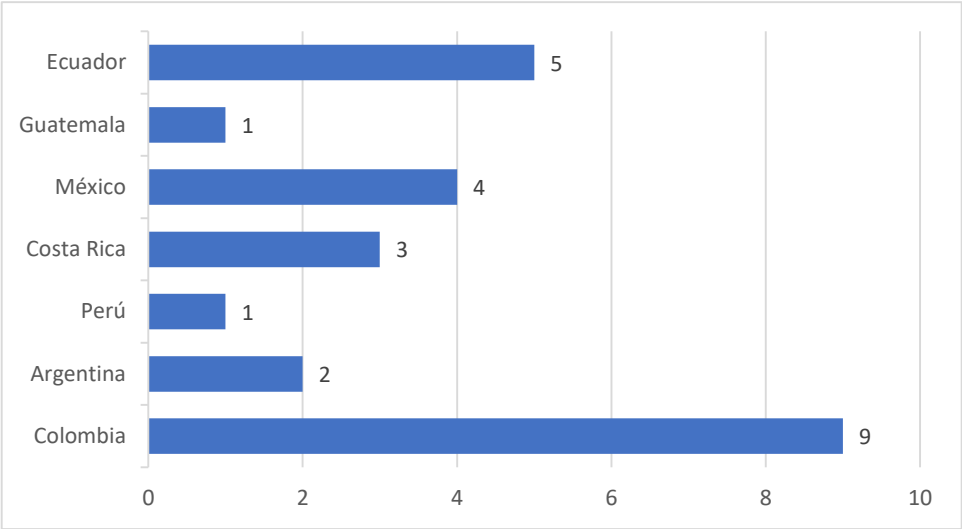


Figure 2. Proportion of scientific articles by year of Publication. in Original Language Spanish

As can be seen in Figure 2, the highest proportion of scientific articles (24%) corresponded to the years 2021, 2022 and 2023 with 6 articles selected for each case, followed by the statistical figures for the years 2020 (20%) and 2019 (8%) with 5 and 2 articles selected, respectively. In close correspondence with the previous premise, it is important to specify that the year 2019, the oldest period that has been considered for the purposes of this work, is in turn the period with the lowest proportion of selected articles. Figure 3 presents the data directly linked to the country to which each article selected in the systematic review corresponds.

Journal of Ecohumanism
2024
Volume: 3, No: 5, pp. 1575 – 1598
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i5.6511

Figure 3



Number of scientific articles by country of origin. in original language Spanish

Based on the figures reported in Figure 3, it was possible to determine that the highest proportion of selected scientific articles (36%) has corresponded to the country of Colombia with the figure of 9 studies; followed by the countries of Ecuador (20%), Mexico (16%), Costa Rica (12%) and Argentina (8%) with the statistics of 5, 4, 3 and 2 articles, respectively. Similarly, it is important to mention the results of Guatemala (4%) and Peru (4%); because, for each case, the reported figure has been equivalent to 1 selected article. Regarding the previous premise, Figure 4 presents the data corresponding to the proportion of scientific articles by journal.

Journal of Ecohumanism
2024
Volume: 3, No: 5, pp. 1575 – 1598
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i5.6511

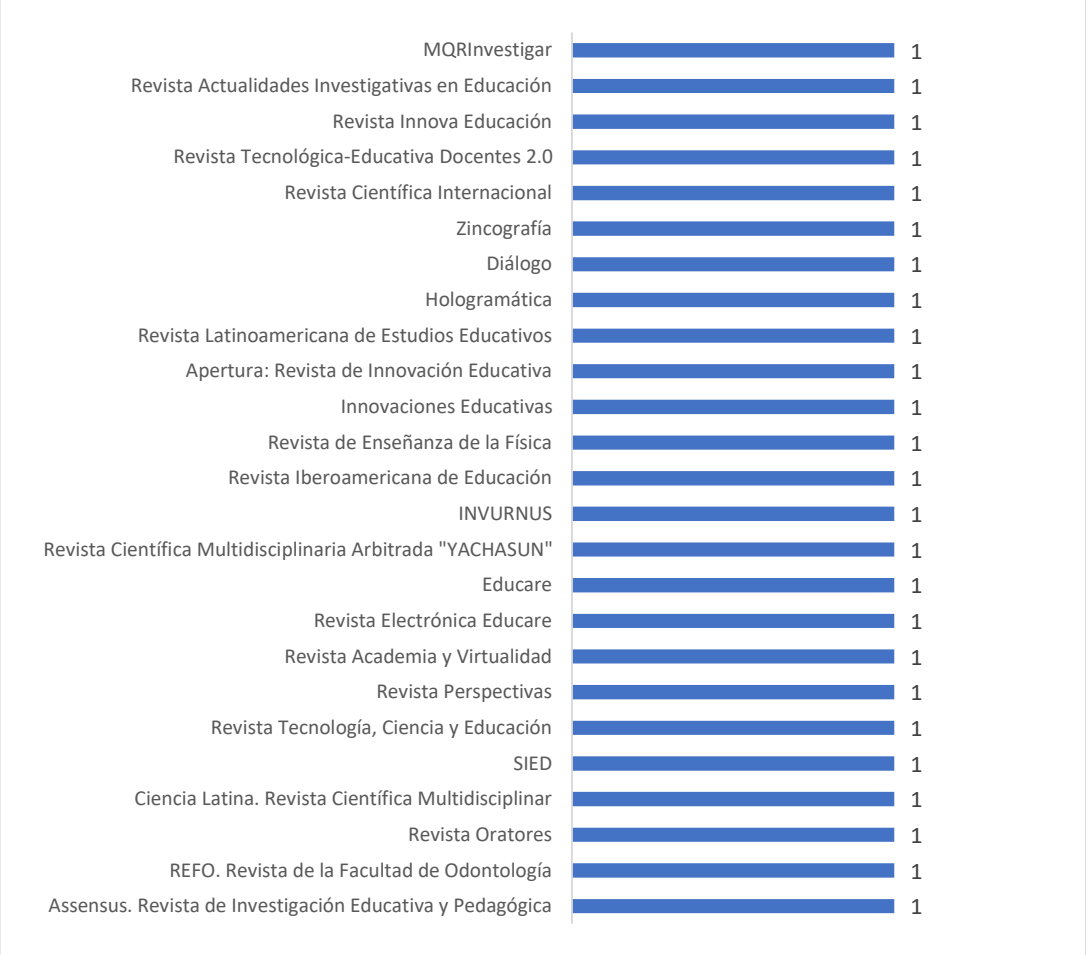


Figure 4

Number of scientific articles according to journals. in original language Spanish

As can be seen in Figure 4, a journal with the largest number of selected scientific articles has not been reported, but the 25 studies have corresponded to 25 different journals in question. In close agreement with the above information, among the set of journals presented through Figure 4 are the following: Ciencia Latina Revista Científica Multidisciplinar, Educare, Revista Latinoamericana de Estudios Educativos, Revista Academia y Virtualidad, Innovaciones Educativas, Revista Científica Internacional, Revista Actualidades Investigativas en Educación, Revista Perspectivas, among others.

Conclusions

Through the search carried out in Google Scholar, and the Dialnet and Scielo databases (use of "OR" and "AND" connectors), and the application of the steps established by the PRISMA methodology, the final amount equivalent to 25 selected scientific articles has been obtained. Regarding the main statistics that can be extracted from this final choice, the highest proportion of scientific articles (24%) has corresponded to the years 2021, 2022 and 2023 with 6 articles selected for each case, followed by the statistical figures for the years 2020 (20%) and 2019 (8%) with 5 and 2 articles selected, respectively. In close correspondence with the previous premise, it is important to specify that the year 2019, the oldest period that has been considered for the purposes of this work, is in turn the period with the lowest proportion of selected articles. On the other hand, it was possible to determine that the highest proportion of selected scientific articles (36%) has corresponded to the country of Colombia with the figure of 9 studies; followed by the countries of Ecuador (20%), Mexico (16%), Costa Rica (12%) and Argentina (8%) with the statistics of 5, 4, 3 and 2

Journal of Ecohumanism
2024
Volume: 3, No: 5, pp. 1575 – 1598
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i5.6511

articles, respectively. Similarly, it is important to mention the results of Guatemala (4%) and Peru (4%); because, for each case, the reported figure has been equivalent to 1 selected article. Similarly, it is important to specify that a journal with the largest number of selected scientific articles has not been reported, but the 25 studies have corresponded to 25 different journals. Among the set of journals corresponding to this final selection are the following: Ciencia Latina, Multidisciplinary Scientific Journal, Educare, Latin American Journal of Educational Studies, Academia and Virtuality Journal, Educational Innovations, International Scientific Journal, Revista Actualidades Investigativas en Educación, Perspectives Magazine, among others.

Regarding the synthesis of the information collected from the databases used for the purposes of this work, it was possible to determine that in the 25 selected articles, positive effects or implications of technological mediation on the teaching-learning process of the subject or the specific academic field corresponding to each study have been reported. In specific terms, the results of these studies have been derived from the application or implementation of technological tools mainly in the context of the subjects of Reading, Mathematics, Chemistry and Physics; It is also important to specify that, in the case of the application of questionnaires or surveys, the study population has been mainly made up of students and teachers from those educational institutions where the analysis of the relationship between technological mediation and learning was carried out. Similarly, apart from the mention that is generally made about Information and Communication Technologies (ICT) and Technologies for Learning and Knowledge (TAC), in the 25 selected articles the effects of certain tools in particular have been evaluated: Mobile Technologies (m-learning or mobile learning), Virtual Reality (VR), Augmented Reality (AR), virtual teaching platforms, technological applications (such as GeoGebra), among others.

In specific terms, it is important to mention that the positive effects of technological mediation have materialized in the improvement of the teaching-learning process, the increase in academic performance, the development of skills and abilities, a more active role of the student population, and higher levels of motivation and attention of students, based on the information that has been extracted from the articles finally selected for the systematic review. With respect to the previous premise, among those elements that constitute barriers to the positive impact of technological mediation on the teaching-learning process, both the existing gaps in digital transformation and the low levels of training of the teaching staff of a given educational institution stand out. In close correspondence with the above information, most of the selected studies have determined that technological mediation contributes greatly to the introduction of improvements in the learning process, the transformation of pedagogical practice and a higher quality in the teaching provided.

In this sense, the importance of the implementation of those strategies aimed at the promotion, dissemination and application of technological innovation in the education sector, and specifically, in the structuring of teaching-learning processes mediated by technology, is greatly highlighted. Similarly, it is necessary to highlight the relevance of the implementation of training programs in Information and Communication Technologies (ICT) aimed at teaching staff, in order to contribute to the development of certain learning mechanisms, which may have a direct impact on teaching performance and educational quality. Regarding the previous premise, it is important to mention that one of the barriers to the contribution of technological mediation on the teaching-learning process is the low level of teacher training in technological matters. In fact, those initiatives that are closely linked to the introduction of improvements in the professional training process of teachers, and, consequently, their performance in terms of pedagogical practice, are highlighted. Regarding future lines of research, evaluations and research can be carried out on those technological tools that have the greatest impact or contribution to the teaching-learning process, compared to other tools belonging to the technological field.

References

Angulo-Valenzuela, C., & Ascuntar-Rivera, M. C. (2020). Teaching and learning of sketching design through technological mediators. Latinoamericana de Estudios Educativos, 16(2), 137–158. https://doi.org/10.17151/rlee.2020.16.2.8

Araya-Muñoz, I., & Majano-Benavides, J. (2022). University Didactics in Virtual Environments. Experience in Social Sciences. Revista Electrónica Educare, 26(3), 1–19. https://doi.org/10.15359/ree.26-3.28

Barcenas, M. C., Mercado, P., & Carrascal Torres, N. (2019). Technological Mediations for the development of communicative semantic competition - inferential reading in primary basics. Assensus, 4(6), 26–42. https://doi.org/10.21897/assensus.1723

Barenca, C. U., Villegas, G. E., Diego, J., Rodriguez, F., Villalvazo, E., & González, J. M. (2023). VR and AR Applications for Chemistry and Geography in High School. Invurnus, 17(1), 1–13. https://doi.org/10.46588/invurnus.v17i1.66

Bermúdez, M. C. (2022). Education and Technology: a Relational Analysis of the Didactic Contribution of ICTs. Academia y Virtualidad, 15(1), 183–198. https://doi.org/10.18359/ravi.5860

Bonilla, Á. M., Triana, A. C., & Silva, A. M. (2021). Virtual Club: a teaching and learning strategy to strengthen critical reading skills. Revista Iberoamericana de Educación, 85(1), 117–133. https://doi.org/10.35362/rie8514016

Córdoba-Gómez, F. J., Mariño, L. F., & Pabón-Galán, C. A. (2023). Student perceptions and use of GeoGebra in mathematics instruction: a comparative analysis across grades. Revista Perspectivas, 8(S1), 386–395. https://bitly.ws/32Vog

Cuervo, B. M., Valencia, K. J., Calvo, V. D., & Torres, T. (2023). Analysis of teachers' perception on the implementation of e-assessment at the university: teacher' training outcome. Revista Tecnología, Ciencia y Educación, 26, 37–64. https://doi.org/10.51302/tce.2023.18723

Diaz, A. G. (2023). Technological Mediation as Opportunities for Didactic Innovation at the Higher Education. Boletín SIED, 7, 126–142. https://bitly.ws/32Brf

Espinel, E. E. (2020). Technology in the learning of university students of the Faculty of Chemical Sciences, Central University of Ecuador. Actualidades Investigativas En Educación, 20(2), 1–39. https://doi.org/10.15517/aie.v20i2.41653

Fernández, J. E., & Sambrizzi, M. A. (2021). Analysis of the educational environment and technological mediations in the virtual teaching of Morphological Sciences in pandemic. Revista de La Facultad de Odontología, 14(1), 6–11. https://doi.org/10.30972/rfo.1414936

Girón, I. M. (2021). Learning and knowledge technologies in the teaching process. Revista Científica Internacional, 4(1), 11–12. https://doi.org/10.46734/revcientifica.v4i1.43

Heredia, H., Romero, M. F., & González, C. (2022). Technologies Applied To Education: the Use of the Booktuber for the Development of Oral Expression. Revista Brasileira de Educacao, 27, 1–25. https://doi.org/10.1590/S1413-24782022270057

Hoyos, K. P., & Torres, A. (2023). Technological mediations in environmental education. Analysis from a theoretical perspective. Ciencia Latina Revista Científica Multidisciplinar, 7(1), 4634–4647. https://doi.org/10.37811/cl_rcm.v7i1.4787

Landinez, N. (2020). Technological mediations as a transforming factor in the teaching-learning process in the area of economic sciences Management & Finance. Gestión & Finanzas, 3(6), 56–68. https://bitly.ws/33a7i

Lobo, J., Paniagua, L. F., & Arguedas-Matarrita, C. (2021). Perception of usability of the remote laboratory VISIR as a tool for the learning of physics in high school. Revista de Enseñanza de La Física, 33, 375–382. https://bitly.ws/32XiI

Mantilla, P. A. (2022). Innovative teaching of mathematics with technological mediation: Experience in a higher education institution of mediat. Revista EDUCARE, 26(2), 162–185. https://doi.org/10.46498/reduipb.v26i2.1614

Mantuano-Cedeño, G. Y., & Rivadeneira-Barreiro, J. C. (2022). Technological tools and their impact on the teaching learning of the english language in the rural area of canton Jipijapa. Revista Científica Multidisciplinaria Arbitrada YACHASUN, 6(11), 221–243. https://doi.org/10.46296/yc.v6i11edespag.0212

Mendoza, M. G., De la Peña, G., & Linzán, M. F. (2023). Emerging educational technologies to strengthen the teaching-learning process in third baccalaureate students in times of Pandemic. MQRInvestigar, 7(1), 54–73. https://doi.org/10.56048/MQR20225.7.1.2023.54-73

Montes, A., Morales, G. F., & Alarcón, A. A. (2023). Inferential Reading and Technological Mediations in Primary School in Colombia. Revista Oratores, 1(18), 12–26. https://doi.org/10.37594/oratores.n18.830

Núñez, M. I., & Ramírez, M. del R. (2022). University students' reading through Information and Communication Technologies and the required competences. Zincografía, 6(12), 233–252. https://doi.org/10.32870/zcr.v6i12.180

Ortega, A. D., Field, R., & Pinto, A. C. (2022). Importance of virtual simulators for the teaching-learning of the subject of inorganic chemistry in secondary schools. Revista de Ciencias de La Educación, Docencia, Investigación y Tecnologías de La Información: CEDOTIC, 7(2), 191–208. https://bitly.ws/32VUQ

Pérez, V. C. (2023). Transformative pedagogical practices with technological mediations in teachers of Monteria – Córdoba – Colombia. Ciencia Latina Revista Científica Multidisciplinar, 7(2), 1273–1285. https://doi.org/10.37811/cl_rcm.v7i2.5395

Pérez-Vertel, R. M., García-Chontal, J. A., & Murillo-Faustino, A. M. (2023). Technological mediation and strengthening of teaching-learning processes in basic education. Cienciamatria. Revista Interdisciplinaria de Humanidades, Educación, Ciencia y Tecnología, 9(16), 43–56. https://doi.org/10.35381/cm.v9i16.1017

Pineda-Castillo, K. A. (2021). Use of Technology as a Preponderant Resource in Distance Learning in Times of Social Lock-Down. Revista Tecnológica-Educativa Docentes 2.0, 11(1), 89–98. https://doi.org/10.37843/rted.v11i1.197

Ramírez, M., Cortés, E., & Díaz, A. (2020). Technopedagogical mediation strategies in virtual learning environments. Apertura. Revista de Innovación Educativa, 12, 132–149. https://bitly.ws/32XrB

Ramos, N., & Sierra, I. A. (2019). Móbiles technological environments as a learning space for mathematics and their value in the transformation of educational practices. Diálogo, 40, 21. https://doi.org/10.18316/dialogo.v0i40.4877

Saladino, M., Marin, D., & San Martín, Á. (2020). Teaching perception of technologically mediated learning in italian classrooms. Revista Interuniversitaria de Formacion Del Profesorado, 34(3), 175–194. https://doi.org/10.47553/rifop.v34i3.80593

Tornay, I., & Villagran, C. (2020). Technological mediation of teaching and learning in higher education. Revista Académica Hologramática, 3(33), 131–155. https://bitly.ws/333Wf

Journal of Ecohumanism
2024
Volume: 3, No: 5, pp. 1575 – 1598
ISSN: 2752-6798 (Print) | ISSN 2752-6801 (Online)
https://ecohumanism.co.uk/joe/ecohumanism
DOI: https://doi.org/10.62754/joe.v3i5.6511

Villalobos-García, M., & Núñéz-Sosa, O. (2020). Pedagogical practices supported by mobile technologies: opportunities to enhance the learning of the student population. Innovaciones Educativas, 22(32), 78–90. https://doi.org/10.22458/ie.v22i32.2806

Yoza, A., & Vélez, C. E. (2021). Contribution of learning and knowledge technologies in the digital competences of students of higher basic education. Revista Innova Educación, 3(4), 58–70. https://doi.org/10.35622/j.rie.2021.04.004

Regarding the works finally chosen for the systematic review of this research work, Table 1 presents the synthesized information (title, results, authors, date and journal) of the 25 selected articles. Starting with the study by Bárcenas, Mercado, and Carrascal (2019), they investigated how Information and Communication Technologies (ICT) influence communicative semantic competence and inferential reading in elementary school students in Colombia. They found that the implementation of new methodological practices and strategies generated a motivating school environment and improved students' semantic competencies, raising their performance in inferential reading from low to medium level.

Fernández and Sambrizzi (2021) conducted an analysis on the use of educational technologies in the virtual teaching of morphological sciences at the Faculty of Dentistry of the National University of Córdova, Argentina, during the pandemic. They found that 64% of the students surveyed considered this teaching modality deficient, evidencing inequities in access to the technological means necessary for learning. Montes, Morales, & Alarcón (2023) evaluated the impact of m-learning on the inferential reading comprehension of elementary school students in Colombia. They observed a significant reduction in low inferential reading and an increase in medium, high, and higher levels, attributing this success to the mediation of m-learning in strengthening reading comprehension.

Viviana Carlota Pérez Monterroza examined the integration of Information and Communication Technologies (ICT) in the pedagogical practices of teachers in Montería-Córdoba, Colombia. He highlighted the need for better ICT training for teachers and how these tools transform teaching and learning processes, improving students' academic performance and the role of the teacher in methodological practices.

Ana Griselda Díaz researched the perception of students at the National University of Catamarca (UNCA) about the use of digital technologies in didactic innovation in Peru. He concluded that technological-educational mediations represent a challenge and an opportunity for the construction of knowledge and skills relevant to contemporary educational demands.