



## Challenges of distance learning and humanization

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## Summary

This article analyzed the challenges, impacts and perspectives of distance education (EaD). It addressed the adaptation of educational systems, teacher training, digital inequalities, and the role of technology in consolidating remote learning. The reflection extends to the influence of cyberculture on contemporary pedagogy, highlighting the need to humanize the educational process even in virtual environments. Through a bibliographic review and theoretical analysis, the study proposes a critical understanding of the use of Information and Communication Technologies and the construction of a more inclusive, equitable, and meaningful educational model capable of meeting the new demands of the digital society.

**Keywords:** Distance learning. Pandemic. Digital technologies. Cyberculture. Educational inclusion.

## Abstract

This article analyzes the challenges, impacts, and prospects of distance learning (DE). It addresses the adaptation of educational systems, teacher training, digital inequalities, and the role of technologies in consolidating remote learning. The reflection extends to the influence of cyberculture on contemporary pedagogy, highlighting the need to humanize the educational process even in virtual environments. Through a literature review and theoretical analysis, the study proposes a critical understanding of the use of Information and Communication Technologies and the construction of a more inclusive, equitable, and meaningful educational model capable of meeting the new demands of the digital society.

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## 1 INTRODUCTION

Distance education has experienced unprecedented growth in recent years. decades, driven primarily by technological advances and globalization. The access to information and knowledge is no longer a privilege for a few and has become a reality increasingly accessible to millions of people around the world. In this context, distance education presents itself as a viable and flexible alternative for those who seek to acquire skills and knowledge without geographical and temporal restrictions imposed by face-to-face education.

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Despite the indisputable advantages of distance education, its implementation and development face numerous challenges and barriers that must be addressed and overcome to ensure the quality and effectiveness of the teaching and learning process. These challenges include aspects related to technological infrastructure, teacher training, teaching methodology, student motivation and engagement, assessment, as well as inclusion of vulnerable and marginalized populations.

One of the main challenges of distance learning is ensuring the quality and effectiveness of the educational process in an online environment. As the offering of educational programs the distance increases, it is essential to establish quality criteria and standards that guarantee the academic rigor and the relevance of the content and teaching methodologies used. In this sense, it is essential to develop and implement evaluation systems that allow measuring and compare the results of online learning with those of face-to-face education.

Teacher training is another fundamental aspect to overcome barriers to online learning. Teachers must acquire new pedagogical skills and technological to adapt to virtual teaching and learning environments and be capable of designing and implementing effective teaching strategies that respond to the needs and characteristics of online students.

Furthermore, it is important to promote continuous training and development professional development of teachers in the area of distance education, in order to guarantee updating and constant improvement of their skills and pedagogical practices. In relation to the students, maintaining their motivation and engagement in a virtual learning environment is one of the most significant challenges to face.

The lack of face-to-face interaction and the physical presence of teachers and classmates can make it difficult to build a sense of belonging and emotional connection, which can negatively impact student motivation and engagement. To overcome this barrier, it is crucial to develop pedagogical strategies that promote interaction, collaboration and mutual support among students, as well as offering academic support resources and services and appropriate emotional.

Accessibility and inclusion are other important aspects to consider when developing and implementing distance learning programs. It is essential ensure that people with disabilities, vulnerable and marginalized populations and those who live in rural or remote areas have equal opportunities for access and participation in distance education.

To this end, it is necessary to address technological, economic, cultural and social barriers that can make it difficult to include these groups in online learning. Adapt methodologies of teaching to the virtual environment is another challenge in distance learning.

## 2 THEORETICAL BASIS

### 2.1. Covid-19 Pandemic and Education

In March 2020, when Covid-19 became globally present after the World Health Organization (WHO) declare it a disease and, consequently, a pandemic that shook all spheres and social classes, widespread social fear was created felt in every corner, generating concern for public health, forcing States to act accordingly, closing not only borders but also workplaces, companies, public offices and, of course, schools, where preventive measures were even more intensified, as teachers and students were the first to seek confinement voluntary, drastically transforming all dimensions of private and social life. (PARRAS; MASCIA, 2022).

The impacts that COVID-19 has begun to have on the global population, combined with the pre-existing conditions, have led most countries to resort to social distancing and home confinement, a voluntary quarantine. Government measures to preserve public health, they also resorted to the use of force to ensure control and protection of the population. (MOREIRA; *et al.*, 2024).

In the quest to maintain this control, a discourse of panic and anxiety spread throughout the world, since epidemiological organizations and institutions were initially unaware of the characteristics and conditions under which the coronavirus could spread and thus cause mass infections. So much so that, in the educational field, the emergency initially led to closure of public and private educational institutions in more than 190 countries to prevent spread of the virus. (PARRAS; MASCIA, 2022).

The United Nations Educational, Scientific and Cultural Organization (UNESCO) recorded that more than 1.2 billion students of different educational levels dropped out face-to-face classes, waiting for a specific modality to replace their classes in person. However, the most complicated aspect of this situation was not the wait for a new virtual modality that would solve the problem of continuity of the teaching process and learning, but rather the enormous social and economic inequality prevalent in most



countries, especially in underdeveloped countries, such as in Latin America and the Caribbean. (DIAS, 2021).

This exposed the growing digital divide, which ultimately revealed that teaching distance was not the solution for everyone, as not everyone had access to the internet, devices smart and technologies that would allow them to follow teachers and their online knowledge. Furthermore, they didn't even have a space to continue learning and studying. (PARRAS; MASCIA, 2022).

Therefore, it was somewhat illogical to talk about continuity of educational processes when most homes did not have and do not have electricity or decent spaces to gather in from home, when there was no food for the children who received school breakfast, when the lack of employment opportunities — worsened by the pandemic — did not allow for access or purchase of computer equipment and smart devices. (MOREIRA; et al., 2024).

To address the existence of distance learning in a generalized way would be to state that The opportunity to use digital platforms and internet connectivity is available to everyone student communities and that the continuity of learning was addressed by the States, solving the problem of digital coverage and the economic inequalities that affect the most excluded. (PARRAS; MASCIA, 2022).

Furthermore, the confinement of students and teachers to their homes forced them to respond to emerging demands. It became necessary to rethink planning theoretical and practical content, that is, adjusting the methodology of educational processes, redesign materials, curricula, formats, and teaching tools. It was also necessary address other aspects to prevent school dropout: students' mental health.

Thus, Parras and Mascia (2022) explain that the greater implementation of new work tools and training in the use of ICTs in teaching at different levels, along with the socio-emotional support that students and parents should receive, it became a constant in the pedagogical dynamics of teacher training during the pandemic. Likewise another element that was decisive in the pedagogical work was the time factor, since the need to adjust conditions to the scope of distance education has increased the teaching responsibilities, significantly increasing demands and teaching times I work not only to deliver sessions and knowledge, but also to prepare material to share virtually, review connections, monitor each student and their own conditions to continue in the process, while at the same time having to balance the



times of housework, taking into account that most teachers are women.

## 2.2. Virtual Classrooms and Teachers

Almeida, Cantuária and Goulart (2021) say that distance education today has a relevance that it may never have had before. The influence of information technologies and communication (ICTs) has placed it in a position of greater advantage in relation to the media traditional channels, such as television and radio, which were the ideal channels for the functioning of distance learning high schools in the 1970s.

From an educational perspective, new technologies are gaining increasing importance in the 21st century. Used as a multidisciplinary tool, they facilitate student access to knowledge. This new phase provides a fresh opportunity for methodological review and a redefinition of the teacher's role in this school system. The inclusion of information technologies can contribute to the development of schools, especially through the development of new pedagogical strategies, skills, and competencies to keep pace with these transformations. (ALMEIDA; CANTUÁRIA; GOULART, 2021, p. 303).

ICTs allow access to virtually unlimited content, openness and connection to virtual conversations between multiple people, different tools and data processing, which determine the quality and quantity of information delivered to students. Thus, new spaces are emerging with the freedom to organize study time, with the contribution of internet serving as the basis for the teaching and learning process, generating a reduction in costs in some aspects involved, personalizing the learning process for those who uses this modality, with the advantage of having permanent access to teaching materials supported by virtual platforms for the benefit of users. (MOREIRA; et al., 2024).

Today's virtual classrooms are the new learning grounds where students build, seeking to respond to the different educational representations that learning face-to-face provided, such as educational enrichment or community service and professional practice in the case of secondary and higher education. (ALMEIDA; CANTUÁRIA; GOULART, 2021).

Arruda and Siqueira (2020) say that there is no doubt that the actors felt the pressing need to establish alternatives for completing these disciplines, understanding, of course, that the results will not be the same. This acceptance will lead to

implementation of strategies by educational systems, with the new digital models that bring distance education and its new teaching approaches to life.

For Almeida, Cantuária and Goulart (2021) it is worth recognizing that the teaching community faced the challenge of continuing the teaching and learning processes, adjusting curricula and teaching resources to reinforce the needs of each student. However, the biggest challenge was and continues to be serving the migrant population and indigenous communities that historically suffer from profound inequalities in curricular coverage, highlighting the greatest backwardness to which this population is relegated.

According to Moreira; *et al.* (2024) although the continuity of the processes educational activities, both for students and teachers, took place at home and in a confinement, the pandemic situation has shown that, in most cases, skills digital were seen only as a support in these processes, in an isolated way and with a lack of skills that would make them a fundamental part of pedagogical development.

Since the 1990s, they have been implemented solely to improve learning outcomes. Since the arrival of computers, the internet, and devices digital, there was already talk of the need to use technology as part of educational processes everyday life and incorporating ICTs into basic education, but without success. (ALMEIDA; CANTUÁRIA; GOULART, 2021).

Therefore, Silva and Saraiva (2024) emphasize that before imagining that a pandemic would force us to adopt distance learning, recommendations were already being made for the use of different technologies to respond to processes with virtual materials, to address training pedagogical with the inclusion of digital skills and to adjust curricula and programs where the technology would be the main medium for traditionally taught content.

According to Almeida, Cantuária and Goulart (2021) if the health contingency of COVID-19 has forced all actors involved in educational processes to join these educational tasks at the beginning of the year, one of the main agents who took on most of this responsibility were the parents. Out of interest and concern in ensuring the continuity of educational formation of their children, they took control of early childhood education and teaching fundamental from their homes, using their own devices and cell phones when there was no computers available at home, at best, since historical inequality demonstrated in illiteracy rates became evident when it became clear that neither all parents were cognitively capable of contributing to their children's learning.

Thus, the family, as a new educational agent, also faced one of the biggest challenges to continue providing children with knowledge, which evidently was not

received and channeled with the same fluidity with which the educator provides it in the classroom, as a field of social interaction with peers, where ideas and practices flow to reinforce the content learned. (MOREIRA; *et al.*, 2024).

It is true that educational institutions, as the main responsible for training educational, have the greatest influence in ensuring that this learning transforms students' mental constructions. However, as stakeholders in society, parents provide *feedback* on knowledge, and education becomes integral through practices of reinforcing these at home. Especially when the primary agents are not professionals or experts in the transmission of knowledge and cognitive processes, the content that young people students receive cannot flow significantly, with better results and with the same quality than that provided by the educator and/or teacher in the classroom. (ALMEIDA; CANTUÁRIA; GOULART, 2021).

### 2.3. The Challenge of New Education

According to the studies and analyses carried out by Nascimento (2021) in his article, although, for decades, there has been an effort to improve the handling of technological objects to be incorporated into educational processes, the truth is that technologies alone do not constitute the success of contemporary education; they are not the only contribution to the development of new generations, thus:

[...] changes toward continuing the teaching and learning process online will continue, and with this, new methodologies will be added with a view to achieving quality education. Given these aspects, remote learning has positive elements that can accelerate the hybrid education model by combining the use of artificial intelligence with the presence of the educator in the classroom. On the other hand, the model can drastically increase the educational gap between the wealthy and the poor. (NASCIMENTO; 2021, p. 17).

According to Moreira *et al* (2024) new information and communication technologies have contributed to the expansion of teaching and learning since its implementation, even more in times of confinement due to the pandemic, which forces the system and the community involved to seek learning through distance learning methods, even if it continues working to improve this development of skills that leads to the search for quality in processes and information management.

It is therefore necessary to promote, from the areas of education management, learning of new assessment functions that allow teachers to recognize progress individualized of students within the scope of the subjects and/or programs to be studied, as it is



It is evident that one of the vices with which this recent stage of inclusion is born and begins technology in knowledge acquisition is to fulfill, do and deliver a result numerical, rather than through meaningful learning, errors that arise from not having fully identified students' self-management of knowledge and self-literacy digital by teachers as a contribution to their professionalization work. (BIRTH, 2021).

For Silva and Saraiva (2024) delivering tasks and activities has become a constant among students of different educational levels, since the new virtual modality and adaptation screen time and video conferencing force them to deliver without reflection, without entering into debate of ideas, in those practices that in the classroom enriched knowledge, provided *feedback* on learning and consolidated the mental construct, generating critical students and with intellectual maturity to produce and reproduce theories. Thus:

Interaction between students and faculty is essential for academic success. Effective communication and *feedback* are crucial elements in this relationship, directly influencing student engagement and performance. Clear communication between students facilitates understanding of course content and expectations. Feedback, in turn, helps students understand their progress, identify areas for improvement, and continually develop their skills. (NASCIMENTO; *et al.*, 2021, p. 3581).

Still according to Nascimento (2021) by individualizing knowledge, self-management of these tasks is reduced to a mere remnant in the climate of distance and uncertainty that face today. Similarly, digital literacy and mastery of the use of new technology-based pedagogical tools can be a concern for systems educational institutions, managers and even for the State itself.

However, to exist, it must be a constant and direct commitment from the community. teacher, who, with a vocation to serve the student sector and society itself, must respond seeking to get closer to those autonomous and permanent learning processes that allow the transmission of knowledge in a context like the one we live in today, and that there is no certainty of being overcome at a given moment. (MOREIRA; *et al.*, 2024).

If it is true that the insertion of technology has been present in the lives of individuals for several decades, creating new generations involved with technology, with a way of life comfortable due to the security that internet speed provides in teaching and learning processes entertainment that the digital market provides them, it is also a fact that the forms of learning at different formal and informal educational levels continues to evolve



large steps and will have to be adjusted to become significant.

(BIRTH, 2021).

For it is evident that, after going through distance education forced by fear of Covid-19 pandemic, no aspect of life will return to the state it was in before of confinement, and educational systems will be no exception, as new schemes learning will include other knowledge not only in the students, but in the community educational in general: skills in using technologies, socio-emotional education and with it the configuration of pedagogical ideologies that allow responding to particular situations of educational inclusion.

### 3 METHODOLOGY

To guide the writing of this work on the challenges and best practices in education distance and online learning, a rigorous and transparent methodology was used to allow the replicability of the study. Regarding the definition of inclusion criteria and exclusion: to ensure the relevance and timeliness of the studies included in the review, the following inclusion and exclusion criteria were established:

- \* Language: articles must be written in Portuguese, Spanish or English, and must not be a rule that there are references with the three languages.

- \* Year of publication: articles must have been published within the last five years, or that is, from 2021 to 2025.

- \* Type of study: articles must be empirical research, systematic reviews, meta-analyses or case studies related to distance education and online learning.

- \* Database: articles must have been indexed in Google Scholar, SCielo or in another important database.

### 4 RESULTS AND DISCUSSIONS

Nowadays, with the possibilities offered by technology, Virtual Education became an opportunity for millions of people who, for various reasons, did not are able to access face-to-face education. (MOREIRA; *et al.*, 2024). So much so that it is very It is common to find training programs at different levels of education with a modality virtual, whose fundamental support is in fact technological resources. (ALMEIDA; CANTUÁRIA; GOULART, 2021).

However, the exponential growth of these programs makes it seem that reflection on their pedagogical support does not have the same developments. (SILVA; SARAIVA, 2024). Arruda and Siqueira (2020) reveal a strong tendency towards the instrumentalization of so-called virtual learning environments (VLE) in which certain methodological and design principles are taken for granted, but there is little reflection on their pedagogical training.

Much of the theoretical support for these programs and their practices remains anchored in the logic and models of face-to-face pedagogies, in the time and space of the institution school and even more focused on didactic and methodological aspects, a design that, although necessary and essential, cannot replace the deeper dimension of pedagogy in virtuality, as it has to do with questions about the formation of subjects, the production of identities, the incorporation of values and ways of becoming citizens and relating to each other with the world, with knowledge, with power and with oneself in the universe of the so-called digital culture and not so much with its technological instrumentation, which is the specific domain of didactics. (ALMEIDA; CANTUÁRIA; GOULART, 2021).

This whole situation not only affects the student but also teachers who need develop practical activities in their classes and courses. (MOREIRA; et al., 2024). Thinking about a Virtual Education pedagogy is, from this perspective, to question how what Nascimento (2021) the call of cyberculture is projected into the spaces and educational practices generated in virtuality. That is, questioning the socio-anthropological dimensions and subjectivity itself that change or are modified in the world of digital technologies.

Understand those variables of a less visible nature, but more decisive in construction of subjects and identities can help, in context, to deepen reflection on the nature and scope of pedagogical foundations for the design of educational proposals with virtual methodology and enrich the pedagogical practices of existing programs. (ALMEIDA; CANTUÁRIA; GOULART, 2021).

Choosing a question that focuses more on the interpretation of a concept such as cyberculture in the context of Virtual Education and its pedagogical anchors is, one could say, problematic in itself, because it tries to decentralize the logic of didactics and instrumentalization of virtualization teaching environments, to emphasize theoretical reflection about what might seem like an abstraction. (ARRUDA; SIQUEIRA, 2020).

What is now called cyberculture acts or functions exactly like pedagogy as cultural production device with all that this implies in relation to knowledge, subjects and culture in general. However, this reading is not possible without shifting the notions

classics of pedagogy centered on teaching and learning theories. (MOREIRA; et al., 2024).

Hence the relevance of the socio-anthropological vision of pedagogy and forms contemporary understanding of it as an enormous cultural device that, before becoming relate to the method, is nourished by worldviews and visions of economics, morals, culture, spirituality and everything else from those factors that each era and society establishes as its values and guiding principles. (ALMEIDA; CANTUÁRIA; GOULART, 2021).

It is possible to read cyberculture from a pedagogical perspective and particularly from the notion of a device of cultural regulation and production of subjectivities that are suggestive of reinterpret and reposition pedagogical reflection in the current circumstances of globalization and of apparent exhaustion of questions about the purposes of education, its political and cultural horizons. (ALMEIDA; CANTUÁRIA; GOULART, 2021).

For Almeida, Cantuária and Goulart (2021) it was possible to make visible the functions that both can fulfill roles as producers of subjectivity, of identity, in specific ways of communication, knowledge, cultural regulation, ethical and political morality, symbolic construction and socialization. As we have just recalled, cyberculture is, above all, everything, culture.

A culture that needs a place of expression and finds it in cyberspace, this network of digital networks that gives rise to virtuality. (SILVA; SARAIVA, 2024). And it is in this space that generates a new way of life for the digital being, as well as for the institutions that regulate social life. As in culture, cyberculture subjects communicate through it and manifest it reciprocally. (Nascimento, 2021).

The concept of “digital citizenship”, for example, characterizes a whole series of behaviors, experiences and strategies that are transferred to the virtual sphere where they are established new rules and conventions that regulate the activities of individuals. (MOREIRA; et al., 2024). In this sense, education provided through virtuality is exercised through languages, codes and symbols that allow the classroom scenario or pedagogical device is transposed and projected into this virtuality. (SILVA; SARAIVA, 2024).

Now, the virtuality system is not natural, but artificial. (MOREIRA; et al., 2024). Virtuality, as a simulation of spaces, actions and places, belongs to the field of symbolic and arbitrary, therefore, interaction with this space is a product of learning. (ALMEIDA; CANTUÁRIA; GOULART, 2021). Therefore, virtual education requires new strategic learning that allows not only the pedagogical and didactic support that characterizes



teaching work, but it is also necessary to promote reflection on the technique and on everything that knowledge that allows movement in the contemporary media ecosystem.  
move between virtual and non-virtual space. (ARRUDA; SIQUEIRA, 2020).

Here, reflection on the functions of writing and reading is essential because, belonging on the symbolic plane, virtuality is preeminently a textual place, so such operations become the priority form of access to virtuality. Educating is, philosophically, working towards the interconnection between human beings and the world, building communities, that is, identity patterns and developing intelligence. (ALMEIDA; CANTUÁRIA; GOULART, 2021). These are, therefore, pedagogical functions of cyberculture and the reason why it is proposed as having a regulatory and productive nature of subjectivities and identities. (DIAS, 2021).

## 5 FINAL CONSIDERATIONS

Distance education is currently seen as a dehumanizing factor in this new modality.

Education creates civilization, shapes consciences, and equips people with knowledge. and leads them to build and rebuild their reality, even before the arrival of technology. Especially if current conditions have led society to reconfigure the teaching process and learning, one of the main challenges of the educational system is to humanize distance, leaving aside the idea of schematized roles that new forms of communication between teachers and students created with these new ways of knowing, sharing, learning and to assess.

It is clear that new learning approaches are far from reaching the same results as face-to-face learning, with the right space to generate debate and reflection that motivates the educational field of the classroom. However, the current context requires educational systems and actors involved to adapt different teaching styles with an empathetic approach, that is, considering the needs of each student.

Considering that, today, learning flows individually, as not all students have the same skills and abilities to master technological tools, with spaces suitable for virtual interaction and with socioeconomic conditions that force them to share the responsibility of contributing financially to meet needs most basic needs of their families.

Therefore, teachers and educators need to develop the ability to understand the particular characteristics of each child, adolescent, young adult and parent

interested in continuing the path of learning, but facing several limitations, such as mastery of technologies and other tools, work schedules that interrupt educational sessions or connection quality, among others.

The real challenge for teachers in this contemporary world is to be a facilitator and, at the same time, an effective provider of content and knowledge that allows students to reflect on their own experiences in a timely manner and, consequently, generate meaningful learning.

Therefore, it is necessary to humanize educators, the system and the society in general and is not to criminalize the incursion of technology into education, but rather to avoid the idea that education can only exist and present itself through the existence of tools technological, circulating through different devices and limiting growth, creativity and the intellectual expansion of those with less access to the instruments of the globalized world, in which refers to the internet and technology. If this were the case, it would be understood that the educational process is configured through the manipulation of technological objects and, therefore, the system educational system would be violating one of the main pillars on which the positioning of education that is to humanize. Distance education and humanization in education must go hand in hand and be a transformative object of an increasingly diversified, respecting the individuality of each student.

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