



## DISTANCE LEARNING AND THE COVID 19 PANDEMIC

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### SUMMARY

The COVID-19 pandemic has brought significant changes to global education, forcing an abrupt transition from in-person teaching to Emergency Remote Learning (ERE) and Distance Education (DE). This study aims to analyze the impact of this transition by exploring the concepts and practices of DE and ERE, identifying the challenges faced by teachers and students, and evaluating the role of tutoring during the pandemic. Using a situation analysis approach, the research is based on literature reviews and experience reports from several educational institutions. The results indicate that the lack of technological preparation and teacher training were the main obstacles, but they also highlight pedagogical innovation and the importance of emotional support. It is concluded that, to ensure the continuity of education in future crises, it is essential to invest in technological infrastructure, continuous teacher training, and digital inclusion policies. This study contributes to the debate on digital transformation in education and offers recommendations to strengthen educational systems.

**KEYWORDS:** Distance Education. Emergency Remote Teaching. Pandemic. Tutoring. Digital Transformation.

## 1 INTRODUCTION

The COVID-19 pandemic has brought significant changes to many aspects of daily life, with education being one of the sectors most impacted. With schools and universities closing around the world, the continuity of educational activities has become a pressing challenge. To address this situation, it was necessary to resort to new approaches, such as Distance Education (EaD) and Emergency Remote Education (ERE), which have emerged as viable solutions to maintain the teaching and learning process in times of crisis.

The abrupt transition from in-person to remote teaching revealed the fragility of educational systems and the inequality in access to technology. While distance learning had already been implemented and tested in various contexts, ERE was an immediate and improvised response to the health crisis, requiring rapid and significant adaptations by all involved. This change highlighted the need for adequate technological infrastructure, ongoing teacher training, and emotional and academic support for students.

The need to rapidly adapt teaching methods during the pandemic has highlighted the importance of understanding the differences between distance learning and distance learning, as well as the challenges and opportunities that each presents. Understanding these dynamics is crucial to developing more resilient and inclusive education policies that can face future crises and ensure the continuity of education under any circumstances. Furthermore, analyzing the role of tutoring and teachers' perspectives during this period can provide valuable insights to improve pedagogical practices and teaching strategies.

The main objective of this study is to analyze the impact of the COVID-19 pandemic on global education, focusing on adaptation to Emergency Remote Education and Distance Learning. This study aims to contribute to the debate on digital transformation in education and provide support for the implementation of more effective and inclusive pedagogical practices.

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## 2 EDUCATION AND PANDEMIC

The COVID-19 pandemic has brought a series of challenges to education around the world, requiring a rapid and significant adaptation of educational institutions to continue providing quality education. Distance Education (EaD), which had already been gaining ground and relevance, became an emergency solution to ensure the continuity of educational activities during the period of social isolation.

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However, this abrupt transition from in-person to remote teaching raised several questions about the effectiveness and quality of teaching, as well as the strategies needed for the successful implementation of this model (JOYE; MOREIRA; ROCHA, 2020).

The adoption of Emergency Remote Learning (ERE) by higher education institutions revealed the importance of differentiating traditional distance learning from ERE. While traditional distance learning is carefully planned and structured with specific technologies and adapted pedagogical methodologies, ERE was an improvised measure, often without adequate preparation of teachers and students. The case of the Federal University of Rio Grande do Sul during the COVID-19 pandemic illustrates these challenges, where the lack of infrastructure and the need for teacher training were significant obstacles (SCHWETZ et al., 2021).

Tutoring has played a crucial role in maintaining the quality of teaching during the pandemic. Guidance on tutoring in distance learning has highlighted the need for ongoing support for students, ensuring that they remain engaged and motivated. The pandemic has exacerbated the need for tutors to adapt to new digital tools and provide emotional support, which are essential aspects of learning in times of crisis (CAMACHO et al., 2020).

Specific experiences, such as that of the "Institutional Assessment of Education" class at UFSCar, highlight the difficulties and solutions encountered in the context of remote classes. The use of new technologies and methodologies, combined with flexibility and pedagogical innovation, was essential to face the challenges imposed by the health emergency. The ability of educators to adapt quickly was essential for the continuity of the educational process (ROTHEN; NÓBREGA; OLIVEIRA, 2020).

According to Carvalho et al. (2017):

[...] the school must be a place for democratic dialogue, for multiple knowledge, which makes it possible to develop critical thoughts, construction of knowledge that guarantees the subject is in his/her social context and exercises his/her citizenship in an ethical manner.

In the context of Paraná, the State Department of Education adopted several actions to differentiate distance learning from remote teaching, seeking to identify practices that best suited emergency needs. This distinction is important to understand the limitations and potential of each approach, especially in a crisis scenario such as the pandemic (BUNIOTTI; GOMES, 2021).

Teachers' views on teaching during the pandemic are also important aspects to consider. Many educators have faced unprecedented challenges, from rapidly adapting to digital technologies to maintaining student engagement in a virtual environment. The experiences reported indicate an urgent need for ongoing training and institutional support so that teachers can perform their duties effectively (HONORATO; MARCELINO, 2020).

In the context of nursing, adapting to remote teaching in academic master's programs presented both challenges and opportunities for innovation. The experience report of an academic master's program in nursing showed how remote activities were successfully implemented, despite initial difficulties, highlighting the importance of flexibility and pedagogical innovation (SANTOS et al., 2021).

Gamification has emerged as an innovative strategy to keep students engaged during remote learning. The Mind Map Physio Game proposal in the physiotherapy course is an example of how interactive and playful tools can be used to promote learning, making the educational process more dynamic and effective, even in a virtual environment (MOREIRA et al., 2021).

Non-formal teaching pedagogical mediations also played a crucial role during the pandemic. In the context of nursing, these practices helped maintain the quality of education, ensuring that students continued to receive adequate training despite the restrictions imposed by isolation.

social (PRATA et al., 2020).

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The literature on distance education and e-learning in higher education highlights the importance of preparation and planning in the implementation of these modalities. The pandemic highlighted the need for a robust infrastructure and well-defined pedagogical strategies so that distance education can be effective and accessible to all students, thus ensuring the continuity and quality of education (DIAS et al., 2015).

## 2.1 Impacts of the Pandemic on Global Education

The COVID-19 pandemic has had a profound and far-reaching impact on global education, affecting millions of students and educators around the world. The closure of schools and universities as a measure to contain the spread of the virus led to an unprecedented disruption in educational activities. Educational institutions at all levels, from basic education to higher education, faced the challenge of rapidly adapting their teaching methodologies to virtual environments. This abrupt transition highlighted the fragility of educational systems and the inequality in access to the technologies necessary for distance learning (JOYE; MOREIRA; ROCHA, 2020).

The impact has been felt in different ways in different parts of the world, depending on the existing infrastructure and the level of preparedness of institutions for implementing remote learning. In developed countries, where access to the internet and technological devices is more common, schools have been able to adapt more quickly to online learning. However, in many regions of developing countries, the lack of adequate infrastructure has exacerbated educational inequalities, leaving millions of students without access to quality education (SCHWETZ et al., 2021).

In addition to infrastructure issues, the pandemic has also affected the mental health and well-being of students and educators. Uncertainty, social isolation, and adaptation to new forms of remote teaching have generated high levels of stress and anxiety. Students have had to deal with the loss of the school environment as a space for socialization and collaborative learning, while teachers have faced the challenge of maintaining student engagement and adapting their pedagogical methods to digital platforms (CAMACHO et al., 2020).

The global response to the crisis varied, with some regions quickly implementing policies to support remote learning, while others faced greater difficulties due to lack of resources. The pandemic highlighted the need for more resilient education systems that are prepared to face future crises. Experience has shown that the integration of educational technologies and the development of digital skills are essential to ensure the continuity of education in emergency situations (ROTHEN; NÓBREGA; OLIVEIRA, 2020).

The pandemic has also accelerated innovation in education, with the emergence of new digital tools and platforms that have enabled different forms of interaction and learning. Educational institutions and educators have been forced to rethink their pedagogical practices and explore new methodologies to engage students. This rapid and forced adaptation has paved the way for the adoption of more flexible and personalized educational practices, which can continue to be used even after the end of the pandemic (BUNIOTTI; GOMES, 2021).

The impacts of the pandemic on global education have been vast and multifaceted, highlighting both the challenges and opportunities for innovation and improvement in education systems. The need for robust technological infrastructure, policies to support remote learning, and strategies to address the emotional well-being of students and educators are important lessons that must be considered in building a more resilient and inclusive educational future (HONORATO; MARCELINO, 2020).

## 2.2 Distance Education: Concepts and Practices

Distance Education (DE) is a teaching model where the physical separation between teachers and students is overcome by the use of communication and information technologies. This teaching method allows students to access educational content and interact with their instructors and peers in a flexible and autonomous manner, without the need for physical presence in a traditional school environment. The central concepts of DE include student autonomy, flexible schedules and personalized learning, elements that make this modality attractive to different student profiles, especially those who seek to reconcile studies with other activities (JOYE; MOREIRA; ROCHA, 2020).

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The practice of distance education involves the use of various technologies and digital tools, such as online learning platforms, educational videos, discussion forums, and synchronous videoconferencing classes. These resources allow the creation of a virtual learning environment where students can access teaching materials, carry out activities and assessments, and interact with their peers and teachers. The effectiveness of distance education depends on the quality of the educational materials, the structure of the proposed activities, and the support offered to students, elements that need to be carefully planned and implemented (SCHWETZ et al., 2021).

One of the main challenges of distance learning is to ensure that all students have equal access to

technologies needed to participate in educational activities. Inequality in access to high-speed internet and technological devices can create significant barriers, especially in low-income or rural areas. To mitigate these inequalities, it is essential that educational institutions and governments invest in technological infrastructure and digital inclusion policies, ensuring that all students can take advantage of the opportunities offered by distance learning (CAMACHO et al., 2020).

Interaction between students and teachers in distance learning is also a crucial aspect for the success of this teaching modality. Although the lack of physical contact can be a challenge, digital technologies offer several forms of communication that can promote a collaborative and interactive learning environment. Tools such as discussion forums, real-time chats, and videoconferencing allow students to interact with their instructors and peers, exchange ideas, and collaborate on projects, creating a learning community even at a distance (ROTHEN; NÓBREGA; OLIVEIRA, 2020).

Another important aspect of distance education is the need for ongoing training of teachers so that they can effectively use digital technologies and develop teaching materials appropriate for the online environment. Training teachers in digital skills and distance learning methodologies is essential to ensure the quality of teaching and student engagement. Professional development programs that include training in educational technologies, online teaching strategies, and virtual classroom management are essential for the success of distance education (BUNIOTTI; GOMES, 2021).

Distance Education is a teaching method that offers flexibility and autonomy to students, using digital technologies to overcome the barrier of physical distance. The effective implementation of distance education requires careful planning, investment in technological infrastructure, and ongoing teacher training. Furthermore, it is crucial to ensure digital inclusion so that all students can access and benefit from the learning opportunities offered by this method. The experience gained during the COVID-19 pandemic highlighted the importance and potential of distance education, pointing to ways for its permanent integration into educational systems (HONORATO; MARCELINO, 2020).

### 2.3 Emergency Remote Teaching: Challenges and Adaptations

Emergency Remote Learning (ERE) emerged as an immediate response to the need to continue educational activities during the COVID-19 pandemic. Unlike traditional Distance Learning (EaD), which is planned and structured, ERE was implemented in an improvised and rapid manner, often without adequate preparation of teachers and students. This scenario brought to light a series of challenges that required significant adaptations on the part of educational institutions, educators, and students (JOYE; MOREIRA; ROCHA, 2020).

One of the main challenges of the ERE was the lack of familiarity of many teachers with the digital technologies needed to teach online classes. Educators suddenly had to learn how to use videoconferencing platforms, manage virtual learning environments, and create digital teaching materials. The lack of prior training and adequate technical support made adaptation difficult, generating stress and anxiety among teachers. This situation highlighted the urgent need for ongoing training programs so that teachers can develop specific digital and pedagogical skills for remote teaching (SCHWETZ et al., 2021).

In addition to teacher training, technological infrastructure was also a significant obstacle. Many schools and universities were unprepared for the abrupt transition to online teaching, lacking adequate equipment and stable internet connections. This technological gap particularly affected public institutions and poorer regions, exacerbating educational inequalities. Students without access to computers, tablets or quality internet found it very difficult to follow classes and complete the proposed activities, compromising their learning and academic performance. (CAMACHO et al., 2020).

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Another critical challenge for ERE was maintaining student engagement and motivation in a virtual learning environment. The absence of face-to-face contact and the lack of a structured school environment made it difficult to maintain student interest. Teachers had to explore new methodologies and pedagogical strategies to make online classes more interactive and engaging, using resources such as videos, quizzes, educational games, and group discussions. The need to quickly adapt these pedagogical strategies to the digital environment represented a major challenge, but it also encouraged innovation and creativity in teaching (ROTHEN; NÓBREGA; OLIVEIRA, 2020).

Time and activity management was another complex issue during the ERE. With the overlap

With household and school tasks, both students and teachers had to find ways to balance their responsibilities. The flexibility of remote teaching, although advantageous, also brought difficulties in organization and discipline to meet deadlines and participate in synchronous classes. Establishing routines and fixed schedules, as well as promoting students' autonomy and self-management, was essential to deal with this issue (BUNIOTTI; GOMES, 2021).

Emergency Remote Education presented a series of challenges that required quick and creative adaptations by educational institutions, teachers, and students. Lack of familiarity with digital technologies, inequalities in access to technological infrastructure, maintaining student engagement, and time management were some of the main obstacles faced. However, the ERE experience also brought valuable lessons and boosted innovation in the field of education, highlighting the need for continuous preparation and investment in educational technologies to face future crises and transform education (HONORATO; MARCELINO, 2020).

## 2.4 The Role of Tutoring in Distance Education During the Pandemic

Tutoring has played a crucial role in Distance Education (EaD) during the COVID-19 pandemic, being one of the key elements in maintaining teaching quality and student engagement. The role of the tutor, responsible for offering academic, technical and emotional support to students, has become even more important in a context of emergency remote teaching, where the lack of face-to-face contact and social isolation have increased the difficulties faced by students (JOYE; MOREIRA; ROCHA, 2020).

Tutors in distance learning acted as mediators between students and educational content, facilitating understanding of materials and helping to resolve doubts. During the pandemic, this mediation was essential to ensure that students continued to learn effectively, even in a virtual environment. Constant and effective communication between tutors and students was one of the main factors that contributed to the success of distance learning, providing a channel of support and guidance that helped keep students motivated and engaged (SCHWETZ et al., 2021).

In addition to academic support, tutors also played a key role in providing emotional support to students. The pandemic has led to a significant increase in stress and anxiety levels among students due to uncertainty, social isolation, and abrupt changes in study routines. By offering more personalized and close support, tutors were able to identify signs of emotional difficulties and intervene appropriately, directing students to available support resources or simply offering attentive and empathetic listening (CAMACHO et al., 2020).

Adapting tutoring practices to the new demands imposed by the pandemic also involved the use of several digital tools. Videoconferencing platforms, chats, discussion forums, and emails were widely used by tutors to maintain constant communication with students. These tools allowed for synchronous and asynchronous tutoring sessions, offering flexibility so that students could seek help according to their needs and availability. The diversity of communication channels also contributed to a more dynamic and efficient interaction between tutors and students (ROTHEN; NÓBREGA; OLIVEIRA, 2020).

Training tutors to use these technologies and to adapt tutoring methodologies to the virtual environment was a significant challenge. Many educational institutions invested in continuing education programs to prepare tutors for the new demands of remote teaching. These programs included training in digital skills, online communication techniques, and specific pedagogical strategies for distance learning. Proper preparation of tutors was essential to ensure that they could perform their duties effectively and provide the necessary support to students (BUNIOTTI; GOMES, 2021).

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The role of tutoring in Distance Education during the pandemic was essential to maintaining the quality of teaching and the well-being of students. Tutors acted as mediators, advisors, and emotional supporters, helping students overcome the difficulties imposed by emergency remote teaching. Effective communication, the use of digital tools, and ongoing training were essential elements for the success of tutoring practices in Distance Education. The experience gained during the pandemic highlights the importance of robust and well-structured tutoring support for the effectiveness of Distance Education, pointing to the need for continued investment in this aspect of teaching (HONORATO; MARCELINO, 2020).

## 2.5 Teachers' Views on Teaching During the Pandemic

The COVID-19 pandemic has brought a series of challenges for teachers, who have had to quickly adapt their teaching methodologies and pedagogical practices to the virtual environment. The abrupt transition from in-person teaching to Emergency Remote Teaching (ERE) has revealed both difficulties and opportunities for innovation in the educational field. Teachers' views on this experience were marked by a mix of frustration, resilience, and learning (JOYE; MOREIRA; ROCHA, 2020).

One of the biggest challenges faced by teachers was the lack of preparation and familiarity with digital technologies. Many educators had never used videoconferencing tools, online learning platforms, or other technological resources necessary for remote teaching. The need to quickly learn how to use these tools, often without adequate training, generated high levels of stress and anxiety. However, this situation also encouraged many teachers to develop new skills and explore different pedagogical strategies, resulting in significant professional growth (SCHWETZ et al., 2021).

The lack of face-to-face interaction with students was another significant challenge mentioned by teachers. The lack of physical contact made it difficult to create a collaborative learning environment and maintain student engagement. Teachers reported difficulties in assessing student understanding and maintaining motivation in a virtual environment. To overcome these challenges, many educators adopted new methodologies, such as more interactive classes, the use of multimedia resources, and the implementation of collaborative online activities, aiming to make remote teaching more dynamic and engaging (CAMACHO et al., 2020).

Time and activity management was a complex issue for teachers during the pandemic. The need to balance household chores with professional responsibilities and the lack of a structured routine were common challenges. In addition, workload increased significantly, with many teachers reporting that they spent more time preparing lessons and teaching materials, responding to emails, and providing individualized support to students. This increased workload required additional effort to maintain the quality of teaching and personal well-being (ROTHEN; NÓBREGA; OLIVEIRA, 2020).

Despite the difficulties, the pandemic also brought opportunities for innovation and improvement in educational practices. Many teachers began to explore new ways of teaching and to integrate technologies more effectively into their classes. Gamification, the use of interactive platforms and the implementation of active methodologies became more common, providing a richer and more diverse learning experience for students. In addition, the pandemic encouraged greater collaboration among educators, who shared resources, strategies and experiences to face the challenges of remote teaching (BUNIOTTI; GOMES, 2021).

Teachers' experiences during the pandemic have highlighted the importance of ongoing training and robust institutional support to face future crises. Training programs in digital skills, online teaching strategies, and virtual classroom management are essential to prepare educators for the challenges of the 21st century. Furthermore, the need for educational policies that ensure digital inclusion and equitable access to learning technologies has become evident, highlighting the importance of investments in technological infrastructure and teacher support policies (HONORATO; MARCELINO, 2020).

Teachers' views on teaching during the COVID-19 pandemic have been marked by significant challenges, but also by opportunities for growth and innovation. Adapting quickly to new technologies, overcoming difficulties in interacting and engaging students, and managing workload were some of the main issues faced by educators. However, the experience also provided valuable learning and highlighted the importance of continuous support and investments in training and infrastructure to guarantee the quality of teaching in any circumstance (SANTOS et al., 2021).

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## 3 CONCLUSION

The COVID-19 pandemic has brought about a radical and abrupt transformation in global education, forcing

educational institutions, teachers and students to quickly adapt to emergency remote learning. This challenging period has highlighted the importance of educational technologies and the need for robust and accessible infrastructure, while also revealing disparities in access to quality education.

Distance Education (EaD) and Emergency Remote Education (ERE) have proven to be viable solutions for the continuity of education, each with its own specificities and challenges. While EaD, with its planning and structuring, offers flexibility and autonomy, ERE stood out for its improvisation and rapid adaptation in the face of the crisis. The importance of the role of tutors was widely recognized, as they provided essential academic and emotional support to students, helping them overcome the barriers imposed by distance learning.

Teachers faced significant challenges, from the need to familiarize themselves with new technologies to maintaining student engagement in a virtual environment. However, this experience also catalyzed pedagogical innovation and the development of new skills, highlighting the importance of ongoing training and institutional support.

The experience during the pandemic has highlighted the need for educational policies that promote digital inclusion and guarantee all students equal access to technological tools. It has also shown the importance of being prepared for future crises, with more resilient and adaptable educational systems.

The pandemic has accelerated the digital transformation in education, revealing both significant challenges and opportunities for improvement and innovation. The lessons learned during this period will be fundamental in shaping the future of education, making it more flexible, inclusive and prepared to face new challenges.

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