

Reverberations of emergency remote teaching in Brazil: a case study

Reverberações do ensino remoto de emergência no Brasil: um estudo de caso

Reverberaciones de la enseñanza remota de emergencia en Brasil: uno estudio de caso

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Highlights

Emergency education exacerbated educational problems and socio-economic inequalities in education.

Post-pandemic education needs public policies to minimize the digital divide in public schools.

School principals highlight the need for training to mitigate losses in post-pandemic education.

Abstract

The article deals with the problems caused by remote teaching during the pandemic. The aim is to understand the conditions for the development of emergency distance learning for elementary and middle school students enrolled in public schools in Fortaleza, Brazil, in the interrelation with the evidence reported in the scientific literature of Latin America during and after the pandemic. A survey was carried out with a sample of 172 directors, who answered an electronic questionnaire, analyzed based on the published bibliography. It has shown high student dropout rates, digital exclusion and the inadequacy of the technologies used in teaching. Latin American countries experience similar educational challenges to Brazil; however, they have implemented different educational methodologies which may favor post-pandemic education.

[Resumo](#) | [Resumen](#)

Keywords

Covid-19. Basic education. Digital exclusion. Emergency remote learning. Public education.

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| Introduction

Covid-19, on March 11, 2020, was characterized by the World Health Organization (WHO) as a pandemic, also declared by the Pan American Health Organization (PAHO) in 2023, as its spread reverberated with impetus in various social segments. Among them, the education sector, the area of interest of the research in question, was strongly affected.¹

Despite the time that has elapsed since the start of the health crisis in December 2019, when the first cases were identified in China (PAHO, 2023), the United Nations Educational, Scientific and Cultural Organization (UNESCO) reports that the damage to education was still being assessed, as 1.6 billion students worldwide, especially the most vulnerable, in a context of social and economic deprivation (Martuccelli, 2017), had been affected (UNESCO, 2023a). In particular, in Brazil, 43,156,329 basic education students had their school learning suspended (Unesco, 2023b).

Due to the advance of the pandemic, before immunological prevention was available, one of the most drastic but necessary measures to prevent the spread of the virus was social isolation, resulting in the interruption of classroom lessons. The teaching and learning process has been reorganized through Emergency Remote Education (ERE).

The ERE was regulated by Law No. 14,040 of August 18, 2020 (Brazil, 2020). It is important to clarify that, in the Brazilian educational system, ERE was differentiated from Distance Education (EaD) because, although both consist of the development of non-classroom teaching activities using Information and Communication Technology (ICT), ERE did not have standardization, teacher training, adequate platforms, or access to devices connected to network providers. EaD was provided for in Decree No. 9057, of May 25, 2017, which regulates article 80 of Law No. 9394, of September 20, 1996, the "Law of Guidelines and Bases of National Education" (LDBEN), article 2 of which authorizes the provision of basic education and higher education in the distance learning modality [EaD] (Brasil, 2017). Digital tools, including those anchored in artificial intelligence (AI), have permeated global education (Neves, Macêdo, and Fialho, 2025).

The evidence for public policy proposals includes enlightening information on the situation of Brazilian education during and after the Covid-19 pandemic, which can support planning and policy decision-making at institutional and regional levels. Based on a critical and reliable analysis of the perceptions of school principals who experienced social isolation and who, together with teaching staff, families, and students, adopted measures to compensate for the interruption of in-person classes, it is possible to promote educational improvements compatible with the reality of Brazil and other countries facing similar challenges.

1 We would like to thank CNPQ and FUNCAP for funding the research.

From the published work, the following topics were addressed: the perceptions of teachers representing all levels and stages of Brazilian education on education during the pandemic (Fialho & Neves, 2022; Fialho et al., 2022; Pereira de Mello and Renda Vitorino, 2021; Pires, 2021); the national advertising discourse on the return of in-person classes in public and private schools (Neves, Fialho, Machado, and Sabino, 2021a); Brazilian production on the interface between COVID-19 and education in international circulation (Neves, Fialho, and Machado, 2021a) and nationally (Neves, Fialho, and Machado, 2021b; Neves, Assis, and Sabino, 2021); and the perceptions of health professionals about professional training in the chaotic scenario, who worked on the front lines of Brazilian hospitals in the first months of the pandemic (Neves, Fialho, and Machado, 2021c). In the context of intervention studies aimed at overcoming problems related to Covid-19 in education, action research was developed to educate the population on self-care in health, to continue professional training during social isolation (Neves, Fialho, Machado, & Sabino, 2021b), and to overcome the setbacks of the pandemic in peripheral public schools (Sabino et al., 2023). Additionally, a specific illustrated booklet was developed to prevent infection with the coronavirus responsible for the recent pandemic (SARS-CoV-2) in the school environment (Brandenburg et al., 2020).

In these investigations, the authors found that identifying sources to elucidate the issues raised is crucial for the quality of the knowledge produced, thereby providing more meaningful results for society and the scientific and academic communities. Thus, it was found that school principals can elucidate different aspects that permeated the ERE both during the pandemic and in future classes; on the contrary, they were precisely the professionals for whom research was most scarce.

In the context of the health crisis, school principals are key agents in bringing together other individuals capable of promoting educational goals and involving them in the teaching-learning process, such as teachers and other professionals at the educational institution (Marichal Guevara et al., 2022), since, in collaboration with other members of the teaching staff, they are responsible for ensuring the school runs smoothly from an integrated perspective that encompasses the various institutional dimensions. In addition, among many functions, they lead, mediate, monitor, and evaluate the processes necessary for student learning and teaching practice in schools (Lück, 2009).

Anchored in these important reflections, the question was asked: what are the challenges faced by public school managers in Fortaleza in promoting ERE? In search of an answer to this main question, a survey was carried out, detailed in the methodological section, with the aim of understanding the conditions for the development of ERE for primary and secondary school students enrolled in public schools in the city of Fortaleza, Ceará, Brazil, from the perspective of school principals.

The relevance of the study lies in the fact that, in Brazil, research on school principals' views on the problems caused by the COVID-19 pandemic within schools is a largely unexplored field, despite scientific evidence that the leadership

exercised by these agents influences the school environment, collaboration among teachers, student performance, the resolution of problems experienced by the school, and the quality of education, resulting in better school performance indicators (Simielli, 2022). As a hypothesis, it is suggested that considering the views of principals, who are prominent figures in the organization and management of school education, and correlating them with scientific knowledge on the subject circulating in Latin America, allows us to point to evidence with the aim of promoting support for the proposal of projects and public policies to mitigate the damage caused to education as a result of the health crisis caused by Covid-19.

| Method

It adopted a mixed approach, as it took into account quantitative aspects, seeking a representative sample of the universe of principals linked to public elementary schools in the city of Fortaleza, capital of the state of Ceará, as well as subjective perceptions, collected with open-ended questions that allowed the expression of individual ideas and conceptions. The type of study adopted was exploratory, a case study, due to the need to explore the difficulties faced in the context of the pandemic, based on the perception of these managers, an aspect that has been little explored; and cross-sectional, as it allowed us to visualize an educational panorama by correlating the evidence of the pandemic, obtained with a questionnaire applied to principals during the pandemic period, based on the interpretation of the participating principals' responses discussed in light of scientific literature relevant to the Brazilian context, identified from the sample of participating managers and scientific literature.

The population that collaborated with the study was made up of principals from municipal and state public schools in Fortaleza, for primary and secondary education. The sample size was calculated using the following formula (Bonini & Bonini, 1972), which allows us to identify the minimum number of principals to work with a representative number of the city of Fortaleza:

$$(1) n = \frac{N \cdot z^2 \cdot \sigma^2}{z^2 \cdot \sigma^2 + (N - 1) e^2}$$

Where "N" is the population size (274), "z" is the confidence level (C% = 95% => z = 1.96), "e" is the level of precision (e = 0.05), and "σ" is the standard deviation (σ² = 0.25). Therefore, the "n", the sample size, calculated for the universe of 274 schools, each with a principal, was 160 principals.

After the questionnaire (which already included an informed consent form) had been developed and validated, the [Fortaleza Municipal Secretariat of Education] Secretaria Municipal de Educação (SME) and the [Ceará State Secretariat of Education] Secretaria Estadual da Educação (Seduc) were contacted to obtain their consent to continue the research. Once permission had been obtained from the SME and Seduc, the questionnaire was sent by email to 274 email addresses provided by the secretariats. In the case of SME, the emails were sent by the

secretariat itself, whereas at Seduc, the electronic contacts were provided for the researchers to send.

Data collection took place between June 2, 2020, and July 2, 2024, the period during which the research and development of the network project, supported by the National Council for Scientific and Technological Development (CNPQ), commenced. A total of 172 responses were obtained, however, due to the context of uncertainties, fragilities and work overload caused by the Covid-19 pandemic, it was understood that there was a good turnout, especially since 160 respondents would already be a representative number, as indicated by the "n" for a minimum representative sample size. None of the questionnaires were discarded during data analysis, as they were all completed correctly.

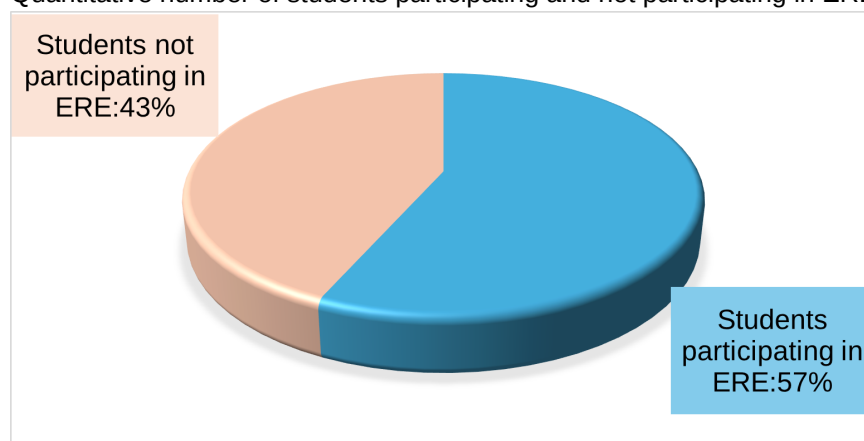
The questionnaire, designed in Google Forms, consisted of 11 questions. The first five questions were objective, asking about: 1- the age of the managers; 2- sexual orientation; 3- confirmation that distance learning took place at the school; 4- the number of students enrolled at the school who took part in distance learning; and 5- the number of teachers who taught distance learning. The next six questions allowed more than one alternative to be ticked and asked about: 1- the difficulties faced by teachers; 2- the challenges experienced by students; 3- the technological tools most used in distance learning classes by teachers; 4- the main difficulties faced by students about distance learning classes; 5- the types of activities being developed; and 6- how assessments were being carried out.

| Results and discussions

Compatible with the nature of exploratory studies, which seek to make the research problem more understandable in correlation with its context, it is important to note that the 172 managers were between 34 and 64 years old (average age 49). Of these, 71.5% declared themselves to be women, 25.5% men, and 3% of another gender identity. Figure 1 illustrates the high percentage of students who did not participate in ICT-mediated remote classes.

Graph 1

Quantitative number of students participating and not participating in ERE



Source: authors, based on the questionnaire.

It was found that, among the students enrolled in the schools included in the study, only 57% actually took part in the distance learning classes; the rest (43%), during the initial year of the pandemic, did not join the ERE, so they did not study using the digital distance learning tools. In Brazil, studies indicate the main difficulties students have in not taking part in ERE: lack of equipment connected to the internet network, lack of skills for competent handling of ICTs and little autonomy or an unfavorable environment for studying (Fialho & Neves, 2022; Medeiros, 2021; Souza et al., 2022). Thus, it was found that a very high percentage of students did not have access to technology-mediated lessons during their social isolation.

In addition to the students' difficulties, the teachers also pointed out obstacles to delivering qualified and engaging lessons that would involve the students more effectively with ERE. The principals pointed out that the main challenge to keeping teaching going in the midst of the health crisis was convincing teachers to join ERE and getting them to deal with the obstacles related to acquiring and using ICT. In terms of the difficulties faced by teachers, Table 1 lists the most frequently mentioned.

Table 1
Teachers' difficulties with ERE

Variables	Percentage
Lack of knowledge about the use of ICTs	71.5%
Internet access problems	55.2%
No computer/mobile/tablet available	45.3%
Total lack of internet access	34.3%
Financial difficulty in acquiring an Internet data plan	33.1%
Responsible for ensuring that the student does not pick up the printed material at school	21.5%
The student doesn't have a textbook	11.6%
Others	5,8%
No difficulties	2.3%

Source: own elaboration based on the questionnaire.

The main difficulties faced by teachers relevant to ERE are related to a lack of knowledge about the use of ICT (71.5%), but alarming percentages point to problems with Internet access (55.2%) or its total absence (34.3%) and the lack of digital tools, computer, cell phone or tablet (45.3%). Almost 50% of teachers were unable to teach online classes immediately after social isolation because they lacked internet access or suitable digital equipment; moreover, almost 30% of teachers felt they lacked specific knowledge about how to use ICT to support educational practice. Only four of the professionals interviewed reported not having any difficulties with ICT-mediated teaching activities.

It is known that information technology in education has been discussed in the school context in Brazil since the 1960s, and that the dialogue has become much more intense since the 1970s; however, proposals for continuing teacher training to work with ICT have developed very slowly in Brazil. At the same time as the poor professional training of basic education teachers, the majority of municipal and state schools remained disconnected, i.e., without adequate access to the internet

and unprepared in terms of acquiring up-to-date and properly functioning technological tools (Soffner, 2013).

The difficulty of accessing ICTs was not just in schools; in fact, the situation in teachers' homes was inadequate for improvising a classroom. In addition, public school students in Brazil are generally the least economically favored, which has repercussions on their precarious access to ICTs connected to efficient network providers. Thus, only 56% of the enrolled students participated in distance learning. The situation is even more critical in terms of students' difficulties, as shown in Table 2.

Table 2
Students' difficulties with ERE

Variables	Percentage
Internet access problems	88.9%
Total lack of internet access	86.0%
No computer/mobile/tablet available	85.4%
Financial difficulty in acquiring an Internet data plan	79.0%
No antenna or Internet cabling at home	56.9%
Lack of knowledge about the use of ICTs	51.1%
Insufficient education level of caregivers to keep up with the child's schoolwork	49.4%
No textbooks available	10.4%
Others	5.2%

Source: own elaboration based on the questionnaire.

The main difficulties reported by principals as being faced by students about ERE do not differ from those experienced by teachers; however, they are probably mentioned because the financial conditions of students' families are more precarious than those of teachers. The total lack of Internet access affects the majority of students (88.9%), and this is almost exclusively due to financial difficulties in acquiring an Internet data plan (79.0%) and digital equipment such as a computer, cell phone, or tablet (85.4%). In addition, parents' cell phones were reported as the most used resource, but children and young people suffered from problems accessing the Internet (86.0%) and the lack of time available for those responsible for monitoring school activities (61.0%).

The setbacks to the effectiveness of ERE are manifold and are linked to other issues, such as the lack of a suitable platform for mediating ERE, the absence of Brazilian government programs to enable TV classes, and other ways of mitigating the setbacks of social isolation in education. In addition, Cunha et al. (2022), when analyzing the perception of high school students in São Paulo, Brazil, regarding the ERE pandemic, identified that the lack of access to adequate ICTs for classes exacerbated loneliness and anxiety. The research by Grossi et al. (2022) on the impacts of the pandemic on families with children enrolled in elementary school in Belo Horizonte, Brazil, showed the family's exhaustion in reconciling at-home and work tasks with the mediation of learning.

LDBEN No. 9394 (Brazil, 1996) and the "Programa Um Computador por Aluno" ("One Computer per Student Program") are examples of government regulations that have tried to support new technologies in schools. On the other hand, the effectiveness of these institutional implementations has always presented challenges, such as inadequate electrical networks, compromised ventilation, precarious computer cooling, a lack of laboratories, insufficient incentives for continuing training, and teacher demotivation due to overwork, among others. Thus, the losses in school performance in times of pandemic were affirmed by the lack of technological infrastructure and had repercussions on the lives of Brazilian children and young people not only during the pandemic, as the learning gap persists, as well as the scarce knowledge about the appropriation of ICTs (Duarte et al., 2019).

Many of these barriers were already faced by poorer families, especially those using the public school system; however, the pandemic, while bringing new challenges, has also exposed pre-existing socio-economic inequalities. The increase in health spending and the economic shortfall affecting teachers and students have exacerbated access to technologies that promote and guarantee the teaching-learning process, both in the classroom and at school. Even before the health crisis, Soffner (2013) argued that a democratic society seeks equality. In this sense, access to technology should be available to everyone in education, promoting social justice to achieve a more equitable education, free from social, cultural, and digital discrimination.

Almost half of the principals (49.4%) attributed the difficulties in implementing ERE to the insufficient education of those responsible for monitoring the child's homework. Similarly, in Mexico, the study by Velázquez Olmedo and Palos Andrade (2022) surveyed 349 mothers of primary school students in public and private schools, finding that mothers with higher levels of education had higher expectations for the academic performance of their children enrolled in public schools and were more dedicated and effective in their children's distance education. However, mothers with a lower level of schooling and with children in public schools showed lower self-efficacy in supporting their children's teaching and learning during social confinement.

Regarding the lack of time on the part of those responsible for the students, it is important to take into account their working hours, since, according to Barros et al. (2020) and Borges et al. (2021), it is essential to consider the socio-economic situation of families, inequality and poverty in Brazil, which force low-income families to submit to poorly paid jobs, without adequate conditions and with long hours of work and commuting.

Additionally, the omission of public authorities is an aggravating factor. The research by Duarte, Gomes, and Gotelib (2019) denounced the lack of investment in public schools, which decreased during the pandemic, increasing the precariousness of public education services during this period. In the context of scarce educational resources, Table 3 presents data on the tools used by teachers to mediate distance learning classes.

Table 3

Tools used to mediate distance learning classes

Instruments used	Percentage
Cell phone/WhatsApp	98.8%
Computer	93.0%
Educational textbook	77.9%
Printed material	69.1%
Material sent by email	45.9%
Tablet	25%
Other	9.3%
Television	5.2%
Radio	0%

Source: own elaboration based on the questionnaire.

The tools most commonly used by teachers to mediate lessons were: cell phone/WhatsApp (98.8%), computer (93.0%), textbook (77.9%), other printed materials (69.1%), and materials sent by email (45.9%). The cell phone was the most frequently used resource, as management provided guidance for teachers to create WhatsApp groups with students and their tutors. The computer was the most commonly used resource for synchronous classes. This result is similar to that of Mexico, where Montalvo-Charles et al. (2021) revealed that the most used resources in urban and rural primary education, public and private, were also cell phones and WhatsApp. Due to the sudden need to implement ERE, parents acquired new technologies, the largest number being cell phones (34.6%) and Internet service (31.1%). Still, few managed to gain more suitable tools: laptops (12.6%), tablets (9.7%), and desktop computers (6.9%). Also in the Mexican study, 46.0% of students received lessons only on their cell phones, and 10.9% used the computer alternately with the cell phone.

To adapt the methodology to the didactics mediated by the ERE, Table 4 presents information on the activities and assessments conducted during the distance learning classes in Fortaleza.

Table 4

Activities carried out with ERE

Activities	Percentage	Assessments	Percentage
Tasks	94.7%	Research paper	24.4%
Questions about textbooks	90.6%	Activities or evidence sent by WhatsApp	22.6%
Oral presentations with video recordings	87.7%	Frequency of access to the system used	20.3%
Research paper	80.8%	Online tests in real time	19.1%
Individual seminars	24.4%	Printed material returned	16.8%
Model production	20.3%	Assessments sent by email	9.8%
Others	15.6%	Others	1.7%

Source: the authors.

The most frequent activities carried out in distance learning, according to the interviewees, were: guided study (94.7%), textbook questions (90.6%), oral

presentations via video recordings (87.7%), and research work (80.8%). The textbook continued to be the teaching resource most often used by teachers, as even the assignments were based on it. However, during the pandemic, research activities gained prominence that they had not had in the Brazilian face-to-face teaching system, as teachers believed that students attending classes had internet access and electronic equipment to attend lectures and could therefore use them to carry out online research.

In terms of the assessments made possible, an interesting change was observed: the survey was the most used assessment (24.4%), followed by activities or tests sent via WhatsApp (22.6%) and confirmation of the frequency of access to the online system used (20.3%). Real-time tests, which were once the most common assessment in face-to-face courses, ranked fourth (19.1%), indicating a shift in the assessment culture that favors student participation and autonomy in research activities.

Managers have drawn attention to the need to adjust the demand for activities related to ERE, with constant replanning and evaluations, thereby reducing the quantity and demands to prevent the expansion of dropouts (Venturelli, 2020). However, the problems of access to ICTs need to be minimized through state public policies, because school management, even when articulated with the entire school community, cannot solve this problem.

Due to the differences between virtual and face-to-face interactions, it was imperative to reinvent and relearn new ways of interacting at a distance. This has led to the emergence of various active methodologies, interactive and collaborative applications, intelligent platforms, and innovative virtual environments (Grossi et al., 2020; Unicef Brasil, 2021). However, understanding and incorporating these approaches into planning and new teaching-learning proposals remains a challenge for teachers.

Although it is not the focus of this research, it is important to note that managers and teachers have also had to deal with the socio-emotional health of families and students due to the deaths and the fear of losing loved ones, which has potentiated crises of anxiety, depression and other emotional problems (Borges et al., 2021; Venturelli, 2020). In the context of the pandemic, the issue of self-care and self-awareness has become extremely necessary for families, teachers, and students (Brandenburg et al., 2021), adding to the new demands of praxis mediated by ERE.

| Propositional analysis of the results

Previously published literature on the pandemic and schools has shown that the perception of principals has revealed different sensitivities involving ERE in teaching and students, but has also shown the main tools and methodologies used to continue the teaching-learning process interrupted in person. In this respect, the intensive use of ICTs, which are not particularly suitable for teaching activities, such as cell phones, was noteworthy due to the socio-economic needs of the students.

However, when comparing the results of the review with the questionnaires, it became possible to summarize that, in Brazilian education, accessibility to ICT should consider the ability to overcome barriers that interfere with educational and social participation, since, depending on the specific characteristics of each student, adaptations may be necessary to promote inclusion (Pagame et al., 2022). Similarly, in other contexts, such as Chile, Díaz Cánepa et al. (2022) state that the Chilean study recommends that the education system pay attention to the specific conditions of special education students, so as not to increase the gap between them and other students.

Silva et al. (2021) aimed to understand the experiences of students during the pandemic by conducting meetings with high school students at a public school in the countryside of São Paulo, Brazil. On this occasion, it was clear that the students were surrounded by fear, confusion, and a lack of routine; however, they wanted to receive more information about the pandemic from the school and its educators. The voices of students from the countryside were emblematic in announcing a chaotic scenario such as that experienced during the pandemic; they expected a holistic and therapeutic approach that included other needs, such as emotional and mental ones (Silva et al., 2021).

The results of the Mexican study by Montalvo-Charle et al. (2021) are relevant because they expose the unsuitability of certain ICTs for younger elementary school students to study at a distance. Thus, they emphasize the importance of investing in digital inclusion and adapting methodologies to the specific needs of children, taking into account their age. Still at the primary level, in Argentina, Anderete Schwal (2020) analyzed the Ministry of Education's "Seguimos Educando" (We Continue Educating) program, implemented in primary schools during the suspension of in-person classes, but drew attention to the particularities of students, families, and educational institutions, which were not considered, perhaps due to the government's lack of planning to respond immediately to the suspension of classes. Among the recommendations, the author emphasizes that social and technological vulnerabilities must be addressed at their root and that state interventions must be agreed upon in collaboration with educators.

In their opinions on ICT-mediated teaching, Chile's basic education teachers expressed limitations in student learning, work overload, interruptions in the teacher-student bond, a lack of greater digital competence, and poor material conditions, among others. In terms of intervention, the suggestions included: sharing practices with different educational agents and taking an interest in the particularities of the students (Díaz Cánepa et al., 2022).

Many Latin American countries have made efforts to reduce the educational problems created or aggravated by the pandemic, many of which remain in the school environment. We have learned, therefore, that it is necessary to deepen the debate and list potentially promising strategies for future confrontations that may plague education in health crisis scenarios, without losing focus on the specificities of the students and the experience of the teaching team in the classroom.

| Conclusions

This research focused on the ERE implemented in public schools in the Northeast of Brazil during the Covid-19 pandemic; the situations identified through the initial survey, carried out with 172 school principals, who are important agents in the administration of educational institutions.

Among the results, it was found that during the mandatory social isolation period of the Covid-19 pandemic in Fortaleza, despite schools' efforts to offer ERE to replace impossible face-to-face classes, only just over half of the students were able to participate. The worrying dropout rate was mainly due to the digital divide, characterized by the absence or insufficiency of equipment connected to network providers for distance learning classes. Furthermore, many of the students who participated in the ERE lacked adequate resources: 98.8% of them used cell phones and the WhatsApp app. Teachers also struggled with the complexity of the problem, with insufficient ICT management skills and the lack of availability of quality equipment connected to the Internet being the most significant.

An analysis of the questionnaire, based on scientific literature, found that Brazil shares similar challenges with other Latin American countries. Thus, the methodologies underway in these countries to overcome the educational problems introduced or aggravated by the Covid-19 pandemic can favor post-pandemic education both in Brazil and in other Latin American entities, since they have all lived through many similarities from the historical past, which have repercussions in the social, political, economic and cultural spheres.

The studies analyzed are eloquent in recommending that methodologies promoting quality education should take into account the specific needs of students, depending on their special needs, age group, and various manifestations of social vulnerabilities. On the other hand, they warn of the need to listen to students and teachers, in other words, to fund the formulation and implementation of public policies so that government and institutional measures are not disconnected from real local and regional needs.

The research helped determine the extent of the problematic implementation of ERE in public schools in Ceará, highlighting multiple difficulties and socializing recommendations that may contribute to a post-pandemic quality education, considering the development of students.

As a limitation of the research, we can cite the study's circumscription, which reflects only part of Brazilian public schools and the production of a single database. Although it is a reputable indexing platform in Latin America, it is possible that other relevant studies exist in other databases. From this, we derive recommendations for future studies to investigate local contexts in other Brazilian states, even in other Latin American countries, to compare future results with current ones, and to expand the bibliographical references. We suggest additional studies to monitor progress in overcoming the problems aggravated by the pandemic.

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Resumo

O artigo discute os problemas causados pelo ensino remoto durante a pandemia (2020-2021). O objetivo é compreender as condições para o desenvolvimento do ensino remoto emergencial para alunos do ensino fundamental e médio matriculados em escolas públicas de Fortaleza, Brasil, sob a perspectiva dos diretores de escola. Foi realizada uma pesquisa exploratória de corte transversal com uma amostra de 172 diretores, que responderam a uma pesquisa, analisada a partir da literatura publicada. Foram demonstradas altas taxas de evasão escolar, exclusão digital e inadequação das tecnologias usadas no ensino. Os países latino-americanos enfrentam desafios educacionais semelhantes aos do Brasil, mas implementaram diferentes metodologias educacionais que podem favorecer a educação pós-pandemia.

Palavras-chave: Covid-19. Educação básica. Exclusão digital. Ensino Remoto Emergencial. Educação pública.

Resumen

El artículo trata de los problemas causados por la enseñanza remota durante la pandemia (2020-2021). El objetivo es comprender las condiciones para el desarrollo de la enseñanza remota de emergencia para alumnos de educación básica y secundaria matriculados en escuelas públicas de Fortaleza, Brasil, desde la perspectiva de los directores de centros escolares. Se llevó a cabo una investigación exploratoria transversal con muestra de 172 directores, que respondieron a una encuesta, analizadas a partir de la bibliografía publicada. Se demostró que la tasa de abandono de los estudiantes es alta, exclusión digital e inadecuación de las tecnologías utilizadas en la enseñanza. Los países latinoamericanos experimentan desafíos educacionales similares a los de Brasil, sin embargo, han implementado metodologías educacionales distintas que pueden favorecer la educación pospandemia.

Palabras clave: Covid-19. Educación básica. Exclusión digital. Enseñanza Remota de emergencia. Educación pública.

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