Implementation of Emergency Remote Education (ERE) in the Brazilian Context: An Analysis from Students' and Professors'/Instructors'/Teachers' Perspectives

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Abstract

This paper aims to analyse the implementation of Remote Emergency Education (ERE) within the context of the COVID-19 pandemic in Brazil – which has befitted the pandemic epicentre worldwide due to the number of confirmed cases and deaths. Faced with the challenges related to biosecurity measures and social distancing strategies, ERE has employed an adaptive didactic-pedagogical approach through distance learning tools and techniques and hybrid teaching mechanisms, together with the interaction in digital social media and the provision of school material (mainly in digital format). This work addresses the perspectives of the two essential actors in that process: students (of all educational levels), and both schoolteachers and professors/instructors in higher education, based on the literature on the context at hand. Thus, the paper presents experiences described and data collected and presented by studies carried out during the COVID-19 pandemic, associated with ERE, and published in this period, covering part of the educational dynamics in Brazil. By addressing aspects such as the ability to study and work in the home environment, problems related to psychosocial well-being and socioeconomic vulnerability, and support from educational institutions, we proposed reflections on the practices in distance learning for that context. To reduce the educational damage, efforts are required cohesive adaptations, integrating curriculum and digital technologies. Therefore, educational institutions must involve the learnings from this period and the use of ERE, for a better conception for the traditional face-to-face classes, given the need for a new school and academic life that arises in the world.

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Introduction

In 2020, the world suffered from the impacts caused by the COVID-19 pandemic at various levels and contexts (social, sanitary, political, economic, and educational). The number of deaths and the strategies for mitigating and suppressing the contagion of the new coronavirus (SARS-CoV-2) were determinants for increasing these impacts. The measures of biosecurity and social distancing brought particular challenges (Lima et al., 2020). Idiosyncratically for Brazilian education, this scenario represented numerous changes in the new ways of conceiving teaching-learning relationships.

Concerning the transmission risk of the new coronavirus among professors/instructors/teachers and students, Brazilian educational institutions suspended face-to-face classes in March 2020, based on recommendations from the National Health Council (Conselho Nacional de Saúde, 2020). Complementary, aiming to continue teaching activities, the Brazilian government authorized remote classes (at a distance) through digital information and communication technologies (DICTs) (Ministério da Educação – MEC, 2020a). The replacement of face-to-face classes for remote (virtual) classes (or adoption of distance learning practices) occurred gradually at the national level. These further intend to reduce student dropout and develop a sense of continuity to the educational process (Fernandes et al., 2021; G. H. S. de Souza, Jardim, et al., 2020).

The challenge imposed by the complexity of the context (diversity of students and education levels) highlighted the need to structure new ways for returning the school activities through remote (virtual) classes/studies, under the expressions Emergency Remote Education (ERE) and Emergency Remote Teaching (ERT) (Toquero, 2020; Williamson et al., 2020).

It is noteworthy that distance learning (DL) and Emergency Remote Education (ERE) are conceptually distinct, although there are pedagogical practices and platforms commonly used in both. DL is an educational modality structured in medium and long-term pedagogical planning, using tutored support in virtual learning environments (VLE) and specific communication platforms. In DL, the development of the teaching-learning process presupposes autonomy on the part of the student in the use of available didactic material, as well as previous training for professors/instructors/teachers, tutors, and pedagogical support staff (Coelho & Tedesco, 2017; Nunes et al., 2019).

On the other hand, ERE represents a temporary and strategic solution that allows, in the context of the COVID-19 pandemic, to provide to the academic community the possibility of maintaining, within the possible circumstances, the activities of school education,

using Digital Information and Communication Technologies (DICTs) for the exchange of knowledge. ERE is established as an adaptation of didactic-pedagogical tools and teaching methods (some appropriated directly from DL), using instructions for oriented and autonomous studies. Additionally, there were implemented remote teaching-learning activities mediated by DICTs, as well as synchronous and asynchronous interactions for the resolution of doubts or the provision of curriculum content through digital social media and the prior availability of didactic and academic material (in print or digital format) (Arruda, 2020; Joye et al., 2020; Souza et al., 2021; Williamson et al., 2020).

Nevertheless, the need for implementation of the ERE required operationalization strategies, whose innovative character and urgency evidenced a chaotic scenario. Amid the imposed adversities, schools (all levels) and universities were compelled to reinvent and innovate its pedagogical activities, preserving the quality of teaching. In Brazil (a continental-size country), within a pre-pandemic political and economic crisis, the adaptation process to supply the schooled education remains, until now (October 2021), without a standard model for all education levels.

In this sense, this paper proposes presenting a general analysis of the implementation of Emergency Remote Education (ERE) within the context of the COVID-19 pandemic and Brazilian education, addressing the most common perceptions and challenges that impacted professors/instructors/teachers and students, whether in public or private educational institutions, in both basic and higher education.

In this paper, findings on mental health, access to and use of technology, and studying and working in the home environment have been approached within the same perspective, as the context highlights the multifactorial and systemic impact that the pandemic has brought to society.

Although for professors/instructors/teachers and students the challenges were similar – especially regarding to the anxiety caused by the social distancing and the pandemic in general, low productivity in the home environment, lack of custom with digital learning platforms, etc. –; the literature on which this paper is based allows us to understand that the challenges of public and private institutions in Brazil were different amid the pandemic, especially concerning the timeliness with which solutions were implemented to enable the continuity of school/academic activities. Therefore, this paper covers the perspectives of the two essential actors in that process: students and professors/instructors/teachers – evidencing the perception of these subjects within this new educational process and then discusses the general aspects that Brazilian education faced in the period.

For that purpose, this paper was conducted as a bibliographic and documental study design with a qualitative approach to collect and use secondary data (for better comprehension on the methodology used, see Leavy, 2017). We did a literature review and researched national (qualitative and quantitative) studies by Brazilian researchers, published in 2020

and 2021 in the SciELO and Google Academic databases, using the following descriptors: Emergency Remote Teaching; Emergency Remote Learning; Distance Learning and COVID-19, in an equivalent manner in the databases, with the Boolean operators "E/AND". The research strategy was limited by saturation. The articles were identified and selected after reading them in full. We excluded those articles that did not precisely describe gaps related to the theme. For the analysis, this paper presents a synopsis of these articles.

Based on this proposal and guided by empirical studies, this paper is divided in the following parts: this Introduction; (1) Structural Organization of the Brazilian Education, considering the scenario of ERE; (2) Students' perspectives on the ERE; (3) Professors'/Instructors'/Teachers' perspectives on the ERE; (4) School and Academic Daily Experiences, bringing real cases and experiences from the pandemic period; and a (5) Discussion, with analysis of the general conjuncture and prospects for the coming years of world education.

1 Structural Organization of the Brazilian Education

Brazilian education is structured among public and private institutions, being divided by education levels: early childhood education (up to 6 years of age), elementary education (6–14 years of age), and high school (15–18 years of age), and higher education (undergraduate and graduate). Due to this diversity, the National Council of Education (in Portuguese, *Conselho Nacional de Educação – CNE*) is responsible for the regulations. The mission of CNE (2022) is to guarantee institutional democracy and provide the participation of society in the development, improvement, and consolidation of education in the country.

Guided by the CNE, the Ministry of Education elaborates and implements educational policies in Brazil (in Portuguese, *Ministério da Educação – MEC*). The entire Brazilian educational system, from early childhood education to professional and technological education and higher education, is under the responsibility of the MEC. Locally, the process of implementing policies and regulations is the responsibility of states and municipalities.

Thus, on March 17, 2020, through ministerial ordinance No. 343, the Brazilian Ministry of Education (MEC) approved the replacement of face-to-face classes for remote classes with digital media for higher education courses during the COVID-19 pandemic. This order established that it would be up to the hierarchically inferior spheres (states and municipalities) to organize this replacement or adopt distance learning practices (MEC, 2020a; 2020b; 2020c).

Complementary, it is necessary to analyse the number of students in each education level and its coverage in the Brazilian territory to understand the teaching-learning process

during the pandemic. According to the *Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira* (INEP) (an institution focused on studies and researches on education), linked to the Brazilian Ministry of Education, from the 2020's School Census, there were 179,533 primary education schools in Brazil, with 47.3 million enrolled students. Evaluating the distribution by administrative area, there is the dominance of the municipal schools, which hold 48.4% of enrolments in elementary education. The state schools were responsible for 32.1% of the enrolled students in 2020, while the private schools had 18.6% of the enrolled students, and the federal schools had less than 1% of the enrolled students (INEP, 2020a).

In 2019, there were 8.9 million enrolments in day-care centres and preschools. The municipal schools concentrate most enrolment sprees: 71.4%. Subsequently, it comes to the private schools with 27.9% of the enrolled students (INEP, 2020a).

In elementary education, there were 26.7 million regularly enrolled students in 2020. In turn, in high school, professional education, and adult education, 7.6 million enrolled students were registered in 2020, with 2.2 million teachers. The elementary school concentrates the majority of teachers, equivalent to 63% (INEP, 2020a).

In Higher Education, there are 8.6 million enrolled students. The vast majority, about 6.5 million, is in private universities. Exclusively in the pre-pandemic period, there were 2,608 institutions in Brazil offering higher education courses, of which only 302 are public. By 2020, 3.6 million more people started studies in higher education, of which about 3 million entered private institutions. In turn, there are 122,295 enrolled students in postgraduate courses: 76,323 are academic master students, 4,008 are professional master students, and 41,964 are doctorate students (INEP, 2020b).

In front of that scenario, this paper tries to clarify the consequences of the pandemic period for the teaching and learning process to generate reflections and data that can contribute to world education in the current period. Therefore, it is necessary to understand the action of schools and universities in the pandemic period, covering factors as: decisions at the governmental level (e. g., ordinances that defined requirements, restrictions, and possibilities of academic action); and flexibility and dynamism capacity (e. g., technical and human capacity to use new technologies or alternative teaching and learning methodologies). The following sections detailed several efforts to implement the ERE in the Brazilian context, considering students' (section 2) and professors'/instructors'/teachers' (section 3) perspectives.

2 Students' Perspectives on Emergency Remote Education (ERE)

By understanding the complexity of education and its several levels, we realize students were probably the most impacted in the adoption of ERE. In the Brazilian context, what needed to be answered initially was whether students maintained (i) the infrastructural conditions in the home environment for this type of remote schooling practice and (ii) the psychosocial conditions (personal and familiar) to feel comfortable and motivated to study (G. H. S. de Souza, Jardim, et al., 2020).

In line with the questions raised here, researches conducted with Brazilian students indicated that the critical factors favouring the continuity and effectiveness of the ERE were: internet access, capable use of ICTs, better socioeconomic conditions, individual motivation, and a suitable home environment for studies (Fossa et al., 2020; G. H. S. de Souza, Jardim, et al., 2020; G. H. S. de Souza, Lima, et al., 2020; Universidade Federal de Minas Gerais, 2021). Additional insights from G. H. S. de Souza, Lima, et al. (2020), in a quantitative study (using multiple linear regression) with students of high school and higher education from a federal educational institute, showed that students in higher education demonstrated an indeed broader availability and interest in distance studies, i. e., ability to maintain academic activities. In that case, the factor "social class" (socioeconomic conditions) demonstrated a moderating effect on the access, skills, and technical capacity in the face of DICTs (see Figure 1).

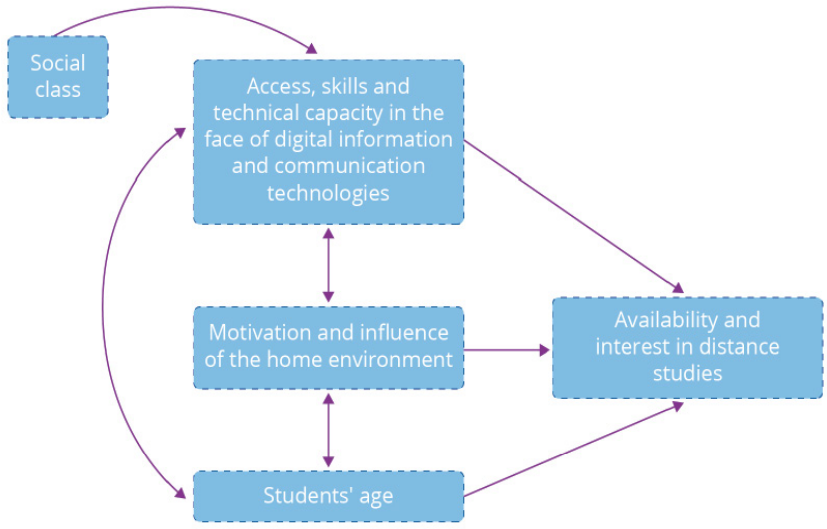

Figure 1: Predictive models diagram. Source: G. H. S. de Souza, Lima, et al. (2020, p. 19)

After the understanding that the infrastructural and psychosocial context was relevant, other aspects began to stand out in the process. The study conducted by the Federal University of Minas Gerais (Universidade Federal de Minas Gerais, 2021), with over 12,000 students, showed that most students identified or experienced some challenges regarding their relationship with the professors during the ERE. In the mentioned study, only 39.91% of the students were satisfied with the ERE, 38.70% were indifferent to the ERE, and 21.38% were dissatisfied with the ERE.

G. H. S. de Souza, Lima, et al. (2020) bring results that corroborate this perception and point to the use of social media and digital materials as ways to pedagogically approximate students and professors/teachers, due to the limited ability with virtual learning environments – which are more common in distance education.

In addition, the use of synchronous methodologies alternated with asynchronous activities seems to have demonstrated good acceptance among Brazilian higher education students (Fossa et al., 2020). In most cases, self-directed reading does not seem to remain an alternative that appeals to students in general. This problem limits or undermines the academic planning of the ERE that foresees independent studies as part of the teaching and learning process.

Nevertheless, the critical point (especially noticed by going back to Figure 1) remains the economic, social, and psychological (personal/family) conditioning, which can be characterized as a barrier or a facilitator to remote studies, considering the underlying context of the student (G. H. S. de Souza, Lima, et al., 2020; G. H. S. de Souza, Jardim, et al., 2020). I. e., in addition to efforts to establish a feasible and appropriate remote classroom format for improved student learning, the students' economic and psychosocial reality is a more effective predictor of the success of schools with the ERE adoption.

3 Professors'/Instructors'/Teachers' Perspective on Emergency Remote Education (ERE)

From another analytical point of view, it is worth mentioning that the implementation of ERE represents a political and economic decision in Brazil. I. e., although professors/instructors/teachers remain the agents for conducting and practising the ERE, the decision to implement it did not arise from a didactic-pedagogical demand but comes from social and governmental pressure (Costa, 2020). Over time, a consensus among professors/instructors/teachers about the need for remote teaching was established, thinking about the continuity and maintenance of the connection between school and student (Rondini et al., 2020; Souza et al., 2021).

About this aspect, a quantitative analysis with 588 teachers and professors from public and private Brazilian school and universities (Souza et al., 2021) showed the vast majority

presented infrastructural conditions and interest in performing academic activities remotely even though they also manifested hesitation and insecurity about the effectiveness of this type of didactic-pedagogical activity.

This insecurity about educational effectiveness comes from the perception, not recent, of the need to modify pedagogical practices to efficiently engage students, who have become increasingly restless, dispersed, and unmotivated with the traditional teaching model (see Reynolds et al., 2014). As follows, the use of DICTs was already present in many classrooms and many courses. When investigating the use of educational technologies about ten years ago, Bacila (2021) states that the use of educational technologies is a reality. Redoing his research in the pandemic period, with the same professors, the author concluded that now, the total adherence to the DICTs and the ERE happened abruptly and compulsorily, without an established term and with students' resistance. Even so, there was an effort to overcome the difficulties. Professors who test the new resources and their effects on the learning process tend to present a more satisfactory didactic-pedagogical performance with the ICTs.

This abrupt adaptation to remote work is also cited as a challenge by Alves et al. (2021). The authors also reinforce that the effort to update is characteristic of education professionals, most of whom are considered "digital immigrants" that obtained their education in the last decades of the 20th century – before the most considerable advances in DICTs.

In this way, professors from face-to-face classes started to develop the skills of professors who already worked in distance learning, using video classes and virtual learning environments in an emergency way, "but without time to prepare themselves and learn more about how they could explore certain technologies to employ the best pedagogical use of them and in a critical way" (Alves et al., 2021, p. 68).

Before the pandemic, teaching practice, especially in higher education (see Farias et al., 2018), already had numerous challenges related to students' lack of discipline and motivation, excessive administrative and bureaucratic work, and insufficient available time for qualifications, orientations, and planning. These problems intensified in the pandemic.

Indeed, considering the time savings in commuting to work, professors/instructors/teachers had less time available due to the increased need to adjust content and classes to materials suitable for the virtual environment. In addition, several problems were intensified, for example, the necessity for more detailed descriptions of academic planning, the increase of evaluation activities, the less time available for individualized issues, and the difficulty of separating personal and professional routines (Sallaberry et al., 2020). Table 1 details the endogenous (internal and personal elements) and exogenous (external elements with causes not controlled) challenges experienced by professors/instructors/teachers arising from the adoption of the ERE.

Table 1: ERE's Challenges from the professors'/instructors'/teachers' point of view. Source: Adapted from Alves et al. (2021, p. 72)

Endogenous Factors		**Exogenous Factors**	
Professors'/Instructors'/Teachers' Personal Issues	**Methodology and Teaching Process**	**Technological Resources**	**Students' Behaviour**
– Organizing work time and reconciling personal life in the same environment. – Maintaining motivation to do the work. – Stimulating and engaging students. – Overcoming one's shyness. – Adopting a work routine in the home environment. – Adapting to an exhausting routine. – Coping with the agony of teaching to students with cameras off. – Having patience with parents and students that have doubts any time, regardless of the hour or day of the week.	– Promoting the student's learning. – Modelling the video lessons appropriately for an audience that does not participate in the recording process. – Reformulating the face-to-face curricular structure for the online (remote) model. – Inserting the new methodologies to maintain the teaching-learning process. – Teaching classes remotely and appropriately allows arousing the student's attention. – Creating broader proximity with students (silent). – Participating in online meetings. – Planning content for remote teaching. – Correcting online school assignments. – Adopting an appropriate language.	– Access to good quality internet and technological resources (equipment). – Training courses to clarify doubts about the virtual learning environment. – Support from the educational institution regarding technological infrastructure (e. g., internet and notebook). – Use of technology and new technical resources. – Time to learn how to use technological tools. – Recording and editing videos.	– Physical distance from and between students. – Feedback/performance of the proposed activities. – Lack of interest in online activities. – Lack of student commitment. – Contact with students through social media (e. g., WhatsApp, Instagram, etc.). – Student participation in live classes. – Lack of student concentration in online classes.

For the professors/instructors/teachers, other challenges related to lack of access or restricted access to the Internet, difficulty in using ICTs, and problems associated with the personal, familiar, and home contexts, which may variably occur among professors/instructors/teachers and pedagogical staff (also analysing the school context) (Souza et al., 2021). Therefore, the teaching and learning process during the pandemic requires proper management for all labour factors, more specifically regarding the workload (Barreto & Rocha, 2020; Saraiva et al., 2020).

In addition to students' and professors'/instructors'/teachers' perspectives, the following section provides a summary of how the ERE was implemented during the period under study and includes a summary of comparisons across educational levels and institution types.

4 School and Academic Daily Experiences

ERE was planned to operate in synchronous and asynchronous pedagogical moments to attend the theoretical and practical classes with the help of DICTs. Videoconferences that enable real-time digital interaction between professors/instructors/teachers and students represent synchronous moments. Sequentially, Virtual Learning Environments (VLE) organize the asynchronous moments, utilizing teaching materials, discussion forums, notices, schedules, besides providing spaces for sharing video lessons (Brito et al., 2021; Fernandes et al., 2021).

This sudden change compromised the planning of teaching activities and students' learning. Online education indicated the need for a systematic model to become effective. This untimely scenario implied many problems, such as the lack of access to the internet and technological equipment, beyond the usage capacity of DICTs. These problems also caused an increase in the workload (see Costa et al., 2021; Hodges et al., 2020; Nonato et al., 2021; Reis, 2021). Thus, the educational quality seems to tend to decrease, and the social inequalities seem to tend to increase (see Costa, 2020).

Given the contemporaneity of remote teaching in the context of the COVID-19 pandemic, professors/instructors/teachers experienced several happenings for learning adapted to the current reality, which completely changed the school and academic environment. Table 2 presents a comparative synthesis of the critical school and academic experiences, considering specific scenarios and education levels.

Table 2: Comparative synopsis of the critical school and academic experiences identified in the pandemic context of Brazilian education according to education levels, use of digital information and communication technologies, and types of institution. Brazil, 2021. Source: Research data. Notes: [1] Reis (2021); [2] Nonato et al. (2021); [3] Carvalho & Moura (2021); [4] Costa et al. (2021); [5] Fernandes et al. (2021); [6] Barros & Vieira (2021).

Experiences	**Educational Level**	**Used DICTs**	**Type of Institution**
The use of technological tools as the only means of communication with students caused insecurity, anxiety, and stress associated with the inexperience with the new teaching strategies[1,5,6]; Professors'/Instructors'/Teachers' difficulties in adhering to digital technologies due to lack of training, skills, and infrastructure[1,2,3,4,5,6]; Lack of internet connection and technical support for the use of DICTs[1,2,3,4,5,6]; Lack of institutional online platforms for the development of online teaching activities[2,5,6]; Lack of institutional definition/regulation for the development of ERE activities and guidelines for its implementation[2,6]; Professors'/Instructors'/Teachers' learning on the use of DICTs in their practice has expanded a new place for digital culture in school life, changing the way of understanding the potential of DICTs for optimizing educational processes[6]; Improper conditions for students to follow a study routine, often caused by greater social vulnerability and a learning deficit[3,5,6]; Lack of feedback from the students on the activities, which are difficult to achieve the expected objectives of the discipline, compromising the teaching effectiveness[3,4,5].	Basic education[1,2,3,4] Higher education[2,5]	Whatsapp[1,3,6] Google Meet[1,3,6] Google Classroom[1,3,6] YouTube Channel[3,6] Instagram[3,6] Non specified[2,4,5]	Public[1,2,3,4,5,6] Private[1,2,5,6]

To establish the minimum implementation conditions of the ERE, some public educational institutions employed their budget resources to implement extraordinary support measures for the students (e. g., Instituto Federal do Norte de Minas Gerais, 2020). In some cases, students received devices like tablets, smartphones, and computers to access remote activities. In other cases, students received monthly scholarships for them to hire an internet service. Nonetheless, even after several months from the pandemic's onset, many students remain without conditions to participate in the teaching-learning process (Castioni et al., 2021).

Besides the lack of access to the internet and adequate digital equipment, the so-called digital literacy was (and has been) another significant difficulty for Brazilian students and professors/instructors/teachers. Although different educational policies (e. g., the National Education Plan 2014–2024) promote connectivity expansion and digital technologies in the educational process, there are still several inequalities (Moreira et al., 2019).

Data from the survey *TIC Educação – 2020* (ICT Education) revealed that only 14% of public schools reported using some platform or virtual learning environment in 2019. The number reaches 64% in private schools, pointing to a significant difference between the teaching in public and private schools. In relation to professors/instructors/teachers, only 33% obtained some kind of training for computer and internet use in school activities (Centro Regional de Estudos para o Desenvolvimento da Sociedade da Informação, 2020; Macedo, 2021).

Specifically, on challenges experienced by Brazilian professors/instructors/teachers, studies (e. g., Barros & Vieira, 2021; Costa et al., 2021; Fernandes et al., 2021) highlight the adapting difficulty to the new teaching format, the low feedback from students, the increasing demand for personal assistance by students, the lack of training about the context, and the impediment of direct contact with students.

From this perspective, it has been uneasy for professors/teachers to reconcile both attention and care with family and work in the same environment. The professors'/teachers' residences became makeshift workshops for recording and editing video classes, with all kinds of household noises and interruptions that would be possible. Time management for home and family activities has additionally represented a current dilemma for these professionals. Predominantly, all aspects of professors'/instructors'/teachers' lives have been affected.

Beyond the changes in the work itself, the professors/instructors/teachers-maintained children out of school, suspended domestic assistants, stopped research and extension projects and qualification courses, and, indubitably, withdrew from the social environment. With the elevated rates of COVID-19 contagion and illness in Brazil, it was also inevitable that professors/instructors/teachers had to manage many situations, such as

students being affected by sickness and death in the family or close people, interfering in their academic performance or influencing the abandonment of studies.

Therefore, beyond being forced to undergo several adaptations and learning new abilities in their work, professors/teachers had to adapt and support the current problems of their personal lives. Notably, this scenario points out a worsening in the quality of life, health, and welfare. During the pandemic, Brazilian education became a challenge, and it needed family members, professors/instructors/teachers, and school managers to achieve creative and provisional solutions for education continuity.

5 Discussion

In this paper, we present a general analysis of the implementation of Emergency Remote Education (ERE) within the context of the COVID-19 pandemic and Brazilian education – from a qualitative analytical approach. The paper highlights two main perspectives on the ERE implementation process: the student and the professors/instructors/teachers. Thus, the study advances the perspectives regarding remote education, and additionally, it brings an analysis on institutional (government, universities, schools) actions for the implementation of the ERE and its implications for students and professors/instructors/teachers. Although we present a diversity of aspects that make up Brazilian education, especially the different approaches for public and private schools, the challenges for the implementation of the ERE were relatively similar in all cases. Because of this, we treat all these aspects within the same bias of analysis.

The paper reveals the pandemic highlighted several social problems that plague Brazil, whose impact on the educational field deeply affects the most vulnerable people. As evidenced in the previous sections, for professors/instructors/teachers and students, the lack of internet access and the absence of adequate infrastructure are experiences frequently pointed out at all educational levels in public or private schools (see Barros & Vieira, 2021; Costa et al., 2021; Fernandes et al., 2021; Hodges et al., 2020; Nonato et al., 2021; Reis, 2021).

Furthermore, the paper shows that a more accurate description of the pandemic's impact on education needs to be multifactorial, being understood through different perspectives, in which elements related to technology, socioeconomic conditions, psychosocial aspects, among others are treated within the same context.

Some discussion points focused on untimeliness related to the duration of the pandemic, due to the possibility of occurrence of more critical or milder periods of COVID-19 cases. For example, specifically for students, adapting to the new teaching format still represents an unsettling and transformative dilemma. At the pandemic's beginning, many students believed the effort of adaptation to the ERE was unnecessary given the belief that it would

be a short period. As a result, many students initially chose to suspend their studies, especially adults enrolled in higher education. Over time, as the pandemic worsened, the dropout rates were on the rise. The dropout rates in higher education were aggravated by rising unemployment and declining income for Brazilian families (see C. M. P. de Souza et al., 2020; Nunes, 2021).

Uncertainties related to the duration of the pandemic also affected the schedule of the National High School Exam or ENEM (in Portuguese, *Exame Nacional do Ensino Médio*), the second-largest entrance exam to higher education in the world (5,783,357 individuals registered in 2020). The ENEM takes place annually in November and remains a requirement for entry into most public higher education institutions in Brazil. The postponement of the exam date came after educational institutions requested to conform to health protocols and student representations that claimed, among other things, that they had not completed their studies for the 2020 school year. With this postponement, the 2020 exam took place in late January 2021, delaying the start of the 2021 school calendar in most public higher education institutions in Brazil.

The school calendar was equally affected. For many schools, the start of the ERE did not occur instantly after the interruption of classroom activities. For others, notwithstanding when they returned, the remote format was utilized as a test for some time, working with a pettier workload than planned. For these reasons, 2021 is marked by synchronization problems between the school calendar and the calendar year. In addition to adapting to the new educational format, students are still inserted in an accelerated context to fulfil the course workloads in a shorter period.

The abrupt change from the face-to-face classes to the ERE has generated elevated levels of stress and burnout. In addition to a crisis scenario, considered a stressful factor, many professors/instructors/teachers have been getting physically and mentally ill because of the self-requirement and the pressure to achieve the goals, the inadequate structure of educational institutions, and student dropout (Gomes et al., 2020; Santos et al., 2021). All these changes at work are traumatic situations that cause an overload, providing prolonged mental suffering, especially when added to domestic chores. Studies indicate a scenario of mental illness of professors/instructors/teachers and education workers with depressive disorder, bipolar affective disorder, generalized anxiety, adaptation disorder, and burnout syndrome (Miguel et al., 2021; Santos, 2020; Wang & Wang, 2020). However, we need to note that issues related to the mental health of professors/instructors/teachers are the focus of researches, even before the pandemic.

Teaching during the pandemic period brought several experiences, not all of them necessarily negative. We should consider that some of the studies conducted in 2020 and 2021 on ERE may record negative experiences, probably due to the timing of publications. In many cases, the researches were produced by education professionals emotionally involved in the abrupt changes imposed by the moment. The process of adaptation and maturation

are latent pains and, therefore, researchers publish more about the difficulties than about the advances. The hope is everyone is living a moment of exponential growth, and, in a few years, the publications will indicate the benefits of the experimentation of the DTICs, even if in an emergency way.

From this point of view, we highlight some evident advances, like the insertion of digital culture in school life. New ways of understanding the potential of DICTs for the optimization of educational processes arise. Beyond this, the actions to promote the use of DICTs were relevant attempts to include low-income students in the ERE. Although the measures have been insufficient to overcome the social and learning inequality, there was significant progress in access to the internet and technologies.

The ERE did not merely change from physical to virtual space, and it required tools to assist the teaching and learning process and to promote technological appropriation for professors/instructors/teachers and students. ERE involved proactivity, reflection, and current concepts, developing the students' autonomy.

We expected transformations would be absorbed in the post-pandemic practices. Conceivably we can count on all the abrupt experimentation with DICTs as an ally to its adherence by a more considerable number of students and professors/instructors/teachers when the full face-to-face classes return is possible. This scenario could generate gains for the education system (qualitative and quantitative), already extensively discussed before the pandemic. Pedagogical programs may foresee specific hours for technology-mediated activities, with the students gaining in the use and application of technologies, improving the use of the physical space. Besides this, the familiarity with virtual environments can provide institutional partnerships at a national and international level, increasing the quality of the possibilities of experience for the academic community.

The data presented here show that the teaching ways in the Brazilian context are wholly different from before the pandemic. Due to remote teaching and the utilization of the technologies, public schools, professors/instructors/teachers, governments, and managers accelerated the computerizing teaching process. Although it was an emergency path, this process merged with the expectation of the academic community and allowed, in many cases, experimentation and identification of numerous benefits to teaching and learning. This discussion does not end here. A fundamental question still needs to be answered: Will the school methods and practices of the pandemic period be incorporated into the everyday practice of educational institutions in the post-pandemic?

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