IMPACTS OF THE COVID-19 PANDEMIC ON EDUCATION: FROM BASIC EDUCATION TO HIGHER EDUCATION IN THE FEDERAL DISTRICT – BRAZIL

IMPACTOS DA PANDEMIA DA COVID-19 NA EDUCAÇÃO: DA EDUCAÇÃO BÁSICA AO ENSINO SUPERIOR NO DISTRITO FEDERAL – BRASIL

IMPACTOS DE LA PANDEMIA DE COVID-19 EN LA EDUCACIÓN: DE LA EDUCACIÓN BÁSICA A LA EDUCACIÓN SUPERIOR EN EL DISTRITO FEDERAL – BRASIL

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ABSTRACT: Reflecting on the impacts of the COVID-19 pandemic on Education for teachers, family members and graduate and undergraduate students during the implementation of remote teaching was the objective of the study. The research was carried out in different areas of education and legislations. The text, organized in four parts, addresses methodologically: a summary of the COVID-19 Pandemic; the legislation set during the pandemic; the impressions of family members and basic education teachers about the COVID-19 pandemic and; interview with graduate students and analysis of TCC of undergraduate students who experienced social isolation during training. The results highlight the impact of the pandemic on education from various perspectives: economic, technological, relationship, social distancing, but mainly public health, as detailed in the body of the article.

KEYWORDS: Education. Pandemic. COVID-19. Teaching. Learning.

RESUMO: Refletir sobre os impactos da pandemia da COVID-19 na Educação para professores, familiares e estudantes de pós e graduação durante a implementação do ensino remoto foi o objetivo do estudo. A pesquisa foi realizada em diferentes âmbitos da educação e legislações. O texto, organizado em quatro partes, aborda metodologicamente: uma síntese da Pandemia da COVID-19; a legislação fixada durante a pandemia; as impressões dos familiares e professores da educação básica sobre a pandemia da COVID-19 e; entrevista com estudantes de pós-graduação e análise de TCC de estudantes de graduação que viveram, durante a formação, o isolamento social. Os resultados destacam o impacto da pandemia na educação sob várias óticas: econômica, tecnológica, de relacionamento, de distanciamento social, mas principalmente de saúde pública, como detalhado no corpo do artigo.

PALAVRAS-CHAVE: Educação. Pandemia. COVID-19. Ensino. Aprendizagem.

RESUMEN: El objetivo del estudio fue reflexionar sobre los impactos de la pandemia de COVID-19 en la educación de docentes, familias y estudiantes de posgrado y pregrado durante la implementación de la enseñanza remota. La investigación se realizó en diferentes áreas de la educación y legislaciones. El texto, organizado en cuatro partes, aborda metodológicamente: un resumen de la Pandemia del COVID-19; la legislación establecida durante la pandemia; las impresiones de familiares y docentes de educación básica sobre la pandemia del COVID-19 y; entrevista con estudiantes de posgrado y análisis de TCC de estudiantes de pregrado que vivieron aislamiento social durante la formación. Los resultados destacan el impacto de la pandemia en la educación desde varias perspectivas: económica, tecnológica, relacional, de distanciamiento social, pero principalmente de salud pública, como se detalla en el cuerpo del artículo.

PALABRAS CLAVE: Educación. Pandemia. COVID-19. Enseñanza. Aprendizaje.

Introduction

Facing the pandemic caused by COVID-19 further highlighted social inequalities in Brazil, including access to education, as social isolation was established by federal and state regulations, forcing the closure of educational institutions. Official restrictive measures have distorted social reality, especially education, the focus of discussion in this work. In the Federal District (DF), resolutions, decrees, opinions and provisional measures from the Federal Government and Brazilian education regulatory bodies began to regulate formal education, basic and higher education, private and public, as Chagas (2021) reminds us.

The suspension of such face-to-face school activities, highlighted by these regulations, established remote teaching as an alternative for continuing studies. Thus, several programs were implemented throughout Brazil and, in particular, in the Federal District, the Escola em Casa DF Program in its public education system (Distrito Federal, 2020d). Making use of different TDICs such as *Google Classroom*, *Teams* and other mediators, remote pedagogical assistance and monitoring was proposed for students (Chagas, 2021).

The study presented here aims **to** reflect on the impacts of implementing remote teaching during the COVID-19 pandemic for teachers, postgraduate and undergraduate students, as well as families of elementary education students. This is a synthesis of 4 studies carried out in different areas during the COVID-19 pandemic.

The study was structured in four stages, as stated in the text, organized in four parts: the **first** consists of a synthesis of the collapse caused by the COVID-19 Pandemic in the world, through a bibliographic study in sources extracted in the field of health. The **second** part concerns documentary research, whose instrument for obtaining the neglected information was the education legislation established by the DF, especially the SEDF, guidelines determined during the pandemic as a way of controlling the situation among the population, especially in the regarding education. The **third** part, in turn, refers to a synthesis of Scientific Initiation research carried out by undergraduate students, under our guidance. We investigated the impressions of family members and basic education teachers about the COVID-19 pandemic during social isolation. The **fourth** part aimed to analyze the records of postgraduate students in education and Course Completion Works of Pedagogy students who experienced their training during the social isolation resulting from the aforementioned pandemic. Teachers ' records about remote classes in the pandemic scenario were also analyzed. In closing, we present final considerations, in which we express an integrative synthesis of the study.

Methodology

The methodology, with a qualitative and quantitative approach, provided the opportunity to analyze bibliographical and documentary research and teacher records relating to remote classes during the pandemic. It is worth noting that all data collected in this regard is published on the pages of their educational institutions.

Bibliographic and documentary research provided information and knowledge about the object of study (Creswell, 2010). As bibliographical research instruments to access these, we used references from the health sphere on the pandemic context and undergraduate coursework in Pedagogy.

In documentary research, we used primary sources on the researched object, the instruments used were: SEDF regulations on guidelines regarding pandemic control and Course Completion Works from Pedagogy students who addressed the "COVID-19 Pandemic" category in their research produced from 2020 to 2021.

As field research, we carried out an *online survey* with teachers and family members of students at a public school in DF in order to understand their material conditions to provide remote education guided by TIDCs. These data, therefore, were extracted from a SEEDF database.

What health references say in relation to the COVID-19 pandemic

On March 11, 2020, the World Health Organization (WHO, 2020) declared the COVID-19 coronavirus outbreak a global pandemic. This situation affected the human population in such a way that it significantly intensified social inequalities in the economic, political, social, health and educational spheres. After one year, there have been more than 77 million cases of COVID-19 worldwide, including 89 million in the United States and 35 million in Brazil.

SARS-CoV-2 infections can result in mild to severe symptoms, characteristics present in a disease called COVID-19, which results in the appearance of different symptoms that affect all age groups. (Ramkissoon; Wang, 2021). Understanding COVID-19 has become a public health emergency and understanding its direct and indirect impact on humans is highly relevant.

Across the world, they have imposed national lockdowns to combat the rise in COVID-19 cases. In the United Kingdom, they were implemented for the first time on March 23, 2020. In the National Health Service (NHS), the United Kingdom's national health

service, most elective medical-surgical procedures were interrupted in an attempt to increase the availability of places for patients with COVID-19 who required hospital admission. Staff moved to departments with increasing pressures – particularly in ICU, Acute Medicine and Respiratory wards, with doctors often forced to fill other staff vacancies such as ICU nurses (Anjum *et al.,* 2021).

The COVID-19 pandemic has resulted in serious social, economic, and health implications for the global population, both through direct infection and broad mitigation efforts. Vulnerable populations mainly included those dependent on alcohol use. Studies in China indicate an increase in the incidence of alcohol consumption since the beginning of the pandemic. In the United States, alcohol sales increased by 55% during much of the first month of the pandemic. These studies also revealed that strict quarantine guidelines caused negative psychological impacts. A study carried out in China reported an increase in anxiety, uncontrollable stress and depression in more than half of the population surveyed after similar measures. Gluttony, unemployment, loss of outdoor or group activities, and deprivation of social support have resulted in relapse in patients with alcohol use disorder (Ramkissoon; Wang, 2021).

The last few years have required unprecedented global efforts. To understand SARS-CoV-2 and COVID-19 it is necessary to follow their development. When SARS-CoV-1 was first identified in humans in 2002, genomic sequencing of the virus took several months. Since then, technological advances have allowed SARS-CoV-2 to be mapped within weeks of the first recognized case. Months later, this genetic information enabled sophisticated tracing of the transmission work, chains, allowing researchers to understand that a particularly infectious working variant of the virus has now become globally dominant. According to the WHO, the Americas region continues to be responsible, with the highest proportion of cases and cumulative deaths (Sohrabi; Mathew; Frnchi, 2021).

Restrictive measures included the closure of schools, universities and research institutions, as well as borders and companies leading to the imposition of restrictions on the population. As a result, all universities and research institutions have had to carefully define and allocate research activities that have been interrupted (Sohrabi; Mathew; Frnchi, 2021).

In addition to physical illness, the pandemic has created and amplified psychosocial stressors, including social isolation, future uncertainty, fear of stigmatization, lack of access to healthcare, racial and gender bias, lack of social support, and financial hardship. Sleep disturbances, anxiety, post-traumatic stress disorder (PTSD), depression, drug and alcohol

abuse, impaired quality of life, and inability to return to a normal daily routine have been reported among people recovering from acute infection. For example, isolation and family inability to visit patients hospitalized with acute COVID-19 heightened feelings of depression and PTSD post-discharge. It was also found that 50% of SARS-CoV-2 survivors were positive in at least one of the neuropsychiatric domains evaluated in cross-sectional and cohort studies, both in the subacute and long-term settings. These interactions between physical and psychological symptoms are complex and often referred to as "medically unexplained symptoms." Neuroionization of human inflammatory mechanisms implicated in other psychiatric diseases may play a role, triggered by cytokine dysregulation and the neurotropic potential of SARS-CoV-2, possibly inducing autoimmunity, critical and immune dysregulation (Korompoki *et al.*, 2021).

Given the pandemic spread of COVID-19, the health of millions of people may have been affected in the long term. COVID-19 is not always an acutely reversible disease, but it may have a second act in some patients. Long-term COVID-19 is a multisystem disease with long-term, far-reaching effects and a complex constellation of symptoms that, although uncommon, can result in significant chronic morbidity. The pace of symptom recovery is nonlinear, largely undefined, and a complete picture of the natural history and chronic disease burden of COVID-19 may take many months, or even years, to emerge. At the population level, long-term COVID-19 is rapidly challenging our healthcare systems and has the potential to exacerbate fragmentation of care. Although rapid guidelines have begun to emerge, there are 182 several unanswered research questions that are the subject of intense investigation. A holistic, evidence-based approach to healthcare and support for long-distance carriers is therefore needed (Sohrabi; Mathew; Frnchi, 2021).

This is the reality of COVID-19 from the perspective of health research. No less important, we find in this environment several social institutions such as churches, squares, community centers, cinemas, theaters, *shopping centers*, especially schools, among many others, closed by law to prevent the spread of the virus. However, the world was slow to realize the degree of danger of the disease and it took time to close schools.

In Brazil, in particular, the process took longer considering that the federal government did not contribute. On the contrary, he denied social isolation, as all this would soon be overcome, as it was a "little flu" and that the important thing would be "herd contagion" for the Brazilian population to achieve immunity. This hypothesis was discarded by health professionals, as the number of deaths increased exponentially.

Arriving in February 2020, when Carnival celebrations were expected in Brazil, the population was faced with the COVID-19 pandemic, infecting the first victims. In the first three months, more than 21 thousand deaths were recorded. As a result, Brazilian states began taking emergency measures to slow the rate of contagion and avoid chaos in the hospital network. The contagion was so great that it was soon necessary to install field hospitals, even if precarious. The pandemic advanced uncontrollably, reaching the interior of the country, devastating the population. As the federal government was slow to take initiatives, the executive powers of States and Municipalities began to adopt radical measures such as *lockdown,* in order to control such contamination, even though it strongly affected the economy and increased misery in the country.

As in all areas, education was directly affected by social isolation measures at all levels and types of education. In-person school activities were interrupted for almost a year, removing children, young people and adults from daily interaction with their peers. However, uncertainties regarding the resizing of the school calendar or school year remained for almost a year.

Fortunately, ICT – Information and Communication Technologies – provided an immediate response to this problem. Through them, the internet, various applications and social networks, it was possible to re-establish communication between the school and serve students even if minimally, considering that not everyone had access to ICTs. Considering, then, digital technologies, the response to impasses caused by the isolation of students, it was also found that access to such technologies does not appear democratic, considering the material conditions, that is, socioeconomic, that students have. Some of them do not have computers, cell phones, or internet signal in their homes. On the other hand, schools were not prepared technologically or pedagogically to take on this new educational process, even though they were in the era of information technology – the digital revolution. The advent of nanotechnologies, the expansion of global communication networks, radical changes in industrial production and in the ways of working and providing services mark this most recent phase of modernity.

The use of ICTs in school education, forcedly used due to the COVID-19 pandemic, proves to be not only an irreversible fact but also a challenge for us educators, especially those who are still stuck in conservative teaching practices.

The consequences resulting from the pandemic led to adjustments to the educational plan, immediately implementing technical and technological resources to resume school

activities. Without training or didactic-pedagogical guidance, teachers were faced with a situation never experienced in their school routine. The most viable emergency alternative was the use of digital educational technologies with remote, non-face-to-face classes.

In higher education, the situation was chaotic. With the suspension of activities, teaching, research and extension were severely compromised, directly affecting the entire academic process that constitutes the cultural capital of Universities. Luckily, some sectors persisted with their research, especially in the health sector, which helped control the pandemic. In the area of Human Sciences, especially Education, nothing happened for more than six months of social isolation. Until Brazilian public universities decided to continue the academic semester interrupted by social isolation, through remote teaching, revealing the exclusive emergency alternative.

Educational legislation resulting from COVID-19

The training process, in accordance with Law No. 9,394/96 – Law of National Education Guidelines and Bases (Brasil, 2017), is present in different human spaces such as the family, cultural manifestations, social movements, institutions teaching and research, among others. This law, in its Article 3, also announces that school education must take place in specific institutions in an intimate approach between formal education and the world of work and social practice.

Provisional Measure No. 934 of April 1, 2020 (Brasil, 2020a), implemented by the Brazilian government, aimed to adapt formal education to the rules of the pandemic, exempting full compliance with the minimum annual workload scheduled for Basic Education. As a result, it was necessary to restructure the school calendar, as set out in Opinion No. 05/2020 CNE/CP, of April 28, 2020 (BRASIL, 2020b), by the National Education Council.

By force of law, Decrees No. 40,539, of March 19, 2020 (Distrito Federal, 2020a) and No. 40,817, of May 22, 2020 (Distrito Federal, 2020b), interrupted face-to-face teaching, determining the suspension of face-to-face activities in the Federal District and authorization to carry out synchronous or asynchronous remote teaching. Another legal resource, Ordinances No. 129 of May 29, 2020 (Distrito Federal, 2020d) and No. 133 of June 3, 2020 (Distrito Federal, 2020e), issued in the Federal District by the State Department of Education), establish the Escola em Casa DF Program with the aim of regulating remote activities in public schools in DF, providing technological support to teachers for the insertion

of school materials. Remote classes, when they took place, took place via real-time videoconferencing and/or classes recorded via *Google Meet* (Chagas, 2021).

The Department of Education of the Federal District, aiming at the use of Information and Communication Technologies (ICT's), linked two types of technologies, information and communication and different media such as telephone, computer, tablets and "[...] any other device that allows internet browsing" (Silva, 2019, p. 16, our translation).

Teaching practice, in this reality, has become viable at the expense of ICTs due to the different resources made available to teach classes and/or send teaching materials to students such as: videos, music, games, texts, *podcasts, online* forms, explanatory audios and *cards*. Therefore, the importance of creativity for the development of the integrating axes of the DF's Curriculum in Movement through playfulness and literacy can be noted (Distrito Federal, 2020f).

The guidelines aimed at schools and education professionals made it possible to adjust the time for synchronous and asynchronous interactions to understand and raise awareness among those involved, as well as resize pedagogical strategies to mitigate the educational problems inherent to the suspension of in-person teaching. However, in order to serve even those families without any technology, it was agreed that students would receive activities in printed form (Distrito Federal, 2020g). To ensure the viability of remote teaching, the DF Department of Education offered training courses to teachers on digital resources and tools. Booklets with technical-administrative and methodological guidelines were also distributed to these professionals with the aim of reorienting pedagogical practice during non-face-to-face teaching in public schools in the DF, as highlighted by Chagas (2021).

In the context of the DF, the following were created: the **Central Committee**, made up of professionals based at the SEEDF Headquarters, the **Regional Committee** made up of CRE professionals and the **Local Committee** made up of professionals who work in public schools in the DF.

Considering that many families of students served in school units had an unfavorable socioeconomic condition even before the COVID-19 pandemic, the implementation of remote teaching in public schools in the DF was not democratically configured due to the fragile material condition of the family, in addition to the losses of relatives affected by COVID-19 reducing their income due to unemployment. In these cases, remote teaching was aggravated by the lack of investment in education in the DF.

The speeches of family members and basic education teachers

Considering that students in the initial years of Elementary School in the public network of the Federal District still appear heteronomous in relation to carrying out school activities, in the context of remote education, teacher-family interaction is extremely important to meet this need. However, the families, without any pedagogical and technological skills with the **Escola em Casa DF platform**, took on the responsibility of mediating the educational process of these students. Students from the 1st to 3rd years were those who most needed help from family members to carry out *online activities* and/or purchase printed material, as these students' literacy and reading and writing skills were still lacking to consolidate (Chagas, 2021).

Differently, for students in the 4th and 5th years, according to Chagas (2021), the challenge was to motivate them to participate in classes and carry out school tasks. Carried out in a Virtual Learning Environment (VLE) and/or as printed activities, the students of the Initial Literacy Block – BIA (Distrito Federal, 2014), depended on pedagogical support without counting on the collaboration of their families.

The restricted ability of teachers regarding TIDCs led them to have difficulty in overcoming different situations, especially pedagogical ones. It is, as Saviani (2007) rightly says, the precariousness of teaching work, especially when constant adjustments are required in the face of changes in the social and political scenario. In this sense, the pandemic and remote teaching made the practical sense of school action evident, serving to cover up the State's inability and interest in proposing truly feasible actions for the resumption of in-person activities.

Aiming to contextualize the school reality regarding access and technological availability for the resumption of in-person teaching, we used data from a survey carried out in a public school in an Administrative Region of the Federal District (Chagas, 2021). Thirty-two teaching staff participated in the research, four teachers from the learning support team, three pedagogical coordinators, a teacher in the school library, four professionals in the management team, ten conservation and cleaning professionals, four in the canteen and four concierge agents (Chagas, 2021).

Data from two types of questionnaires applied to 38 education professionals from a school and 633 people responsible for students attending the researched school were analyzed. When asked about internet access by education professionals, 84.2% (thirty-two participants) of respondents reported having access to residential broadband internet, 52.6% (twenty

participants) have mobile internet, 4% (four participants) have access via radio and 2.6% (one participant) accesses the internet by other means. The data announces that access to the internet did not seem to be an initial problem for education professionals in the EU surveyed due to having access considering it to be a preliminary requirement for carrying out remote work.

In summary, SEEDF provided precarious access to the internet and technology to education professionals and their schools, which, as highlighted by Gomes *et al.* (2012), constitute the implication of the precariousness of teaching work. Lavado (2020) adds that, according to data from the Ponto BR Information and Coordination Center (NIC), a significant increase in internet access throughout 2020, increasing user complaints about dropped connections and/or slow connections, making it difficult to carry out remote class tasks.

According to data extracted from the study by Chagas (2021), 89.5% (thirty-four participants) use *a laptop*, 86.8% (thirty-three participants) a cell phone, 15.8% (six participants) a *desktop*, and 2.6% (one participant) other electronic devices such as tablets during teaching activities. However, as SEEDF did not provide any support to teachers, they ended up using their own devices. This circumstance is no exception to the reality of teachers in public schools in the DF who did not have sufficient and good quality material resources for *on-site work*.

When asked about students' access to the internet, those responsible stated that 83.4% (five hundred and twenty-eight participants) accessed it through their parents' or guardians' cell phones; 26.4% (one hundred and sixty-seven participants) access it via their home computer and 19.3% (one hundred and twenty-two participants) access it via their cell phone. Unfortunately, 6.3% (forty participants) were still found to not have internet access.

Certainly, during the pandemic, TIDCs significantly helped in integrating the school with students, as well as making the teaching and learning process more attractive. However, the difficulty faced by families in making their electronic devices available for their children to access remote classes reveals that access and availability to ICT were not enough to affirm the democratization of remote education. Lacking such equipment, students have to wait for their guardians to return from work to carry out their school tasks.

Faced with this difficulty, family members stated, in the survey, that they preferred to maintain contact with the school/teachers through *WhatsApp*, especially when it was to receive their children's activities. 60.2% (three hundred and eighty-one) of respondents said

they prefer to receive via personal *WhatsApp*, 58.9% (three hundred and seventy-three) via class *WhatsApp,* 46.4% (two hundred and ninety-four) prefer to search activities on paper at school, 28.6% (one hundred and eighty) via the Google Classroom platform and 25.6% (one hundred and sixty-two participants) via email (Chagas, 2021).

Finally, the studies showed that the majority of families choose to receive guidance and tasks from the school through personal or class WhatsApp, probably because this is the most popular interaction application among students' families, contradicting the State's legal guidelines regarding the use of the AVA of the Escola em Casa DF Program, which records the activities carried out by students. But how can access to the AVA be guaranteed if families, in general, are semi-digital literate?

In this scenario, we point out a clear and expressive contradiction about thinking and doing, between teacher and students. For Antunes (2018) and Villas Boas (2017), this dichotomy leads to professional disqualification and excessive control of teaching work regarding remote teaching. Therefore, the VLE proposed by SEEDF does not include or reach all students, causing pedagogical gaps arising from the social and economic abyss of the school community.

Postgraduate student speeches

Another group of students surveyed were *stricto-sensu* graduate students, enrolled in the Graduate Program in Education at a Public University in the Federal District. This university, like the others, suspended face-to-face work for almost a year, due to the pandemic. The course started during the COVID-19 pandemic; these students attended the master's degree completely remotely. Classes resumed in August 2020 through the *Microsoft Teams* platform, the official tool used by the university, in addition to supports such as *WhatsApp,* Google Drive*, SIGAA and* YouTube at times. *Teams* creates virtual classrooms enabling classes, recording and *uploading* video, *interactive chats, among other features.*

Given this reality, a group of students were asked to record their education during the pandemic. To analyze these speeches, Orlandi (2020) was used in order to understand his impressions about the impact of social isolation during remote teaching. The categories found in these speeches are: Training, mastery of ICTs, learning processes and material conditions. Regarding training, those surveyed state that the pandemic compromised this process, especially at the beginning of the pandemic.

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According to those surveyed (Table 1):

Table 1 – Mastery of ICTs by postgraduate students.

Strengths	Negative points
In this context, the relevance of knowledge of technologies was noticeable <u>for teaching to become viable</u> (P1) Most students with <u>cameras open even remembered in-person classes</u> (P1) [...] <u>digital technologies have enabled countless forms of access to information</u> and communication and thus <u>reduced geographic distances</u> [...]. (E1) The classes took place using the <u>technological tools available</u>, among which I highlight the experience with the Teams platform, Google Meet, Zoom and the WhatsApp application. [...] YouTube was also used to share recorded classes, Aprendir made it possible to insert the activities proposed by teachers without difficulties. (E1) As for the <u>means</u> by which I was able to connect to the internet, I had no difficulties considering that [...] <u>it completely met my needs</u> (E1).	We learned as we went, there was no course and there was no tutorial for the demands that arose during the classes. (P1) I faced the most challenges with Teams given its confusing configuration and slow access. (E1)

Source: From the authors.

Positive speeches demonstrate interest in the novelty, as well as acceptance of the only way to access and continue classes. However, P1 and E1 reveal to us how difficult this confrontation in relation to ICTs was. This remote format of classes was considered viable by postgraduate students, given their academic autonomy and greater intellectual maturity.

Another category mentioned in the speeches of the researched students was didactic teaching and learning processes. Even considering that postgraduate students are expected to have a certain intellectual/academic autonomy, which leads to the development of their learning, some students surveyed point out negative aspects in relation to the didactic teaching and learning processes (Table 2).

Table 2 – Didactic teaching and learning processes

Strengths	Negative points
Remote teaching has brought great <u>advances in terms of breaking down barriers, time and space</u>. (H1). [...] <u>the teachers were always there pushing us to overcome this and other barriers</u>. They proposed seminar presentations in groups, production of articles and expanded summaries [...] in pairs or groups. This provided us with meetings beyond class times. This way we were building bonds of friendship and knowledge together (P1). We saw a lot of <u>creativity being developed in classes</u>:	<u>My resistance</u> occurred [...] in participating in classes, such as asking questions, talking to colleagues and turning on the camera. It was a huge effort, given my preference for face-to-face teaching (H1). [...] the <u>countless distractions</u> that occurred due to being at home. (H1) <u>Remote teaching</u> [...] presents itself as a <u>great risk</u> in the formation of beings who do not know how to relate to each other (H1). [...] I didn't identify with remote teaching. [...] this

educational games, narrations, video productions, among others. [...] the strategies developed brought advances to the learning of those [...] involved, as well as making remote teaching successful, as we knew that even with all the difficulties we had, this was the viable way to carry out classes (P1).
The methodology used in classes favored diverse dialogues in audio and written chats. Student participation intensified according to the needs and interests on the topic of each class (E1).
The dynamics of the disciplines for the remote model were positive (E1).
[...] when new teaching and learning practices were incorporated, making learning situations more enriching, even in a virtual environment, active participation was not compromised in this process (E1).

teaching style had major negative impacts on human relationships. (H1).
The challenge is to understand knowledge, knowledge and practices through social distancing (E1).
[...] remote teaching accentuated existing difficulties, such as inequality in relation to access to quality internet and the low purchasing power to acquire technological devices [...] essential to our unrestricted participation in classes and carrying out activities (E1)
Reconciling everyday activities with academic activities is also a challenge in this training path (E1)

Source: From the authors.

Three positive aspects were highlighted in the speeches in table 2: i) the methodology used by teachers based on creativity; ii) open dialogue with students, motivating learning and; iii) the reconfiguration of time/space in remote teaching becomes different. It is necessary to consider in the speeches of postgraduate students that they possess knowledge and knowledge specific to initial training and experience. These respondents consider the experience of remote teaching to be negative, confirming what was previously presented about the challenge of remote teaching for children.

Another category highlighted in the analysis of postgraduate students' speeches was material conditions. Let's see:

The distance between my home and college is great and, therefore, studying the master's degree remotely made it possible to participate in all classes without delays, absences and without the expense of transportation (H1).
[...] in a situation of socioeconomic vulnerability, these students were even more exposed, as they did not have the minimum conditions to follow an academic semester remotely. The social inequality so present in our country becomes even more accentuated in a difficult scenario like this (P1).
[...] remote teaching accentuated existing difficulties for many [...] adversities such as inequality in relation to access to quality internet and low purchasing power to acquire essential technological devices for full participation in classes and carrying out activities (E1).

Those surveyed resent the fact that, during social isolation, they demanded the possession of technology for the "full" development of classes. However, not everyone was able to follow due to their limited material conditions, feeling marginalized and excluded from the training process. As can be seen, the analysis of these discourses reifies the results concerning the family and basic education teachers. The difficulties of basic education are

reflected in higher education, precisely for those who research teaching training and practice, mainly in the teaching and learning processes and material conditions.

The speeches of undergraduate Pedagogy students

Using bibliographical research, the Final Papers of undergraduate students were analyzed, seeking to understand the effects of the pandemic on their initial training. It is worth noting that the TCC researched are in the public domain, therefore, subject to investigation.
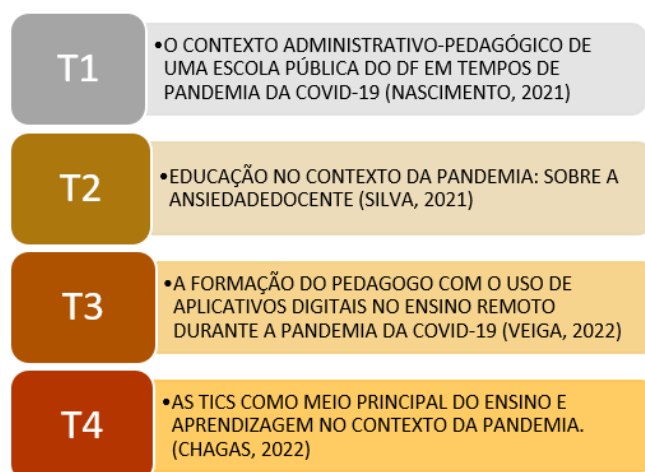
Also called State of Knowledge, it aims to present the relevance of this study, whether or not there is discussion on the researched subject. Therefore, the State of Knowledge is,

> [...] identification, registration, categorization that lead to reflection and synthesis on the scientific production of a given area, in a given space of time, bringing together periodicals, theses, dissertations and books on a specific topic. A characteristic to highlight is its contribution to the presence of the new in the monograph (MOROSINI, FERNANDES, 2014, p. 155, our translation).

The time frame investigated occurred between the years 2021 and 2022. This investigation into this subject is significant, as, through academic productions, we were able to understand the implications of the COVID-19 pandemic for teachers, family members and postgraduate and undergraduate students assisted by the remote teaching.

The four undergraduate Pedagogy productions investigated were selected because they refer to the implications of the pandemic on education. For a better understanding of the information, Figure 1 presents the Course Completion Works (TCC) that we named T1, T2, T3 and T4 in order to describe them later and name the students and their explained themes.

Figure 1 – Course conclusion works by themes.

T1 • O CONTEXTO ADMINISTRATIVO-PEDAGÓGICO DE UMA ESCOLA PÚBLICA DO DF EM TEMPOS DE PANDEMIA DA COVID-19 (NASCIMENTO, 2021)

T2 • EDUCAÇÃO NO CONTEXTO DA PANDEMIA: SOBRE A ANSIEDADEDOCENTE (SILVA, 2021)

T3 • A FORMAÇÃO DO PEDAGOGO COM O USO DE APLICATIVOS DIGITAIS NO ENSINO REMOTO DURANTE A PANDEMIA DA COVID-19 (VEIGA, 2022)

T4 • AS TICS COMO MEIO PRINCIPAL DO ENSINO E APRENDIZAGEM NO CONTEXTO DA PANDEMIA. (CHAGAS, 2022)

Source: From the authors.

Through meticulous reading of the TCC, we understood the pandemic issue and the use of ICTs based on the analyses. Of the essential items included in the study such as theme/problem, objective, methodology, results and conclusions, the categorization of productions into T1, T2, T3 and T4 stands out, which allowed us to better understand this study and understanding according to each author.

T1 's academic production points to how the school organized itself to continue schooling during the COVID-19 pandemic, and how they faced problems and overcame such difficulties.

The study developed in a public school in the Federal District investigated the pedagogical coordinator, the school director, teachers and those responsible for the student, seeking to elucidate the reality of the school, in the face of the COVID-19 Pandemic. In view of this, we sought to understand the development of administrative and pedagogical work mediated by remote teaching. The consequences of remote teaching, the management initiatives consolidated in the documents and the research carried out during the pandemic supported teachers in dealing with remote teaching, as well as preparing for the return of in-person classes were the results of the research.

The conclusion work T2 provides the opportunity for a debate in relation to education in the context of the pandemic considering the topic of teacher anxiety. The author sets out to understand the interference of remote teaching on teachers' psychological health during the COVID-19 pandemic. Methodologically, through an exploratory qualitative approach through bibliographical study, an online questionnaire was applied to a group of volunteer teachers. The results reaffirmed the psychological suffering during remote teaching.

The training of pedagogues through digital applications in remote teaching, during the COVID-19 pandemic, addresses the academic production of T3. The investigation aimed to understand how pedagogues in training and their teachers dealt with remote teaching, considering the various platforms and applications used to transmit *online* classes and carry out activities aimed at developing teaching and learning processes in the Pedagogy course. The methodology was based on life history, documentary analysis and application of questionnaires to students and teachers of the Pedagogy course at a public university. The results showed a change in the flexibility of the use of technologies in the training of teacher educators, made possible by the social isolation caused by the COVID-19 pandemic, even though for some students and teachers, such tools were irrelevant to social transformation.

The academic production T4 addressed "ICTs as the main means of teaching and learning in the pandemic context". This research was anchored in a qualitative methodology whose data were extracted from *online questionnaires* sent by the researched school to professionals and parents and/or guardians of students at the teaching unit. Thus, the study aimed to understand the school community in which remote teaching was implemented by the State Department of Education of the Federal District, due to the COVID-19 pandemic. The results revealed that the State's intervention to implement remote teaching did not take into account the material conditions and needs of public schools or the students' families. In these terms, the didactic teaching and learning process was hampered due to the same problems highlighted in the studies mentioned above: the lack of material conditions for internet access and the technologies necessary to carry out remote classes via the *Google Classroom platform*. Other aspects such as little interaction between teachers and students, the overload of responsibilities and the inability to use available *online tools*, both for professionals and students' families, also compromised the school's pedagogical organization. It is clear how indispensable they would be if the State had observed technological investments in public teaching units, the resumption of teachers' professional development based on autonomy, collective dialogue, collaborative work and freedom of pedagogical creation.

According to these studies, public schools, students and teachers suffered the impact of the COVID-19 pandemic, significantly affecting the continuity of work, even remotely. Such impacts were attributed, according to TCCs studies: i) to the illness of individuals, especially teachers, ii) the lack of technology in schools to support teachers in developing their classes remotely; and, finally, iii) the lack of family resources to support children and young people to follow remote classes from home.

Final remarks

As promised at the beginning of this work, the study aimed to reflect on the impacts caused by the COVID-19 pandemic on Education from the perspective of teachers, family members and postgraduate and undergraduate students, and how these different subjects underwent adjustments to implement the remote teaching.

Therefore, we organize the text into four points: 1. Education legislation (norms), especially the SEDF, resulting from the COVID-19 pandemic; 2. A study carried out with family members and Basic Education teachers on the effects of the pandemic; 3. Report on

the experience of *stricto sensu* students on academic training during the COVID-19 pandemic and; 4. Studies carried out by undergraduate students on the effects of the COVID-19 pandemic on their training.

On the **first** point, the studies revealed that the education legislation implemented during the pandemic appears mistaken and late and is therefore not very effective. On the **second** point, the studies revealed the fragility of families in materially supporting their children's studies with the necessary technology to provide the necessary support to follow remote classes.

The **third** point reveals that, even at the highest level of study (postgraduate), the difficulties arising from remote teaching presented the same material difficulties highlighted by family members and basic education teachers. The teachers, in turn, felt limited because they were not able to pedagogically carry out their work as they should due to material difficulties in both the family and the school, even leading to illness, as noted in point **four** of this study.

What catches our attention is that even though they are aware of the intellectual maturity that their teachers have, their speeches discourage remote teaching due to the distance between participants, mainly because students do not leave their cameras open so that everyone can get to know each other, reducing the distance and warming up relationships.

Returning to the **fourth point** mentioned above, the TCC studies reaffirmed what other studies, from the previous points, declared: the distance caused illness, mainly among teachers, in addition to causing the discontinuity of the rhythm of the teaching and learning processes, especially prompted by the conditions materials from families that were devoid of the technologies necessary for remote teaching.

Therefore, it is concluded that education in the pandemic arising from COVID-19 was unequal to those families with a fragile socioeconomic situation. We also found that, even when the family has the material conditions, they often only master basic skills such as using *WhatsApp*, which is an application known to most Brazilians, making the work of educators and teacher/student interaction difficult.

Thus, without the guarantee of in-person teaching and learning didactic processes, SEEDF and teachers even made an effort to provide the best opportunities in remote teaching, but the reality was not enough to overcome such difficulties. However, it is worth highlighting that quality education, such as the LDB (Brasil, 2017), guarantees everyone the right to remote education, was, in the end, a poorly designed and uneven adaptation.

As can be seen in the research, bibliographic studies supported field research in order to contextualize the reality of the problem and present the movements made by science in the world to overcome this pandemic. In contrast, documentary studies, federal and state regulations, have not kept up with advances in science, making it difficult or eliminating WHO recommendations, among many other recommendations at a global, national and local level. Regarding the analysis of the questionnaires, we found that they were not effective to the point of discouraging managers from developing policies in favor of education.

Finally, the impacts caused by the COVID-19 pandemic on education from the perspective of those surveyed in the Federal District, reify the fragility of managers and the population in facing the COVID crisis in school education. Science and technology, in the capitalist world, were undermined to the detriment of archaic policies and without any effect on overcoming the aforementioned crisis. The documents and bibliographic references studied confirmed this fragility.

However, we also think that social reality, education, culture, society, among other sectors, changed significantly after the pandemic. Today we live in a different time and, therefore, it is necessary to consider remote teaching as a possibility that, for certain objectives, is perfectly viable. Nonetheless, face-to-face teaching is essential for teaching children, to help them understand the concrete world, the child's first way of understanding the world.

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