

Status: Preprint has not been submitted for publication

# COVID-19: A new crisis that reinforce inequality in higher education in Brazil

Francisco Ricardo Miranda Pinto

DOI: 10.1590/SciELOPreprints.1341

This preprint was submitted under the following conditions:

- The authors declare that they are aware that they are solely responsible for the content of the preprint and that the deposit in SciELO Preprints does not mean any commitment on the part of SciELO, except its preservation and dissemination.
- The authors declare that the research that originated the manuscript followed good ethical practices and that the necessary approvals from research ethics committees are described in the manuscript, when applicable.
- The authors declare that the necessary Terms of Free and Informed Consent of participants or patients in the research were obtained and are described in the manuscript, when applicable.
- The authors declare that the preparation of the manuscript followed the ethical norms of scientific communication.
- The authors declare that the manuscript was not deposited and/or previously made available on another preprint server.
- The submitting author declares that all authors responsible for preparing the manuscript agree with this deposit.
- The authors declare that in the event that this manuscript has previously been submitted to a journal and being evaluated, they have received the journal's consent to make the deposit on the SciELO Preprints server.
- The submitting author declares that all authors' contributions are included on the manuscript.
- The authors declare that if the manuscript is posted on the SciELO Preprints server, it will be available under a <u>Creative Commons CC-BY</u> license.
- The deposited manuscript is in PDF format.
- If the manuscript is being reviewed and published by a journal, the authors declare that they have received authorization from the journal to make this deposit.

Submitted on (YYYY-MM-DD): 2020-10-11 Posted on (YYYY-MM-DD): 2020-11-03

# COVID-19: A NEW CRISIS THAT REINFORCES INEQUALITY IN HIGHER EDUCATION IN BRAZIL

Francisco Ricardo Miranda Pinto<sup>1 2 3 4</sup>

- <sup>1</sup> Pedagogy Teacher by Vale do Acarau State University UVA, Sobral, Ceará, Brazil
- <sup>2</sup> Pedagogy Teacher by Pedagogy in Distance Education on University Center INTA-UNINTA, Sobral, Ceará, Brazil
- <sup>3</sup> Pedagogy Course Coordinator by Alencarina College Sobral, Sobral, Ceará, Brazil
- <sup>4</sup> Student doctorate Coletive Health Post-Graduate Program on Fortaleza University, Fortaleza, Ceará, Brazil

Addres: Povoado Várzea da Palha, 12, Cajazeiras, Varjota, Ceará, Brazil

E-mail: ricardomiranda195@gmail.com

ORCID: https://orcid.org/0000-0003-0771-6266

# **DECLARATIONS**

Funding: Not aplicable

Conflits of interest/Competing interest: Not aplicable

Avaiability of data and material: Not aplicable

Code Avaiability: not aplicable

**Authors' contributions:** 

Pinto FRM developed the entire study from its conception to the final text review for submission.

# COVID-19: A new crisis that reinforces inequality in higher education in Brazil

#### Abstract

The pandemic state caused by the rapid proliferation of Sars-Cov-19 has, in the short to long term, direct and indirect impacts on Education. Cessation in direct contact between peers is a limitation experienced by teachers and students. It implies the access, permanence and training of academics in public or private higher education due to the commitment of the economy and the labor market. The aim of this article is to reflect the impacts of COVID-19 on the access and permanence of the low-income Brazilian population in higher education. We chose to use as a source the educational censuses of Brazil that point to data from the higher education presential and at a distance, journalistic materials and other documentary sources that unveil the Brazilian geographical and social realities. Public policies developed by the Brazilian State that provided access to and permanence in higher education are identified. However, the public institution cannot contemplate everyone. Distance Education offered by private higher education institutions approaches the different social class. It is considered that the reflexes of the pandemic happen, massively on the poor and miserable classes since those who are in the public university do not sometimes have access to technology and if they are in private universities feel the impact of the inability to honor with tuition salaries beyond the closure of various jobs in different sectors.

Keywords: Access to Higher Education - Teacher in Training - Social Crisis - Labor Market

# COVID-19: Uma nova crise que reforça a desigualdade na Educação Superior no Brasil

O estado de pandemia causado pela rápida proliferação do Sars-Cov-19 tem, a curto e longo prazo, impactos diretos e indiretos na educação. A cessaçãodo contato direto entre pares é uma limitação vivenciada por professores e alunos. Implica no acesso, permanência e formação de acadêmicos no ensino superior público ou privado em função do comprometimento da economia e do mercado de trabalho. O objetivo deste artigo é refletir os impactos da COVID-19 no acesso e permanência da população de baixa renda brasileira no ensino superior. Optamos por utilizar como fonte os censos educacionais do Brasil que apontam dados do ensino superior presencial e a distância, materiais jornalísticos dentre outras fontes documentais que desvelam as realidades geográficas e sociais brasileiras. Identificam-se políticas públicas desenvolvidas pelo Estado brasileiro que oportunizaram o acesso e a permanência no Ensino Superior. Entretanto a instituição pública não consegue atingir a todos. A Educação a Distância ofertada por Instituições de Ensino Superior privadas se aproxima dos diferentes estratos sociais. Considera-se que os reflexos da pandemia acontecem, massivamente sobre as classes pobres e miserável visto que aqueles que estão na universidade pública não têm, por vezes acesso à tecnologia e se estão na universidade privada sentem o impacto da inviabilidade de honrar com os vencimentos das mensalidades além do fechamento de diversos postos de trabalho em diferentes setores.

Palavras-Chave: Acesso ao Ensino Superior – Docente em Formação – Crise Social – Mercado de Trabalho

# COVID-19: Una nueva crisis que refuerza la desigualdad en la Educación Superior en Brazil

El estado de la pandemia causado por la rápida proliferación de Sars-Cov-19 trae, a corto y largo plazo, impactos directos e indirectos en la educación. La tarea en contacto directo entre compañeros es una limitación experimentada por profesores y estudiantes. Implica el acceso, permanencia y formación de estudiantes en educación superior pública o privada debido al compromiso de la economía y el mercado laboral. El objetivo de este artículo es reflejar los impactos de COVID-19 en el acceso y permanencia de la población brasileña de bajos ingresos en la Educación Superior. Elegimos utilizar como fuente los censos educativos de Brasil que indican datos de la educación superior presencial y la distancia, materiales periodísticos entre otras fuentes documentales que descubren las realidades geográficas y sociales brasileñas. Se identifican las políticas públicas desarrolladas por el Estado brasileño que tienen acceso oportunistaizado y permanencia en la educación superior. Sin embargo, la institución pública no puede llegar a todos. La educación a distancia ofrecida por instituciones privadas de educación superior está cerca de los diferentes estratos sociales. Se considera que los reflejos de la pandemia ocurren, masivamente en las clases pobres y miserables ya que los que están en la universidad pública no tienen, a veces acceso a la tecnología y si están en la universidad privada sienten el impacto de la inviabilidad de honrar con los salarios de la matrícula más allá del cierre de varios puestos de trabajo en diferentes sectores.

Palabras Claves: Acceso a la Educación Superior - Profesor em formación - Crisis Social - Mercado de Traballho

## Introduction

In this article we provide a brief historical overview of public policies in Brazil designed to ensure access to higher education and examine the challenges faced by socially disadvantaged students who wish to remain in higher education despite socioeconomic and institutional impacts of the COVID-19 pandemic.

We approach the subject as a teacher in public and private higher education who follows daily the difficulties students experience continuing in their courses and coping with the uncertainty of access as a result of the pandemic. The question that guides this paper is "What is the impact of COVID-19 on access to and retention in higher education among people in situations of social vulnerability in Brazil?". My presupposition is that the pandemic and its impacts will result in increased dropout, reduced access, and consequently greater exclusion of students from higher education in the short, medium, and long terms.

The SARS-CoV-2 virus has caused the worst global health crisis in decades, prompting the World Health Organization (WHO) to declare a pandemic in March 2020 (Pan American Health Organization 2020; Vibha et al. 2020). A few days after this announcement, Brazil, the largest country in Latin America, registered its first case of infection and its first death from COVID-19 (Federative Republic of Brazil 2020a). By 30 September 2020, Brazil was the third worst affected country worldwide with 4,780,317 individual cases of infection and 143,010 deaths (worldometers.info, 2020). The global toll of infection on the same date was 33,249,563 cases with 1,000,004 deaths (World Health Organization 2020). While many of the countries where the disease was first detected had apparently succeeded in controlling its spread, reopening their economies and maintaining social distancing and other precautionary measures, Brazil still seemed far from reaching its epidemiological peak.<sup>1</sup>

Following the advice of the WHO, Brazil's Ministry of Health mandated social isolation and the Ministry of Education suspended by Decree n° 343/2020 (Federative Republic of Brazil 2020c) classes in the education system and authorized the use of Information and Communication Technologies (ICT) to continue classes during the academic year, in line with policies adopted in other large nations such as China (Zhu and Liu 2020; Daniel 2020). 182,600 institutions suspended on-site classes, leaving 47 million Brazilian students in primary, secondary and tertiary education without classes. Like 850 million students in 191 countries they had to adapt to a new reality of remote or no classes (Mustafa 2020).

Pressure from business groups coupled with the effect of a speech by Brazil's President Jair Bolsonaro which promoted vertical rather than horizontal isolation (meaning that only risk groups needed to self-isolate and others could continue their activities, go to work and participate in the economy) conflicted with the preventive measures adopted by certain governors and mayors. Without effective control over the movement of people and with the reopening of non-essential activities, COVID-19 infections surged. Many cities and municipalities adopted the most stringent social isolation measures in order to prevent Intensive Care Units (ICUs) being inundated beyond their coping capacity (Mendonça 2020). The duration of the pandemic is undefined and its impact on the economy and on the lives of the citizens has been prolonged. This paper considers the impact of COVID-19 on student access and retention in higher education, especially among low-income groups.

We follow a critical-reflexive and qualitative approach (Sampieri et al. 2013) to address the following question: "What is the impact of COVID-19 on the most vulnerable population in Brazil in terms of access to, and retention in, higher education?"

<sup>&</sup>lt;sup>1</sup> Meanwhile, some countries around the world are facing a "second wave" of COVID-19 infections (Worldometers, 2020, World Health Organization, 2020).

The study draws on data from state institutional sources and legislative documents, as well as on literature from civil institutions such as Oxfam, Fundação Getulio Vargas (Getulio Vargas Foundation), Associação Brasileira de Mantenedoras do Ensino Superior (Brazilian Association of Higher Education Administrators), as well as census data, legislator files, and journalistic articles about the pandemic in major national newspapers, news magazines and websites such as UOL, Estadão, Agência Brasil, Veja. Guided by the research question, the paper is structured in two sections: the first, *A short history of higher education*, offers an historical overview of Brazilian higher education; the second, entitled *The impact of COVID-19 on higher education in Brazil*, examines the impact of the pandemic on student retention in Higher Education, looking at factors such as social isolation, job and income precarity, use of Information and Communication Technologies (ICT), internet access and technological resources. In conclusion, we make policy recommendations to improve access to higher education.

# A short history of higher education in Brazil

The history of higher education in Brazil can be traced to the arrival, during the Peninsular War, of the Portuguese royal family in the colony in 1808 and the subsequent growth of a bourgeois class. During the nineteenth century, eleven different universities were founded, starting with the School of Surgery and Anatomy in Bahia (DeHumerez and Jankevicius 2015). At that time, higher education was conceived as preparation for professional practice and was reserved for the white bourgeois elite.

This approach became deeply engrained in Brazil, resulting in the denial of access to higher education, and thereby of social mobility, to the majority of Brazilians over many generations. Despite the absence of census data on higher education until 1950 there are numerous indicators that access was limited to the upper socio-economic classes. Considering the census of the Brazilian Institute of Geography and Statistics, in 1950 the number of enrolments in higher education was 210,270. This figure rose modestly to 593,009 in 1970 (Brazilian Institute of Geography and Statistics, 1950; 1970), continued to grow to 1,377,286 in 1980, and reached the marker of 2,125,958 students in 1998 (National Institute of Studies and Educational Research Anísio Teixeira 2000a). Despite this increase, in 1997 only 12% of the population aged 19-24 years attended university (Saviani 2010). This disparity prompted the emergence of several social and intellectual movements in the first half of the twentieth century, demanding more egalitarian access to quality education.

As a result of pressure from civil society, a series of laws, collectively known as the National Education Pillars and Guidelines Laws (NEPGL), was passed. The first of these, Law No. 9394/1996, forced the federal education system to universalize primary and secondary education and signalled the need for higher education to follow the same path since a far larger number of young people would be graduating from high school (Federative Republic of Brazil 2017a). Thus, Law 9394/1996 may be considered the starting point for all public policies aimed at extending access to Higher Education in Brazil; it reformed its structure and organization, opened up the possibility of private higher education institutions (HEIs), and of continuing education at a distance for professionals. After the Law 9394/1996 there was a slight increase in enrollment numbers, going from 1,868,529 that year to 2,694,245 in 2000, almost reaching the projected target for the year 2004. These figures represent an increase of 20.6% in the period from 1980 to 1994, 28% from 1994 to 1998 and 42,6% from 1994 to 1999. By 2010, the law had started to show positive results, as the percentage of the population enrolled in higher education reached 6,379,299, rising to 8,450,755 in 2018 (National Institute of Studies and Educational Research Anísio Teixeira, 2000a; 2000b; 2001; 2012; 2019). However, that legislative framework was limited by a failure to address

factors such as social vulnerability, geographic access, systemic racial or ethnic exclusion, socioeconomic status, and poor quality in the provision of public primary and secondary education.

President Fernando Henrique Cardoso initiated several public policies aimed at extending access to higher education to socially vulnerable populations with the creation of the National High School Examination (ENEM) in 1998 and the Higher Education Finance Fund (FIES) in 1999. The latter greatly expanded the Educational Credit Program (CREDUC) launched by the military dictatorship of Ernesto Geisel in 1975 (National Education Development Fund 2017). From 2003 the government of President Luís Inácio Lula da Silva embarked on a series of education policies designed to democratize access to higher education. Significantly, these aligned the standard curriculum for secondary education with the ENEM and replaced the traditional and exclusionary "vestibular entrance examinations". The new HEI entrance system did not, however, immediately result in increased admission to either public or private HEIs. In the latter case, access was limited by high monthly tuition fees. Thus, even though public institutions lacked the capacity to admit the many students who were now graduating high school, the private network was underutilized.

Due to the disparity in the quality of teaching between public and private secondary schools, the ENEM was not a guarantee of access to and student retention in higher education. To address the situation, in 2004 the University for All Program (ProUni) was created, offering scholarships of up to 100% for private HEIs (Ministry of Education of Brazil 2018b). FIES was also expanded, opening up greater access to socially vulnerable young people, and also covering up to 100% of tuition costs. Funding through ProUni or FIES was conditional on taking the ENEM.

By 2010, the adoption by most public HEIs of the ENEM as their admission criterion had greatly increased the number of admissible applicants to higher education (Ministry of Education of Brazil 2018a). To ensure greater access and standardize the university admission process, the Ministry of Education developed a platform called the Unified Selection System (SISU) (Ministry of Education of Brazil 2020a). This applied a unified application criteria to all public HEIs and expanded the guarantee of equal opportunity to the national level. Through SISU, candidates can apply to a public or a private HEI, simultaneously applying for funding through ProUni and FIES for the latter. Between 2009 and 2017, SISU, FIES and ProUni raised enrolments to public and private HEIs by approximately two million.

However, this advance in enrolments has stalled under the last three presidents of Brazil – Dilma Roussef, Michel Temer and Jair Bolsonaro – due to cuts in the budgets of ProUni and FIES. Between 2010 and 2014, the number of student loans approved rose from 70,000 to 739,000. This number fell by 62% to 281,000 in 2015 and even further to 170,095 by 2017. In 2018 the number of approved loans rose again to 300,000, but only 24% of these were granted under the new financing criteria, which were based on family income and other sources of finance. Although more loans were available, the new criteria made them difficult to access. It is estimated that only 100,000 student loans will be disbursed in 2020, and this is expected to drop to just over 50,000 in 2021. This trend has directly and negatively affected the most vulnerable sections of Brazilian society who are unable to afford monthly tuition fees for private HEIs (Saldaña 2019; Brasil247 2020). Young people voiced their concern and expressed resistance to the cuts made by the Temer government by taking to the streets in 2016 (Students National Union 2016).

Although the National Educational Plan (PNE) projects annual growth of 1.8% in HEI enrolments (Ministry of Education of Brazil 2020b), there are other factors that reinforce the difficulties in access to higher

education. The less developed regions of the country do not have a wide dispersal of public HEIs, barring or hindering access for high school graduates unable to move to large urban centres. Only in recent years have public HEIs begun to open decentralized campuses in the more remote regions of the country. On the other hand, thanks to Decree 9057/2017 (Federative Republic of Brazil 2017b), which allows for and recognizes degrees obtained entirely through distance education, that sector has expanded rapidly. Nonetheless, there is considerable resistance and a low acceptance of distance learning within the Brazilian educational establishment.

Distance education has given the significant portion of the Brazilian population living in precarious socioeconomic conditions a new level of access to higher education. In Brazil, distance education has a much lower cost than on-site classes, and the institutions that offer this modality can go beyond urban centres and reach even the most distant regions of the country. This modality also suits many socially vulnerable groups as it allows them to work alongside their studies.

Ever since Brazil emerged from its colonial status in the nineteenth century, its education system has been characterized by strict social stratification and elitism. Exclusion and unequal access are supported by discourses that function to segregate and maintain existing power structures. For example, in a 2019 interview former Brazilian Minister of Education Ricardo Vélez Rodríguez rejected the idea of university for all, stating that access to university should be a 'privilege' of a small elite (Gazeta do Povo 2019). Moreover, recent laws such as Ordinance No. 1122/2020 of the Ministry of Science, Technology, Innovation and Communications (MCTIC) determines that technology and scientific innovation should be given priority in the allocation of public research funding to HEIs in the four-year period 2020–2023 to the detriment of other areas such as the humanities and social sciences (Federative Republic of Brazil 2020b). This document reflects the government's perception that all but STEM research is superfluous.

The historical context shows that public policies alone do not guarantee equitable access to higher education, nor to better jobs or a higher quality of life. Even under pre-COVID-19 conditions the supply of higher education in Brazil was insufficient to meet demand, and access was very difficult for people living in slums or remote regions. The situation was aggravated by the COVID-19 pandemic, which has laid bare the structural barriers to universalization of higher education in Brazil. These include unequal access to information and communication technologies (ICT), internet access, unemployment, income reduction, and competing responsibilities. The COVID-19 crisis has exacerbated many of Brazil's problems in terms of social inequality, unequal income distribution, the poor quality of public schools.

# The impact of COVID-19 on higher education in Brazil

The COVID-19 pandemic has profoundly altered the lives and livelihoods of people in Brazil. It has disrupted social relations, routines, and familial responsibilities, and led to a reduction in working hours and the loss of jobs and family income. It has also exposed weaknesses in the Brazilian education system, intensified social vulnerability and undermined human development by interrupting students' progress. We will discuss these and other factors in the following paragraphs.

Instabilities in the labour market directly affect students' interest in attending higher education. In a survey commissioned by the Brazilian Association of Higher Education Administrators (Brazilian Association of Higher Education Administrators 2020a) of 1,607 students at private HEIs from all regions of Brazil, 52% of

participants stated that they hoped to continue their studies after the pandemic, 42% expressed uncertainty about whether they would continue their studies, 4% intended to drop out, and 2% confirmed that they would definitely drop out because of the pandemic. Between the months of April and May 2020, the rate of default in payment of higher education fees rose by 75%, reflecting the crisis experienced by those who bear total or partial cost of their studies alongside familial responsibilities (Brazilian Association of Higher Education Administrators 2020a).

Law 11,206/2005, law project im 2004, that established ProUnias well as the call for the opening of a semiannual selection process does not explicitly mention distance education. Although some sites indicate that ProUni student funding grants are available for distance education, in practice candidates do not find the option when they register. Segenreich (2009) confirms that in 2006 the possibility of offering ProUni for distance education was considered, however, in 2009, in the state of Pará, there were only 6 institutions from other states that offered ProUni in distance education. The information available from other sources is confusing and unclear.<sup>2</sup> The website of the Brazilian Ministry of Education still does not offer data distributed by teaching modalities. Of those who pay for their own studies, 22% stated that they were considering dropping out because of the cost burden, while 60% cited changing labour market conditions as a result of the pandemic as a factor influencing their decision whether to continue with their studies (Brazilian Association of Higher Education Administrators 2020b).

Brazil already had about 12.9 million unemployed people before the COVID-19 pandemic. In May 2020 the unemployment rate was 10.5% with a peak of 14.3% in August and slight slowdown to 13.7% in September (Brazilian Institute of Statistics and Geography 2020). The crisis has affected the work of at least one member of 57.2% of families, the need for social isolation caused impediments to work for 45.5% of families, and 14.3% lost their work entirely (Getúlio Vargas Foundation 2020).

The current situation of income and job instability has led many researchers to rethink the acquisition and maintenance of student loan debt. Addressing the risks of default, some private institutions have developed policies to reduce monthly fees during the pandemic period. Parents, students, and guardians have opened up discussions about full charges for remote classes, and in one case a federal state has legally mandated a 30% reduction in tuition fees (Law 17208/2020; State of Ceará 2020). Similar attempts have been made in other states but have been quashed by the federal court. Medical students from a private HEI in the State of São Paulo filed action to deduct tuition fees, but the court then reversed. In according Brazilian Association of Higher Education Administrators (2020b) others proceedings to deduct tuition fees have been requested but have been rejected by HIE or did not had negociation up to moment.

In addition to employment and income issues, 8% of participants in the Brazilian Association of Higher Education Administrators (2020b) survey stated that they intend to discontinue their studies because their HEI has not made its courses available through distance mode. This reflects the fact that many public HEIs do not have adequate capacity to support the use of ICT, digital platforms and virtual learning environments for maintaining tuition during this crisis. In general, ICT infrastructure is inadequate in many public and private Brazilian HEIs. The Brazilian Association of Distance Education has compiled in a kind of dossier several subjects dealing with distance education and COVID-19. In one of them, Fernanda Furuno (2020) reflects on the possibility of HEI

<sup>&</sup>lt;sup>2</sup> See for example, <a href="https://www.ead.com.br/prouni-fies-ead">https://www.ead.com.br/prouni-fies-ead</a>;
<a href="https://www.mundovestibular.com.br/vestibular/prouni/prouni-vale-para-ead#:~:text=O%20processo%20seletivo%20para%20vagas,inscrição%20e%20senha%20do%20Enem">https://www.mundovestibular.com.br/vestibular/prouni/prouni-vale-para-ead#:~:text=O%20processo%20seletivo%20para%20vagas,inscrição%20e%20senha%20do%20Enem</a>. Retrieved 29 September 2020.

without online teaching platforms while Tomazinho (2020) relates the difficulties of HEI with the broadband service offered in Brazil. Notwithstanding Resolution 343/2020 (Federative Republic of Brazil 2020), which allows for the use of ICT to deliver university curricula remotely, the crisis has revealed that Brazil's public education system, like many others around the world, was quite unprepared for a switch to distance learning modalities (Kerrers 2020; Adnam and Anwar 2020).

Efficiency and accessibility of technology is not the only challenge HEIs face in resuming their courses; they must also contend with resistance among teachers who see in this modality a threat of increased precarity and loss of autonomy and control. Many teachers in higher education also feel unprepared to handle digital technologies and platforms. Studies point out that there are only few subjects involving ICT in teacher education (Lopes and Fürkotter 2016); others discuss the teachers' concerns about the absence of physical interaction in distance education (Carmo and Franco 2019); critically examine the negative impact of the work overload on teachers (Chaquime and Mill 2016), and identify the fear of not knowing how to properly deal with technologies and not meeting the expectations of students (Rosa 2013).

Due to Ordinance 2117/2019 (Federative Republic of Brazil 2019) which allows for the provision of up to 40% of the theoretical course load using digital platforms, in many private HEIs the use of ICT for distance learning is already a reality. This has facilitated continuity of courses. However, in public HEIs application of the ordinance is uneven, and reflects resistance to distance education. Barone (2020) reported about platforms made available by the Ministry of Education that are not used in higher education, reiterated the resistance to the use of technology in teacher training and the difficulty in adopting a new way of teaching. The academic year in public universities in 2020 was greatly disrupted as students are more affected by social inequalities, geographic remoteness and access to ICT.

The geographic remoteness of many municipalities and the low availability of broadband internet in both urban and rural households has been a major factor limiting the adoption of distance modalities during the pandemic. The 2018 Survey on the Use of Information and Communication Technologies in Brazilian Households, carried out by the statutory Brazilian Internet Steering Committee (2019), surveying just over 33,000 households, revealed that connection to the internet is not yet universalized and is worst in rural areas where just 44% of the households surveyed have access to the internet.

It is important consider than the largest portion of the Brazilian population is concentrated in urban zone. Brazil has more than 5,000 municipalities that are small cities majority or small ville where internet transmition signal are inadequate for some reasons how be far from large urban centers where transmission by optic fibre is better available than small cities, fewer still in rural zone or radio that in some cases do not have in rural zone too. Moreover, being in urban centers does not mean having access to broadband internet, because in the peripheral regions the service may be more unstable. According to Lis (2020) and Yuge (2020), the National Telecommunications Agency is receiving a rising number of complaints about the lack of broadband internet provision in Brazil. Cardoso (2020) reports about the difficulty of accessing broadband internet on the outskirts of São Paulo, the largest urban center in the economically most developed region of the country, where, according to the SEADE Foundation (2020), more than 7,500,000 people have never had access to the Internet. Soprana (2020) states that there are more than 70 million Brazilians without internet access in Brazil.

The situation with regard to internet access is even more aggravated in the North and Northeast regions of Brazil where only 28.7% and 30%, respectively, of the population, enjoy access. Among black and mixed-race

people in the country as a whole, just 23.9% have internet access (Brazilian Institute of Statistics and Geography 2019). Given that a majority of the black population lives in poverty, black students represent a particularly vulnerable population in terms of access to quality internet service.

Even though internet access is unevenly available, the use of mobile phones has grown among socially disadvantaged Brazilians, potentially due to greater ease of purchase. The NHSS indicated that 96% of Brazilian households possessed, in 2018, at least one mobile phone. The ICT Report confirms that most Brazilians have access to an Internet connection using mobile phones for basic daily activities but points out "[...] that important limitations persist for carrying out activities that demand greater connective capacity and data traffic" (Brazilian Institute of Statistics and Geography 2019, p. 101).

In general, the most typically used mobile phones are not equipped in terms of hardware and software to work with digital platforms or to support the large-volume downloads required for studies. In this sense, it would be necessary for classes to be taught using social media applications such as Instagram, Facebook, WhatsApp, which would ensure greater usability, but also impose much greater restrictions in terms of the resources that can be used. This means that internet access through a mobile phone may not be sufficient to support participation in online modes of education.

It is not only job, income and digital limitations that threaten student retention in higher education during the pandemic. Student autonomy, inadequate home environments to accompany synchronous and/or asynchronous classes, and the difficulties in concentration that result from discontinuity require cognitive adaptations to the teaching-learning process. Changes in working hours, the additional physical and emotional fatigue that affects those who are still working, and various mental health issues caused or exacerbated by social isolation require physical and psycho-emotional adaptations to mitigate the challenges of studying during the pandemic (Sahu 2020).

The discontinuity of class schedules, loss or extension of semesters in public HEIs, the impossibility of carrying out internship activities in public and private HEIs, and various other uncertainties caused by the pandemic take a heavy toll on students. The need to deal with illness, death and social isolation has had severe psycho-emotional impacts on students who saw their routines changed and/or had to assume family responsibilities even while grieving (Sahu 2020; Vieira 2020).

COVID-19 also interferes with secondary education in Brazil and will have repercussions for access to higher education. The Brazilian Association Higher Education Administrators (2020c) already points out that, for example, the delay in the realization of the National High School Examination (ENEM) may generate a "blackout" in the skilled labor in the future. The transition between school and labour has already been heavily impacted by the pandemic. The ENEM, an important public policy governing access to higher education, is the object of heated political debate in this pandemic year. The Ministry of Education, contrary to WHO guidelines, retained the schedule for the tests in November 2020. Several segments of society opposed this decision and mobilized the justice system to assess the adequacy of the schedule. Finally, the Ministry of Education agreed to postpone the ENEM by 30–60 days (National Institute of Studies and Educational Research Anísio Teixeira 2020).

Resistance to taking the exam has exposed the inequalities in terms of candidates' social vulnerability due to suspended classes and/or the digital exclusion exacerbated by the pandemic. Saboia (2020) revealed the reality of favela residents of Rio de Janeiro, who see their dream of access to higher education undermined by an inability to follow synchronous or asynchronous online preparatory courses for the ENEM test.

Highlighting the insensitivity of the current Brazilian government to social vulnerabilities and inequalities, the former Minister of Education Abraham Weintraub stated in an interview with CCN Brasil that ENEM does not have the mission to alleviate social injustices but merely to select the best candidates. He went on to mock the notion that some candidates lacked adequate internet access, claiming that they could not have enrolled for the exam if they did not have access (Mendonça 2020). While the minister argued that demands to postpone ENEM were politically motivated, other major world powers like China cancelled their entrance exams even after bringing the pandemic largely under control. In Brazil, meanwhile the Education Minister is content to see the ENEM, which was created with the mission of reducing exclusion, become a means of strengthening social inequality.

#### Final considerations

The COVID-19 pandemic has revealed weaknesses and difficulties that threaten access and retention in Brazilian higher education. The instability of the labour market, loss of jobs and latent uncertainties about the future of the labour market weaken the resolve and ability of students to remain in higher education. Public HEIs especially lack adequate technological infrastructure to support the academic faculty in delivering courses online. Teachers often feel unprepared to handle technological resources, digital platforms and virtual classrooms.

Access to higher education in Brazil has historically been limited to a privileged elite. Despite policy reforms, access to higher education in the country is still far from equitable. Access to public HEIs is limited, because of insufficient places while private HEIs restrict access through high tuition fees. Accessibility and permanence occur through public policies for State funding, threatened by cuts in different forms of student funding. The difficulties of purchasing power of technological resources and internet access, an essential element for the continuity of academic activities synchronously, asynchronously or hybridly, add to the challenges.

All in all, the COVID-19 crisis has rendered more visible and urgent the need to improve access to higher education for socially disadvantaged students, also with a view to the post-pandemic future. In our view the most important task of all is the universalization of higher education by law, as already implemented for primary and lower secondary education in 1996.<sup>3</sup> It is essential that public policies for the financing of private higher education are expanded by the State, allowing for lower tuition fees and increased accessibility for socially disadvantaged students.

With most of the scenarios for the likely course of the pandemic in Brazil being pessimistic, it is vital that the State be obliged to guarantee access to the internet as a civil right and the use of the internet and ICT as a guarantee of continuity and permanence in higher education. It is up to the State to develop mechanisms that sustainably boost purchasing power for laptop, desktop, or tablet computers. It should also be the state's obligation to equip students in vulnerable situations with technological resources, guaranteeing internet access to synchronous and/or hybrid classes in public HEIs. In private and public HEIs, the regulatory state must not only ensure the availability of courses of study, but also guarantee access for all students, including, if necessary, distributing SIM cards for internet access.

More research is needed about the impact of COVID-19 on Brazilian education in terms of processes, perspectives and scenarios at all levels of teaching. The right to higher education, whether in classroom or online

<sup>&</sup>lt;sup>3</sup> Through Law 9394/1996.

mode, needs to become a greater part of popular political consciousness, thereby exerting pressure on political leaders. This also entails a reconception of the role and form of government, as education has the potential to transform the lives of poor and excluded people. Most importantly, public policies need to consider the need for more spaces in public HEIs and more opportunity for student finance in private HEIs.

We declare that there is no conflict of interest in the writing of this manuscript.

#### References

Adnan, M., & Anwar, K (2020). Online learning amid the COVID-19 pandemic: Student's perspectives. *Journal of Pedagogical Sociology and Psychology*, 2(1), 45–51. Accessed 22 July 2020 from https://doi.org/10.33902/JPSP.2020261309

Barone, L. (2020). Educação Pública na pandemia: faltam estratégias para enfrentar situações como a COVID-19 [Public Education in the pandemic: strategies to address situations such as COVID-19 are lacking]. Gazeta do Povo. Accessed from 28 September 2020 from <a href="http://abed.org.br/arquivos/Sistema">http://abed.org.br/arquivos/Sistema</a> de ensino publico mostra despreparo para lidar com coronavirus.pdf

Bradsher, K & Buckley, C. (2020, 19 June). In This Coronavirus Wave, China Tries Something New: Restraint The New York Times. Accessed 19 June 2020 from <a href="https://www.nytimes.com/2020/06/19/world/asia/coronavirus-china-beijing.html">https://www.nytimes.com/2020/06/19/world/asia/coronavirus-china-beijing.html</a>

Brasil247 (2020). Golpe derruba número de bolsas do FIES [Coup reduces number of FIES scholarships]. Accessed 13 May 2020 from <a href="https://www.brasil247.com/brasil/golpe-derruba-numero-de-bolsas-do-fies">https://www.brasil247.com/brasil/golpe-derruba-numero-de-bolsas-do-fies</a>

Brazilian Association of Higher Education Administrators (2020a). ABMES: inadimplência em maio cresce 75% e ensino a distância deve superar ensino presencial em 2022 [ABMES: default rate grows 75% in May and distance education expected to surpass face-to-face education in 2022]. *ABMES*. Accessed 10 June 2020 from <a href="https://abmes.org.br/noticias/detalhe/3809/abmes-inadimplencia-em-maio-cresce-75-e-ensino-a-distancia-deve-superar-presencial-em-2022">https://abmes.org.br/noticias/detalhe/3809/abmes-inadimplencia-em-maio-cresce-75-e-ensino-a-distancia-deve-superar-presencial-em-2022</a>

Brazilian Association of Higher Education Administrators (2020b). ABMES: Pesquisa revela que 42% dos alunos podem abandonar faculdades privadas [ABMES: Survey reveals that 42% of students can drop out of private colleges]. *ABMES*. Accessed 30 September 2020 from <a href="https://abmes.org.br/noticias/detalhe/3814/pesquisa-revela-que-42-dos-alunos-podem-abandonar-faculdades-privadas">https://abmes.org.br/noticias/detalhe/3814/pesquisa-revela-que-42-dos-alunos-podem-abandonar-faculdades-privadas</a>

Brazilian Association of Higher Education Administrators (2020c). ABMES: Sem dinheiro, estudantes recorrem à justiça por redução de mensalidades em universidade [ABMES: Without money, students resort to justice for reduction of tuition fees in university]. *ABMES*. Accessed 30 September 2020 from

https://abmes.org.br/noticias/detalhe/3902/sem-dinheiro-estudantes-recorrem-a-justica-por-reducao-de-mensalidades-em-universidade

Brazilian Institute of Statistics and Geography (1950). Sinopse Preliminar do Censo Demográfico 1950 [Preliminary Synopsis of the Demographic Census]. IBGE. Accessed 29 September 2020 from <a href="https://biblioteca.ibge.gov.br/visualizacao/periodicos/313/cd">https://biblioteca.ibge.gov.br/visualizacao/periodicos/313/cd</a> 1950.pdf

Brazilian Institute of Statistics and Geography (1970). Tabulações Avançadas do Censo Demográfico – Resultados Preliminares [Advanced Demographic Census Tabulations - Preliminary Results]. IBGE. Accessed 29 September 2020 from <a href="https://biblioteca.ibge.gov.br/visualizacao/livros/liv84447.pdf">https://biblioteca.ibge.gov.br/visualizacao/livros/liv84447.pdf</a>

Brazilian Institute of Statistics and Geography (2019). Síntese de indicadores sociais: uma análise das condições de vida da população brasileira: 2019 [Synthesis of social indicators and analysis of the living conditions of the Brazilian population]. Rio de Janeiro: IBGE. Accessed 19 June 2020 from <a href="https://biblioteca.ibge.gov.br/visualizacao/livros/liv101678.pdf">https://biblioteca.ibge.gov.br/visualizacao/livros/liv101678.pdf</a>

Brazilian Institute of Statistics and Geography (2020). PNAD COVID-19: Trabalho. IBGE. Accessed 29 September 2020 from https://covid19.ibge.gov.br/pnad-covid/trabalho.php

Brazil Oxfam (2020). Recompensem o trabalho, não a riqueza [Reward work not wealth]. Accessed 10 June 2020 from <a href="https://www.oxfam.org.br/justica-social-e-economica/forum-economico-de-davos/recompensem-o-trabalho-nao-a-riqueza/">https://www.oxfam.org.br/justica-social-e-economica/forum-economico-de-davos/recompensem-o-trabalho-nao-a-riqueza/</a>

Cardoso, W. (2020). Periferia de São Paulo sofre com a falta de acesso à internet [Periphery of São Paulo suffers from lack of internet access]. Folha de São Paulo. Accessed 29 September 2020 from <a href="https://agora.folha.uol.com.br/sao-paulo/2020/08/periferia-de-sao-paulo-sofre-com-a-falta-de-acesso-a-internet.shtml">https://agora.folha.uol.com.br/sao-paulo/2020/08/periferia-de-sao-paulo-sofre-com-a-falta-de-acesso-a-internet.shtml</a>.

Carmo, R. O. S. & Franco, A. P. (2019). Da docência presencial à docência online: aprendizagens de professors universitários na educação a distância [From face-to-face teaching to online teaching: the learning of university teachers in distance education. *Educ. rev.*, 35: e210399. Accessed 25 September 2020 from <a href="https://doi.org/10.1590/0102-4698210399">https://doi.org/10.1590/0102-4698210399</a>

Chaquime, L. P., & Mill, D (2016). Dilemas da docência na educação a distância: um estudo sobre o desenvolvimento profissional na perspectiva dos tutores da Rede e-Tec Brasil [Dilemmas of techaing in distance education: a study about professional development under the perspective of tutors of the e-Tec Brazil Network]. *Rev. Bras. Estud. Pedagog.*, 97(245): 117-130. Accessed 25 September 2020 from <a href="https://dx.doi.org/10.1590/S2176-6681/361514036">https://dx.doi.org/10.1590/S2176-6681/361514036</a>

Daniel, S. J (2020). Education and the COVID-19 pandemic. *Prospects*. Accessed 20 June 2020 from <a href="https://doi.org/10.1007/s11125-020-09464-3">https://doi.org/10.1007/s11125-020-09464-3</a>

DeHumerez D. C., & Jankevicius, J. V. (2015). Evolução histórica do Ensino Superior no Brasil [Historical evolution of Higher Education in Brasil]. COFEN. Accessed 15 June 2020 from <a href="http://www.cofen.gov.br/enfermagem-e-formacao-artigos-cientificos/31492.html">http://www.cofen.gov.br/enfermagem-e-formacao-artigos-cientificos/31492.html</a>.

EAD. (2016). Existe ProUni e FIES para o EaD? [Is there ProUni and FIES to EaD?]. EaD. Accessed from 23 September 2020 from <a href="https://www.ead.com.br/prouni-fies-ead">https://www.ead.com.br/prouni-fies-ead</a>.

Federative Republic of Brazil (2017a). LDB: Lei de Diretrizes e Bases da Educação Nacional [LDB: Law governing Guidelines and Basis of National Education]. Brasilia: Senate Federal: Coordination of Technicals Editions. Accessed 19 June 2020 from

https://www2.senado.leg.br/bdsf/bitstream/handle/id/529732/lei de diretrizes e bases 1ed.pdf

Federative Republic of Brazil (2017b). Decreto N° 9.057, de 25 de maio de 2017. Regulamenta o art. 80 da Lei n. 9.394, de 20 de dezembro de 1996, que estabelece as diretrizes e bases da educação nacional [Degree N° 9057 of May 25, 2017. Regulates Art. 80 of Law 9304 of December 20, 1996, which governs the guidelines and basis of national education]. Official Daily Union. Resource document. Diário Oficial da União, May 3. Accessed 19 June 2020 from

http://pesquisa.in.gov.br/imprensa/jsp/visualiza/index.jsp?data=26/05/2017&jornal=1&pagina=3&totalArquivos=240.

Federative Republic of Brazil (2019). Portaria N° 2.117, de 6 de dezembro de 2019. Dispõe sobre a oferta de carga horária na modalidade de Ensino a Distância – EaD em cursos de graduação presenciais ofertados por Instituições de Educação Superior – IES pertencentes ao Sistema Federal de Ensino [Ordinance No. 2117 of December 6, 2019 governing the provision of courses in the modality of distance learning in face-to-face undergraduate courses offered by Higher Education Institutions of the Federal Education System]. Official Daily Union. Accessed 19 June 2020 from <a href="http://www.in.gov.br/en/web/dou/-/portaria-n-2.117-de-6-de-dezembro-de-2019-232670913">http://www.in.gov.br/en/web/dou/-/portaria-n-2.117-de-6-de-dezembro-de-2019-232670913</a>

Federative Republic of Brazil (2020a). COVID-19 no Brasil [COVID-19 in Brazil]. *Ministério da saúde*. Accessed 31 July 2020 from https://susanalitico.saude.gov.br/#/dashboard/.

Federative Republic of Brazil (2020b). Portaria Nº 1.122 de 19 de março de 2020. Define as prioridades, no âmbito do Ministério da Ciência, Tecnologia, Inovações e Comunicações (MCTIC), no que se refere a projetos de pesquisa, de desenvolvimento de tecnologias e inovações para o período 2020 a 2023 [Ordinance No. 1122 of March 19, 2020. Defines priorities within the scope of the Ministry of Science, Technology, Innovation and Communications (MCTIC) with regard to research projects, technology development and innovations for the

period 2020 to 2023]. *Official Daily Union*. 24 March. Accessed 19 June 2020 from <a href="http://www.in.gov.br/en/web/dou/-/portaria-n-1.122-de-19-de-marco-de-2020-249437397">http://www.in.gov.br/en/web/dou/-/portaria-n-1.122-de-19-de-marco-de-2020-249437397</a>

Federative Republic of Brazil (2020c). Portaria N° 343, de 17 de março de 2020. Dispõe sobre a substituição das aulas presenciais por aulas em meios digitais enquanto durar a situação de pandemia do Novo Coronavírus – COVID-19 [Ordinance N° 343 of March 17, 2020. Provides for the replacement of face-to-face classes by classes in digital media for the duration of the pandemic situation of the novel Coronavírus – COVID-19]. Official Daily Union, 39. Accessed 19 June 2020 from <a href="http://pesquisa.in.gov.br/imprensa/jsp/visualiza/index.jsp?data=18/03/2020&jornal=515&pagina=39">http://pesquisa.in.gov.br/imprensa/jsp/visualiza/index.jsp?data=18/03/2020&jornal=515&pagina=39</a>.

Furuno, F. (2020). Coronavírus: Brasil está preparado para o estudo remoto? [Coronavírus: Is Brazil read for remote study?]. Desafios da Educação. Accessed from 25 September 2020 from <a href="https://desafiosdaeducacao.grupoa.com.br/coronavirus-brasil-estudo-remoto/?fbclid=IwAR0ZUOx5aWoUb3OxbwO2rSsdbcWH9ax">https://desafiosdaeducacao.grupoa.com.br/coronavirus-brasil-estudo-remoto/?fbclid=IwAR0ZUOx5aWoUb3OxbwO2rSsdbcWH9ax</a> zLP9LeNBR536fG9TKgPfeL0NIHg.

Getúlio Vargas Foundation (2020). Pandemia já afeta trabalho de 53,5% das famílias, aponta FGV IBRE [Pandemic already affects work of 53.5% of families according to FGV/IBRE]. Accessed 21 May 2020 from <a href="https://portal.fgv.br/noticias/pandemia-ja-afeta-trabalho-535-familias-aponta-fgv-ibre">https://portal.fgv.br/noticias/pandemia-ja-afeta-trabalho-535-familias-aponta-fgv-ibre</a>

Gazetadopovo (2019). Ministro da Educação diz que "Universidade para todos não existe" [Education Minister says than "There is no University for All"]. Accessed 19 June 2020 from <a href="https://www.gazetadopovo.com.br/educacao/ministro-da-educacao-diz-queuniversidade-para-todos-nao-existe-9cb1w24y18605jt0mll0g2gnp/">https://www.gazetadopovo.com.br/educacao/ministro-da-educacao-diz-queuniversidade-para-todos-nao-existe-9cb1w24y18605jt0mll0g2gnp/</a>.

Internet Steering Committee in Brazil (2019). Pesquisa sobre o uso das tecnologias de informação e comunicação nos domicílios brasileiros: TIC domicílios 2018 = Survey on the use of information and communication technologies in Brazilian households: ICT households 2018 [eletronic book]. São Paulo : Comitê Gestor da Internet no Brasil. Accessed 19 June 2020 from <a href="https://www.cgi.br/media/docs/publicacoes/2/12225320191028-tic\_dom\_2018\_livro\_eletronico.pdf">https://www.cgi.br/media/docs/publicacoes/2/12225320191028-tic\_dom\_2018\_livro\_eletronico.pdf</a>.

Kerres, M. (2020). Against all odds: Education in Germany coping with Covid-19. *Postdigit Sci Educ*, 1–5. Acessed 19 June 2020 from <a href="https://doi.org/10.1007/s42438-020-00130-7">https://doi.org/10.1007/s42438-020-00130-7</a>.

Lis, L. (2020). Pandemia fez crescer em quase 32% reclamações contra banda larga fixa, diz Anatel [Pandemic increased complaints against fixed broadband by almost 32%, says Anatel]. G1. Accessed from 29 September 2020 from <a href="https://g1.globo.com/economia/noticia/2020/08/04/pandemia-fez-crescer-em-quase-32percent-reclamacoes-contra-banda-larga-fixa-informa-anatel.ghtml">https://g1.globo.com/economia/noticia/2020/08/04/pandemia-fez-crescer-em-quase-32percent-reclamacoes-contra-banda-larga-fixa-informa-anatel.ghtml</a>.

Lopes, R. P. & Fürkotter, M. (2016). Formação inicial de professores em tempos de TDIC: uma questão em aberto [Initial teacher's training in times od DTIC: An open question]. *Educ. rev.*, 32(4): 269-296. Accessed 25 September 2020 from <a href="https://doi.org/10.1590/0102-4698150675">https://doi.org/10.1590/0102-4698150675</a>

Mendonça, A. (2020). Weintraub-sobre-ENEM: 'Não é para atender injustiças sociais, é para selecionar os melhores [Weintraub on ENEM: 'It's not designed to respond to social injustices, it's to select the best]. Diário de Pernambuco. Accessed 15 May 2020 from

https://www.diariodepernambuco.com.br/noticia/brasil/2020/05/weintraub-sobre-enem-nao-e-para-atender-injusticas-sociais-e-para-s.html.

Mendonça, H. (2020). Quarentenas "iôiô" em capitais do Brasil cultivam incerteza e adiam a retomada da economia ["yo-yo" quarantines in Brazilian capitals breed uncertainty and delay economic recovery], El País. Accessed 20 June 2020 from <a href="https://brasil.elpais.com/economia/2020-06-20/quarentenas-ioio-em-capitais-do-brasil-cultivam-incerteza-e-adiam-a-retomada-da-economia.html">https://brasil.elpais.com/economia/2020-06-20/quarentenas-ioio-em-capitais-do-brasil-cultivam-incerteza-e-adiam-a-retomada-da-economia.html</a>

Ministry of Education of Brazil (2018a). Novo ENEM [New ENEM] [dedicated webpage]. Ministry of Education. Accessed 20 June 2020 from

http://portal.mec.gov.br/component/content/article?id=13318&Itemid=310

Ministry of Education of Brazil (2018b). ProUni - Apresentação [Presentation ProUni] [dedicated webpage]. Ministry of Education. Accessed 20 June 2020 from

http://portal.mec.gov.br/index.php?option=com\_content&view=article&id=205&Itemid=298&msg=1&l=aW5k
ZXgucGhwP29wdGlvbj1jb21fY29udGVudCZ2aWV3PWJ1c2NhZ2VyYWwmSXRlbWlkPTE2NCZwYXJhbX
Nbc2VhcmNoX3JlbGV2YW5jZV09UFJPVU5JJmQ9cyZwYXJhbXNbZGVdPSZwYXJhbXNbYXRIXT0mcG
FyYW1zW2NhdGlkXT0mcGFyYW1zW3NlYXJjaF9tZXRob2RdPWFsbCZwYXJhbXNbb3JkXT1wcg==

Ministry of Education of Brazil (2020a). Sistema de Seleção Unificada - SISU [Unified Selection System - SISU] [dedicated webpage]. Ministry of Education. Accessed 20 June 2020 from <a href="https://sisu.mec.gov.br/#/#oquee">https://sisu.mec.gov.br/#/#oquee</a>

Ministry of Education of Brazil (2020b). Plano Nacional de Educação 2014-2024 [National Education Plan 2014-2024] [dedicated webpage]. Ministry of Education. Accessed 20 June 2020 from <a href="http://pne.mec.gov.br/18-planos-subnacionais-de-educacao/543-plano-nacional-de-educacao-lei-n-13-005-2014">http://pne.mec.gov.br/18-planos-subnacionais-de-educacao/543-plano-nacional-de-educacao-lei-n-13-005-2014</a>

Mundo Vestibular. (s/d). ProUni vale para EaD? [ProUni valley for EaD?]. Mundo Vestibular. Accessed 25 September 2020 from <a href="https://www.mundovestibular.com.br/vestibular/prouni/prouni-vale-para-ead#":~:text=O%20processo%20seletivo%20para%20vagas,inscrição%20e%20senha%20do%20Enem.">https://www.mundovestibular.com.br/vestibular/prouni/prouni-vale-para-ead#:~:text=O%20processo%20seletivo%20para%20vagas,inscrição%20e%20senha%20do%20Enem.</a>

Mustafa, N. (2020). Impact of the 2019–20 coronavirus pandemic on education. *Int. J. Health Pref. Research*, [preprint]. Accessed 20 June 2020 from

https://www.researchgate.net/publication/340849956 Impact of the 2019-20 coronavirus pandemic on education

National Education Development Fund (2017). FIES – Programa de Financiamento Estudantil [FIES – Student Financing Program]. FNDE. Accessed 20 June 2020 from <a href="https://www.fnde.gov.br/financiamento/fundeb/area-para-gestores/dados-estatisticos/item/4752-histórico">https://www.fnde.gov.br/financiamento/fundeb/area-para-gestores/dados-estatisticos/item/4752-histórico</a>.

National Institute of Studies and Educational Research Anísio Teixeira (2000a). Evolução do Ensino Superior – Graduação 1980-1998 [Evolution of Higher Education - Graduation]. INEP. Accessed 26 September 2020 from <a href="http://download.inep.gov.br/download/censo/1998/superior/evolucao">http://download.inep.gov.br/download/censo/1998/superior/evolucao</a> 1980-1998.pdf

National Institute of Studies and Educational Research Anísio Teixeira (2000b). Sinopse estatística da educação superior graduação – 1999 [Statistical synopsis of higher education graduation]. INEP. Accessed 26 September 2020 from http://download.inep.gov.br/download/censo/1999/superior/miolol Sinopse Superior99.pdf

National Institute of Studies and Educational Research Anísio Teixeira (2001a). Sinopse estatística da educação superior – 2000 [Statistical synopsis of higher education]. INEP. Accessed 26 September 2020 from <a href="http://download.inep.gov.br/download/censo/2000/Superior/sinopse">http://download.inep.gov.br/download/censo/2000/Superior/sinopse</a> superior-2000.pdf

National Institute of Studies and Educational Research Anísio Teixeira (2012). Censo da Educação Superior 2010 – Resumo Técnico [Census of Higher Education 2010 – Technical Summary]. INEP. Accessed 26 September 2020 from

http://download.inep.gov.br/download/superior/censo/2010/resumo tecnico censo educacao superior 2010.pdf

National Institute of Studies and Educational Research Anísio Teixeira (2019). Censo da Educação Superior 2018 – Divulgação dos Resultados [Census of Higher Education 2018 – Disclosure of Results]. INEP. Accessed 26 September 2020 from

http://download.inep.gov.br/educacao superior/censo superior/documentos/2019/apresentacao censo superior2 018.pdf

National Institute of Studies and Educational Research Anísio Teixeira (2020a). Consulta Matrícula [Registration Request] [dedicated webpage]. INEP. Accessed 20 June 2020 from <a href="https://inepdata.inep.gov.br/analytics/saw.dll?dashboard">https://inepdata.inep.gov.br/analytics/saw.dll?dashboard</a>

National Institute of Studies and Educational Research Anísio Teixeira (2020b). Nota de esclarecimento / ENEM 2020 [Clarification note] [dedicated webpage]. INEP. Accessed 20 June 2020 from <a href="http://portal.inep.gov.br/artigo/-/asset\_publisher/B4AQV9zFY7Bv/content/nota-de-esclarecimen-7/21206">http://portal.inep.gov.br/artigo/-/asset\_publisher/B4AQV9zFY7Bv/content/nota-de-esclarecimen-7/21206</a>

Pan American Health Organization (2020). Folha Informativa – COVID-19 (doença causada pelo novo coronavírus) [Factsheet – COVID-19 (illness caused by the novel coronavirus)]. Accessed 19 June 2020 from <a href="https://www.paho.org/bra/index.php?option=com\_content&view=article&id=6101:covid19&Itemid=875">https://www.paho.org/bra/index.php?option=com\_content&view=article&id=6101:covid19&Itemid=875</a>.

Rosa, R. (2013) Trabalho docente: dificuldades apontadas pelos professores no uso das tecnologias [Teaching work: difficulties pointed out by teachers in the use of technologies]. *Revista Encontro de Pesquisa em Educação*, 1(1): 214-227. Accessed 25 September 2020 from <a href="http://revistas.uniube.br/index.php/anais/article/viewFile/710/1007">http://revistas.uniube.br/index.php/anais/article/viewFile/710/1007</a>

Saboia, G. (2020). Sem internet, estudantes de favelas não conseguem se preparar para o ENEM [Without internet favela students can't prepare for ENEM]. Uol. 20 June 2020 from

 $\underline{\text{https://educacao.uol.com.br/noticias/2020/04/28/sem-internet-estudantes-de-favelas-sofrem-com-preparacao-online-para-onl$ 

enem.amp.htm? twitter impression=true&fbclid=IwAR2TloapQ KTMlGpFm75WiIh1wZG8KWV1WZsY-6Vf7MbtD9xW3 TGGvG8YU

Sahu, P. (2020) Closure of Universities Due to Coronavirus Disease 2019 (COVID-19): Impact on Education and Mental Health of Students and Academic Staff. *Cureus* 12(4): e7541. Accessed 20 June 2020 from <a href="https://doi.org/10.7759/cureus.7541">https://doi.org/10.7759/cureus.7541</a>

Saldaña, P. (2019). Governo Bolsonaro reduz oferta do FIES a partir de 2021e eleva desempenho mínimo do ENEM [Bolsonaro Government reduces FIES provision from 2021 and raises minimum performance level in ENEM]. Estadão. Accessed 20 June 2020 from <a href="https://www1.folha.uol.com.br/educacao/2019/12/governo-bolsonaro-reduz-oferta-do-fies-a-partir-de-2021-e-eleva-desempenho-minimo-no-enem.shtml">https://www1.folha.uol.com.br/educacao/2019/12/governo-bolsonaro-reduz-oferta-do-fies-a-partir-de-2021-e-eleva-desempenho-minimo-no-enem.shtml</a>

Sampieri, R. H., Collado, C. F., & Lucio, M. P. B. (2013). *Métodos de Pesquisa [Research Methods]*. 5<sup>th</sup>.ed. Porto Alegre: Penso.

Saviani, D. (2010). A expansão do ensino superior no Brasil: mudanças e continuidades [The expansion of the graduate school in Brazil: changes and continuities]. *Poíesis Pedagógica*, 8(2): pp.4-17. Accessed 25 September 2020 from <a href="https://doi.org/10.5216/rpp.v8i2.14035">https://doi.org/10.5216/rpp.v8i2.14035</a>

Seade Foundation. (2020). São Paulo tem "ilha" de 7,5 mi de pessoas que nunca acessaram a internet [São Paulo has "island" of 7.5 million people who have never accessed the internet]. Seade. Accessed 29 September 2020 from <a href="https://www.seade.gov.br/sao-paulo-tem-ilha-de-75-mi-de-pessoas-que-nunca-acessaram-a-internet/">https://www.seade.gov.br/sao-paulo-tem-ilha-de-75-mi-de-pessoas-que-nunca-acessaram-a-internet/</a>.

Segenreich, S. C. D. (2009). ProUni e UAB como estratégias de EAD na expansão do Ensino Superior [ProUni and UAB as strategies of EaD in the expansion of higher education]. *Pro-posições*, 20(2): 205-222. Accessed 29 September 2020 from <a href="http://dx.doi.org/10.1590/S0103-73072009000200013">http://dx.doi.org/10.1590/S0103-73072009000200013</a>.

Soprana, P. (2020). 70 milhões de brasileiros têm acesso precário a internet na pandemia [70 million Brazilians have precarious access to the internet in the pandemic]. Folha de São Paulo. Accessed 29 September 2020 from <a href="https://www1.folha.uol.com.br/mercado/2020/05/cerca-de-70-milhoes-no-brasil-tem-acesso-precario-a-internet-na-pandemia.shtml">https://www1.folha.uol.com.br/mercado/2020/05/cerca-de-70-milhoes-no-brasil-tem-acesso-precario-a-internet-na-pandemia.shtml</a>.

State Ceará (2020). Lei Nº 17.208, 11 de maio de 2020. Dispõe sobre ações de proteção aos consumidores da rede privada de ensino durante o Plano de Contigência do novo Caronavírus (COVID-19) [Law Nº 17208, of May 11, 2020 governing actions to protect consumers of the private school network during the Contigency Plan for the novel Caronavirus (COVID-19). Accessed 20 June 2020 from <a href="http://imagens.seplag.ce.gov.br/PDF/20200511/do20200511p01.pdf">http://imagens.seplag.ce.gov.br/PDF/20200511/do20200511p01.pdf</a>.

Students National Union (2016). Prounistas na rua contra os ataques de Temer e Mendonça à educação [Union supporters take to the street against Temer and Mendonça's attack on education]. Accessed 1 June 2020 from <a href="https://une.org.br/noticias/prounistas-na-rua-contra-os-ataques-de-temer-e-mendonca-a-educacao/">https://une.org.br/noticias/prounistas-na-rua-contra-os-ataques-de-temer-e-mendonca-a-educacao/</a>.

Tomazinho, P. (2020). A aprendizagem não pode parar [Learning can not stop]. Prof. Paulo Tomazinho. Accessed 28 September 2020 from <a href="https://www.paulotomazinho.com.br/a-aprendizagem-nao-pode-parar">https://www.paulotomazinho.com.br/a-aprendizagem-nao-pode-parar</a>.

United Nations Development Programme (2019). Human Development Report 2019. New York: UNDP. Accessed 19 June 2020 from <a href="http://hdr.undp.org/sites/default/files/hde2019.pdf">http://hdr.undp.org/sites/default/files/hde2019.pdf</a>

Vibha, Prabhu, A. N., Kamath, G. B., & Pai, D. V. (2020). Keeping the country positive during the COVID 19 pandemic: Evidence from India. *Asian journal of psychiatry*, *51*. Accessed 20 June 2020 from <a href="https://doi.org/10.1016/j.ajp.2020.102118">https://doi.org/10.1016/j.ajp.2020.102118</a>

Vieira, M. C. (2020). Na pandemia, jovens adiam o sonho do diploma universitário [In the pandemic young people postpone their dream of a university degree]. Veja. Accessed 15 May 2020 from <a href="https://veja.abril.com.br/educacao/na-pandemia-jovens-adiam-o-sonho-do-diploma-universitario/">https://veja.abril.com.br/educacao/na-pandemia-jovens-adiam-o-sonho-do-diploma-universitario/</a>

World Health Organization (2020). WHO Coronavirus disease (COVID-19) Dashboard [dedicated webpage]. Geneva: World Health Organization. Accessed 30 September 2020 from https://covid19.who.int.

Wordlometer (2020). *COVID-19 Coronavirus Pandemic. Dashboard [dedicated webpage]*. Accessed 30 September 2020 from <a href="https://www.worldometers.info/coronavirus/">https://www.worldometers.info/coronavirus/</a>.

Yuge, C. (2020). Reclamações sobre banda larga têm alta de 40% durante a pandemia, diz Anatel [Complaints about broadband rise by 40% during the pandemic, says Anatel]. Canaltech. Accessed from 29 September 2020 from <a href="https://canaltech.com.br/internet/reclamacoes-sobre-banda-larga-tem-alta-de-40-durante-a-pandemia-diz-anatel-169374/">https://canaltech.com.br/internet/reclamacoes-sobre-banda-larga-tem-alta-de-40-durante-a-pandemia-diz-anatel-169374/</a>.

Zhu, X., & Liu, J (2020). Education in and After Covid-19: Immediate Responses and Long-Term Visions. *Postdigit Sci Educ*. Art. S42438 Accessed 30 May 2020 from <a href="https://doi.org/10.1007/s42438-020-00126-3">https://doi.org/10.1007/s42438-020-00126-3</a>