ARTICLE

Challenges and risks of remote Education for children and adolescents*

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Abstract

Covid-19 has arisen deep changes in formal Education as a result of a sudden transition from in person to remote Education. Effects in different fields, such as mental health and socioeconomic vulnerability, also need follow up and evaluation. So, this paper aims to analyze the educational inequalities amplified by the pandemics, as well as the remote Education effects on students, educators and families. Its theoretical framework consisted of the reproduction theories and philosophical works on heterotopy, speed and the world and Education digitalization. The results show that previous achievements in schooling access, quality and equality took steps backwards. Mental health and student motivation have suffered negative effects. Digital Education does not seem to keep the same level of outcomes and equality. Therefore, remote Education has implied deep changes in schooling routines and ways of learning, some of them susceptible of negatively affecting students. Remote Education, despite its lower costs and prestigious halo, is to be used cautiously and with parsimony.

Keywords: Pandemics. Mental health. Violence. Education inequalities. Remote Education.

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1 Introduction

Covid-19 has brought about deep changes in formal Education because of a sudden transition from regular classroom sessions to remote teaching. Effects in different fields, such as mental health and socioeconomic vulnerability, need follow-up and evaluation. Furthermore, post-pandemics Education needs careful reflection on compatible ends, objectives, and means, in order to reduce the disparities deepened by the crisis brought about by the pandemics. So, this paper aims to analyze educational inequalities amplified by the pandemics, as well as the effects of remote teaching on students, educators, and families. Our theoretical framework is based on reproduction theories and philosophical works on heterotopia, speed and the world, and Education digitalization (Foucault, Virilio, and Texier). Covid-19 caused deep changes in economy, society, and Education, therefore, this is not a strict educational analysis, since numerous factors affect its context as well as consequences. Previous achievements in schooling access, quality, and equality registered losses. Mental health and student motivation have suffered negative impacts. Digital Education, even when accessible to all students, associated to social isolation do not seem to keep the same level of outcomes and even less in terms of equality. In conclusion, remote teaching has implied deep changes in schooling routines and ways of learning, some of them susceptible of affecting students negatively. Further reflections are necessary in relation to the compatibility of educational ends, objectives and means, as well as on the needs and feelings of students, challenged by disruptive changes in their mental structures. Remote teaching, despite its lower costs and prestigious halo, is to be used cautiously and with parsimony. Of course, this is not a comparative evaluation of remote Education *per se*, due to the severe intervenient conditions of its sudden and wide application during pandemics.

In the 21st century, criticism towards schools has soared and alternatives such as deschooling and unschooling have emerged. With the pandemics, lockdowns and the closing of schools lead to a sudden and improvised change towards remote teaching, despite its reliance on devices and networks unavailable in many parts of the world. Mental health of children and adults has been particularly challenged by social isolation as both virtues and flaws of traditional schools emerge under a new perspective. Bad with it, worse without it seems to be the case here. Depriving peers of personal contacts has been perhaps the most painful loss, indicating that learning processes are not plainly rational but rather social and affective matters. Learning has been hindered by very unusual situations of mental health for students and people of their household, including remote working of some relatives or the continuation of on-site

working, impoverishment, violence within the family, and a whole set of problems brought about with this crisis. On the one hand, the pandemics has amplified previous inequalities like a sounding board and, on the other hand, it has limited access and quality. A later balance might highlight an extensive setback in relation to the results achieved until then. Hence, this paper analyzes the main repercussions based on the literature review and reviews on reviews, without considering, however, remote learning due to the disorientating excess of variables involved. On the other hand, it points out the risks of this modality.

The pandemics, the lockdowns, and related restrictions imposed by different countries evoke Foucault (2004, 2016) concepts of heterotopia and biopower. Here, heterotopia refers to the modified confinement space, coercive self-exile, some sort of desert where students must learn by themselves in an electronic relation with teachers and colleagues if they can (MACI; DUBOZ, 2020). In turn, biopower is a form of domination involving the power of the State over life and death. Biopower includes controlling populations through public policies, including Education, health, and social security. Racism is also a biopower historical component when societies and states separate those who "deserve" living from those who do not. Chauvinism traditionally limits girls and women's rights and duties, while other gaps divide society.

In a pandemic, biopower manifests through lockdowns, circulation requirements or restrictions, use of masks, queues for hospital admission, vaccination scheduling, closing and opening schools etc. Paradoxically, taking too long to do so, enforcing this upon some and not others, whether on purpose or not, is also part of biopower.

According to evidence, in the present circumstances, formal remote Education impacts mental health and sometimes also the physical health of students, their families, and teachers. Even in privileged households there are complaints over hardly understandable classes and procedures, time mismanagement, and excessive homework demand. Teachers overwork to assist pupils, often in small groups to a better use of time, extending their working days. Why? Computers work just like Paleolithic tools; once introduced, they impact the whole cultural environment. Space and time take on other dimensions; space is translated into a dynamic screen, full of information, with no empty slots, that is a school curriculum in the rapid blossoming of contents. Hence [it] allows us to dwell in the Now as a possibility to grasp something that is yet to be (GOBBI; ROVEA, 2021). Time has the speed of light. For the instant

transmission there is a general arrival point since everything arrives without having departed. Previously available elements combine, without constructing thoughts in a gradual, critical way. From one week to the next, teachers and pupils had to adjust ways of thinking, acting, and feeling.

Virilio (2009) anticipated "the information bomb". During the Cold War, technoscience has developed into a craze to achieve and overcome limits, as in the fields of robotics and genetic engineering. Science, instead of searching for the truth, aims at a performing state. A discovery or invention with media resonance takes on importance due to financial outcomes for its authors and companies instead of its contribution to the common interest. Driven by the market, knowledge became cybernetic. The network society (CASTELLS, 2016) tends to lose its pyramid structure, social stratification is nebulous, based on numerous criteria, so those demonstrations get diluted, without clear goals, with temporarily gathered multitudes. The end of the Cold War leads to an information war. It does not eliminate the society of risk, on the contrary, it increases the risk for society. Cybernetic "accidents" multiply. Spiraling, they may lead to a global disaster. In turn, genetic engineering may replace the Homo sapiens with the superman, the subject with the clone or hybrid. Thus, human subjectivity collapses.

In connection with these changes and dystopic perspectives, a new form of boredom reaches adolescents and other age groups. The subject feels disconnected from its bonds to others and to objects, something that differently from melancholy nullifies the subject and makes room for emptiness. In the context of market economy, the order is enjoying, indulging. During adolescence, it takes on the aspect of indefinite desire, an uninteresting present and a future without reliable promises, except for flitting moments of excitement. Hence, society allocates multiple objects for indulgence, such as digital objects, which alter the modification of the subject's relation with representation and reality. Technology blurs the bond of presence into the void. Unused as means or instruments of expression and bonding, digital objects lead to an ideative void and, in lieu of relations, the presence into the void. According to the equivalence between image and real presence, identity tends to become labile and interchangeable with just any other (TEXIER, 2016). In the plain course of such post-modernity processes, the pandemics came to impose physical distancing and social isolation, deepening hardships.

On the other hand, pupils in the retreat of their homes count on assets inherited from their resources, both in health as in Education. Health is socially stratified;

it reflects and reproduces social hierarchies. The poor suffer more: in the United Kingdom (2020) black men were 4.2 times more likely to die from Covid-19 than white women and men. For black women, this probability was 4.3. Men with Bangladeshi and Pakistani background were 1.8 times more likely to die from Covid-19 than white men in the UK. In the USA, through court order, the press obtained data on the ethnic distribution of Covid-19 cases (ZELNER *et al*., 2021). Black men were 3 times more likely to catch the disease, while Latinos were about 3.5 times more likely, when compared to white people. Thereby, the pandemics map follows the poverty map; consequently, mourning happens more often among the lesser privileged.

In turn, Education reflects and shapes social differences by inherited social and cultural capital (BOURDIEU; PASSERON, 1970). In other words, Education is simultaneously stratified and stratifying, although it has been declared to be a universal human right, just like health. The huge inequalities that have plagued on-site Education were only amplified by remote Education. Although it was designed democratize access, remote Education has become a strong barrier. How many pupils have access to electronic devices and printed material? How many have electric power in their households? How many have internet connection and devices enough for three or five pupils in the same household? How many can ask for the help of adults with enough schooling? How many ceased eating due to the economic recession because schools were closed? In 2018, for example, *Programa Internacional de Avaliação de Estudantes* – Pisa (Organisation of Economic Development -OECD, 2020a) verified that, on average, 9% of its participants declared they did not have a quiet place to study at home. Even in South Korea, a fifth of all pupils did not enjoy such conditions. In Indonesia, Philippines, and Thailand this proportion was about 30%. As far as computer access is concerned, 34% in Indonesia, while in the USA all pupils of schools ranked as privileged enjoyed this resource, but this proportion fell to 75% in less privileged schools. As for computers per pupil, Organisation of Economic Co-Operation and Development (OECD, 2020b) average was 0.8. Electric energy, an essential service in developed countries, reached in 2018 only 54.4% of the Nigerian population; 41.9% in Angola, and 30.0% in the Central African Republic (WORLD BANK DATA, 2020). Radio and TV, also part of the effort, rely on receivers and signal reach.

The change from on-site to virtual Education also required teachers to develop new forms of pedagogy. Regardless of professional experience and schooling, they are not sufficiently trained or supported to use online Education platforms, as Carrillo and Flores (2020) observed in a literature review.

2 Methodology

This work is based on selective literature review and on reviews over survey reviews from 2019 on, found at Google Scholar, Scientific Electronic Library Online (SciELO), Directory of Open Access Journals, Érudit.org/fr, and Cairn.info in the months of April and May 2021, using as main keywords: pandemics, mental health, schooling, Education policies, and correspondent terms in French, Spanish, and Portuguese. We found and selected only a research publication in Portuguese, as many others were essays and reflections from various perspectives. Of course, we used ancillary literature, previous to that period.

3 Results and discussion

Lockdowns contributed to the lack of physical activities, higher exposure to domestic violence risks, increased screen time, nutritional deficit, and sleep disturbances, among other problems. In 2019, 8.9% of the world population were already undernourished. Almost 370 million children stopped receiving a school meal in 150 countries (BORKOWSKI *et al*., 2021). It is noteworthy that children represent a vulnerable group, once their nervous system and hypothalamic-pituitary-adrenal axis are not completely developed (GUPTA; JAWANDA, 2020; YE, 2020). It is recommended that parents act as role models, despite the economic recession and its tensions (BUHEJI *et al*., 2020). Adults and children have been victims of high stress levels, anxiety disorders, and depression, besides post-traumatic stress, according to a review on reviews (ARAÚJO *et al*., 2021). Confined pediatric populations face psychological risks, such as feelings of restlessness, powerlessness, fearfulness, as well as attention deficit, obsessive behavior, anxiety, stress, loss of or excessive appetite, and depression. Regarding psychiatric pathologies, problems include post-traumatic stress and pathological mourning, simultaneously with domestic violence, abuse, and neglect (GINDT *et al*., 2021). Symptoms tend to worsen with prolonged confinement and affect a higher number of children (HARJULE; RAHMAN; AGARWAL, 2021). In Bangladesh, a country with a huge population where little attention is given to this issue, a high proportion of children suffer from mental health disturbances. These children are more vulnerable in urban areas, both in high and low-income families, born to smoking and depressive parents. Statistical treatment found correlations between parental mental health, child information, parents' attitudes toward children, and child mental health, hence parental resilience is a powerful protective factor for children (AMIAN, 2020, YEASMIN *et al*., 2020). Among the recommendations to mitigate the pandemic effects, Bates *et al*. (2020) presented the establishment of long-term routines for children and their families, closing off streets for physical activities, along with

keeping minimum distancing, parental surveillance over online activities, taking electronic devices out of bedrooms and forbidding their use before bedtime. It is clearly hard to meet these recommendations, more so when the bedroom culture (GLÉVAREC, 2010) has become part of preadolescent and adolescent cultures in better-off societies.

3.1 Vulnerability & Violence

In economy, health, Education, and other areas, unequal populations become more unequal. According to the saying, a chain is only as strong as its weakest link. Reality confirms that ethnic minorities, women, girls, less favored social classes, and immigrants tend to suffer more from the pandemics. In fact, once closed the schools, besides nonpaid domestic work, girls and women were more subjected to both domestic and non-domestic violence (HARJULE; RAHMAN; AGARWAL, 2021). Social media were flooded by hate content and cyberbullying. Data from 15 countries indicated substantial increase of abusive messages, pointing mainly to intimate partner abuse and physical, sexual, and child abuse (BABVEY *et al*., 2021). Confinement disclosed increase in cyber-aggressions, including among pupils (ROMERO; PRIETO, 2021).

Regarding cyberbullying, the pandemics increased risk factors and decreased protective factors as digital exposure expanded substantially. The first indicate the vulnerability of children and adolescents: previous experience with on-site bullying; low social support; loneliness' feelings; being part of an ethnic minority; having communication problems with relatives; parental authoritarianism, historic of sexual abuse in childhood; feelings of guilt, rage, and frustration; lower self-esteem and empathy, and frequency of lower school grade than the aggressor. For aggressors, following risk factors were identified: low level of identification with teachers, absenteeism on school, pressure from other aggressors, perception of having few companions, and authoritarian parental style. Other equal contributions for practicing aggression: male gender, moral disconnection towards the victims' condition, distortion of consequences of one's own actions, blaming the victim for one's actions, having low self-esteem and empathy, alexithymia, and high level of aggression. Exposure to violent facts on real life and/or in virtual media is also a factor for violence legitimization. Protective factors identified among victims were the following: lower exposure to the Internet, awareness that their network activity was surveilled, open communication with parents on the virtual environment risks, social support, most importantly from the mother, parental displays of affection, and active and restrictive parental mediation on the use of networks. Both for victims and aggressors, parental

control constitutes a protection factor. Regarding victims, it should be added low impulsiveness, low degrees of aggression justification, resilience, and empathy (MARÍN CORTÉS; HOYOS DE LOS RÍOS; SIERRA PÉREZ, 2019). This is a reason why Chudal *et al*. (2021) recommended that interventions encompass traditional bullying, cyberbullying and mental health components.

The pandemics amplified the compulsory exposure to digital environments since schooling started to depend on it. A survey performed in 11 countries during the health crisis with children, adolescents, and their parents observed that one out of two parents was worried about excessive Internet use: between 6 hours and 7.5 hours daily. Almost a third of the children and adolescents declared having fought and succeeding in reducing the time spent on the Internet. However, a quarter of them declared increased boredom, 51% never faced a bullying situation and three quarters found disinformation. Almost three out of ten reported increases in cyberhate messages and at least half of them reported having seen violent images. A third reported having had experiences with undue use of their passwords and data. Almost half of them reported having used protecting devices, while almost a third of the parents progressed on digital security solutions (LOBE *et al.,* 2020). In Russia, Soldatova, Rasskova and Chigarkova (2020) used similar samples to the one of the European Union and, as other surveys, verified that parents underestimate Internet risks, even the most common ones. Adolescents ask their parents for help not due to technical skills since the digital gap is wide, but to achieve their active mediation. These tend to be more protected from risks, while excessive parental control tends to hinder knowledge and sound mastery of the Internet. The same authors found that active parental mediation ensures a stronger digital socialization and more constructive ways of dealing with networks. Makarova and Makarova (2019) observed that by the broad use of gadgets, children and adolescents became vulnerable to threats, harassment, manipulation, and other forms of aggression. The main reasons for cybervictimization were physical appearance (48%), physical or mental inability (22%), and nationality or religion (21%). Games online, in their turn, presented substantial impacts on children and adolescents' life due to the imposition of violence and manipulation.

In Barcelona, Besolí, Palomas, and Chamarro (2018) performed surveys with children and adolescents from the 5th grade of primary school to the end of high school. They noticed that parents, although perceiving risks, underestimate the time spent on the Internet. In fact, for pupils the main value of the device is recreational, however, problematic usage increases in high school. It is indeed true that higher exposure time can contribute to a higher risk. A great deal of adults does not take advantage of the opportunity for personal improvement and

the development of their children's abilities. When children and adolescents isolate themselves, learning tends to happen with colleagues instead of parents, implying higher risks of unsuitable uses for their ages. Fikkers, Piotrowski and Valkenburg (2017) compared different parental mediation styles in the Netherlands, in a sample with children aged between 10-14 years. Parental mediation through support for autonomy was related to less aggressive behavior and lesser exposure to media violence. However, no significant correlation was verified between variables and controlling mediation. Households where parents established restrictive mediation, with support for their children's autonomy, offering rationale for establishing norms and hearing the child's experience, reduced aggression and exposure to media violence. Nevertheless, inconsistent restrictions, sometimes forbidding, sometimes allowing, led to opposite outcomes. In another study, Fikkers *et al*. (2016) examined the influence of peer norms. It is known that horizontal socialization is particularly intense during adolescence and that violence can be a form of climbing in the peers' hierarchy. Yet, the hypothesis of peer norms as a moderator and mediating variables in the relation between media violence and aggressive behaviors was confirmed. Media violence indirectly increased aggressive behaviors for adolescents who perceived more peer aggression.

The use of pornography and sexting through the Internet is another kind of vulnerability, with long lasting effects in the life of children and adolescents. In a sample with adolescents, 16% used chat and social media for sexting during the pandemics. Covid-21 has also brought a general increase in online pornography access (ELEUTERI; TERZITTA, 2021). In many countries, age associated with socioeconomic vulnerability threw the doors wide open to physical and sexual verbal abuses, commercial sexual exploitation, sex tracking of children and child marriage. Data from the United Kingdom, France, United States, and Australia show that sex abuse rates increased from 20% to 40% (RAMASWAMI; SESHADRI, 2020).

Vulnerable under many perspectives, children and adolescents necessarily restricted by biopower and by the "information bomb" (in the sense of a plethora) imposed by virtual school, when having access to it, it is no surprise their suffering from boredom, physical and mental problems, needing increased commitment to keep on learning in a landscape of uncertain future, surrounded by mourning.

3.2 Online Education

Under the pupils' perspective, the information bomb manifests itself in content-oriented school curriculums and in the plethora of information and homework

prescribed by Education institutions and systems in the vain attempt to prevent the downfall on the school performance of the pupils, measured by external criteria and evaluations. Education changed to online in a short time, but the market-oriented philosophic foundations of Education remained. In another guise on know-how, the same know-what, know-for, and know-why are frequently maintained. School curriculums get funneled, the pupils flooded with information, external evaluation is improperly measured, educational processes are compressed to fit in the modest scope of standardized tests (GOMES *et al*., 2020). It is significant to find so many times the concept of learning, instead of Education, in literature. Would pupils be recipient bags for informative packages? Meanwhile, crisis, anguish, boredom, and economic recession sweeps the world and invades households, as school keeps on its character, filled with hardware and software of high cost and planned obsolescence. According to Louis XV of France, *après moi le déluge* [after me, the flood]. To be emancipatory and well-developed, Education must overcome mere "instructionism" and rest on consistent philosophical approaches where human relations and critical learning are highlighted. On the contrary, while the water level of a flood gets higher, there is a reiteration of technological aspects of mere instrumental adoption, commonly seen in the "Silicon Valley Narrative" (HENDRICK, 2018), molded on predominantly behaviorist forms of high technology, promoted by means of the development of learning systems based on data (SELWIN *et al*., 2020).

The flood challenge keeps on growing. In April 2021, United Nations Educational, Scientific and Cultural (Unesco) estimated that 1.3 billion students were still affected by the closing of schools and Higher Education institutions worldwide; 24 million children and youth were at risk of dropping out; among them, a great deal was already working in precarious jobs (UNESCO, 2021). Almost all countries declared the adoption of remote learning using online platforms. One out of five low-income countries did not have introduced any supporting measure for teachers. Among this less favored group, 64% introduced online platforms; 93% by radio and 92% by television. Still in this group, the perceived effectiveness of remote learning was the following: 11% considered online platforms highly effective; 27% television, 15% radio, and 23% take-home packages. Global data are, respectively, 36%, 28%, 20%, and 23% (UNESCO, UNICEF, WORLD BANK, 2020). It is estimated that by the end of 2020 losses were between 0.3 and 0.9 schooling years, creating a loss of income of 10 trillion US$ of 2017, according to parity purchase power (BORKOWSKI *et al*., 2021). Besides general downfall in the course of sustainable development goals, Education inequalities certainly increased, to the disadvantage of women and girls, ethnic minorities, refugees, immigrants, and low-income populations

and countries (Gomes *et al.,* 2021). Once more, the chain was only as strong as its weakest link.

Teachers have had difficult roles. First of all, they were largely unprepared to a sudden change, since equipment and materials were scarce. A research project detected that they were prone were prone and interested in developing remote Education, although part of them had no or superficial knowledge on digital Education (SOUSA *et al*., 2021). However, the convenience sample included Higher Education faculty. As the private sector changed Education from public good and human right to private commodity, faculty faced the challenge of labor precarity, regarded as pieces of a machine (GILBERT, 2021; SCARBOROUGH, 2021). Scattered results suggest that part of them have gone beyond their duties in assisting pupils.

The effects of changes need to be continuously followed and assessed. Gobbi and Rovea (2021) stress the difference between distance learning and 'distance as learning'. Actually, the change of spaces and times profoundly affects the identity of school experiencing. In the digitalized school, time as duration replaces the time of exposing ideas. Among complete dematerialization, space is reduced to a quadrilateral screen. Real time speed contrasts with chronological time, featured by the succession of the past, present, and future. The exposition order is the fleeting moment in which phenomena are lighted by or exposed at the light speed. Elapsed time is replaced by photographic time. Therefore, the time of exposition does not imply the experience of memory. Time at on-site schools is like the messianic time, which demands experiences of memory and waiting: "It is a present living a current relation with its past and future, it enables inhabiting Now as a possibility to learn something that is still not there" (GOBBI; ROVEA, 2021 p. 78).

We should remember that way before Covid-19 Virilio (1977) wrote a masterpiece, focusing on "dromocracy" as the regime of absolute speed (GARCÍA VARAS, 2010, 2017). Part of his work analyzes the real-time strategy games where thinking is affected by frenzy (WADDINGTON, 2020). May children and adolescents become slaves of efficiency? In fact, this philosopher regarded speed as the engine of destruction. By assembling violent forces, it can have dangerous consequences. In the digital school there is a generalized arrival because everything arrives without having left; there is no departure, nor itinerary. The screen is always full of information, there is no way to experience void or blank (GOBBI; ROVEA, 2021) What will be the consequences in the short, medium, and long terms for learners? Can the extraordinary measures of remote teaching and its developments

and endorsements become ordinary? Extensive changes need extensive reflections before getting accomplished. It can never be too careful.

In this sense, it is worth mentioning the case of Germany, according to Kerres (2020). Although being an international reference in the development and use of high technology in industry and medicine, in terms of Education the country has a history of restrictions that could be related to a way of thinking and acting reminiscent of the 19th century's Romanticism. It may also be associated with its recent past of fascist and communist surveillance, which used technological means to improve mass vigilance and control of the public opinion by broadcasting, press, schools, and universities.

As Kerres (2020) stresses, undue use of information, potentialized by digital technology, including and particularly on Education, is no imaginary danger in a distant future for Germans, but a sound experience still reported today by older generations. The German Education looks for not dissociating a consistent formative Education and the use of technological devices but having them submitted to their *Bildung's* ideals. What is *Bildung*? Associated to German illuminists, it is a wide concept on Education, oriented by the individual's completeness, therefore related to the concept of the Paideia. Learning is to an aisle as *Bildung* is to a broad garden.

In another survey with 7,100 people participating in a school community (pupils, parents, teachers, administrators, etc.) over the current school situation in Germany, Austria, and Switzerland, and comprising different social groups, Günther *et al*. (2020) presented the comments of teachers reporting warnings about being under stress and oppressed by the excessive and frequent use of digital medias, as well as of parents explicitly saying that the quantity of information stemming from school to their children, added to the domestic work during the pandemics, was putting them under huge pressure. The school should be aware of that, for it is not possible to teach or learn well in an environment under strong pressure.

An example of it lies in the influence of a German medicine doctor's book explaining – with references on neuroscience – that the use of computers in schools leads to poor performances, causing dependence and obesity (SPITZER, 2012). Although being a minor player in the German Education landscape, which is mainly public, the private network's advertising is being successful in offering non-digital Education for younger children. Even in the public network, German federal regulations restrain the use of software, including those successful and

applied in the Education of other countries; it also has a restrictive policy for teachers regarding the use of cloud services, social platforms, among others, that are not hosted inside the European Union. In short, they are proud of their high technology in many areas. In contrast, they have considerable objections regarding the uses – and abuses – generated by such technological adoptions on Education that do not follow EU rules and standards, particularly on privacy of data, according to Kerres (2020).

The emergence of changes in the pandemics cannot prevent deep reflections, nor the adoption of fashionable innovations. As in any market, there are vain promises in the technological superiority, like resources that are useful for anything, reduction of costs and productivity gains, and even in the superiority of computers over human beings. When it comes to sales, sugarcoating is often tolerated. Big tech insertion in the public sector, including in Education and health, more often benefits vendor companies. On the same lines, Teräs *et al*. (2020) warn about possible problems stemming from a hasty adoption of digital learning commercial solutions, whose design may not always be boosted by the best pedagogical practices but by their business models, which take advantage of users' data for commercial purposes. Are we teaching computers as human beings, or are we teaching human beings to teach thinking as computers?

4 Conclusion

It is worth warning that in times of crisis and sudden changes in the time and space formats of Education, worsened by the pandemics, we should not fall into a pragmatism easily found all over the world, a "market-based language of profits, privatization, and commercial exchange" (GIROUX, 2020).

Finally, the best message for this era is the philosophical reflection because in Education purposes and goals matter more than resources. If haste comes to suppress it, it will become yet another expression of the above-mentioned "dromocracy" and its restrictive power.

Desafios e riscos da Educação remota para crianças e adolescentes

Resumo

A Covid-19 tem suscitado profundas mudanças na educação formal, como resultado de súbita transição da educação presencial à remota. Os efeitos em diferentes áreas, como a saúde mental e a vulnerabilidade socioeconômica, também necessitam de acompanhamento e de avaliação. Assim, este trabalho visa a analisar as desigualdades educacionais amplificadas pela pandemia, como também os efeitos da educação remota sobre estudantes, educadores e famílias. Sua base teórica situa-se nas teorias da reprodução e em trabalhos filosóficos sobre a heterotopia, a velocidade e a digitalização educacional. Os resultados indicam que as conquistas anteriores no acesso, na qualidade e na igualdade andaram para trás. A saúde mental e a motivação de estudantes sofrem efeitos negativos. Portanto, a educação digital não parece manter o mesmo nível de resultados e de igualdade. A educação remota, apesar dos seus baixos custos e do seu prestigioso halo, deve ser utilizada com cautela e parcimônia.

Palavras-chave: *Pandemia. Saúde mental. Violência. Desigualdades educacionais. Educação remota.*

Retos y riesgos de la Educación a distancia para niños y adolescentes

Resumen

La Covid-19 ha provocado cambios profundos en la Educación formal como resultado de una transición repentina de la Educación presencial a la remota. Los efectos en diferentes campos, como la salud mental y la vulnerabilidad socioeconómica, también necesitan seguimiento y evaluación. Así, este trabajo tiene como objetivo analizar las desigualdades educativas amplificadas por las pandemias, así como los efectos de la Educación a distancia en estudiantes, educadores y familias. Su marco teórico estuvo constituido por las teorías de la reproducción y los trabajos filosóficos sobre la heterotopía, la velocidad y la digitalización del mundo y la Educación. Los resultados muestran que los logros anteriores en el acceso, la calidad y la igualdad de la Educación retrocedieron. La salud mental y la motivación de los estudiantes han sufrido efectos negativos. La Educación digital no parece mantener el mismo nivel de resultados e igualdad. Por tanto, la Educación a distancia ha implicado profundos cambios en las rutinas escolares y en las formas de aprender, algunas de ellas susceptibles de afectar negativamente a los estudiantes. La Educación a distancia, a pesar de sus costos más bajos y su halo de prestigio, debe usarse con cautela y parsimonia.

Palabras clave: *Pandemias. Salud mental. Violencia. Desigualdades educativas. Educación a distancia.*

References

AMIAN, M. S. Psychosocial risk factors associated with mental health of adolescents amidst the COVID-19 pandemic outbreak. *International of Social Psychiatry,* [s. l.], v, 68, n.1, p. 6-8, 2020. https://doi.org/1177/0002076402097/1008

ARAÚJO, L. A. *et al*. The potential impact of the COVID-19 pandemic on child growth and development: a systematic review. *Jornal de Pediatria*, Rio de Janeiro, v. 97, n. 4, p. 369-377, Jul./Ago. 2021. https://doi.org/10.1016/j.jped.2020.08.008

BABVEY, P. *et al*. Using social media for assessing children's exposure to violence during the COVID-19 pandemic. *Child Abuse & Neglect*, [s. l.], v. 116, pt. 2, e104747, June 2021. https://doi.org/10.1016/j.chiabu.2020.104747

BATES, L.C. *et al*. COVID-19 impact on behaviors across the 24-hour day in children and adolescents: physical activity, sedentary behavior, and sleep. *Children*, Basel, v. 7, n. 9, e138, Sep. 2020. https://doi.org/10.3390/children7090138

BESOLÍ, G.; PALOMAS, N.; CHAMARRO, A. Uso del móvil en padres, niños y adolescentes: creencias acerca de sus riesgos y beneficios. *Aloma*, [s. l.], v. 36, n. 1, p. 29-39, 2018. https://doi.org/10.51698/aloma.2018.36.1.29-39

BORKOWSKI, A. *et al*. COVID-19: missing more than a classroom: the impact of school closures on children's nutrition. Florence: Unicef Office of Research – Innocenti, 2021.

BOURDIEU, P.; PASSERON, J. C. La réproduction: éléments pour une théorie du système d'enseignement. Paris: Minuit, 1970.

BUHEJI, M. *et al*. Children and coping during COVID-19: a scoping review of bio-psycho-social factors. *International Journal of Applied Psychology*, [s. l.], v. 10, n. 1, p. 108-15, May 2020. https://doi.org/10.5923/j.ijap.20201001.02

CARRILLO, C.; FLORES, M. A. COVID-19 and teacher education: a literature review of online teaching and learning practices. *European Journal of Teacher Education*, v. 43, n. 4, p. 466-487, Sep. 2020. https://doi.org/10.1080/02619768.2020.1821184

CASTELLS, M. *Sociedade em rede*. São Paulo: Paz e Terra, 2016.

CHUDAL, R. *et al*. Victimization by traditional bullying and cyberbullying and the combination of these among adolescents in 13 European and Asian countries. *European Child and Adolescent Psychiatry*, [s. l.], Apr. 2021. https://doi.org/10.1007/s00787-021-01779-6

ELEUTERI, S.; TERRZITTA, G. Sexuality during the COVID-19: the importance of internet. *Sexologies*, [s. l.], v. 30, n. 1, e55-e60, Jan./Mar. 2021. https://doi.org/10.1016/j.sexol.2020.12.008

FIKKERS, K. M.; PIOTROWSKI, J. T.; VALKENBURG, P. M. A matter of style? Exploring the effects of parental mediation styles on early adolescents' media violence exposure and aggression. *Computers in Human Behavior*, New York, n. 70, p. 407-415, May 2017. https://doi.org/10.1016/j.chb.2017.01.029

FIKKERS, K.M. *et al*. The role of perceived peer norms in the relationship between media violence exposure and adolescents' aggression. *Media Psychology*, Mahwah, v. 19, n. 1, 2016. https://doi.org/10.1080/15213269.2015.1037960

FOUCAULT, M. *Histoire de la sexualité*. I : La volonté de savoir. Paris: Gallimard, 2016.

FOUCAULT, M. *Surveiller et punir*. Paris: Gallimard, 2004.

GARCÍA VARAS, A. La "dromocracia" o el régimen de la velocidad absoluta (Paul Virilio). Un diagnóstico de sus derivaciones mórbidas en la existencia. *Araucaria*, Sevilla, v. 19, n. 38, p. 49-71, jul./dic. 2017. https://doi.org/10.12795/araucaria.2017.i38.03

GARCÍA VARAS, A. Tiempo, cuerpo y percepción en la imagen técnica. Paul Virilio y la "Estética de la Desaparición", *Stvdivm: Revista de Humanidades*, Zaragoza, v. 16, p. 231-247, 2010.

GILBERT, A. F. Privatisée, marchandisée: l'école archipel. *Dossier de Veille de l'IFÉ* [s. l.], n. 137, Mai 2021.

GINDT, M. *et al*. Conséquences psychiatriques de la pandémie de la Covid 19 chez l'enfant et l'adolescent. *Neuropsychiatrie de l'Enfance et de l'Adolescent*, Paris, v. 69, n. 3, p. 115-120, May 2021. https://doi.org/10.1016/j.neurenf.2021.01.001

GIROUX, H. A. The plague of neoliberalism and the politics of pandemics. In: EVANS, B. (org.). The quarantine files: thinkers in self-isolation. Los Angeles: Los Angeles Review of Books, 2020. p. 211-221.

GLÉVAREC, H. La culture de la chambre: préadolescence et culture contemporaine dans l'espace familial. Paris: Ministère de la Culture et de la Communication, 2010.

GOBBI, A.; ROVEA, F. Enseñanza a distancia y enseñanza como distancia. Teoría de la Educación. *Revista Interuniversitaria*, [s. l.], v. 33, n. 1, p. 71-87, 2021. https://doi.org/10.14201/teri.23451

GOMES, C. A. *et al*. A COVID-19 e o direito à educação. *Revista Internacional de Educación para la Justicia Social*, [s. l.], v. 9, n. 3e, p. 1-14, 2020.

GOMES, C. A. *et al*. Education during and after the pandemics. *Ensaio: Avaliação e Políticas Públicas em Educaçã*o, Rio de Janeiro, v. 29, n. 112, jul./set. 2021. https://doi.org/10.1590/S0104-40362021002903296

GÜNTHER, P. S., *et al*. COVID-19 – aktuelle Herausforderungen in Schule und Bildung. Erste Befunde des Schul-Barometers in Deutschland, Österreich und der Schweiz. Münster: Waxmann, 2020.

GUPTA, S.; JAWANDA, M. K. The impacts of COVID-19 on children. *Acta Paediatrica*, [s. l.], v. 109, n. 11, p. 2181-2183, 2020. https://doi.org/10.1111/apa.15484

HARJULE, P.; RAHMAN, A.; AGARWAL, B. A cross-sectional study of anxiety, stress, perception and mental health towards online learning of school children in India during COVID-19. *Journal of Interdisciplinary Mathematics*, [s. l.], v. 24, n. 2, p. 411-424, 2021. https://doi.org/10.1080/09720502.2021.1889780

HENDRICK, C. Challenging the "education is broken" and Silicon Valley narratives. *researchED*, v. 1, n. 1, p. 15-17, July 2018.

KERRES, M. Against all odds: education in Germany coping with Covid-19. *Postdigital Science and Education*, [s. l.], v. 2, n. 3, 690-694, 2020. https://doi.org/10.1007/s42438-020-00130-7

LOBE, B. *et al*. How children (10-18) experienced on line risks during the Covid-19 lockdown – Spring 2020. Key findings from surveying families in 11 European countries. Luxembourg: European Union, 2020.

MACI, E.; DUBOZ, P. Épidemie de Covid-19 en France: Logiques biopolitiques d'un confinement. *Recherches en Éducations*, [s. l.], Jul. 2020. https://doi.org/10.4000/rechercheseducations.8806

MAKAROVA, E. A.; MAKAROVA, E. L. Aggressive behavior in online gabs and cybervictimization of teenagers and adolescents. *International Electronic Journal of Elementary Education*, [s. l.], v. 12, n. 2, p .157-165, Dec. 2019.

MARÍN CORTÉS, A. F.; HOYOS DE LOS RÍOS, O. L.; SIERRA PÉREZ, A. Factores de riesgo y factores protectores relacionados con el ciberbullying entre adolescentes: una revisión sistemática. *Papeles del Psicólogo*, [s. l.], v. 40, n. 2, p. 109-124, mayo-ago. 2019.

RAMASWAMY, S.; SESHADRI, S. Children on the brink: Risks for child protection, sexual abuse, and related mental health problems in the COVID-19 pandemic. *Indian Journal of Psychiatry*, v. 62, Suppl. 3, p. S404-S413, 2020. https://doi.org/ 10.4103/psychiatry.IndianJPsychiatry_1032_20

ROMERO, A.L.; PRIETO, T. Violencia online en jóvenes de un bachillerato de México. *Revista Espacios*, [s. l.], v. 42, n. 3, p. 42-58, 2021. https://doi.org/ 10.48082/espacios-a21v42v03p04

SCARBOROUGH, R. Faculty as nonpersons at pandemic U. Academia Letters [s. l.], Feb. 2021. https://doi.org/10.20935/AL247

SELWYN, N. *et al*. What's next for Ed-Tech? Critical hopes and concerns for the 2020s. *Learning, Media and Technology*, v. 45, n. 1, p. 1-6, 2020. https://doi.org/10.1080/17439884.2020.1694945

SOLDATOVA, G. U.; RASSKOVA, E.; CHIGARKOVA, S. V. Digital socialization of adolescents in the Russian Federation: parental mediation, online risks, and digital competence. *Psychology in Russia*, [s. l.], v. 13, n. 4, p. 191-206, 2020. https://doi.org/ 10.11621/pir.2020.0413

SOUSA, G. H. S. *et al*. Educação Remota Emergencial (ERE): um estudo empírico sobre capacidades educacionais e expectativas docentes durante a pandemia da COVID-19. *Research, Society and Development*, [s. l.], v. 10, n. 1, p. 1-18, 2021.

SPITZER, M. Digitale Demenz: Wie wir uns und unsere kinder um den Verstand bringen. Munique: Droemer 2012.

TERÄS, M. *et al*. Post-Covid-19 education and education technology 'solutionism': a seller's market. *Postdigit Science and Education*, [s. l.], v. 2, p. 863-878, 2020. https://doi.org/10.1007/s42438-020-00164-x

TEXIER, D. Peut-on parler d'un ennui contemporain à la génération numérique? *Enfances & Psy*, v. 2, n. 2, p. 74-84, 2016. https://doi.org/10.3917/ep.070.0074

UNITED KINGDOM. Office for National Statistics. Coronavirus (COVID-19) related deaths by ethnic group, 2020. Coronavirus (COVID-19) related deaths by ethnic group, London: Office for National Statistics, 2020.

UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL – UNESCO. *UNESCO figures show two thirds of an academic year lost an average worldwide due to Covid-19 school closures*. Paris: Unesco, 2021. Available from: https://en.unesco.org/news/unesco-figures-show-two-thirds-academic-year-lost-average-worldwide-due-covid-19-school. [access 2021 Dec. 23].

UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL – UNESCO; United Nations Children Fund – UNICEF; THE WORLD BANK. *What have we learnt*? Overview of findings from a survey of ministries of education on national responses to COVID-19. Paris, Unesco; New York, Unicef; Washington, DC.: The World Bank, 2020.

VIRILIO, P. *The information bomb*. Londres: Verso, 2009.

VIRILIO, P. *Vitesse et politique*. Paris: Galilée, 1977.

WADDINGTON, D. I. Time war: Paul Virilio and the potential educational impacts of real-times strategy videogames. *Philosophical Inquiry in Education*, [s. .l.], v. 27, n. 1, p. 46-61, 2020. https://doi.org/10.7202/1070277ar

WORLD BANK DATA. Data Bank. World Development Indicators. Available from: databank.org/source/world-development-indicators. Access on Nov. 12th, 2021.

YE, J. Pediatric mental and behavioral health in the period of quarantine and social distancing With COVID-19. *JMIR Pediatrics and Parenting*, Toronto, v. 3, n. 2, e19867, July 2020. https://doi.org/10.2196/19867

YEASMIN, S. *et al*. Impact of COVID-19 pandemic on the mental health of children in Bangladesh: a cross-sectional study. *Children and Youth Services Review*, [s. l.], v. 117, n. 2020, p. 1-7, 2020. https://doi.org/10.1016/j.childyouth.2020.105277

ZELNER, J. *et al*. Racial disparities in coronavirus disease 2019 (COVID-19) mortality are driven by unequal infection risks. *Clinical Infectious Diseases*, v. 72, n. 5, p. e88, 2021. https://doi.org/10.1016/j.childyouth.2020.105277

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