



Digital Educational Technologies: Market Ends or Means at the Service of Critical Learning?¹

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Abstract

This essay intends to show that digital technologies have their own goals since their creation and that some possible consequences of their indiscriminate use in education are misinformation, solipsism, loss of privacy and labor rights, the instrumentalization of reason and life, generating benefits for a few companies and business people that promote them to accumulate riches concentrated in few hands. From this reality, we propose that their use be revised so that their application does not follow parameters issued by big companies, financial entities, or neoliberal governments, that they be used critically, ethically, and politically to benefit those that have fewer opportunities, nature itself, those that are unprivileged, and social justice to reach an ethical, aesthetic, and transformative learning.



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Resumen

El presente ensayo pretende mostrar cómo las tecnologías digitales tienen fines propios desde su creación, así como algunas de sus posibles consecuencias en el uso indiscriminado en educación son la desinformación, el solipsismo, la pérdida de privacidad, de derechos laborales, la instrumentalización de la razón y con ello de la vida, generando beneficios para unas pocas compañías o empresarios que las promueven para la acumulación de riqueza concentrada en pocas manos. A partir de esa realidad, es que proponemos se revise su uso, no se sigan para su aplicación los parámetros de las grandes empresas, entes financieros ni gobiernos neoliberales, se replanteen sus fines, se les dé un uso crítico, ético y político en beneficio de los que menos oportunidades tienen y de la naturaleza, de los más desfavorecidos y de la justicia social para alcanzar un aprendizaje ético, estético y transformador.

Palabras clave: Aprendizaje crítico y transformador, educación crítica, educación bancaria, pedagogía, tecnologías digitales educativas, presencialidad, virtualidad e inteligencia artificial.

By Way of Introduction: An Opening of a Rebellious Topic

The SARS-CoV-2 (COVID-19) pandemic that has affected all of 2020 is an unprecedented event in the recent history of the planet and specifically of Western civilization (self-imposed as the only or valid one worldwide, despite the resistance of the East or other ways of being and living in the world). As an unprecedented fact, it not only has epidemiological effects, but it also brings to the surface forms of communication among people, by enhancing the role of informational media as a circumstantial palliative measure to keep the social system afloat.

This staying afloat, however, supposes that after the pandemic, we will find ourselves with a new dystopian social universe, in which Orwellian premonitions with his novel *1984* come true, in which a totalitarian



order is described where the big brother monitors and controls everyone through screens and other media, just as it occurs today where new information and communication technologies (NICTs) impact the most intimate and private of people, families and groups. This includes schools as social institutions since they are subjected to an almost completely different *modus operandi* than the one existing before 2019. SARS-CoV-2 (COVID-19) has modified the way in which we relate to others. And, specifically (which is of interest in this paper), it has changed the ancestral pedagogical relationship between teacher and student.

In the best of cases, we find ourselves with a new two-way mediatic pedagogy. On the one hand, it places artificial intelligence systems as mediators of the pedagogical bond, and, on the other hand, these technologies become purpose-driven means that surpass the pedagogical bond proper. As will be seen, this supposes a substantive resignification of the school, which undoubtedly suffers from extensive computerization and educational bureaucratism.

With this, the old modes of interrelation between the subjects of education disappear, to impose relationships between subject and machine over the subject/subject relationship, so that a substantive void of old-style mediations is created, thereby fracturing the human bond as an educational fact into new forms of self-regulated digital bonds. The educational system is literally becoming automated, and this will have grave consequences for the institution of school (Torres, 2017).

In this paper, we will problematize some of these implications in order to open the debate on the digitalization of education and some scenarios that arise in these moments of change. Our purpose is to problematize whether these technologies are tools at the service of educational subjects or if the subjects of education are subjected to the manipulations of artificial intelligence.

Education Before the SARS-CoV-2 (COVID-19) Pandemic: Psychologism Gave No Respite

Before the current pandemic, formal education in force in Costa Rica and in the region was and is openly neo-behavioral or psychological; that is, emphasis is placed on programmed learning through competencies, skills, and abilities, and justified as the “natural” way of learning and necessary mode to live well in society (Rose & Rose, 2017) through artifacts, such as neuroeducation and computer science/

digitality. Neo-behaviorism is a learning theory that rescues the idea of programming from classical behaviorism, but it differs from it insofar as it involves emotions although it does so from an anesthetic aestheticism. Epistemologically, it abandons logical positivism and adopts pragmatism with its share of idealism. Regional education is also of neoliberal nature³; that is, as stated by Torres (2017), in presential schooling, a school producer of neoliberal personalities was already installed, where performance was and is central; work is done from a mercantile conception of competencies, skills, and abilities. Such business school trains to beat the other; the other is a rival or competitor, a distant and foreign person who is seen as a threat and not as a partner. To educate there is to prepare for consumption without further ado, for biopolitics (Foucault) and psychopolitics (Han), to control from the outside and from the inside; externally, it consists of monitoring, disciplining, and internally, it resorts to internalizing or interiorizing submission or self-exploitation as Han (2014) calls it.

That neoliberal school had been working under the aegis of cognitive capitalism, which overvalues content, practices, and techniques established by experts from the world's financial centers. It leaves aside the role of politics, ethics, and aesthetics in pedagogy, and it turns to epistemology but strips it of its critical nuances. For Torres (2017), this depoliticized form of education is imposed through psychologism and produces specialized ignorance, intentional silences; that is, it causes a demobilization of educational subjects in the curriculum and promotes a centralized evaluation reduced to control, measurement, and segmentation of reality. This new economic curriculum rewards sciences that favor the production of digitized technologies and mechanistic

3 It refers to neoliberalism, which is an economic ideology typical of globalization as a socio-economic and cultural model. This market ideology began as an experiment in the dictatorship of Augusto Pinochet in Chile under the tutelage of Milton Friedman and his disciples of the Chicago School of Economics (Chicago Boys); worldwide, it began to be applied in Great Britain with Margaret Thatcher (the Iron Lady) and Ronald Reagan in the US and onsets in Latin America starting from the 90s of the last century. This doctrine subscribes to the Washington Consensus, a "consensus" between global financial entities such as the IMF, the World Bank and the United States Department of the Treasury to establish economic policies for restructuring the economy in the sense of privatization, containment of public spending, economic stabilization, liberalization of markets, free trade, free flow of investment, freedom for financial speculation, reduction of the state, monetarism, imposition of taxes on consumption, services and salaries but not on production or goods, capital mobility, labor flexibility, reduction of social and labor guarantees. Neoliberalism is also known as market fundamentalism. In education, it has come linked to neo-behaviorism that has created cognitive capitalism.



techniques or, at least, the engineering disciplines that contribute to their production.

Increasingly, in today's (economistic) school, the Other matters less; *it* only exists as a future consumer, producer, or generator of profits in the profit/benefit relationship. Of course, in that curriculum, there is no need for the Social Sciences, the Arts, Philosophy (at least in its negative sense of questioning), recreation, and non-commodified leisure. Those forms of knowledge, attitudes, and spaces distract or distort what is "truly" important in education, namely, performance. Performance presupposes, above all, processes of control and self-surveillance, hence the cognitive and neuroscientific (psychologist) emphasis of the new pedagogical approaches.

That school which follows market fundamentalism also prepares for social cooperation, but with a mercantile tone in which collaboration degenerates into surplus value dividends or profits; thus, community organization is redirected to the benefit of a few. Large companies through their contraption of social responsibility, which according to Žižek (2009), is only charity disguised as social justice, appear interested in promoting collaboration and social cooperation. According to the Spanish philosopher Herrera, "el orden hegemónico no solo se apropia de la plusvalía de la totalidad de las interacciones sociales, sino de la totalidad de la cooperación social" (2010, p. 12) [the hegemonic order not only appropriates the surplus value of all social interactions, but of all social cooperation]. This occurs since solidarity or community cooperation is not usually found in business, in large corporations or in wealth accumulators, in the words of Horkheimer (2003),

La sociedad burguesa no se basa en la cooperación consciente con miras a la existencia y la felicidad de sus miembros. Su principio vital es otro. Cada uno se empeña en trabajar para sí mismo, y está obligado a pensar en su propia conservación. No existe un plan que determine cómo ha de satisfacerse la necesidad general. (p. 205)

[Bourgeois society is not based on conscious cooperation for the existence and happiness of its members. Its vital principle is another. Each individual insists on working for himself, and is forced to think about his own conservation. There is no plan that determines how the general need is to be met.]

Seen in this way, the science committed to the well-being of these business groups is the one that, in general, produces technological innovations to perpetuate their power through the label of “well-being for all;” it is under this context that educational digital technologies or New Information and Communication Technologies (NICTs) are created. Hence, many of the functions of NICTs are to create controls, patterns of consumption and internalization of domination, internalization of submission and to ensure civil obedience. This process is what Torres (2017) calls *formation of neoliberal personalities* and Daum (2019) terms *digital capitalism*. With the construction of this digital capitalism, personalities are created who assume a place in the network, who become the raw material of capitalism, generating information for computer systems, so that with algorithms and artificial intelligence they establish new business models. With the construction of these personalities, it is achieved that the educational subject freely submits to the demands of the market; in this regard, Hinkelammert (2006) maintains that the human being “es libre en cuanto se somete a las leyes que él mismo -de forma democrática- ha aceptado (...) No obstante, el resultado es precisamente una ley absoluta, a la cual el ciudadano está absolutamente sometido” (p. 158) [is free as soon as he submits to the laws that he himself—in a democratic way— has accepted (...) However, the result is precisely an absolute law, to which the citizen is absolutely subjected to].

Digital Technologies as Ends Rather than Means: Education to Transform and Not to Atomize or Automate

In a book written in 2009, *Pedagogía del Futuro: educación, sociedad y alternativas* [Pedagogy of the Future: education, society and alternatives] published in 2011 as a special number of the journal *Ensayos Pedagógicos* of the Department of Educology of the Center for Research and Teaching in Education of the Universidad Nacional (*Educología*, CIDE, UNA), we stated that technologies are neither bad nor good, that one technology or the other is due to the purposes for which it was created, the uses and their resignifications, and that there was an old dispute between technological determinists who are optimists and pessimists who see technology as the source of many evils for humanity in particular and for nature in general; we resolved on that occasion that we should not be naive with the origin, purchase, and use of NICTs in



education and that we should prefix a transforming critical thought to resignify NICTs (Gómez & Mora, 2011).

Today, we continue to believe that educational digital technologies are a product of scientific research that seeks to solve some human needs, but we emphasize that digitality and virtuality are not simple means since they are associated with patterns of consumption, preferences, and manipulation; they are tools that, in general, are supported by artificial intelligence systems, which can cause unexpected benefits or harm (*digital capitalism*, as Daum (2019) calls it. The adequate use of these tools is not easy at all because, in general, as pointed out, they have been created to produce profits, establish patterns of social and individual behavior, and have been devised as models to generate compulsive purchases; indeed, educational digital technologies that do not follow the latter purposes are marginal, such as the case of platforms of some public universities and others of an open access nature. This consumerist behavior has consequently increased individualism, solipsism, and the segregation of people; on the other hand, the concentration of the production of educational digital technologies in the hands of a few companies and countries contributes to increase the already abysmal social inequality and poverty. Therefore, their creators are not usually determined to create such means to educate us better, reduce poverty, attack inequality, or solve the problem of climate change.

For some, even before the SARS-CoV-2 (COVID-19) pandemic, digital technology came to stay in the educational field; State and private sector bureaucrats even dream of a kind of techno-utopian panacea that would solve educational problems in general or simply trust that it is a path that we cannot give up on. Its distress is a dystopia in which we have been subsumed and even enslaved by machines. In general, most of the followers and detractors of such artifacts do not carry out a critical analysis, reflection, or approach to the uses, interests, grievances, profits, or benefits as pertains to education (Gómez & Mora, 2011).

Some critics of these “tools,” neither optimistic nor deterministic, believe that the digital technologies known as New Information and Communication Technologies (NICTs) are *per se* a serious problem because of being created for the aforementioned purposes—to which it must be added that of war (i.e., the creation of the Internet during the Cold War era)—both hardware and software propose to confront/annihilate the enemy, in a war of applications, of fierce competition, of

global economic war, in which the Other is a rival to defeat and publicity has more value than the “truth.” The real danger, that model of production and politics that is behind these inventions, is that it forges a society of calculation. In other words, these “tools” could distort the goals of education, no matter how laudable they may be, turning these into a highly automated and utilitarian task; this is why for [Espinosa \(2017\)](#), “estamos ante un sistema educativo en el cual priman el resultado y la competencia, mas no la dimensión ética” (p. 148) [we are facing an educational system in which results and competence prevail, but not the ethical dimension].

“Tools” such as social networks, commercial platforms, apps, and others, which are the majority as already noted, have the possibility of changing reality, or at least, of manipulating it through artificial intelligence systems that are usually uncontrolled, instrumented, and mechanized through a set of algorithms programmed for this purpose. Such change is directed towards the control of people through information or data that they themselves provide; thus, what is true is virtual, generating reality through fiction. Data is everything, which is why for Byung-Chul “El dataísmo es una forma pornográfica de conocimiento que anula el pensamiento. No existe un pensamiento basado en los datos. Lo único que se basa en los datos es el cálculo. El pensamiento es erótico” ([Rendeules, 2020](#), para. 14) [Dataism is a pornographic form of knowledge that nullifies thought. There is no data-based thinking. The only thing that is based on the data is the calculation. Thought is erotic]. Dataism “ensures” manipulation; “users” are told what they should consume; desires or needs are created for them, and desire is sold to them as a necessity and the truth or as happiness; in this regard, Fromm assures, that “[el ser humano] moderno vive bajo la ilusión de saber lo que quiere, cuando, en realidad, desea únicamente lo que *se supone* (socialmente) ha de desear” (1965, p. 289) [the modern human being lives under the illusion that he knows what he wants, while he actually wants what he is *supposed* to (socially) want].

Without delving into epistemological problems about the truth, what is certain is that in general, all currents of thought, at least the Western ones, take for granted the importance of the truth and its requirement for good communication; in what they usually deviate is in the degree of validity and their methodology to escape from absolutes, but without being trapped in relativisms. In other words, NICTs, since



their creation, have been more interested in advertising, sales, control, dating, statistics, or the imposition of only one way of thinking than in the creation of tools that can collaborate with educational systems that seek a fairer, more equitable, and more solidary society. Therefore, if we want these technologies to be used for a humanistic education, they must be intentionally redirected through a path where the humane and nature appear as the ethical center of all such applications.

The “diversion” of the educational in instrumentalism has reached an extreme; in general the “new virtual reality” and, specifically, the digital social networks are the ones offering the most risk factors since they are more interested in the superfluous than in profoundness (such as problematizing conflict); they present us with a kind of paradox: without these digital technologies, many social groups ensure exclusion, and with them too, not participating can increase the chances of expulsion, but partaking neither ensures a real and deep inclusion given their origin and purposes. There are millions of people without of any possibilities of using these technologies, not to mention their absence in producing content; there are also millions who make use of them under terrible conditions, poor connectivity, little knowledge and make inadequate use of them for transforming their reality.

On the other hand, those who have more opportunities are generally devoted to the objectives of such “means;” they are absorbed by the aestheticism of the image, “neo-colonized” through such “means” or committed to an augmented world, virtual or ethereal, where everything is smoke, burst, immediacy, volatility, and nothing remains in the body, a world without history. This poured and empty vision of reality afforded by digital technologies leaves us truthless, without references or without theoretical frameworks; such said esoteric relativism goes hand in hand with a boundaryless capitalism, which, through economic educational reforms, poses an excessive love for progress, ambiguity, neutrality, unbridled optimism, and pedagogical psychology, where, for example, highly destructive practices for the environment, such as planned obsolescence, are not seen as an evil but as an opportunity for renewal, progress, and invention because what matters is consumption for consumption’s sake, innovation without ethical criteria, advancement for advancement, and accumulation and concentration of wealth regardless of its consequences; in any case, there are no criteria established by regulatory powers such as the State or the communities to evaluate them, much less to avoid them.

That world of nothingness and everything, of digitalization, driven by the fluctuation of the market, by its own instability and economic centralism, demands or pushes towards changes in work, towards flexibility or the willingness of people to be recyclable laborers, without stability, depoliticized, stripped away of deep, ethical, aesthetic, and political knowledge to accompany the abilities, skills, and competences that are presented as educational purposes to create “digitized workers” or “teleworkers”. To achieve the above, in education, technologists are increasingly required before educologists; the technologist often acts as a robot; the pedagogy practitioner, on the contrary, does not usually follow manuals or automatisms; he or she tends to move away from the banalities of the market; he or she problematizes the why and what for of the knowledge he or she teaches; he or she seeks the balance between rigorous knowledge and affection, between tenderness and the arduous processes of learning construction; he or she promotes assessments more than measurements or statistics.

Another *sine-qua-non* aspect of NICTs that can be deduced from what has been said so far is their depoliticizing character; thus, in a documentary called “The Social Dilemma” by [Jeff Orlowski \(2020\)](#), the anti-human rights origin of these technologies, their anti-union aversion or spirit, and their commitment to the accumulation of wealth are revealed, despite their benefits of uniting people and helping teaching and learning. The documentary assures that digital technologies have the germ of communicative destruction through fake news, manipulative advertising, information theft, psychological manipulation, electoral manipulation, addiction, insults, polarization, hacking, surveillance capitalism, control, rivalry, and pointless competition. According to this proposal available on Netflix (a platform also crossed by control, surveillance, competition, and profit through artificial intelligence spy “engines”), we are moving from the information age to that of misinformation, where ethics and politics are not well received, as Tristan Harris denounces, “the critical voice of Silicon Valley” ([Orlowski, 2020](#)).

For Tim Kendall, another interviewee in the aforementioned documentary, the origin of evil in technology is undoubtedly the limitless accumulation of wealth. Jaron Lanier affirms that digital technologies were made to generate wealth, and for this, they are willing to do anything, even reduce us to mere merchandise; for this reason, Tristan Harris affirms in the documentary that “if you do not pay for the product, then



you are the product” (Orlowski, 2020). According to those interviewed, all linked in the past to large Silicon Valley companies, our activity on the Internet is ultra-controlled, monitored, and manipulated in such a way that artificial intelligence has the function of predicting our tastes through the information we provide with each click we submit, feeding these artificial systems through algorithms that try to manipulate people to buy, consume, and compete with each other.

This creates or “naturalizes” a world where the “truth” is established by those predictions, publicity is overwhelming, and ethics and politics are only distorting factors of innovation. In that world, there is only room for aesthetics, or, better still, for aestheticization centered around imagery; here, representation is everything; it is an aestheticism that plays with people’s emotions. For Han (2014), here the “bello se agota en el ‘me gusta’. La estetización demuestra ser una ‘anestetización”” (p. 10) [beautiful is exhausted in the ‘I like’. Aestheticization proves to be an ‘anesthetization’].

According to Tristan Harris, tools cannot manipulate us, but social networks can,

si algo es una herramienta se queda ahí esperando pacientemente, si algo no es una herramienta te pide que actúes, te seduce, te manipula, quiere algo de ti, pasamos de un ambiente de tecnología basado en herramientas a uno de tecnología basado en la adicción y manipulación. Las redes sociales no son una herramienta que espera ser usada, tiene sus propios objetivos y escuchan esto: usa nuestra psicología en nuestra contra. (Orlowski, 2020)

[if something is a tool, it stays there waiting patiently, if something is not a tool, it asks you to act, it seduces you, it manipulates you, it wants something from you, we went from a tool-based technology environment to an addiction and manipulation based technological environment. Social media are not a tool waiting to be used, it has its own goals and get this: it uses our psychology against us.]

These aestheticized or depoliticized virtual practices are ambiguous; they affect reality or the people themselves; they create normalization languages with symbolic vocabulary associated with the Internet, social networks and NICTs, such as, for example, the

dysmorphic disorder of Snapchat, avatar, digital migrant/native, Internet of things, smart devices, at sign, bot, blogger, channel, virtuality, online, synchronous, asynchronous, remote, virtual and augmented reality, emoticon, link, tag, wall, like, premium, fans, gif, big data, bitcoins, hashtag, smartphone, drones, and countless other terms that lead to imposing virtuality as the “new reality” so that there are those who, increasingly, do not distinguish between one and the other.

The computerized through the mediation of devices works by reflection; we are reducing reality to imagery that then translates reality into new words, such as those mentioned above; thus, simple things, such as gestures, gazes, movement, among others, are usually abandoned or replaced by the use of emoticons or other preconstituted forms of emotionality that reduce communication and the socialization of education and transform school into new entrapments, which are now digital, psychological, and even more radical insofar as they are solipsistic.

As was mentioned at the beginning of this essay, the return to presential education as we knew it is unlikely because there is a “generalized” clamor from some hegemonic groups in education and the market that will implore for greater continued use of digital technologies, which can lead to a hybrid or semi-presential delivery of education or a presential education with greater prominence in the use of digital technologies.

Such possible combination can be positive if educational digital platforms are resignified, if they are used to complement the interactivity and socialization of presentiality, enhancing instead of annulling them, providing space for problematization, encounter, playfulness, bodily interaction, for the meaning of facial gestures in particular and body gestures in general, a space for accommodating the synergies possible among various forms of presentiality. We say this because with the format of these aestheticized digital technologies, such as NICTs, there is a risk of further affecting effective and affective communication between human beings, as well as de-eroticizing pedagogy and disembodiment education, problems that were already grave in the presential banking school model.

As has been stated in this writing, the foregoing does not mean that presential school before the pandemic stimulated pedagogical eros and teachers in general “enamored” their students, “bewitching” them with “thirst” to know more and more every day. Pedagogical eros was barely making its way into education, given that before the 20th



century, in general, a non-authoritarian education was inconceivable, without excessive discipline, obligations, and without mechanicisms; it was until the middle of that century with Freire that the need to enrich pedagogy with an aesthetic dimension was introduced, along with ethics and politics, and not only with an epistemological dimension, as it used to be believed and take place during the so-called *banking model* of pedagogy (Freire, 2005).

On the other hand, we are not saying that digital technology should not be implemented in formal and informal education; for the school to be as a space for cultural encounter, socialization, and human “formation;” technology has been common or not foreign, for example, the use of books, blackboards, desks, pencils, classrooms, cardboard, flip charts, among other devices and more recently computers, projectors, tablets, cell phones, electronic whiteboards, applications, among many others. What we are saying is that its use must be the product of pedagogical, critical, and transformative reflection in favor of diversity, justice, and social equality.

In any case, it should be taken into account that education could come into a head-on collision with digital technologies when they divert it from its goal of problematizing reality, of the integral “formation” of the human being and of the transformation of society; the relationship between the two is not entirely felicitous as their goals in general are very different; in this regard, García and García (2012) point out,

Educación no es una actividad que pueda incluirse entre las tareas productivas, sino que se constituye una praxis particular, muy cercana a la creación artística y, como tal, está orientada por unos principios intrínsecos a la acción misma que son los que permiten distinguir las buenas prácticas educativas de las que no lo son. (p. 45)

[Educating is not an activity that can be included among productive tasks, but it constitutes a particular praxis, very close to artistic creation and, as such, is guided by principles intrinsic to the action itself, which are what allow us to distinguish good educational practices from those that are not.]

Therefore, if digital technology is adopted more intensely in schools, it must be through rigorous problematization processes,

without accessing them in a mechanical manner, enabling universal access, good connectivity, training for their proper use, assuring correct pedagogical use (from teaching, educational management, curriculum, planning, evaluation, among other areas), in short, as a means to transform reality and not to atomize society nor robotize the human being who increasingly distances him or herself from his or her vital/relational space with nature.

Education from a Screen to Critical Education: From Solipsism to the Encounter with the Others

With the exception of open-source services, large educational technology corporations are among the winners of the pandemic, along with those that sell and distribute food, parcel delivery services, online retailers, as well as pharmaceutical and health companies in general, among others. This fact must not be lost sight of, given that the intention to intensify its use in education in an overflowing, uncritical way and without ethical commitments to people and the environment, is no coincidence, as we have already insisted. The obsession to educate through the screen must be reviewed.

Learning by use of screens is crossing us; its effects are not usually studied or it is taken for granted that learning through screens does not affect us. For this reason, the question is not whether it is possible to learn from a screen, but rather, the questions of: What is learned? Who learns? Why do we learn what is learned? How do we learn it? Why do we learn in this way and not in another? In short, learning is a common process that crosses us from any scenario, just as in the presential mode, learning through the screen is also present; one can even learn despite the regulated spaces, despite school. School is a place to learn, but unlike other spaces, school learning must be specialized, leveling, and create opportunities. Thus, the question of learning through screens could be more about its purposes, about its intentions or what is intended to be taught and how such process is carried out and, of course, who is education for and who owns the education?

Despite these common questions, it should also be considered that numerical inclusion in formal and informal education is insufficient; to be included, of course, is important and necessary, but it is insufficient if it does not address, in turn, school (co)inhabitation; that is, it is not enough to be inside with or without the screen and receive



content and be measured through performance (statistics or reports), as it is urgent to receive an erotic, ethical, deep, loving, problematizing, and critical education that makes us feel well and critically transform reality and help us coexist well with others and with nature. These pedagogical dimensions, as noted, are usually easier to achieve through critical presential pedagogy and with the support of the resignification of educational technology.

In any case, teachers are essential to reverse the dangers of a dehumanizing, mechanized, and utilitarian education, whether in the physical or virtual classroom. The teacher should be clear about his or her fundamental role in full resistance so that self-regulating machines and systems are means and not ends that promote the exclusion and expulsion of others and to prevent formal education from becoming “teaching barn” spaces, banal and automated training spaces that seek, above all, to respond to the purposes of large corporations in particular or to the market in general.

Machines will not be able to replace the seductive, loving, socializing, aesthetic, emotional, and critical/reflective teachers, who collaborate in the comprehensive “training” of the human being in full harmony with nature, who develop critical tools to understand and transform reality, those who help develop tools that promote the necessary research and reflection to search for profound and verified information in complex spaces, such as the Internet, in short, those who foster a transformative critical education.

The foregoing leads us to ask ourselves, what do we understand by a transformative critical education? [Horkheimer \(2003\)](#) points out:

lo que nosotros entendemos por crítica es el esfuerzo intelectual, y en definitiva práctico, por no aceptar sin reflexión y por simple hábito las ideas, los modos de actuar y las relaciones sociales dominantes; el esfuerzo por armonizar, entre sí y con las ideas y metas de la época, los sectores aislados de la vida social; por deducirlos genéticamente; por separar uno del otro el fenómeno y la esencia; por investigar los fundamentos de las cosas, en una palabra: por conocerlas de manera efectivamente real. (pp. 287-288)

[what we understand by criticism is the intellectual effort, and definitely practical, for not accepting without reflection and by

simple habit the dominant ideas, ways of acting and dominating social relationships; the effort to harmonize, among themselves and the ideas and goals of the time, the isolated sectors of social life; by deducing them genetically; by separating one from the other the phenomenon and the essence; for investigating the foundations of things, in a word: for knowing them in an effectively real way.]

In this manner, following this author of the Frankfurt School, education of critical character implies negativity, where philosophy contributes to pedagogy a reflexive sense; it consists of not taking anything for granted, of suspecting of what is established or normalized and in opening the field to multiple possibilities and not drowning in the single thought; in words of the aforesaid author,

la verdadera función social de la filosofía reside en la crítica de lo establecido. [...]. La meta principal de esa crítica es impedir que los hombres se abandonen a aquellas ideas y formas de conducta que la sociedad en su organización actual les dicta. ([Horkheimer, 2003](#), p. 283)

[the true social function of philosophy lies in the criticism of the established. [...]. The main goal of criticism is to prevent men from abandoning themselves to those ideas and forms of behavior that society dictates to them in its current organization.]

In this sense, Walter Benjamin, another thinker of that school, maintains that the negative character of philosophy must be destructive, that is, questioning, problematizing or uncomfortable; for this reason, he affirms that the “carácter destructivo sólo conoce una consigna: hacer sitio; sólo una actividad: despejar” ([Benjamin, 1989](#), p. 159) [destructive character knows only one watchword: make room; only one activity: clearing away].

In pedagogy, we must nourish ourselves with this critical spirit since learning and teaching imply reflection for action or praxis committed to the well-being of people; pedagogical praxis should not be the result of the imposition of expert guidelines in finance, or markets, nor of “digitalist” technocrats. It is up to the critical teacher to dismantle



the effects of instrumental reason in education, the imposition of single thought because as [Habermas \(1987\)](#) puts it; it is time to unmask instrumental reason, that which, in the name of effectiveness and efficiency, disguises the interests of the dominating classes with the intention of defending their own vision of the world. Stated differently, educational criticism must be a constant process of suspicion that invites us to review the goals of education to transform society; for example, we can certainly learn through the screens enabled by digital technologies, but it is urgent to know what and how we learn, why we learn that and not something else, why we learn in one way and not another, why we use those means, methods, and instruments, among many other questions.

Reiterating, the possibilities must be open and multiple and not be reduced to the current modes of production of the school that simply cause exclusion. In addition, the critical and transformative implies ethical commitment on the part of the teaching staff in the pedagogical use of “tools,” especially digital ones, to prevent them from becoming an extension of banking education or a source of greater expulsion.

With that ethical commitment to school inclusion, respect for diversity, and the generation of social equality, teachers and administrators of education must prevent these tools from being spies, invaders of privacy, generators of patterns of consumerism, producers of labor overexploitation by lengthening and prolonging work and study hours to extended schedules and intrusion to all corners of homes, to avoid job instability practices in the name of flexibility, plasticity and other gadgets of psychologism (“neuroscience”). Those new rituals of exploitation are accompanied by an overexposure to screens; that generates family distancing despite the closeness, where the bodies rub against each other but are distracted listening to and looking at electronic devices and are disconnected from each other; it also stimulates the overexploitation of people responsible for household chores, especially in the case of Latin American countries where women have been disproportionately assigned these tasks, which should be common or collective.

Summarizing, you can learn through and with the screen, but education by means of the screen alone or where the screen is turned into an end can cause risks, such as the flattening of pedagogy since the image alone can even make us lose peritextual marks that in presentiality could help differentiate documents, bodies, and iconography. This usually occurs because the screen homogenizes, equalizes without the

presence of the other, without the differences of the case. In this way, the screen requires a greater pedagogical commitment on the part of teachers to achieve equality, equity, and diversity. Learning from the screen regularly does not promote the socialization that, according to specialists in the field of learning and pedagogy, is essential for transformative learning (Vygotsky, 1968; Freire 2005; Rodríguez, 2011) since without a doubt, we learn together; we learn by interacting or sharing; here, corporality is essential for learning, whereas the screen contains a tendency to disembodiment, esotericism, and individualism.

It is not about rejecting digitality for teaching and learning; we believe that, despite what has been pointed out, it can and should be a complement; for this, it should be used as a tool and not as machine learning or a purpose. This is not easy, as indicated; its use must be resignified, and it must be put at the service of teaching knowledge, of a pedagogy committed to well-being; this is urgent in a society unmasked by COVID-19 to be deeply mired in egocentrism, economic materialism, and social inequality.

Knowledge Through Screens: Disinformation More than Learning

In this way, knowledge through screens comes to radicalize education fostered by cognitive capitalism, not because digitality as a means represents capitalism although we have insisted that its origin and purposes are above all profit, but because governments continue to be neoliberal, the Ministries of Education replicate the mandates of the Organization for Economic Cooperation and Development (OECD), the International Monetary Fund (IMF), the Inter-American Development Bank (IDB), the World Bank (WB), among other financial organizations, who, through their experts, delimit the educational route in favor of large capitals and because teachers are reduced from their pedagogical functions to facilitators of competencies, abilities, and skills, that is, mere performance assessors.

As Carbonell (2015) points out, it is evident that digital technologies in education can collaborate by complementing learning actions; they are ideal for “la consulta de información, la resolución de ciertos problemas o al iniciar un proyecto, las TIC (tecnologías de la información y la comunicación) ofrecen sistemas de búsqueda rápidas que, por supuesto, no hay que desaprovechar” (p. 170) [consulting information, solving certain problems or when initiating a project, ICTs (information



and communication technologies) offer rapid search systems that, of course, should not be refused]; however, their contribution must be very intentional and regulated; the same author affirms that “en sucesivas fases del aprendizaje donde se requiere activar facultades psicológicas de orden superior y más complejas se precisan espacios tranquilos y prolongados de intercambio, conversación, debate y reflexión, donde convendría desengancharse de las máquinas” (Carbonell, 2015, p. 170) [in successive phases of learning where it is required to activate psychological faculties of a higher and more complex order, calm and prolonged spaces of exchange, conversation, debate and reflection are needed, where it would be convenient to disengage from machines].

Digital technologies by themselves are a danger that must be regulated so as not to sink into emptiness, ambiguity, and post-truth⁴, so as not to simply reproduce capitalism in its digital version which, like its previous versions, accentuates social inequality. For its regulation, as was said, it requires a lot of commitment from educational authorities, educational management, students, teachers, and their pedagogy because, according to Carbonell, NICTs sometimes “conectan grandes ideas y refuerzan los colectivos, mientras en otros casos solo conectan banalidades y soledades” (2015, p. 170) [connect great ideas and reinforce collectives, while in other cases they only connect banalities and solitudes]. The use of NICTs today, under the current neoliberal school model, has become a disaster for social peace, its indiscriminate use or misuse has degenerated “en desinformación, incomunicación y desaprendizaje” (Carbonell, 2015, p. 265) [into disinformation, lack of communication and mislearning].

By Way of Conclusion: More than a Closure, an Opening

We insist that the “pedagogical” knowledge fostered by screens remains the same as that found in the presential banking model of education, only that virtuality is more in line with the ideals of those neoliberal personalities that are intended to be built (Torres, 2017) from digital capitalism, since its “nature” in favor of solipsism can exacerbate

4 A movement that denies theoretical references, logic, and all rationality: It abdicates all epistemologies as regards to currents of thought to determine the possibility of human knowledge with limitations and methodological criteria. With this, the study of the “truth” of knowledge is renounced, and more is committed to emotional or suggestive “arguments;” it is important to convince or persuade more than to demonstrate or contrast. Beliefs replace the possible “objectivity” of “real” facts.

competition, rivalry, and one's own performance as Han (2014) would say of a performance society. In short, online or virtualized teaching has responded, in general, to favor labor (self-)exploitation, excessive workload of teachers through excessive teleworking, social segregation through the economic value of the accesses and images that are consumed, the collective fragmentation and the culture of consumerism, as well as social (not only physical) distancing in pandemic times.

If these original functionalities are not clear, it will be very difficult to resignify their use to reverse the disastrous effects pointed out, such as dehumanization itself and the destruction of nature. Paraphrasing the curriculumist William Pinar (2014), the value of NICTs should not be underestimated, but not considering their dangers can have fatal consequences as they dilute subjectivity, exacerbate presenteeism, immediacy, narcissism and become the grammar of capitalism.

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