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EDUCATION AND ITS THEORIZATIONSE

ABSTRACT

There is a lot of theorizing in education, also because everyone gets involved. It is understandable, since everyone, in some way, is an educator, positive and negative. The concept of “learning community” states that everyone who is at school, also around them, especially parents, are educators (Pacheco, 2014; 2019). The older son "educates" the younger son and vice versa, too. It depends on what we mean by education, a very complex phenomenon, which we do not intend to solve here, only selectively address. Maintaining that it is an ambiguous phenomenon, due to its politicity, we can see education in two main aspects: as a process by which we take care of the development of the other, with commitment to the other, or, in Maturana's language, with the “authentic other” (DEMO, 2020); as a process by which we seek to manipulate the other, imposing relationships marked by social cleavages. It is naive to see education only positively, as it is to think that teaching is a sign of the holiness of the teacher prophet; it is also naive not to observe that there are more or less authentic educational relationships, such as the mother / child, teacher / student, husband / wife relationship.

Keywords: Pedagody. Psychology. Neoroscience. Economy. Digital technologies.

LA EDUCACIÓN Y SUS TEORIZACIONES

RESUMEN

Hay mucha teorización en educación, también porque todos se involucran. Es comprensible, ya que todo el mundo, de alguna manera, es educador, positivo y negativo. El concepto de “comunidad de aprendizaje” establece que todos los que están en la escuela, también a su alrededor, especialmente los padres, son educadores (Pacheco, 2014; 2019). El hijo mayor "educa" al hijo menor y viceversa también. Depende de lo que entendamos por educación, un fenómeno muy complejo, que no pretendemos resolver aquí, solo abordar selectivamente. Manteniendo que es un fenómeno ambiguo, por su politicidad, podemos ver la educación en dos vertientes principales: como un proceso mediante el cual cuidamos el desarrollo del otro, con compromiso con el otro, o, en el lenguaje de Maturana, con el “otro auténtico” (Demo, 2020); como un proceso mediante el cual buscamos manipular al otro, imponiendo relaciones marcadas por divisiones sociales. Es ingenuo ver la educación sólo de manera positiva, como pensar que la enseñanza es un signo de la santidad del profeta maestro; También es ingenuo no observar que existen relaciones educativas más o menos auténticas, como la relación madre / hijo, maestro / alumno, marido / mujer.

Palabras Clave: Pedagodia. Psicología. Neorociencia. Economía. Tecnologías digitales.

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Introduction

In the maieutic tradition, the positive relationship was accentuated, from the inside out: the teacher's role is to awaken the authorship of the student, which also appears in Latin etymology: educare or educere indicates a gesture of extracting the student's potential.

This origin has its idyllic side, because fantasy education as eternal goodwill, almost religious commitment, ignoring that even religion it can be extreme ill will, ignoble manipulation. At the other end are theories of education such as reproduction, as they are allocated in the superstructure subservient to infrastructure, in a deterministic tone. And today, education and instruction dominate, as it is managed in PISA and in Asian education systems, extremely truculent, deforming, but technically effective (they have the first places). By recognizing the ambiguity of education, we recognize above all its complexity: it has linear, sequential, formal dimensions, because people are flesh and blood; but it has other dimensions that cannot be reduced to the physical substrate, such as learning to be authorally, to be intrinsically motivated, to build a sense of life, etc. Modernist science highlights the dimensions that best fit the method, those that are more material, measurable, experimentable, which, besides allowing credible approximations, also produces inappropriate torpedoes, such as IQ, PISA, banknote etc.

Pedagogy

It has the classic addiction to refer to teaching immediately, but it is, more properly, the theory and practice of learning and how this process influences and is influenced by the psychosocial and political development of the learners. The perception of pedagogy predominates as an academic discipline that passes on knowledge and skills in the educational context, taking as a model - erroneously - the school and considers the interactions that occur in learning. Practice and theory of pedagogy vary widely, reflecting social, political and cultural contexts (Li, 2012), as it is generally taken as an act of teaching. No wonder, as the definitions are proposed by educators, educators and researchers who accentuate what suits them best. Depending on the circumstance, there are educational systems that accentuate the learning of students (also teachers) (Blueprint for government schools, 2017. Shulman, 1987), as there are others essentially concerned with school curricular transmission, a posture modeled mainly by evaluative processes from above and outside, such as PISA (Zhao, 2014; 2018; 2019). The objectives can vary

a lot, also because the speeches can be empty promises, there being those who emphasize liberal education (the general development of human potential) or something similar (such as emancipatory education among us), and there are those who are content with the vocational side of job inclusion and training. Conventional western pedagogies tend to see the teacher as the holder of knowledge and the student as the recipient (process described by Freire as banking pedagogy) (2006), but there were always versions focused on the student's right to learn, understanding learning as authorship (Demo, 2015; 2018). Teacher can be seen as a “facilitator”, an unfriendly term for teachers, who call themselves “mediators”, not just subordinate servants.

There has always been a dull clash between learning methodologies, some more authoritative, others instructive. Among the most authoritative always appears the “Socratic method” (Petrie et alii, 2009: 4. Haber, 2020), also the Freirean (Freire, 1997), which spread in many countries with the notion of “transformative learning” (Mezirow and globally, instructionalism: passing on curricular content via the classroom, in general, without learning activities. The quarrel about the name - pedagogy refers to the child - has not been worthwhile, because the substitute - in general andragogy - does not go beyond the question, since it refers to the man (leaving out the woman). Certainly, we have more burning than etymological problems at school, especially to question the instructionism that is devouring the school in general, with extremely poor learning results (Demo, 2020a). The downgraded course at the academy persists (IDB, 2018), generally among the worst, as it does not require greater learning effort (such as statistics, experimentation, mathematics, etc.). According to the IDB study (2018), when the questionnaire is applied to adolescents 15 years old, one also wonders if he would like to be a teacher. Only 5% say yes, which is already an alarming figure. However, when university enrollments are analyzed, 20% appear in the field of education, a phenomenon that the study sees as a “refuge” - search for a facilitated diploma.

This view, however, may be incomplete, because, at school, the educator performs much higher than the graduate (Demo, 2020a): the Early Years are the only stage in which it has evolved reasonably, even with very unsatisfactory results. The performance of the graduate is much lower, especially in high school (EM). The Achilles' heel of the pedagogue remains literacy, since, after three years, not even half, in the national average, has become literate (Brazilian Yearbook of Basic Education. 2019). So In general, mathematics does not exist in the Final Years and in High School, something that has been verified repeatedly from 1995 to 2017 (22 years old). Even in São Paulo,

adequate math learning at EM was 9.9% in 2017 - an unbelievable figure, but persistent since 1995.

In practical terms, pedagogy was captured by instruction, an imbroglio largely sponsored by external evaluations such as PISA and Ideb (Demo, 2020b), but also by the "courses" that prepare for entrance exams and exams with no commitment to learning. One cannot help questioning the teachers, because the class on the left and the right is, in practice, the same - instrumentalist. In the end, the what matters is what Asians do consequently: to work instructionism with determination, determination, even if it is a deforming, repressive, truculent process. In Asian education systems, this crazy training leads to the top of PISA; among us, the last! However, we can see pedagogy as the most strategic course at the university, because it defines learning. Pedagogy it should be present in all courses - all without exception - to guarantee the student's right to learn as an author. The reputation of a "weak" course has hindered the view of pedagogy, especially in undergraduate courses, where the contribution of pedagogy is easily seen as doubtful.

Psychology

It is one of the most relevant social sciences fields in relation to education, although the closest relationship either with the learning challenge. As for learning, the influence of psychology has always been superlative, but also very ambiguous. The common notion that the most efficient teaching method is direct instruction comes from psychology, especially cognitive, in an ostensibly positive environment, which reduces learning to memorization, handling content, searching for the right answer. In general it is psychology which instructs more comprehensive and technical evaluation processes, such as PISA, Ideb, in an attempt to measure learning results (hence the concept of "adequate learning", which is a cut in proficiency from a certain point). First, we are not going to complain about quantitative psychology, or the intensive use of statistical approaches, because learning has a linear, sequential, quantitative side, where such measurements fit. Second, we will complain about abuse, about exacerbated reductionism. For example, when PISA is interested in the socio-emotional well-being of students, it uses quantitative orthodox methodologies, with disparate results, when it comes to observing non-linear dimensions, such as happiness, meaning of life, motivations etc. This applies to the question of learning: the most hermeneutic side of learning is left out, the production of meanings,

authorial interpretation, subjective experience, because it does not fit into the logical-experimental method.

The reduction of learning to content memorization is it is due to methodological bias, because the handling of content is more easily statistically treatable, especially testable. In a few days, the student is tested whether the content transferred has been retained or how much has been retained. There is no question about authorial learning, because it implies complexities not reducible to physical linearities, since authorship implies subjective experience, awareness, capacity to deconstruct and reconstruct content and so on. However, the reduction of learning to its linear empirical ballast can be done, as long as it is knowledgeable, that is, with due awareness of what is gained and lost with the procedure. Alongside economics, psychology has made a Herculean effort to adopt scientific methodologies closer to the natural and mathematical sciences, in order to garner their academic respect. Just as economics invented econometrics, psychology produces psychometrics, the ability to measure psychological phenomena, an essential issue for laboratory experiments.

Every more conscious educator knows that education (also learning) are not exactly measurable phenomena, except in their linear dimensions and always only approximately. The school is always faced with the challenge of ensuring who has learned or not, usually using notes or the like, or even ignoring whether the student has learned or not (progression called automatic and which is the most used, by far). This breaks out in the nonsense that, even though only 9% learned math in EM, in 2017 (Demo, 2020a), everyone always passed the year, even without learning. Not learning is the most typical condition of our school, even if this recognition is a violence. The solution is not to fail - according to the data, at the end of EM 91% of students should fail! We see immediately that this is something totally inappropriate, because it would fail students less than the school. So, however much the school.

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Psychology, in its enormous complexity and a wealth of authorship, it contains other fundamental dimensions for education, and we take advantage of it in the school only a small part, generally related to indiscipline or the need to impose limits (Tiba, 2007; 2007a). BNCC ordered that the socio-emotional training of students be added (Demo, 2019), which will ask for a fundamental contribution from psychology, especially for the management of what quality means. student life, happiness, socio-emotional development, etc. Entering the demand for personalized treatment by the student (Zhao, 2018a), psychological support is essential, requiring ever more interdisciplinary training styles from teachers.

Biology and Neuroscience

It has significantly increased the relevance of biology and neuroscience for understanding theory and education practice (also learning). We can see this growth in a negative way, in the sense of reinforcing deterministic positivism, or the other way around. We have both sides highlighted. The instructional vision of education and learning,

alongside the orthodox support of positivist psychology, can be anchored expressively by biology and neuroscience, if the approach remains deterministic, linear, extreme reductionist. On the other hand, the questioning of instructionism feeds in particular on new contributions from biology and neuroscience, as the hermeneutic complexity of life, education and learning is highlighted (Kaufman, 2019. Davies, 2019. Hoffman, 2019), in especially the authorial and emancipatory vocation of education (autopoietic). The evolutionary condition can stress, in a hand, how much we are harassed by the environment, forcing us to conform to the situation, to accept rules of the game, to suffer influences, but, on the other hand, to react authorally, from seeking to circumvent the second law of thermodynamics (entropy), to imposing ourselves on the environment, if possible. It is generally recognized that humans have become their own evolutionary biological force, which is easily seen in the way we treat the planet, also irresponsibly (Harari, 2017; 2018).

Although the effort of questioning the deterministic positivism in general comes from the social sciences and humanities, the current blow coming from biology and neuroscience is extremely more significant, as we try to address classic unresolved imbroglios such as consciousness, subjective experience, meaning of life, happiness, transcendence etc. There is a growing suspicion that the scientific model that studies physics is only suitable for a certain sense - on the linear, sequential, experimentable side - since matter is an entity that holds unprecedented potentialities, such as the possibility of exchanging material and immaterial condition (case of the photon), or the indeterminacy of quantum physics and its sensitivity to the observer , the ability to superimpose phenomena (being in two places at the same time) etc. (Davies, 2019). Outline, then, an understanding that the reality is not known properly, because we are only aware of its linear, sequential, experimentable face (Panek, 2011. Laszlo, 2016), or of operational expressions encompassed by technologies. In fact, if we take into account that we do not know who we are (scientifically, not religiously), the claim that we dominate the knowledge of the universe is increasingly distant or from a final theory is more like paranoia, than something feasible (Hawking, 2006).

Education can be seen as technology of nature, evolutionary, in the way that the overlap between environment and human initiative results in behavioral shaping, partly as a result imposed from without, partly as an authorial reaction from within. In humans, the imposition of outside persists clearly, because we are a product of the environment as well, but the capacity for authorial reaction from within has been pronouncing itself eloquently, as, through increasingly advanced technologies, we dominate the environment

approximately, even if we do it linearly. Just as life is not a finished product, as it is an open evolutionary process, education cannot offer final security of results, but that doesn't stop you from checking monumental emancipations, as was European emancipation based on scientific modernism, enlightenment, industrial revolution, etc. It remains the impression that life is an indomitable, rebellious, excited and exciting dynamic (or technology of nature), which persists in tirelessly opening borders. This mark appears incisively in science, when it is not reduced to repetitive positivist procedures linear, but it is considered as endless daring of a finite being playing with the infinite (Harari, 2015), which tries to transform limits into mere challenges, in the potentially unlimited material context.

Neuroscience observes the stunning plasticity of the brain (Costandi, 2016. Kahneman, 2011), also of the senses, in the precise sense of typically limited but endowed biological technologies of endless potentialities (LeDoux, 2019. Doidge, 2007. Gazzaniga, 2012), including the ability to think, love, reason, etc., even though we still don't know "how matter becomes imagination" (Edelman manipulate (technologically); in this reconstruction we use the reductionist approach that highlights recurrences in dynamics (which is not dynamic) (Demo, 2020c), order in confusion, the invariant in the variable. We never fully understand reality, because we are not fully aware of it (from outside, from above), but its management depends on reconstructing it mentally and formally. For many this is a problem of the mind (approximate approach only; reality exists whether it is thought or not), while for others, as we only have access to thought reality, the question remains to what extent the observer is constitutive of the observed reality, as suggested in the quantum view (Nagel, 2012). The most orthodox Darwinian view, expressed in the "selfish gene" of Dawkins (1998), of humans predetermined in DNA and genes it seems to be lagging behind, in the name of other approaches that highlight enormous potential for cooperation (Nowak, 2011; 2013), even though they are voracious predatory humans.

Education, in this context, is, at the same time, singed and invigorated. It is scorched, because it cannot be kept as an idyllic blessing by preceptors who only want the good of the students, while instructing them from top to bottom and from out to inside, as is the case with instructionism. It leaves invigorated, because it is possible to take much better care of the students' authorial skills. Education can gain the panca of fundamental indicator of the civilizing process, not only for contributing to reduce the violence, the arrogance, the predation (Pinker, 2011. Scheidel, 2017), but above all for being able to prepare the new generations much better, as explore authorially and cooperatively the potentials. However, in this contribution of biology and neuroscience, instructionism cannot

be maintained, not only because it is imbecilely linked to the productive system, exacerbating voracious competitiveness, but above all because it is deforming, monstrously oppressive and humiliating (Zhao, 2014). Although in the social sciences and humanities education is easily seen as art, it is not only technique, technology, it is in biology and neuroscience that this view finds its broadest relevance: life as biological technology is superlative art that defies our understanding, it is, strictly speaking, the poetry of evolution. So education should be seen, not just to highlight the naive positive side, but to glimpse the potential to take from the dark saga of human beings what there was of poetry and extend the chance.

Economy

The relationship between education and the economy today is one of frontal subservience, since the value of education is in capitalist competitiveness and productivity. The terms are sometimes misunderstood, as in Caplan (2018): "the case against education: why the education system is a waste of time and money". Brennan they viewed education as a useless undertaking, if it is not proven in the market. Ioschpe (2004), in candid supremacist excerpts from a daring young man, said that education is reduced to the economy; the rest is rest, also because education tends to be a talkative speech. Although such positions are absurd, they are the norm today, largely because the education industry has taken over the sector, leaving pedagogical issues such as lyric lyrics. So it is in PISA, totally tied to the market: Asians took the lead, especially China, because education became nothing more than a strategy for competitiveness and productivity, direct instrumentation to claim world economic and educational leadership (Lee, 2018. Kurlantzick, 2020. Brands, 2020. Cox, 2019). In fact, it has always been this way in the modern era, even when we preach free public education for everyone: its value is substantially economic, even if it appears in other formulations, such as adaptation (domestication!) Of immigrants, right literacy, equal opportunities, or development as an opportunity, etc. Families also tend to see education as an economic instrument above all, substantiated by the more favorable insertion in the market, with the promise of socioeconomic ascension.

A historic example was very emblematic: the Sputnik crisis in the United States. As the Soviets launched first, the feat was interpreted as blunt school failure, leading to a strong American reaction, as it was a matter of honor and future to hold the leadership in education and technology (Clowe, 1981). Science education has become a curricular

fulcrum, which would later emerge in STEM (science, tecnology, engineering, mathematics), even though today's American elementary school is a mockery of this, especially in mathematics. The obsession with quantitative assessments also contributes, appearing in PISA and similar, since one of the easiest ways to weigh how much education is worth is through the job or salary it produces. This econometrics ridicules other pedagogical pretensions, such as training, emancipation, authorial learning, etc. As a result, the subservience of education to the economy has become an apparently immovable standard, what has been consolidated with the Asian leadership in PISA. China values education, both higher than other countries (due to technological production) and basic education (due to scientific instrumental foundations, especially mathematics). Thus, it confers to the common notion that without education there is no future, not the idyll of our emptiness, since in school we hardly learn and so it is, but the certainty that boosting competitiveness and productivity is what matters and pays off (World Bank, 2018).

The issues, however, are far more complex than is supposed. As education is the servant of the economy, it does not determine the economy; it is the other way around. The capitalist system shows open flanks of endemic crisis, one of which is the increasing difficulty of inserting everyone in the labor market. work, which has been exasperated by the impact of brand new digital technologies that could, in theory at least, end the need for human labor in the economy. In an incisive analytical text of the “changing nature of work”, the World Bank (World Bank, 2019) comes to recognize that it is a situation of no return: more and more the productive system does not cope with the demand for work, exacerbating informality and there are many countries with more than 50% (Brazil is close to 50%) (IBGE, 2019). The very relevant idea in itself of universalizing access to higher education was hit hard by such a crisis, because it is more and more common that the diploma does not generate enough salary to pay the student debt (Cottom, 2017. Armstrong comfortable in the job market, for the simple reason that the expected job will not appear. As a result, the lawyer will work with Uber, the pedagogue as a caregiver of children, the physical educator as personal training, the engineer as a bank attendant, etc.

But this is one of the faces of the crisis, because it foreshadowed a much more devastating one: the advance of intelligent robots on the market, with clear pretensions to grab all jobs, including the most intellectual ones. This could lead to transforming “cognitive capitalism” (Fumagalli et alii, 2019) into an increasingly exclusive operating platform for robots, a threat already widely considered in the literature (Gerrish it has recurring patterns in its dynamics; the simplest ones are physically repetitive and easier to replace with robots, as we see on vehicle assembly platforms, for example; the most

complex, are partly repetitive in their methods, grammars, mental patterns, so that it is possible for a robot to propose a Beethoven-inspired symphony, sometimes very difficult to distinguish from original (Steiner, 2012. Gerrish subjective interpretive and ethical.

If this occurs, education will be fully investigated. A first impact will be to recognize that its value was - always has been - in fact economic; losing this one, it becomes lyrical. A second impact is that we need other ways of survival, strongly implying the idea of universal basic income (UBI - universal basic income) (Demo, 2020), which some acclaim, others detest. Hardly an income basic for all will not be minimalist, also because the source of resources is never convincingly presented. Work, ambiguous as it always has, has dark aspects (labor exploitation, unpreparedness, risks, child labor, etc.), as well as positive ones (self-realization, some sense of life, quality of life, etc.). Retirees often forget about the pleasurable side of work and return working, sometimes as volunteers, because it seems better to work, even in a non-ideal situation, than not to work! Education would continue to be important for other reasons, for example, as a training platform for life, but it would lose the current thrust of competitiveness and productivity. Today, the situation is very uncomfortable, because there is a huge gap between melifluous pedagogical discourses, aerial, philosophical, that promise totally uncreditable transformations, and the economicist pedagogical discourse planted in the market that, spoliative to the bone, at least beckons with concrete things.

The economy may, as incredible as it may seem, question PISA's instrumentalism, but in general it does not, because, as booty already conquered, it is not worth disturbing the laurels. When some entrepreneurs they claim that workers are more likely to be employed if they demonstrate a critical spirit, initiative, creativity, a relentless capacity to change and self-renew, no matter how hypocritical this may be, it indicates a contradiction to PISA: the Chinese education system does not produce critical, creative people , self-renewing; on the contrary, it produces useful subservience, or the docilization of bodies and minds. That's what Zhao (2018; 2014) attacks head on, always claiming not to understand why Westerners acclaim such an oppressive and imbecilizing education system (2012). It turns out that the productive system seeks in education less the innovative technological side, than the docilization of bodies and minds, especially bathed in mathematical dyes.

Digital Technologies

The relationship between education and technology is still uncomfortable, rather than intelligent, ethical and authorial. On the one hand, we all realize that digital technologies are here to stay and, even though they are instruments, tools, they have a heavy impact on the formal and informal educational environment, as never before, for good and evil (Goffey In another, as educational entities are a den of resistance to change, even though the contrary is hypocritically shouting, it is attempted to claim that the digital insertion leads to reducing or destroying the quality of the offer: this can only be “in person”, since the time of the ounce. In fact, what is at stake, very stupidly, is the risk of losing class space, which is less and less important in any context of authorial learning (Demo, 2015; 2018). The reaction is not aimed at safeguarding the student's right to learn, but at the teaching mania of teaching in person, in fear of losing the professional stage, the captive audience, the dominance of the scene, the position of the prophet without cause. Digital technologies, in turn, like all technologies, are ambiguous: as instrumentation they can serve the good and evil, with the same efficiency (the Arab Spring and the brutality against liberation movements) (Haas, 2016. Bayat, 2017. Feldman, 2020); they are technical instrumentation in themselves, but never just that, because they echo in us as self-reconfiguration challenges (we produce technologies, which reinvent us), because humans are in the same condition: they are technology of nature that cannot be reduced to instrumentation.

The scenario dominates the instrumentalist use, because of the capitalist education industry, which pushes to the challenge of competitiveness and productivity, strongly obscuring other facets of human formation, relegated as foolish preciosities. The academy has not yet awakened to the fact that digital technologies, among other contributions, have brought the “virtual presence” to the center of today's life, a condition that youth cheers without fear, also boldly. Thus, it no longer makes sense to speak of classroom and non-classroom courses, postulating that presence can only be physical, when there are countless others that are part of life, especially now the virtual one. So, whoever practices learning activities (studies, reads, researches, elaborates, argues, bases etc.) is present, since learning depends on learning activities, which can be perfectly virtual. Future courses will be “hybrid” naturally, because there is no reason to discard digital potential in education, and this is particularly true for the new generations that are born and live within them. It is said in the OECD that it is common in schools, only moderate use of digital technologies (2015), partly because learning does not necessarily depend on digital (there

were always those who learned well before the digital age!), but above all due to ineptitude in teaching: teachers are very resistant to adopting digital potential, also afraid to miss the stage. On the other hand, many are eagerly adopting digital technologies, as now in the Covid-19 pandemic, driven by instruction, as the digital world lends itself superlatively to procedures of linear transfer, copying, plagiarism, special effects, etc. The argument is one of extreme analytical poverty. In general it is fixed on the loss of class as the greatest tragedy of the century, with amazing calculations of how much of the GDP we will lose in the future. In the Brazilian case, for example, we can guarantee that missing class, as a rule, does not imply anything important, because learning at school is minimal, with some exception in the Early Years (Demo, 2020a). Certainly, missing class in China is a disaster, because instructionalism is the most serious thing in the world and leads to irrecoverable delays. So, it is crucial to replace the traditional classroom with video lessons, without taking advantage of the crisis to draw some useful teaching, especially that video lessons are only important as research material, elaboration, not content transmission. In the online world, it is so much more stupid to be passing on content, because everyone is, in a thousand versions, already out there. Teaching role is to cooperate with the student to authorally reconstruct the contents, taking advantage of digital potentialities, such as multimodal texts, copyright platforms (blog, wiki, forum, discussion and production groups, etc.).

It is worth pointing, however, to a horizon that opens up for education in the digital space, because it implies the combination of the most up-to-date technologies with the latest in education: the mere directed instruction. Digital analytics (Gerrish the increasing ability to unravel patterns behavioral recurrents in social and other dynamics, allowing to discover preferences of taste, habits, ways of being, expectations, to the point that it is possible to manipulate referendums, elections, public opinion, a feat already demonstrated in Brexit, election of Trump and, in part, election of Bolsonaro. It seems possible, as long as megadata is available, to peer into the depths of people's souls via patterns recurrent behavioral problems, getting to know what may interest, motivate, move, attract people. In the beginning, this expertise was only focused on marketing: instead of having a certain 10% in the ads, now the opposite is possible. Knowing the consumer's unconscious, it is possible to make the ad that hits him, almost certainly.

This technology is now transported to the education. First, it is necessary to ask whether it is appropriate, above all ethical, to invade the soul of others in this way, allowing targeted manipulation with a very high probability of success. Second, in the educational context, it is worth asking whether it is a formative, educational procedure, or exploitation

of the education industry. As Means puts it (2018), with big data, it is possible to penetrate the student's mind in its recurrences behavioral, knowing their more or less exact educational demand: content that they have not yet memorized; pieces of mathematics that you didn't understand; grammatical skill that is not mastered; more sensitive motivations; routes made from previous learning more and less successful; ways of studying, difficulty in studying, aptitude, etc. This knowledge would allow the teacher (or the robot) to direct the class precisely in what the student needs, personalized. Thus, each student receives the content he needs, studies what he needs, deals with what he lacks, without wasting time with quibbles. Students, handled digitally, receive the contributions indicated by the machine (digital analytics) and responds to them, with meticulous monitoring of the machine that takes care of repeating what didn't work, until it worked. The proposal is radically instructive, because the memorization, the search for the right answer, the memorization, the tricks, not authorial learning are monitored. Although it can be extremely successful in terms of direct instruction, it does not guarantee learning, which, being much more difficult to standardize, is left out. It is the glory of direct instruction as the most proven to learn!

The situation is too uncomfortable, because an invasive, truculent, manipulative, predatory context appears, covered up with highly elaborate technological expertise, at the risk that the means justify the ends. To stuff content into the student's mind, any truculent procedure, a typical brainwashing, is worth it. And it can become a monumental industry, as surveillance is already (Zuboff, 2019). We could certainly arrange an ethical use of such technologies of digital analytics, since discovering the most intimate patterns of social dynamics is certainly a glorious feat. But these are very ambiguous, very risky conditions. Privacy, more and more, is eliminated, because any digital activity implies the possibility of tracking the user to the point of having him as a booty. The commodification the digital world continues to take long steps, allowing to manipulate feelings (Facebook), intimacies (Google), fake news (social networks) etc., in a dog world that we don't know where it will end (Chun, 2016. Wu, 2016).

A friendly marriage between education and digital technologies has not yet happened, because in general education is run over or resists foolishly, while digital technologies fall easily in the mercantilist arms of the education industry.

Conclusion

Theories in education do not end with the topics summarized above. First, it cannot be surprising that education appears in so many corners, because it is a phenomenon that cuts across society in all directions. Second, education needs to update itself, perhaps it was the best, the smartest way to update itself, but the most striking tendency is retrograde, also in educators, sometimes very renowned, of the left who see themselves only as leaders of an already expired teaching. The point is not to teach; is what teaching has to do with education. Almost anything. The vain belief that teaching is the heart of learning has been imported from the past, because the student is kept as a poor fellow who only walks if he is anchored. The teacher it remains crucial, indispensable in the pedagogical relationship, but it is typically a mediator. New times redefine this relationship without return. Today's student is no longer one of the past, usually a passive customer. Today he has many freedoms, too libertinages. The digital media inflates this condition, also because young people more easily manipulate digital technologies. However, they tend to use them in the instructional context, because they are used to it in the classroom.
Today we are trapped between two instrumentalisms that are devouring us. On the one hand, we have the Asian (pinnacle of PISA), where the failure of pedagogy is compensated by the economic success (competitiveness, productivity); in another we have that of developing countries, like Brazil, totally bankrupt, but maintained by teachers who do not profess the student's learning, but its illuminated stage from the navel itself, leaving the vast majority of students in the open. Education needs to reinvent itself, not as something unusual, unexpected, but as absolutely normal: only what lasts changes!

References

ANUÁRIO BRASILEIRO DA EDUCAÇÃO BÁSICA. **Todos pela Educação/Moderna.** São Paulo, 2019. Disponível em: - https://www.todospelaeducacao.org.br/_uploads/_posts/302.pdf. Acesso em 2 jan. 2021.

ARMSTRONG, E.A. & HAMILTON, L.T. **Paying for the party – How college maintains inequality**. Harvard U. Press, Cambridge. 2013.

BAYAT, A. **Revolution without revolutionaries**: Making sense of the Arab Spring. Stanford U. Press, 2017.

BID - ELACQUA, G., HINCAPIÉ, D., VEGAS E., ALFONSO, M**. Profissão Professor na América Latina** – Por que a docência perdeu prestígio e como recuperá-lo? BID, N.Y, 2018. Disponóvel em: https://publications.iadb.org/handle/11319/8953. Acesso em 2 jan. 2021.

BLUEPRINT FOR GOVERNMENT SCHOOLS. **Flagship strategy 1**: Student learning. The principles of learning and teaching P-12. Background paper. Department of Education and Training Victoria, 2017.

BRANDS, H. **What does China really want?** To dominate the world. The Japan Times. 2020. Disponível em: - https://www.japantimes.co.jp/opinion/2020/05/22/commentary/world-commentary/china-really-want-dominate-world/. Acesso em 2 jan. 2021.

BRENNAN, J. & MAGNESS, P. **Cracks in the Ivory Tower**: The moral mess of higher education. Oxford U. Press, 2019.

CAPLAN, B. **The case against education:** Why the education system is a waste of time and money. Princeton U. Press, 2018..

CHUN, W.H.K. **Updating to remain the same:** Habitual new media. MIT Press, Cambridge, 2016.

CLOWE, B.B. **Brainpower for the Cold War:** The Sputnik crisis and National Defense Education Act of 1958. Praeger, 1981..

COSTANDI, M. **Neuroplasticity**. The MIT Press, Cambridge, 2016.

COTTOM, T.M. **Lower Ed:** The troubling rise of for-profit colleges in the new economy. The New Press, N.Y, 2017.

COX, J. **Here's how China became the world's** No. 2 economy and how it plans on being No. 1. CNBC, Dec. 22, 2019. Disponível em: https://www.cnbc.com/2019/12/20/inside-chinas-plan-to-become-the-worlds-leading-economy.html. Acesso em 2 jan. 2021.

DAVIES, P. **The demon in the machine**. Penguin, 2019.

DAWKINS, R. **The Selfish Gene**. Oxford University Press, Oxford, 1998.

DEMO, P. **Aprender como autor**. Gen, São Paulo, 2015.

DEMO, P. **Atividades de aprendizagem** – Sair da mania do ensino para comprometer-se com a aprendizagem do estudante. SED/Gov. MS, Campo Grande, 2018. Disponível em: https://drive.google.com/file/d/1FKskDCxNB422PVhrjrDjD48S4cjsb77-/view. Acesso em 2 jan. 2021.

DEMO, P. **Escola e cuidado**. 2019. Disponível em: https://drive.google.com/file/d/1XKQDqJHfNMFEnN2gVF1n6yZmEmoYkS34/view. Acesso em 2 jan. 2021.

DEMO, P. **Pedagogia do amor**. 2020. Disponível em: https://pedrodemo.blogspot.com/2020/08/ensaio-536-pedagogia-do-amor.html. Acesso em 2 jan. 2021.

DEMO, P. **Educação à Deriva** – À direita e à esquerda: instrucionismo como patrimônio nacional, 2020a. Disponível em: https://drive.google.com/file/d/10nMlgL8N9GKFgwtnbL-bIn7GQf0HdyA4/view. Acesso em 2 jan. 2021.

DEMO, P. **Sucesso educacional em questão** – Supremacia asiática educacional contestada. 2020b. Disponível em: https://pedrodemo.blogspot.com/2020/08/ensaio-532-sucesso-educacional-em_25.html. Acesso em 2 jan. 2021.

DEMO, P. **Azares da epistemologia**. 2020c. Disponível: https://pedrodemo.blogspot.com/2020/09/ensaio-527-azares-da-epistemologia.html. Acesso em 2 jan. 2021.

DEMO, P. **Renda Básica**. 2020d. Disponível: https://drive.google.com/file/d/1y6VdrxfgsUQ2Fbwx-QiQyfdlBMAutVcJ/view. Acesso em 2 jan. 2021.

DOIDGE, N. **The Brain That Changes Itself:** Stories of Personal Triumph from the Frontiers of Brain Science. Penguin, London,2007.

EDELMAN, G.M. & TONONI, G. **A Universe of Consciousness** – How matter becomes imagination. Basic Books, New York, 2000.

FELDMAN, N. **The Arab Spring** – A tragedy. Princeton U. Press, 2020.

FREIRE, P. **Pedagogia da Autonomia** – Saberes necessários à prática educativa. Paz e Terra, Rio de Janeiro, 1997.

FREIRE, P. **Pedagogia do Oprimido**. Paz e Terra, Rio de Janeiro, 2006.

FUMAGALLI, A., GIULIANI, A., LUCARELLI, S., VERCELLONE, C. **Cognitive capitalism, welfare and labor:** The commonfare hypothesis. Routledge, 2019.

GAZZANIGA, M. **Who's in Charge?**: Free Will and the Science of the Brain. Robinson, N.Y, 2012.

GERRISH, S. & SCOTT, K. **How smart machines think**. The MIT Press, 2018.

GOFFEY, A. & FULLER, M. **Evil Media**. MIT Press, Cambridge, 2012.

HAAS,M.L. **The Arab Spring**. Routledge, 2016.

HABER, J. **Critical Thinking**. MIT Press, 2020.

HARARI, Y.N. **Sapiens**: A brief history of humankind. Harper, London, 2015.

HARARI, Y.N. ***Homo Deus*** – A brief history of tomorrow. Harper, London, 2017.

HARARI, Y.N. **21 Lessons for the 21st century**. Spiegel and Grau, N.Y, 2018.

HAWKING, S.W. **The Theory of Everything**: The origin and fate of the universe. Phoenix Books, Beverly Hills, 2006.

HOFFMAN, D. **The case against reality**: Why evolution hid the truth from our eyes. Norton, N.Y, 2019.

IBGE. **Síntese de Indicadores Sociais** – Uma análise das condições de vida da população brasileira. Estudos & Pesquisas 40. Rio de Janeiro, 2019. Disponível em https://biblioteca.ibge.gov.br/visualizacao/livros/liv101678.pdf. Acesso em 2 jan. 2021.

IOSCHPE, G. **A Ignorância Custa Um Mundo** - O Valor Da Educação No Desenvolvimento Do Brasil. Francis, São Paulo, 2004.

KAHNEMAN, D. **Thinking, Fast and Slow**. Penguin, N.Y, 2011.

KAUFFMAN. S.A. **A world beyond physics**: The emergence and evolution of life. Oxford U. Press, 2019.

KOCH, C. **The feeling of life itself** – Why consciousness is widespread but can't be computed. MIT Press, 2019.

KURLANTZICK, J. **China thinks the pandemic will make it the world's new leader**. It won't. The Washington Post, May, 2020.

KURZWEIL, R. **Danielle:** Chronicles of a superheroine. WorldFire Press, 2019.

LASZLO, E. (with Alexander Laszlo, Deepak Chopra, and S. Grof). **What is reality?** The new map of cosmos, consciousness, and existence. SelectBooks, N.Y, 2016.

LEDOUX, J. **The deep history of ourselves:** The four-billion-year story of how we got conscious brains. Viking, 2019.

LEE, K-F. **AI Superpowers:** China, Silicon Valley, and the new world order. Houghton Mifflin Harcourt, N.Y, 2018.

LI, G. **Culturally contested Pedagogy**: Battles of literacy and schooling between mainstream teachers and Asian immigrant parents. Suny Press, 2012.

MARKOFF, J. **Machines of loving grace:** The quest for common grounds between humans and robots. Ecco, N.Y, 2015.

MEANS, A.J. **Learning to save the future**: Rethinking education and work in an era of digital capitalism. Routledge, London, 2018.

MEZIROW, J. & ASSOCIATES. **Learning as Transformation** – Critical perspectives on a theory in progress. Jossey-Bass, San Francisco, 2000.

NAGEL, T. **Mind and Cosmos:** Why the materialistic neo-Darwinian conception of nature is almost certainly false. Audible Studios, 2012.

NOWAK, M. (with Highfield, R.). **SuperCooperators**: Altruism, evolution, and why we need each other to succeed. Free Press, N.Y, 2011.

NOWAK, M.A. (Ed.). **Evolution, game, and God**: The principle of cooperation. Harvard U. Press, 2013.

OECD. **Students, computers, and Learning**, 2015. Disponível em: https://www.mecd.gob.es/dctm/inee/internacional/pisa-2012-students-computers.pdf?documentId=0901e72b81e9cc75. Acesso em 2 jan. 2021.

PACHECO, J. **Aprender em Comunidade**. SM, São Paulo, 2014.

PACHECO, J. **Inovar é assumir um compromisso ético com a educação**, 2019. Disponível em: https://mail.google.com/mail/u/0/#inbox/KtbxLrjNcfBChBxsgpmHXhZzHrrcrFTklB?projector=1&messagePartId=0.1. Acesso em 2 jan. 2021.

PANEK, R. **The 4 percent universe:** Dark matter, dark energy, and the race to discover the rest of reality. Mariner Books, Wilmington, 2011.

PETRIE, P. *et al*. **Pedagogy** – A holistic, personal approach to work with children and young people, across services, 2009. Disponpivel em: https://www.researchgate.net/publication/242474953_Pedagogy_-_a_holistic_personal_approach_to_work_with_children_and_young_people_across_services_European_models_for_practice_training_education_and_qualification. Acesso em 2 jan. 2021.

PINKER, S. **The Better Angels of Our Nature:** Why Violence Has Declined. Viking Adult, SHULMAN, L; 1987. Knowledge and teaching: Foundations of the new reform. Harvard Educational Review 15(2):4-14, 2011.

PISTOR, K. **The code of capital**: How the law creates wealth and inequality. Princeton U. Press, 2019.

SCHEIDEL, W. **The great leveler:** Violence and the history of inequality from the stone age to the 21st century. Princeton U. Press, Princeton, 2017.

SCHNEIDER, S. **Artificial You**: AI and the future of your mind. Princeton U. Press, 2019.

STEINER, C. **Automate This:** How Algorithms Took Over Our Markets, Our Jobs, and the World. Portfolio, N.Y, 2012.

TAYLOR, E.W., CRANTON, P. & Associates. **The Handbook of Transformative Learning** – Theory, research, and practice. Jossey-Bass, San Francisco, 2012.

TIBA, IÇAMI. **Disciplina** - Limite Na Medida Certa. Integrare Editora, São Paulo, 2007.

TIBA, IÇAMI. **Quem Ama, Educa!** Integrare Editora, São Paulo, 2007a.

WORLD BANK (WB). **Poverty and shared prosperity 2018** – Piecing together the poverty puzzle. Washington, 2018. Disponível em: https://openknowledge.worldbank.org/bitstream/handle/10986/30418/9781464813306.pdf. Acesso em 2 jan. 2021.

WORLD BANK (WB). **The Changing Nature of Work**. The World Bank, Washington, 2019. Disponível em: http://documents.worldbank.org/curated/en/816281518818814423/pdf/2019-WDR-Report.pdf. Acesso em 2 jan. 2021.

WU, T. **The attention merchants**: The epic scramble to get inside our heads. Knopf, London, 2016.

ZHAO, Y. **World class learners**: Educating creative and entrepreneurial students. Corwin, N.Y, 2012.

ZHAO, Y. 2014. **Who is afraid of the big bad dragon**: Why China has the best (and the worst) education system in the world. Jossey-Bass, San Francisco.

ZHAO, Y. **What works may hurt** – Side effects in education. Teachers College Press, 2018.

ZHAO, Y. **Reach for greatness**: Personalizable education for all children. Corwin, Thousand Oaks, 2018a.

ZHAO, Y., EMLER, T.E., SNETHEN, A., YIN, D. **An education crisis is a terrible thing to waste** – How radical changes can spark student excitement and success. Teachers College Press, 2019.

ZUBOFF, S. The Age of Surveillance Capitalism: The fight for a human future at the new frontier of power. Profile Books, N.Y. ABBAGNANO, N. **Dicionário de Filosofia**. Tradução de Alfredo Bosi e Ivone Castilho Benedetti. 5 ed. São Paulo: Martins Fontes, 2019.