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Learning by and with digital technology: Educating the young for a balanced use

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Abstract:

The controversy about the use of screens places parents and educators in a sensitive situation on the question of whether we should promote or oppose the use of screens or even forbid using them. Several opponents and proponents are trying to define and quantify the right and wrong uses of screens, to place screen use in an adapted time and space or simply to make screen-gazing less exclusive for the sake of other activities, which are deemed healthier (sports, arts...). Is there a balanced use of digital technology? What role should schools have? After describing this new hyperconnected form of socialization, focus is shifted to schools and the integration of educational digital technology. The concept of a digital culture is examined to conclude by opening a discussion on the balanced and ecological use of this technology.

Controversies about the exposure to screens put parents and educational professionals in a sensitive situation with regard to a single question.¹ Should we foster the use in everyday life of screens of all sorts — whether TV, smartphones, tablets or computers, but in particular those connected to the Internet — or, on the contrary, fight against screen exposure or even forbid screens? Several stakeholders (manufacturers, researchers, teachers, parents, institutions), pro and con, are trying to define the standards for good and bad uses of screens, to quantify screen exposure and limit it to an adapted space and time, or simply to keep screen time from excluding other activities (deemed healthier: sports, outings, artistic activities, etc.).² What would be a balanced use of digital technology? What role, if any, should schools (herein, a generic term referring to educational institutions from the primary level up to the university) play? Pupils and students are well equipped with smartphones, and probably use digital technology intensively.

After describing the context of this new, hyperconnected form of socialization, this article will focus on digital technology in schools. We shall then dwell on the concept of a “digital culture” and, in conclusion, open the discussion to questions about a balanced and ecological use of digital technology.

¹ This article, including quotations from French sources, has been translated from French by Noal Mellott (Omaha Beach, France). The translation into English has, with the editor's approval, completed a few bibliographical references. All websites were consulted in August 2019.

² Food for thought about this issue can be found on <https://lebonusagedesecrans.fr/>.

Hyperconnected socialization

Although screens are, for the users and the promoters of digital technology, requisite devices for emancipation and empowerment in everyday actions, they represent, for critics, vectors of pure and simple alienation, an alienation that is physical, mental and social. The smartphone, the favorite screen used by young people, distracts them from other sorts of activities (physical or artistic, at school or in clubs) deemed indispensable for their primary and secondary socialization.³ To borrow a statistic:⁴ American teens devote more than a quarter of their day (6 hours 40 minutes) to looking at screens, probably to the detriment of other social activities. How does this affect their acquirement of the standards and values that underlie society and are conveyed by parents and schools? Is this learning process during the phase of “methodical” primary socialization described by Émile Durkheim (1922) different when it takes place through digital technology and an earlier opening of the individual toward the world? In other words: *“The vertical generational and ‘methodical’ socialization of the modern individual yields to the increasing heterogeneity of socializing contexts, the polytheism of values and the plurisocialization of the transmodern person”* (BONFILS 2018:22).

In our hyperconnected societies, information and communications technology (ICT) has altered our relation to time and to others. In yesteryear, adolescence was an unstable period that, marked by changes in the body and the sense of identity, led the teen to become a responsible adult integrated in society and with solid bearings (a religion, job, family...). Nowadays, the instability of adolescence is reinforced and prolonged by the instability of our hypermodern societies, which are constantly changing and becoming more individualistic, and where the loss of bearings is normal and the “youth cult” is a priority. As a social anthropologist has explained, we do not make adolescents to want to grow up since we depreciate ageing (LACHANCE 2011). This leads, consequently, to a prolongation of adolescence: a period called “postadolescence” or “adulthood” experienced by “rejuveniles” or “kidults”. Jocelyn Lachance has also mentioned how ICT has had an impact on what he has called the “intragenerational transformation” during which adolescents change, for example, their styles or, in the digital age, their means of communication. Digital technology and the Internet have “updated” adolescence or, more broadly, the period of youth. That this period is stigmatized by association with acts of violence or sexuality is not something new. This anthropologist has referred to “adophobia”, namely the ancestral fear by adults of young people, a fear that is growing in the current context (LACHANCE 2017).⁵

To summarize: individuals are experiencing a period marked by the instability of their adolescence (or adulthood) in a constantly changing society with ubiquitous, heavily used means of communication. The youth in my survey spent about 5 hours 40 minutes a day looking at screens.⁶ This amounts to an average of 2060 hours/year, *i.e.*, 90 days. In other words, these young people spend on the average a quarter of their lives looking at screens. A school year, depending on the grade, has about 1000 hours of courses. Each year, these young people spend twice as much time looking at screens as they spend in school (an hour less a day than American teens).

³ During childhood and adolescence, primary socialization takes place mainly within the limited circle of the family. It constructs the personality and social identity. At the end of adolescence and during adulthood, secondary socialization takes place in the larger circles with whom the individual socializes (school, peer groups, institutions and groups active in culture, politics, sports, etc.). Through this secondary socialization, which follows primary socialization, the rules of adult behavior are acquired: responsibility, independence, punctuality, formation of a couple, and so forth.

⁴ The Common Sense Census (2015) *Media Use by Tweens and Teens* available at <https://www.common sense media.org/research/the-common-sense-census-media-use-by-tweens-and-teens>.

⁵ “Adophobia”, coined by combining “ado” (adolescent) and “phobia” (irrational aversion or instinctive fear). A more general definition is a fear of those who are growing up. Adophobic: someone who feels this fear or aversion toward adolescents (LACHANCE 2017).

⁶ My survey (CÉCI 2017) was conducted in the Pau area of France in 2017. The objective was to bring to light how young people (792 respondents) used and perceived digital technology.

Digital technology in education

In this quarter of life that is digital for young people, let us examine the time that the educational system devotes to an education in or with digital technology, an education “*that digital technology has placed under tension in various ways: daily, when pupils enter classrooms with their smartphones in their pockets and sometimes use them without the school’s approval, but, too, the use made of them when neither the state nor local authorities any longer have the means for acquiring the necessary equipment*”.⁷ This quotation points to two aspects: supervision of the “right” uses of this technology and the means for using it. With regard to the use (or rather lack of use) of digital devices in education, teachers in 2017 mentioned as principal problems the lack of time, material and equipment: outdated or overloaded computing equipment and the fear of breakdowns (CÉCI 2017). After these problems related to the means, they then mentioned, the problem of managing the pupils’ attention in a distracting context. They feared lest pupils do something other than learning on their screens. This brings us to the first aspect, supervising the right use of digital technology for learning purposes and, too, in everyday life. In other words, how to educate tomorrow’s “digital citizens”? I shall come back to this question.

What place does digital technology now have in education? According to my findings (CÉCI 2017), it is, overall, limited in terms both of the volume of hours of coursework and the diversity of uses (*cf.* Figure 1): 71% of respondents declared that, in class, fewer than 4 hours/week were devoted to learning on screen. Since a majority of these persons were enrolled in universities, this statistic drops to fewer than 3 hours/week in middle and secondary schools — to be compared with the personal use of digital devices for 5 hours 40 minutes per day.

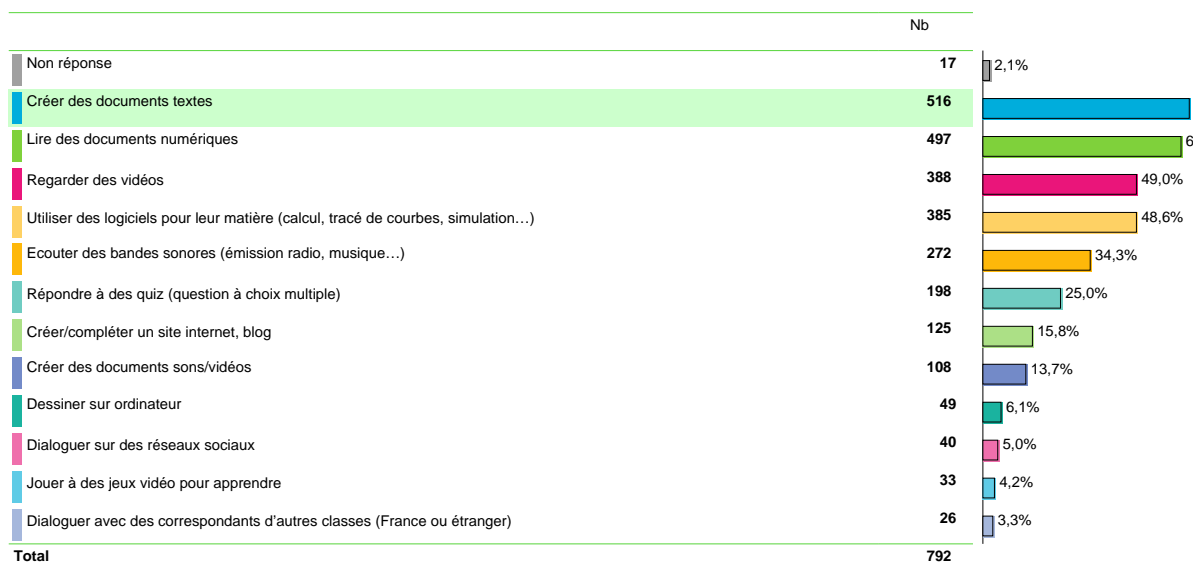
Figure 1: What activities in class do teachers have you do on screen (computers, tablets, smartphone)?
Source: CÉCI 2017.

73. Quelles sont les activités que tes enseignants (ordinateur, tablette, téléphone) durant les cours ?

te font faire sur écrans

Taux de réponse :

97,9%



⁷ Jean-François Cerisier quoted by PHILIPPE CROUZILLACQ (2019) “Le téléphone portable: un outil pédagogique pertinent” available at <https://www.letudiant.fr/educpros/actualite/le-telephone-portable-un-outil-pedagogique-pertinent.html>.

Nonetheless, the majority of young people (in fact, 62%) in my survey strongly felt that they were learning with the help of screens. Since digital technology is not often used in class (fewer than 4 hours/week), this feeling is to be set down, for most youth, to their private use of digital technology. Their comments support this interpretation (42% in the private sphere, 8.6% in educational institutions, and 49.4% for both equally). So, we are led to think that, with respect to digital technology, young people are managing on their own and that most of them are learning by themselves.

Should schools have the assignment to supervise the learning **of** and **with** digital technology? Should more school time be devoted to this technology, given the very intense use of screens outside school but, too, the government's warnings about misuses?⁸ Although 72.3% of middle and high school students were in favor of more digital technology in the classroom, the contents, methods and means have not been set; and teachers, apart from a few innovators, are having difficulty adapting their lessons to the digital era.

Teachers' practices, especially in France's secondary schools, have to be set in the light of a curriculum laden with paradoxes. What might at first sight seem to reflect that teachers are conservative or do not themselves use digital technology should be seen in relation to the curriculum. Is the low number of hours devoted in class to digital activities not compatible with the curriculum? In this case, do teachers not ultimately reflect the institution's contradictions, caught between its intentions and recommendations? Work must be done on this point. The Ministry of Education has tackled this task by breathing a digital dynamism into a colossal (and logically inert) educational system, a breath that should refresh ideas about education in and with digital technology. After all, the previous remarks about the low degree of teachers' involvement in ICT have very solid grounds if they are about an education **in** digital technology (the opening of new courses of study). However they are less well founded with regard to an education **with** (by using) digital technology. The curriculum has little to say about this technology, which enhances educational practices.

Since teachers choose their educational methods and tools, nothing stops them from using digital devices and screens in the classroom (in line with the establishment's policy). Several teachers have not waited for institutional formalities before integrating digital devices in their courses. The scope of this trend can be seen on websites (such as Educavox.fr) or during the events (such as Eidos64) that attract thousands of persons around the theme of digital technology in education. These examples mainly concern an education with digital technology.

As for an education in digital technology, the contents are still to be defined and incorporated in the curriculum... and as much can be said about the concepts of digital citizenship and digital culture! Without claiming to circumscribe these concepts herein, let us dwell briefly on the idea of a digital culture.

⁸ See the website on drugs and addiction by the Mission Interministérielle de Lutte contre les Drogues et les Conduites Addictives (MILD&CA): <https://www.drogues.gouv.fr/comprendre/ce-qu-il-faut-savoir-sur/lexposition-aux-ecrans#>.

An ecological digital culture?

Would you let your children play with something potentially dangerous? Probably not. Now imagine a system so dangerous that it manipulates our brains and the masses, and alienates individuals but that can also instruct individuals by connecting them with a vast store of knowledge, care for them and prolong their lives. Should the new generations, our future, not be capable of controlling such a system? Digital technology is a *pharmakon*, both a remedy and a poison, or even a drug. Our hypermodern societies cannot do without it, since it sets the pace of our lives, by empowering, measuring, enhancing, brightening, connecting and memorizing every instant of our lives. So, we should learn to live in symbiosis with the digital ecosystem so as to eliminate the poison and drug but enhance the remedy. This starts via an education from the youngest age in this technology and with quality electronic tools, an ecological approach that respects the various stages of a child's development.

An ecological digital culture could thus emerge⁹ around a new way of building a society in our hyperconnected digital ecosystem. In this context, we must rediscover human beings and their needs for disconnection, introspection, reflection and a sense of the long run. We must learn to accept to temporarily "burn the bridges" in a world where "*the permanence of bonds with others is now normal*", even in mobility (JAUREGUIBERRY & LACHANCE 2016:32). We must relearn to communicate in an overpopulated digital world, where hyperconnections abolish solitude, which, like silence, becomes an enemy that special screen and sound effects are used to fight against. We must also learn to "make" silence in this noisy world of technology, messaging, and constant notifications. We must relearn to build ourselves by "colliding with the world", to bring back "adventure" *i.e.*, "*what springs up unexpectedly, an event that astonishes and compels recognition in the form of a surprise or a problem*" (JAUREGUIBERRY & LACHANCE 2016), fortuitous discoveries, chance circumstances, even though our digital tracks and algorithms are spinning a cocoon around us that adapts to our needs and desires. As in the film *Matrix*, should we not learn to leave our cozy digital shell in order to go meet a rough world? Might knowledge not come from the choice between a red and a blue pill?¹⁰

This ecological digital culture is constituted by all these awarenesses and much more: to know how to talk to machines and understand them, how to interact with the world via machines (opening a window onto the world), how to develop and learn throughout life, how to be a responsible digital citizen capable of protecting his digital life and legacy. Experiencing this culture also means taking the better of both worlds and coexisting in a state of equilibrium between a tangible, physical universe (uncertain, analogical and complex) and a digital algorithmic ecosystem (adaptational, cozy and predictable) in order, ultimately, to relearn how to find ourselves and live in harmony with others in a connected world.

⁹ "The digital culture would, therefore, be the integration in culture, related to the development of digital techniques, of potential or actual changes at the relational, social, identity, informational and occupational levels. It is similar to an informational culture since it relies on exchanges of information. However it stands apart since its center is not information but the social network and the individual exchanging this information" (DEVAUCHELLE *et al.* 2009:57).

¹⁰ One of the most memorable scenes in *Matrix* is the choice offered by Morpheus (Laurence Fishburne) to Neo (Keanu Reeves) between a red or a blue pill. The blue one would make him return to the state of not knowing what is real, toward his cozy digital cocoon, while the red pill would make him wake up to the tough physical reality of an apocalyptic world ruled by machines and to undertake a trip with no return but that leads to knowledge and dispels illusions.

Several words have been coined or taking on a new meaning in relation to this digital culture, to borrow three from an anthropology of the uses of digital technology (PLANTARD 2014): “*gleaning*” (losing oneself to find oneself), “*serendipity*” (finding what was not being sought) and “*happenstance*” (being in the right place at the right time). These words imply human faculties that can hardly undergo automation: instinct, intuition, adaptability, the spirit of discovery. These purely human faculties will probably take on importance as humanity is inevitably immersed in this worldwide digital ecosystem.

A final point: this digital culture could lead us back to humanist values, which our mechanized and now hypermodern societies have pushed aside. This will probably be the ultimate goal, the terminal level in an education, to be taken in charge by schools, for learning this ecological digital culture.

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