

## Opportunities and Challenges of Education in the Digital Age

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**Abstract:** *In the theoretical study we propose, we have identified, following the analysis of the specialized literature and some research studies conducted by us, pursuing the characteristics of digital natives generation, the implications of the digital era on the educational phenomenon. The current generations of learners are the exponents of the major changes that have occurred globally: globalization, internationalization and digitization. As a consequence, these phenomena increasingly influence educational systems, forcing the change of the old educational model based on teacher-centered, student-centered, collaborative learning and individualization of educational paths. This paradigm shift is associated with the future changes in the way and type of work. Thus, prognostic studies related to the dynamics of trades call attention to the fact that in the next 10-20 years approximately 60% of the current professions will no longer exist on the labor market. Moreover, given the widespread use of digital technologies, new competencies are required that the current curriculum does not address. The new digital culture built in the proximity of the "Fourth Industrial Revolution", that of digitization, offers education, training and learning a variety of opportunities and challenges, with great chances to recreate the whole architecture of the curriculum in accordance with the real needs of the labor market.*

**Keywords:** digitization, digital natives, digital culture, competence, digital inequalities.

### Introduction

The use of digital technologies has helped to reconfigure attitudes towards learning, seen as a process that follows the individual only along the educational path, in a life-long process. Indeed, people need to continue to develop and renew their skills and knowledge to keep up with the constant innovations and new developments in the digital world. It is estimated that digital skills should be updated every three years in order to contribute to the active insertion of new graduates on the labor market.

### Educational challenges of digitization

Well-known education expert Ken Robinson states the internet is "like a lively digital cortex, enveloping mankind with a trillion of connections that affect how we think and behave, and what we can become. Digital networks are great resources for work, leisure, creativity and collaboration and have great potential for learning, education and school"<sup>1</sup>.

The phrase "digital natives" was introduced for the first time in the literature by the American author Marc Prensky in 2001, through two articles titled "Digital Natives"/ "Digital Immigrants".

For current generations of learners the standard represents a connected society. Digital devices are extensions of everyday life. There is

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<sup>1</sup> K. Robinson, *Tu, copilul tău și școala*, București, Editura Publică, 2018, p .87.

nothing out of the ordinary as digital natives are always around a device with internet access, either phone or laptop, tablet or smartwatch. "Supported by connectivity, they think from the bottom up, feeling they have the power to change the world. They have inherited a world with many problems and situations to be repaired. But will they have the power to rethink society radically? Or will they just boast and throw away ideas? Even if they are motivated to do things individually, their network represents their knowledge, and since we live in the age of information where access to data has never been so easy and instant, knowledge is downloadable"<sup>2</sup>.

For digital natives, the use of technology is natural, but this is not the case for all, as there are digital inequities, which are particularly challenging for those teachers who want to use digital technologies in teaching and learning practice.

From the analysis of the specialized literature, concerned with the digital natives and our professional experience, we can say that they do not act the same, they do not form a homogeneous group from the point of view of using digital technology. Thus, some of them, even if they were born in the digital age, are not particularly interested in digital technologies, do not have a Facebook account like most of their colleagues, do not send excessive messages, are not owners of mobile phones or if they own them, they use them according to their original purpose, that is to communicate with those closest to them. The reasons why this part of the digital natives belong more to non-digitization can be:

- individual, attributed to personality characteristics (temperamental and characteristic type)
- related to the impossibility of access to the internet, with digital inequity still increasing in some countries (at the end of 2014 there were almost three billion Internet users globally, two thirds of them coming from developed countries, according to a study by the UN International Telecommunication Union. This figure represents about 40% of the global population, the study quoted by The Telegraph says, and in Romania at the end of 2014, only 61.6% of citizens aged 16 to 74 (54.4% of all households have access to the Internet at home, according to Statistics Institute data);
- parental attitudes related to spending time around digital devices (in some families the computer is part of the learning activity, in other families it is seen as a source of entertainment)<sup>3</sup>.

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<sup>2</sup> D. Dumitrescu, *Nativi digitali/ Pregătiți-vă*, București, Editura Tritonic, 2013, p. 75. Cf. Deila Muste, "Managementul timpului școlar," in *Astra Salvensis*, V (2017), no. 9, p. 47.

<sup>3</sup> H. Catalano, "Abordarea ecologico-cibernetică a procesului de învățământ din perspectiva nativilor digitali", în *Comunitățile de învățare în secolul 21. Provocări pentru învățământul superior*, 2015, p. 3.

An authentic challenge is suggested by Don Tapscott who believes that the learners of this age are the first generation of the smarter, fastest and most tolerant history of diversity, so schools and universities will have to adapt to their style of reaction. "I hope teachers will consider changing the traditional, unidirectional approach to training once they realize what is inappropriate for the representatives of this generation. Learn from them and you will understand the new culture of high-performance work, the schools of the new century, innovative corporations, more open families, democracy based on participative citizenship and maybe even the new interconnected society"<sup>4</sup>.

Teaching itself has become a challenge for teachers, so for the generation of digital natives, the teacher has become a facilitator of learning. It is necessary for him to abandon classical declarative knowledge, since schools will no longer be institutions that prepare graduates for but for professions that do not yet exist, and the acquisitions of multiple and dense content will no longer be prioritized as the finishing touches of education. In this situation, we could rely on the importance of the term coaching, which in the future could take the place of teaching, which could contribute significantly to welfare, team spirit development, support and guidance, and giving students the opportunity to ask questions about what and how to learn.

Another challenge of the digital era is the initial teacher training. Changes in the phenomenon of digitization, social and economic developments trigger changes in beliefs and professional skills. A wider change in pre-university and higher education systems is needed to respond to the increased use of digital technology in education. Digital devices are more mobilizing and motivating in triggering learning than old intellectual tools. They allow more individualized knowledge so that "individuals can study, they can try to acquire an ability when they want, at the pace they choose, alone or in someone else's company, with or without certification. and to become advanced in certain issues and abilities through different ways"<sup>5</sup>.

We can also note that even in parenting there are additional responsibilities due to the use of digital devices. If parents attentively and carefully control the children's activities in the outer space, the generation of digital natives has found their freedom in the online environment and it keeps them close to their parents and removes the behavior of disobedience. The consequence of such reason is reflected in the lack of parental control, at

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<sup>4</sup> D. Tapscott, *Crescuți digital. Generația Net își schimbă lumea*, București, Editura Publică, 2011, p. 29-33.

<sup>5</sup> H. Gardner, K. Davis, *Generația APP. Cum navighează tinerii prin universul digital al identității, intimității și imaginației*, București, Editura Sigma, 2015, p. 174.

an early stage, on the development of the child due to the impossibility of monitoring it.

In 2016, Unilever funded a study titled "*Liberate The Children*". Its purpose was to encourage parents to talk about the barriers they have in letting their children play in the open air. This study surveyed the opinion of 12,000 parents around the world. "The project team found that on average today, children spend less, often less than one hour a day, playing outside. That is less than half of the time that international law requires to spend daily outside prisoners of high security"<sup>6</sup>. It is obvious that the way in which digital natives spend their time has changed radically from previous generations. The seduction of technology has removed them from their gaming activity since the earliest ages, even if the extraordinary benefits of playing in social, physical, emotional and cognitive development are proven through scientific studies.

### **Opportunities of education in the digital age**

In the digital age, its specific culture is very dynamic, flexible and allows for social innovation and change.

It is a good time to reconfigure digital skills. Through formal education that facilitates lifelong learning, it is possible to provide graduates with the tools they need to succeed in their personal and professional lives, although in the future they should not be served to technology, that is, it should not be an end in itself, but only an instrument for improving, adapting and flexing learning.

We believe that the digital era offers the opportunity to make positive use of the digital generation profile from the perspective of initial teacher education so that their skills, abilities and attitudes provide the basis for shaping the ideal teacher profile.

Veen and Vrakking call the tech man a *Homo Zappiens* whose values and behaviors can be considered as opportunities in reshaping the future of education. "Instead of considering it a threat and neglecting our habits, I suggest that we look at this generation as a source of inspiration and guidance on how to adapt our educational systems to meet the needs of our future society"<sup>7</sup>.

In the view of the well-known psychologist Howard Gardner, digital culture offers the opportunity to initiate and develop knowledge products in a personalized way so that "anyone with a smart device can start sketching,

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<sup>6</sup> K. Robinson, *Tu, copilul tău și școala*, București, Editura Publică, 2018, p. 94. Adriana Denisa Manea, Ciprian Baciu, "Interrelații familiale provocate de revoluția tehnico-științifică," in *Astra Salvensis*, V (2017), no. 9, p. 106.

<sup>7</sup> W. Veen, B. Vrakking, *Homo Zappiens. Joc și învățare în epoca digitală*, București, Editura Sigma, 2011, p.5

publishing, taking notes, creating works of reflection, art , scientific - in short, each becomes a creator of knowledge"<sup>8</sup>.

At the same time, digital devices contribute to developing the capacity to use different forms of understanding (seen as a form of expression of thought), knowledge, expression, etc. so that those individuals who are temperamentally not predisposed to communication reports.

It is obvious that digital era is producing innovation and change in many areas, from entertainment to quality of life and health, from education to tourism and the environment. Consequently, there is the opportunity to consider digital natives, "raised in a culture of invention, where innovation takes place in real time, stimulate a fruitful exchange of knowledge between generations, helping both sides understand at what they are best"<sup>9</sup>.

### Conclusions

The prerequisites of the digital era can be translated into digital education, seen as a very dynamic dimension that integrates digital technologies into the teaching process and which can contribute to the development of creative capacities, critical thinking, socialization and student autonomy.

We appreciate that the digital era will offer the opportunity for each learner to make progress in self-learning, individualized and contextualized, the educational programs proposed by the schools will be designed with respect to the age and individual peculiarities.

Microsoft has recently released the results of a study according to which teachers using technology in teaching work earn 30% more time in lessons than those who do not use it.

The future of education must consider digitization even if "any technological progress is huge, but it also comes with a great deal of trouble. And social media is no exception. When there is balance, there are exceptional results and fabulous developmental opportunities, but when control is lost, the results are devastating, they produce victims and destroy lives"<sup>10</sup>.

Further research is needed to identify the skills needed for the digital age and to predict where shortcomings may occur. To support the specific changes to this phase, all state institutions need to work together to ensure that digital education, in its broadest sense, facilitates the accessibility and social insertion of individuals. Thus, every learner, regardless of age and

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<sup>8</sup> H. Gardner, K. Davis, *Generația APP. Cum navighează tinerii prin universul digital al identității, intimității și imaginației*, p. 181.

<sup>9</sup> D. Dumitrescu, *Nativi digitali/ Pregătiți-vă*, p. 95-99.

<sup>10</sup> R. Roseti, Suntem educați pentru online?, în *Cariere. Jurnal de leadership*, XV (2018), p. 48.

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experience, should have access to the digital learning opportunity and the benefits that digital technology can provide as support.