The Great Reset – Education & Digital Literacy

Ioan CRĂCIUN

National Institute for Research and Development in Informatics – ICI Bucharest

ioan.craciun@ici.ro

Abstract: As a consequence of the contemporary technological development, the use of digital technologies in education is constantly growing, with governments investing increasing amounts to digitize this field and education leaders finding ways to adapt their institutions to these realities. Schools, high schools and universities need to redesign their specific educational processes to include different approaches to teaching and learning, exploring the predictive value of data, and acquiring technological solutions. This approach not only raises huge practical and, especially, logistical problems, but it also opens up a wide range of opportunities to think about a 21st century education reset. Education must free itself from the old mindsets and meet the so-called 4th Idustrial Revolution requirements so, it must prepare young people for a world governed by scientific and technological progress and encourage them to think critically about how science, technology and innovation provide the necessary opportunities for social progress.

This article has been inspired by the OECD report *The Future of Education and Skills 2030*, published in 2018, and uses the *Great Reset* term coined by the World Economic Forum specialists to explore the role of digital technologies in transforming education and more exactly the role of digital education, known as digital literacy, in preparing future generations as true agents of social transformation.

Keywords: digitalization, education framework, digital education, digital literacy, great reset

INTRODUCTION

It is expected that in the coming years the widespread use of digital technologies will increasingly influence the entire social life of mankind. Obviously, education will not be able to stay out of these changes but, on the contrary, education will have to be the spearhead of these changes. Indeed, research clearly shows that the use of digital technologies in education is constantly growing, with governments investing increasing amounts to digitize this field. Moreover, the recent Covid-19 pandemic has accelerated this process, forcing more than 1 billion pupils *[Soler & Dadlani, 2020]* and students to move to the so-called online school, triggering the most intense process of technologicalization of education in the history of the world. Schools, high schools and universities need to redesign their specific educational processes so that they can allow young people of all ages to study at home. While this approach raises huge practical and, especially, logistical problems for both pupils and students, as well as for parents, it also

opens up a wide range of opportunities to think about transforming education into the 21st century. Therefore, both the changes and the challenges facing contemporary society involve profound transformations in education because, in many respects, education is the pulse of society, reflecting both the turmoil of today and the aspirations of tomorrow. The 1998 report of the *UNESCO Commission for Education in the 21st Century*, chaired by Jacques Delors, highlights three main trends that may transform education in this century: the widening gap between supply and demand in the labor market (some areas face a sharp shortage of appropriately skilled labor force while in other areas there is a surplus of skilled candidates); an increasing percentage of young people leaving school early, without having a qualification that allows them to enter the labor market, with all the social consequences that arise from this; and the growing discrepancy between the level of education and the level of training required by the new qualificationss.

On the other hand, global connectivity, the emergence of new smart technologies and developments in the media field are other extremely important factors that determine the resizing of jobs as well as how future generations will prepare for these new jobs. So, for future generations, learning will be much more important and different from what we have today, young people will prepare to pursue more careers, even if it will require a fundamental re-education, and the relentless speed of innovation will constantly require new skills and knowledge to cope with future socio-economic dynamics.

Education experts debate many aspects of how education, at all levels, and the learning process will need to change in the coming decades. For example, Clay Christiansen believes that in the future, education will be dramatically detached from its current forms, so that it will become continuously personalized and recalibrated on social dynamics *[Muzamil, 2019]*. Whether education takes place in classrooms or in the workplace, online or offline, in standardized or

less standardized forms, it is clear that education must free itself from the old mindsets and meet the requirements of the so-called *Industry 4.0* or *the 4th Industrial Revolution*, in which man aligns himself with intelligent technologies to build a new world, fueled and supported by these technologies.

In this context, it is clear that there is a need for a plan for the future of learning that may be nothing else than lifelong learning – from primary school to lifelong learning in the workplace, including learning to fulfill social responsibilities in the future society. Education systems must prepare young people for a world governed by scientific and technological progress and encourage them to think critically about how science, technology and innovation provide the necessary opportunities for social progress and support the management of future socio-economic challenges.

This article is inspired by the OECD report (2018), *The Future of Education and Skills 2030*, published in 2018. This report is one of the deliverables of the project with the same name launched by the OECD to help countries find answers to two key questions for the future of education: what are the knowledge, skills, attitudes and values in the spirit of which today's young people must be educated in order to be able to shape the future world?; how can education and training systems develop this knowledge, skills, attitudes and values effectively?

Based on the research results of OECD specialists presented in the report *The Future of Education and Skills 2030* and on what the World Economic Forum specialists call *the Great Reset*, we set out to identify through this article the role of digital technologies in transforming education and, more exactly, the role of digital education, known as digital literacy, in preparing future generations as true agents of social transformation.

THE OECD 2030 EDUCATIONAL FRAMEWORK

Education is a process that does not take place in isolation from the world around it, which is why it must respond to the requirements and trends of the evolution of contemporary society. And if we believe the OECD report *The Future of Education and Skills 2030*, contemporary society faces "*unprecedented challenges – social, economic and environmental – caused by accelerating globalization and a faster rate of technological developments*" [OECD, 2020, 2]. These challenges not only raise new demands on the education of future generations, but also open new opportunities for their emancipation. Therefore, thinking about the future of education becomes a major challenge that specialists in the field must accept and, consequently, they should try to design new educational models based on the social evolution trends listed above. Paradoxically, although the human mind spends more time reflecting on the past or trying to anticipate the future than meditating on the present, the future remains uncertain and extremely difficult to predict. The young people who will enter the education system after 2020 will be almost adults in 2030, and many of the jobs they will access do not currently exist. On the other hand, technological advancement will confront future generations with technologies that have not yet been invented and they will have to solve problems that today cannot be imagined. Therefore, the question that arises is a simple one: what would be the educational models that would allow the development of an efficient educational process which is in accordance with these trends of social evolution?

Moreover, such considerations were also the basis for the preparation of the OECD report, *The Future of Education and Skills 2030*, which aimed to find answers to two key questions:

- What are the skills, attitudes and values that need to be educated in today's youth so that they can thrive and be able to shape the world to come?

- What will the educational model have to look like to be able to develop this knowledge, skills, attitudes and values effectively? [OECD, 2020, 2].

In order to find the most effective answers to these questions, the report presents a learning framework proposed by OECD specialists based on several principles that will govern the future projection of education systems. This is an indicative framework and not a guaranteed successful solution. It should be noted, however, that a diverse community of education specialists has contributed to the development of this concept, joined by groups of pupils and students, parents, school and university networks, local institutions and social organizations. In other words, the educational framework proposed by the OECD report is a widely debated one that takes into account a diversity of views and opinions on how education should be developed for the future.

The framework concept for the education of future generations was summarized by OECD specialists in the so-called *learning compass* (**Figure 1**) which describes how learning will need to be channeled for young people of future generations. If they are trained in this vision, the best of them will become true promoters of social change, being able to influence the future.

Education can no longer be limited to the transfer of explicit knowledge from one generation to another. According to the OECD report, *The Future of Education and Skills 2030*, old learning standards need to be replaced by a new educational framework that combines individual knowledge and skills with creativity, critical thinking, communication and collaboration specific to the 21st century [OECD, 2020, 3–4]. This will not be possible by simply replacing the physical classes with the virtual ones or the whiteboard with the Zoom screen, but through a radical transformation of the standardized way in which young people are currently learning and training their skills towards a personalized approach, calibrated on the learning potential of each individual.
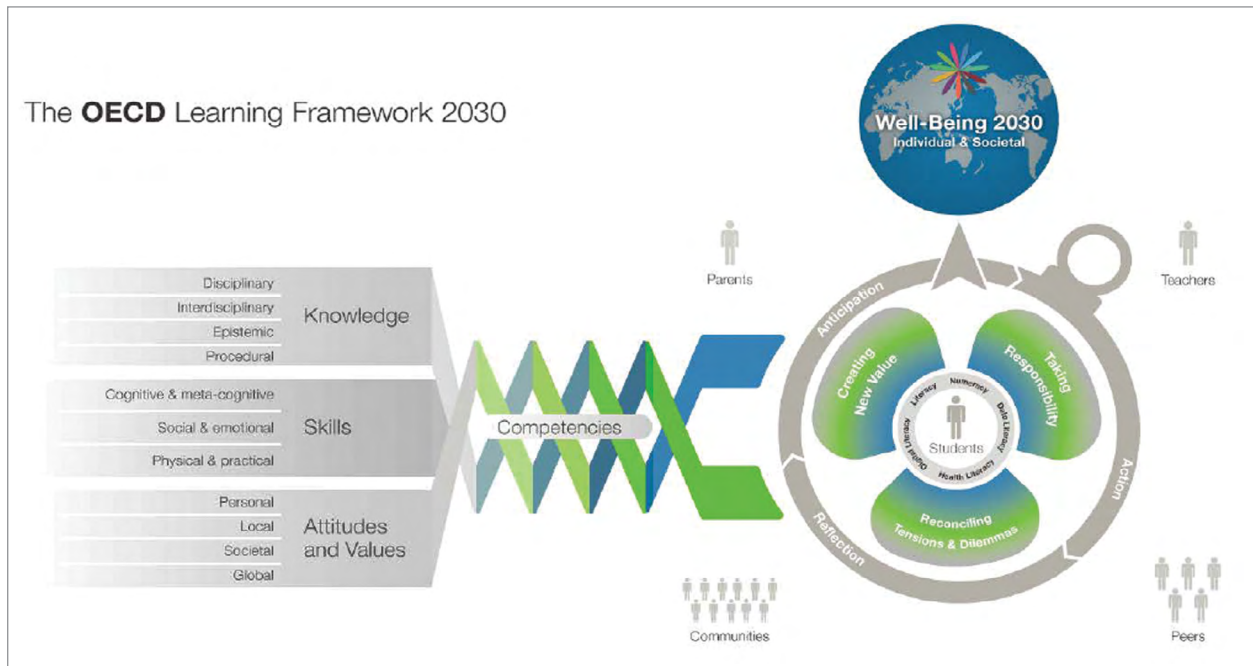
Fig. 1: The OECD Learning Framework. Source: The OECD Report, The Future of Education and Skills 2030, p. 4

In addition, future generations need not only knowledge but also skills, attitudes and values to thrive and shape their own future in an ever-changing world. And perhaps this has never been better highlighted than in the current context of the Covid-19 pandemic.

Therefore, the concept of competence must involve more in the future than the acquisition of knowledge and skills; it must address the ability of young people to use their knowledge, skills, attitudes and values in combination to successfully meet their future socio-professional needs. Therefore, future generations will still need extensive disciplinary knowledge, but in addition, they will also need epistemic knowledge to understand how a mathematician or scientist must think and procedural knowledge in order to understand the logic of actions taken to achieve an objective.

In order to be able to use their skills in all circumstances future generations will need to form a complex system of skills, combining cognitive and meta-cognitive skills (critical thinking, creative thinking, learning to learn) with social and emotional skills (empathy, self-efficacy and collaboration) and with

practical and physical ones (use of new digital technologies, communication).

However, the successful use of this wide range of knowledge and skills cannot be achieved without relating them to a set of attitudes and values (motivation, confidence, respect for diversity, etc.) that need to be cultivated both personally and at local, societal and even global level. These attitudes and values resulting from the personality traits of individuals but also from their cultural experiences enrich human life and give a better meaning to it and therefore cannot be compromised.

Using research data employed by OECD specialists in a previous project, Def*inition and Selection of Competencies* (DeSeCo), *The Future of Education and Skills 2030* report identified three categories of skills which have to be educated in future generations: creating new values, reconciling tensions and dilemmas and taking responsibility [OECD, 2020, 5].

We will not analyze these transformative skills in detail because this is not the purpose of this article, we only emphasize their complex image, as well as the interrelationship between them. At the same time, we believe that being able to develop such skills is something

completely different from current approaches and therefore it is something that needs to be learned, as the OECD report indicates, through a sequential process of reflection, anticipation and action (*Figure 1*). When things need to be put back together, it is normal to use reflection to analyze things from different perspectives, and by mobilizing cognitive skills, such as analytical/critical thinking, one can anticipate what is needed in the future. The conclusions resulting from the processes of reflection and anticipation will allow responsible actions that will produce the expected effects over time.

In conclusion, we believe that *The Future of Education and Skills 2030* report prepared by OECD specialists provides an extremely important learning framework that can be put into practice through a complex process of reflection, anticipation and action that involves the development of new skills by mobilizing knowledge, skills, attitudes and values to which future generations will have to relate. In this learning framework developed by OECD specialists, digital skills occupy a central place and are implicitly found in all three categories of skills identified.

2021 WORLD ECONOMIC FORUM – THE GREAT RESET INITIATIVE

At the beginning of the Covid-19 pandemic, no one could anticipate the political, economic and social dimensions of the crisis. And perhaps even now we do not have a very clear picture of the dimensions of this crisis, although we are aware that the disruptions and inaccuracies caused by it have exposed the economic-financial, energy, health, education, etc. systems at greater risks than ever before. In the context of this global concern, contemporary world leaders engaged in preparing for next year's (2021) World Economic Forum have decided to launch the Great Reset [Steel, 2009] initiative to discuss the future of global relations and national economies and identify societal priorities in the near future. The historical crossroads of today, in addition to managing short-term pressures forces us to think of strategies that will lead to

the elimination of uncertainties in the medium and long term. In fact, The Great Reset will be the topic of reflection for next year's World Economic Forum which will take place in a special format with some participants in Davos and another, larger part of participants, online (www.weforum.org/great-reset).

But until January 2021, when the work of the World Economic Forum will actually begin, under its auspices there will be a series of dialogues with key actors in which the basic dimensions of the Great Reset will be discussed. And one of the basic dimensions of this initiative is education itself (www.weforum.org/great-reset/about). So, the concerns about the future of education are not only related to OECD specialists but extend to many other dimensions, such as the World Economic Forum to refer only to the example invoked in this article. What makes these leaders approach the future of education so seriously and what will be the results of their effort remains to be seen and analyzed over time, what it is important is that this initiative was launched and it will most likely be materialized in strategies for 21st century concrete action.

If the industrial revolution of the 19th−20th centuries caught humanity unprepared, the main social suffering being illiteracy, interpreted as inability to read and write, in the 4th Industrial Revolution, which we have already entered, educational standards are much higher and literacy can no longer be limited to reading and writing. For example, if before the COVID-19 crisis people did not attach importance to understanding basic notions in the field of epidemiology, now, when fighting the effects of this pandemic becomes a collective task, knowing such notions can be a matter of life and death. Therefore, reading and writing alone does not save us from the virus, but if we know a few details about how it works and how we could invigorate it, then our chances of saving ourselves increase significantly. So, knowing how to read and write was enough to escape illiteracy, but for the 21st century it is not enough;
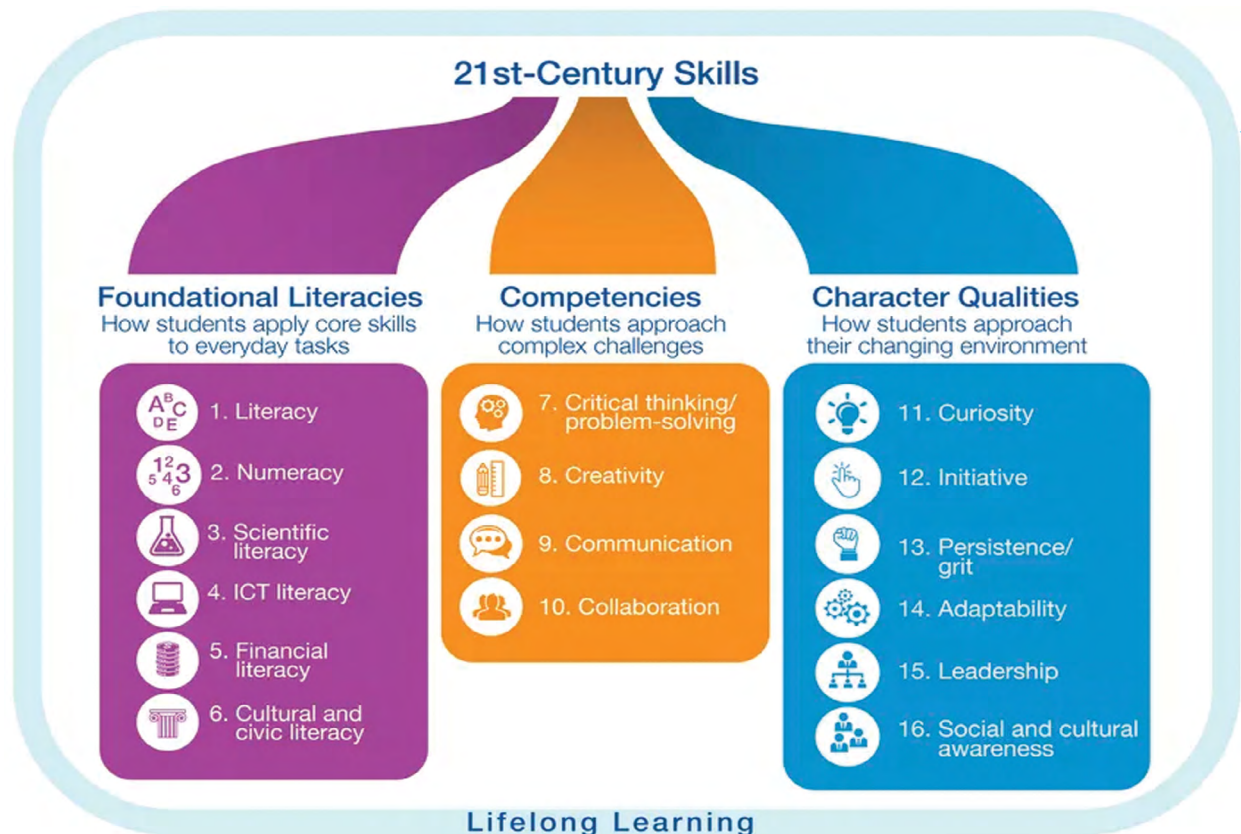
Fig. 2: 21st Century skills. Source: Rose Luckin, Kim Issroff, Future of Education and Skills 2030: Conceptual Learning Framework Education and AI: preparing for the future & AI, Attitudes and Values

for this the notion of *functional illiteracy* was invented.

Given these issues, we believe that the discussion on the transformation of 21st century education must become extremely serious. Literacy must not only be thought of in order to avoid social suffering during the industrial revolution, but it must be geared towards creating skills for the 21st century, as identified by OECD specialists (mathematical literacy, scientific literacy, digital literacy, financial literacy) and the formation of skills and attitudes (critical thinking, curiosity, creativity, teamwork) that will allow future generations to prepare for professions that have not yet been invented.

The issue of skills to be trained in future generations is widely debated by education specialists. For example, in the 2018 OECD report, *Future of Education and Skills 2030: Conceptual Learning Framework Education and AI: preparing for the future & AI, Attitudes and Values*, Rose Luckin and Kim Issroff propose 16

skills to be developed in young people in the future, which they divide into 3 classes: basic literacy, skills and character (*Figure 2*) *[Luckin & Issroff, 2018, 7]*. As it can be seen, digital literacy is one of the areas where future generations will need to develop strong skills, because according to the WEF 2016 report, in the future most digital skills will be needed to solve tasks that are not only routine, but involve problem solving and the creation of digital solutions *[Global Challenge Insight Report, 2016]*. Therefore, the training of digital skills must be a key objective of the transformation of education for future generations and this is why we further aim to take an overview of this issue.

WHAT IS DIGITAL LITERACY AND WHY IS IT IMPORTANT?

The issue of skills to be trained in the generations of digital literacy is a new concept for today's educators and an extremely important one for those who will deal with

the education of future generations. This new concept was born due to the alteration of the traditional meaning of literacy by introducing digital technologies in classrooms around the world.

According to Cornell University, digital literacy is "*the ability to find, evaluate, use and create information using digital technology ...*" [*Steel, 2009*]. Digital literacy goes far beyond the stage of books held by students in their hands and is not limited to e-books that can be currently accessed by young people. Digital literacy is related to the ability of individuals to operate digital technologies, but it is not limited to this, it also involves their ability to adapt the advantages and constraints of these tools to different particular circumstances. In other words, this refers to the ability of individuals to create different mixes of digital tools available to help them do what they want to do and become what they want to become. It should be noted that although the digital part of literacy is extremely important, digital literacy is not just about digital technologies themselves, but especially about the process by which people adapt these tools to meet certain social practices [*Jones & Hafner, 2012, 13*]. Therefore,

digital literacy does not replace traditional forms of literacy but, on the contrary, builds on them and, in addition, extends the skills that form the basis of traditional forms of literacy [*Jenkins, 2009, 19*]. Digital literacy must be seen as part of the path to knowledge [*Reedy & Parker, 2018, 1–2*].

According to the University of Southern California strategy, focused on Bloom's taxonomy (*Figure 3*), digital literacy can take place throughout the learning process. Thus, they can use all digital tools to enhance their creativity by creating movies, videos, infographics, using social media platforms. Thus, they will get answers to questions they have or can interact with people around the world to share ideas and exchange useful information. Therefore, schools should understand that digital literacy is more than online reading and treat it very seriously because only in this way will they be able to develop critical thinking skills in the young people they teach to and train their skills and competencies at the level of social requirements.

Therefore, digital literacy is an educational field of great importance for the formation of future generations. Unfortunately, the
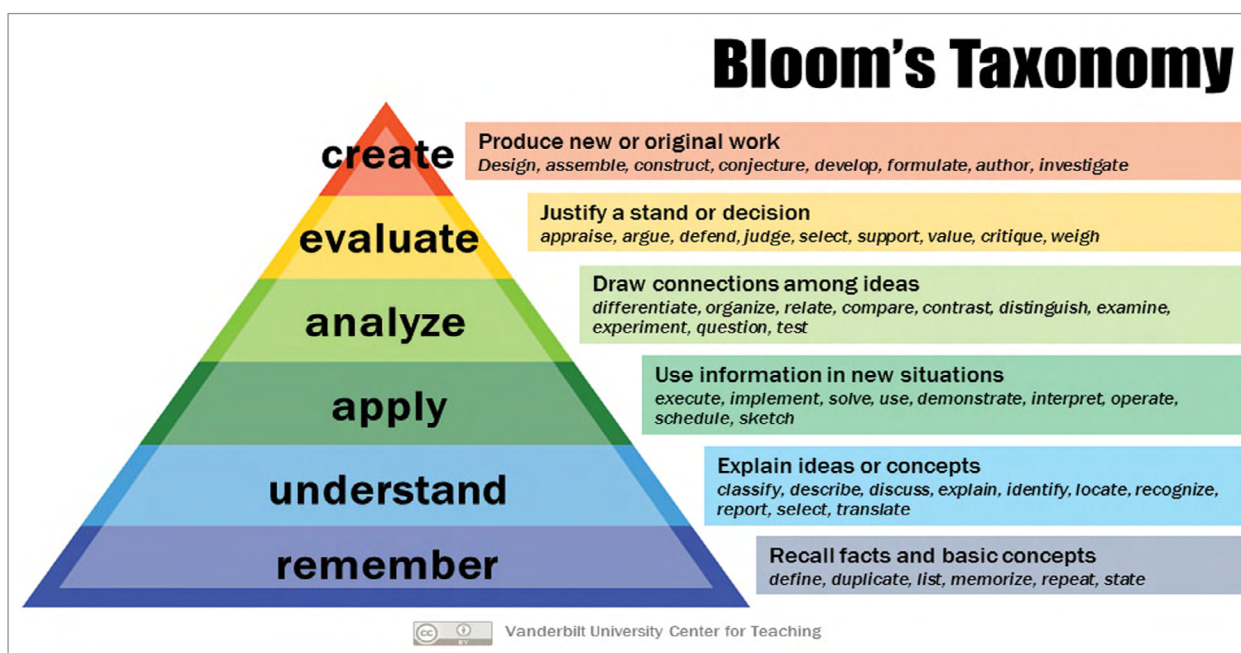

Fig. 3: Bloom's Taxonomy. Source: Armstrong, Patricia (2020), Bloom's Taxonomy, available at: https://cft. vanderbilt.edu/guides-sub-pages/blooms-taxonomy/

promotion of educational strategies of this type is delayed in many countries, and Romania seems to be no exception. Schools urgently need access to digital technologies, and teachers need specialized training. In addition, digital literacy is a process from which young people's parents cannot miss. Therefore, we believe that in order to implement a successful digital education strategy, a strong partnership between the political factors responsible for education at national level, schools and parents is needed in order to join their forces to contribute to the development of a serious digital education strategy followed by concrete programs for its implementation based on decisive actions. Only in this way will digital literacy be able to cross the threshold between dream and reality and fully contribute to the formation of the skills needed for future generations.

CONCLUSIONS

Digital technologies have become not only an integral part, but also an indispensable part of our personal and professional lives. Digital technologies interconnect us, facilitate communication between us and change our way of life. If a few decades ago there was a rather timid talk about digitization, today most occupations involve the use, to a greater or lesser extent, of computers, multi-media technologies and Internet access as basic requirements for the successful development of specific activities. In this context of the widespread introduction of digital technologies, there has been a need to properly train workers in all fields so that they can develop the skills needed to perform their duties in the new conditions. Thus, the concept of digital literacy was launched, an increasingly important concept in the formation of future generations whose meaning was explained in this article. Digital literacy must be understood in the context of the formation of the general and specialized skills needed for future generations

to fulfill the social tasks of tomorrow's society. Thus, the types of digital skills that tomorrow's young people will need depend, first of all, on the evolution of society but also on the digitalization strategies that states will adopt in all areas of socio-economic activity, a context in which education is not an exception. In order to fulfill these responsibilities, education must be radically transformed not only to integrate new digital technologies into learning processes but, above all, to form in future generations those digital skills necessary to fulfill their social and professional tasks and which will enable them to progressively transform the society of the future. It is therefore extremely important that governments adopt effective strategies to digitize education as soon as possible and implement appropriate educational programs to prepare future generations, thus avoiding functional illiteracy.

It is necessary for our country to follow the example of the OECD countries, presented in this article and to think of a strategy for training/improving basic digital skills for tomorrow's adults, to develop a set of national standards on basic digital skills and occupational skills and to engage in the training of these skills in a professional manner. We are aware that we all need digital skills and that is why we are determined to contribute to this process. The National Institute for Research and Development in Informatics is an emblematic institution in the field of digitization in Romania and that is why we are determined, together with other educational and research institutions in our country, to contribute to the national effort of digitalization and digital literacy education of future generations. The government has to manage the effects of the Covid-19 pandemic, but it must also discover the opportunities that arise from this crisis; the digitization of education is one of them.

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