

Education and Digital Literacy: Enhancing Communication Skills and Citizenship Empowerment

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Abstract— Our society needs citizens with the most up to date skills regarding information and communication in order to fully understand the changing landscape of technologies and the way they shape our world. This is the reason why Education has a vital role in this issue because Higher Education needs to renew curricula and teaching so that future professionals and citizens can cope with such challenges.

To enhance communication skills and citizenship empowerment Education and Literacies must be together, namely Digital Literacy, that is absolutely essential for this task.

Keywords— Education, Literacies, Digital Literacy, Citizenship.

Higher Education faces a double challenge regarding curricula and key skills for future professionals: how to understand a constantly changing world and how to enhance the student's skills to embrace these mutations. Nowadays, it's very important to rethink our understanding of Education and the connection with future jobs and skills for professions that even don't exist today. (World Economic Forum, 2018, World Bank, 2019).

So the answer is to bring Education closer to Technology and with this union start a wider perception of society, namely the information society, new media, social media, new communication platforms, Internet and artificial intelligence, for instance.

For these times, we need specialized skills, focused on a global solution, identified by UNESCO: Literacies.

UNESCO has been working on Literacies for decades and has produced many reports and recommendations, always updating the definition of Literacies according to society's evolution.

Montoya highlights three main principles of the UNESCO definition of Literacy: "Literacy is about the uses people make of it as a means of communication and expression, through a variety of media; Literacy is plural, being practised in particular contexts for particular purposes and using specific languages; Literacy involves a continuum of learning measured at different proficient levels. " (2018, p.2) and most important of all:

Literacy is the ability to identify, understand, interpret, create, communicate and compute, using printed and written materials associated with varying contexts.

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Literacy involves a continuum of learning in enabling individuals to achieve their goals, to develop their knowledge and potential, and to participate fully in their community and wider society (UNESCO, 2004; 2017). (2018, p. 2)

One of the most important Literacies is Digital Literacy, due to its presence in Education, Society and daily uses of Internet and technologies. The concept of Digital Literacy has been studied at least since the eighties (Merchant, 2009; Chetty, 2018; UNESCO, 2018), joins with other literacies and some researchers think that we should use the expression "digital literacies" (Vuorikari et alii, 2016; Lankshear et alii, 2003, 2006, 2007, 2013). Today, we have key studies about digital literacy (Council of Europe, 2017, European Union, 2018, UN, 2017^a, 2017b) and they all lead us to the urgent need to embrace digital latest in Education.

Perućica, N., Anđelković, K., Radunović, V. and Markovski, D. resume the European Union and the UNICEF thoughts about Digital Literacies:

The European Union defines digital literacy as 'the skills required to achieve digital competence' (The Government of Malta, 2015, p.8), emphasising 'the confident and critical use of digital technology' which implies 'the knowledge, skills, and attitudes that all citizens need in a rapidly evolving digital society' (EU, 2018b). That said, UNICEF focuses on the critical aspect and a deeper understanding than simply using digital tools. It regards digital literacy as 'the applied technical skills necessary to use and access the Internet, but also the capacity to critically and confidently engage with the online environment' (UNICEF, 2017b, p.11). From a wider perspective, 'just as traditional literacy is understood as a deep competency that goes beyond simply reading and writing, digital literacy implies a deeper understanding than simply using technological tools' (Huynh and Do, 2017). For that reason, a broader approach is necessary, focusing on the concept of Digital Citizenship,⁶ rather than the technological aspects of digital literacy. After taking into consideration numerous sources addressing digital literacy,⁷ a suggested definition, therefore, would be: *Digital literacy, in addition to ICT competence, implies a critical assessment of the impact of digital technology on personal development and society; in addition to ICT competence, it incorporates the three pillars: smart use, nurturing values, and an understanding of the digital age.*

In this context, smart use refers to skills related to responsible and safe use of the Internet, nurturing

values focuses on critical thinking and personal rights and responsibilities in the digital context, while understanding relates to implications of societal and economic concepts in the digital age. (2016, p. 2 – 3)

Moreover, these researchers emphasize that youth must be enabled to act as responsible and competent digital citizens. Therefore, we need a new educational point of view. Teachers are very important in this process and they have a double responsibility: to master the digital literacies and to teach them to their students. So, these authors have the following recommendations for implementing digital literacy:

Pillar I. Smart use. 1. Educators should teach youth about safety (i.e., how to safely engage in the online environment), privacy (i.e., how to ensure that their personal data and both physical and online identities are protected), and legality (i.e., that their online behaviour is compliant with existing laws). 2. Educators should enable youth to access, recognise, and analyse credible information and use it for personal or professional development, as well as to share and promote their own valuable findings and ideas in an efficient manner. 3. Educators should be able to recognise and, with the support of psychologists and pedagogs, address the negative impact of digital technologies on the physical and mental health of youth (e.g. Internet addiction, overuse and dependency, or aggression caused by inappropriate content including video games, social media, and general information). **Pillar II. Nurturing values** 1. Educators should teach and encourage youth to think critically (including assessing online information and comparing sources). They should develop a sense for recognising fake news and propaganda, refrain from distributing them, and assist with combating such practices through informed dialogue. 2. Youth should also be encouraged to maintain a positive attitude towards the online community, including proper communication and etiquette. In addition, young Internet users should develop a sense of ownership for the content they post online, given the societal implications of their posts, but also because once published, the content remains online practically forever. 3. Educators should teach youth about their rights and freedoms online, and instruct them to express and defend these rights. In addition, they should be taught to understand their responsibilities and be mindful of other people's rights, including those of minority and vulnerable groups, and prevent hate speech, racial discrimination, harassment, etc. **Pillar III. An understanding of the digital age** 1. Educators should enable youth to understand the implications of technology trends on their personal and professional development. Young generations should learn about future developments, such as the Internet of Everything, big data, machine-to-machine communication and artificial intelligence, augmented and virtual reality, blockchain and cryptocurrencies, 3D printing, brain-computer interfaces, etc., and fully grasp the social and economic implications of the rapidly changing technological environment. 2. Educators should help youth understand the impact digital technologies have

on society and its fundamental concepts, such as accessibility, security, privacy, human rights and freedoms, technological neutrality, intellectual property, taxation, commerce, etc., and enable them to participate in and shape governance of the digitalised society, both locally and globally. 3. Educators should help youth understand that digital technologies are the main propelling factor of economic growth and that they have been changing the labour market by opening new (and often unpredictable) career pathways, demanding continuous learning in a multidisciplinary environment. Youth should thus be equipped with the set of skills and knowledge necessary for enabling them to keep pace with the constant developments of the fourth industrial revolution and to ensure that they make the most of the available professional opportunities. (2016, pp. 4 – 5).

Digital Literacy is a concept with a wide length of scientific approaches and quite a large variety of insights, studies, theoretical guidelines and interpretations. However, if we study the research publications in this domain, namely in the *ISI Web of Knowledge e-Education Resources Information Center*, it is possible to acquire some common ground for discussion and some recent trends about this literacy. Faria selected the five most important conceptions of Digital Literacy found in recent research and identified the following:

Transformative learning (“digital literacies are transformative for pedagogy”): there are many authors who consider that digital literacy only exists when there is a true transformation of the subject's practices in both his professional and personal life; ”Through an eighty-one-year-old woman's narrative literacy, I argue that literacy researchers should pay more attention to elder writers ”): Although not a frequent theme, some of the summaries stress that digital literacy should embrace adults and even the elderly as a way of contributing. for your personal development and social integration; Instrumental use of technology (“the majority of students performed basic office duties such as greeting faculty, logging computers, as well as answering phones”): it is often found that the concept of digital literacy is associated with this type of use, which has no impact on the subject's learning or daily life; Teacher Attitude (“These teachers use digital technologies for pleasure as well as the business of life and work. I argue that it is important that young teachers and student teachers are given time on courses to think about and discuss their own digital literacy histories”): Many authors consider that teachers need to have systematic and effective practices of using digital media in various professional, social and personal contexts and to share them with students in order to involve them in the effective and integrated use of technologies. (2012, p. 432)

These different definitions are in close connection with the evolution of the information society but it's still relevant the definition created by UNESCO because it focuses on a combined set of knowledge, skills and attitudes that allow

citizens to be really involved with media, libraries, archives, museums and Internet, developing critical thinking and learning skills so that they can be active citizens. That's why the concept is always in constant evolution. Let us recall one of the first profound definitions of Digital Literacy, by Gilster:

the ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers. (...) It is cognition of what you see on the computer screen when you use the networked medium. It places demands upon you that were always present, though less visible, in the analogue media of newspaper and TV. At the same time, it conjures up a new set of challenges that require you to approach networked computers without preconceptions. Not only must you acquire the skill of finding things, you must also acquire the ability to use these things in your life (1997, pp. 1 - 2).

The DigEuLit project (Martin, 2005), whose aim was to develop a European framework for digital literacy, had as one of its tasks to systematize the conceptions around this concept. There are four key ideas presented by the project (Martin, 2005): i. Digital literacy implies being able to perform digital activities in concrete contexts of people's lives, learning, work, leisure, and other aspects of everyday life; ii. Digital literacy, therefore, varies according to each person's situation and life, becoming a continuous process throughout it; iii. Digital literacy is broader than technological literacy and will include elements related to other "literacies" such as information literacy and visual literacy; iv. Digital literacy involves the acquisition and use of personal knowledge, skills, attitudes and qualities, and includes the ability to plan, execute and evaluate digital actions in everyday tasks solving, and also includes self-critical ability to reflect on the development of one's digital literacy. own. (Pereira, 2011, p. 34)

Digital Literacy received many theoretical insights as well as the support of official programmes and guidelines like those defined by OECD (Ala- Mutka, 2011) as "*those skills and competencies young people will be required to have in order to be effective workers and citizens in the knowledge society of the 21st century*" (2011, p. 39)

Riel underlines the importance of Digital Literacy for active citizenship:

If we, as a society, desire broader participation and sharing of ideas for the sake of more robust communities, economies, or governments, it might be wise to invest in educational initiatives for digital literacy. As the data show, people with higher levels of digital literacy participate more (especially those with creative publication skills). Through education initiatives that provide people the digital skills, we can encourage greater levels of social interaction and political participation. In the age of the Internet, a more deliberative democracy and robust sharing of ideas could address the unique needs of communities. With the technological provisions of the web, our governance structures could even begin to provide micro-assistance or hyper-local community engagement. Most of this vision, however, would be

contingent upon the robust sharing of ideas and expression of community needs. According to the findings of this thesis, equipping people with these new digital civic skills for participation could be a start to realizing higher levels of participation. (2012, p. 90).

Moreover, the same researcher emphasizes how Digital Literacy can make us more qualified in our choices, not only in several social domains:

Another possible implication is that having digital literacy skills can help people not only be better participants but also better consumers and workers. Being able to express oneself in today's digital environment can be particularly effective and persuasive if messages are deployed in the right environment and with the right media. Knowing how to take advantage of the benefits and shortcomings of digital tools and the information they contain can be empowering in ways not yet measured by the literature. While this thesis demonstrates that digital literacy is an antecedent skill for mass participation activities, it could likely be the case for other areas of life as well. Gaining digital literacy skills could not only give an edge to people seeking to bring about social change or make their community a better place to live, but also an advantage in career, school, or daily interaction with others. (2012, p. 91)

But Digital Literacy is not only associated with citizenship as a wide concept but also to another an very important concept. Atenas, Havemann and Priego studied the open data domain as open educational resources towards transversal skills and global citizenship and in summary they identified core competencies for the students: Critical thinking, Data curation skills, Research Skills, Statistic Skills, Teamwork Skills and **Global Citizenship**:

Higher education not only educates future professionals; it educates citizens who should be able to think critically, evaluating information in order to be aware of local and global problems (Evans & Nation, 1993; Soder, Goodlad & McMannon, 2001). According to Willems & Bossu (2012), "While the new technologies are a source of social change, they can only become a promise of development for all through the alliance of freedom of expression, knowledge, democratic principles and the concept of justice" (p. 185). However, for Johnson (2014), "open data cannot be expected to universally promote justice. It can just as easily marginalize groups that are not part of the data: people whose lack of privilege excludes them from the kinds of interactions that produce data and makes their viewpoints invisible to those who collect data" (p. 267). We would also agree with Gurstein (2011) that for "open data to have a meaningful and supportive impact on the poor and marginalized, direct intervention is required to ensure that elements currently absent in the local technology and social ecosystem are in fact, made available". (2015, p. 380).

CONCLUSION

In conclusion, it is absolutely vital to include Digital Literacy in Education in a deeper sense since early ages to adult frameworks of constant learning so that all can truly decode information and communication and gather specialized tools to be an active citizen. So we do agree with Perućica, N., Anđelković, K., Radunović, V. and Markovski, D. when they write:

The concept of digital literacy, in addition to ICT competencies, has been recognised as a strategic component for future social and economic development worldwide. Knowledgeable educators are, therefore, considered to be the main agents in the process of implementing digital literacy necessary for the personal and professional development of digital natives. Educators thus play a key role in their maturing into responsible and competent digital citizens who will be ready to adequately address and adapt to any form of further development and change in digital technologies and the digital environment. (2016, p. 7)

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