Instilling the Principles of Digital Citizenship among University Students during COVID-19 Pandemic

Asma BOUDERBALA[*]

University of Batna 2, (Algeria), a.bouderbala@univ-batna2.dz

Abstract:

The technological revolution affects human life in the digital era and facilitates communication, interaction and exchange of information. Technology has become an integral part of everyday practices such as education, especially in developed countries and nations. During COVID-19 pandemic spread, technology is used to create virtual digital learning environments as a temporary solution to manage the crisis. However, COVID-19 educational policy based on the combination of distance learning and traditional physical classroom discloses many challenges such as the inequitable access to technology and the irrational and inappropriate use of it. Digital citizenship as a global trend and a major objective in international curricula in the 21st century has become a necessity to minimize the digital divide proliferated by financial, educational and social disparities in society and support social justice, digital inclusion and equitable use of technological tools. Moreover, digital citizenship education promotes the optimal use of technology. The present paper accentuates university students' need for digital citizenship education and the integration of its main principles, skills, standards and values by reviewing and analyzing some theoretical frameworks that address the issue under study.

Keywords: Digital citizenship, education, technology, COVID-19 pandemic, digital divide.

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[*] Corresponding author.

1. INTRODUCTION

Individuals' interest in technology has significantly grown from different age groups. In the information age, people around the globe are frequently and increasingly using digital devices such as desktop computers, laptops, smartphones, tablets; they sign in to different websites, platforms, networks and blogs to facilitate their personal communications, their works, their access to the information and their education. Today, technology is playing an important role in the globalized world. It is promoting all the aspects of social life such as education, economic growth and communication. It facilitates people's participation in society, and it encourages social inclusion[1]. On the other hand, while the whole world is fascinated with technological innovations, people need to learn how to use them appropriately.

COVID-19 spread has caused a global human crisis as the physical and the social distancing as a daily practice and the lockdown have been imposed in many countries to curb its spread. Many aspects of human life have shifted to online communities. The educational practices have also been abruptly disrupted and moved to distance learning environments and virtual classrooms although teachers and students are not well prepared and versed in online teaching and learning activities.

Learners have started to employ digital tools to enroll in different synchronous and asynchronous distance learning modes in many educational institutions and schools. However, these attempts to digitalize schools to manage the health crisis are facing many challenges such as the inequities in the use of technology that lead to digital divide. Students who do not have access to online education during the lockdown are at risk[2]. Moreover, as the extensive use of

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(1) - Karen Mossberger, Karoline J. Tolbert & Ramona S. McNeal: Digital citizenship: The internet, society, and participation. Cambridge, Mass: MIT Press, Massachusetts London, England, 2008.
(2) - UNESCO: Ensuring effective distance learning during COVID-19 disruption. =

these digital materials can shape and impact the identity of students, especially youngsters, including their behaviors, their values and many aspects of their social life, either positively or negatively, the effective and the optimal use of technology by learners requires extensive training for the safe and the responsible use of it. They need to be well prepared to transcend the physical boundaries of classrooms. Therefore, the relationship between the three major concepts: citizenship and the rapidly evolving digital world and education during the pandemic spread become the concern of many researchers. The need to promote learners' digital citizenship is set at the heart of educational technology.

In the present research paper, I review some theoretical frameworks that deal with digital citizenship education to accentuate the importance of the introduction of digital citizenship elements and principles in education.

2. Defining Citizenship

In order to understand better what digital citizenship is, we need to understand how different researchers define the word 'citizenship. According to the Oxford Advanced Learner's Dictionary, "citizenship refers to "the legal right to belong to a particular country." This definition focuses on the citizens' right to be a member of a community. The British sociologist Marshall[1] explained that citizenship means "endowing all members of a political community with certain civil, political, and social rights of membership, including 'the right to share to the full in the social heritage and to live the life of a civilized being according to the standards prevailing in the society". Marshall set three dimensions of citizenship: civil, political and social rights. However, citizenship is not confined to rights; this state of being a citizen of a particular social, political or national community

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Guidance for teachers, 2020, Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000375116.
(1) - Karen Mossberger et al, op. cit.

"carries both rights and responsibilities"[1]. Citizenship also denotes, besides rights, civic engagements, commitments and responsibilities towards the community to participate in the social and political life. Gonçalves e Silva[2] explained the citizen's engagement by stating that a citizen is a "person who works against injustice, not for individual recognition or personal advantage, but for the benefit of all people. In realizing these task-shattering privileges, ensuring information and competence, acting in favor of all- each person becomes a citizen." Citizenship emphasizes the citizen's role and his contribution to the benefits and the good of the whole community. This means that social equity is the core of a good citizen. Education plays an important role in instilling the principles of a good citizen through civic education which promotes civic consciousness since childhood.

3. Defining Digital Citizenship

Many definitions have been proposed for the concept of digital citizenship. The following definitions have been selected and listed from the general to the specific.

✓ The simplest definition of digital citizenship is the "ability to participate in society online"[3].

✓ It refers to "the appropriate use of technologies in social contexts, including educational contexts."[4].

✓ It is "the ability to use technology safely, responsibly, critically, productively, and civically"[5].

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(1) - Alberta Education, Digital Citizenship Policy Development Guide, 2012, p.7.
(2) - Gonçalves e Silva, P. B., Citizenship and education in Brazil: The contribution of Indian peoples and Blacks in the struggle for citizenship, In J. A. Banks (Ed.), Diversity and citizenship education: Global perspectives, San Francisco, CA: Jossey-Bass,2004, pp.185–217.
(3) - Karen Mossberger et al, op. cit. p.1.
(4) - Amanda Nosko & Eileen Wood: Learning in the Digital Age with SNSs: Creating a Profile. In B. White, I. King, & P. Tsang (Eds.), Social Media Tools and Platforms in Learning Environments, Springer Berlin Heidelberg, 2011, p.406.
(5) - Lesley S. J. Farmer, Teaching Digital Citizenship, In C. Ho & M. Lin (Eds.), =

✓ Digital citizenship is the legal, safe, ethical and responsible use of ICTs[1].

✓ Digital citizenship refers to "the norms of appropriate, responsible behavior with regard to technology use" [2].

✓ "The rules for correct and responsible technology usage that provide guidance to students on how to direct the online world in their personal and academic lives rather than just being a citizen of a country are called digital citizenship." [3].

In sum, digital citizens are those who have frequent access to the internet and technology. They developed the necessary skills and knowledge which allow them to use technology effectively. They respect rules, standards and ethics for the safe, responsible, responsible, legal use of technological tools.

The council of Europe defines digital citizenship as follows:

Digital Citizenship may be said to refer to the competent and positive engagement with digital technologies and data (creating, publishing, working, sharing, socializing, investigating, playing, communicating and learning); participating actively and responsibly (values, skills, attitudes, knowledge and critical understanding) in communities (local, national, global) at all levels (political, economic, social, cultural and intercultural); being involved in a double process of lifelong learning (in formal, informal, non-formal settings) and continuously defending human dignity and all attendant human rights[4].

Proceedings of E-Learn 2011--World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education. Honolulu, Hawaii, USA: Association for the Advancement of Computing in Education (AACE), 2011, p. 292.
(1) - Mike Ribble & Gerald Bailey, Digital Citizenship in Schools, Washington DC: ISTE, 2007.
(2) – Ibid.
(3) - Gülcan Öztürk, Digital citizenship and its teaching: A literature review, Journal of Educational Technology & Online Learning, Vol4, N01, 2021, p.31.
(4) - Council of Europe, Recommendation CM/Rec of the Committee of Ministers to Member States on Guidelines to Respect, Protect and Fulfil the Rights of the Child in the Digital Environment, 2018.

This definition of digital citizenship stresses the elements of digital engagement with online communities, digital participation, digital responsibility, critical analysis and defending social justice, human right and equity in the use of technology.

The International Society for Technology in Education [ISTE][1] mentioned the main characteristics of a good citizen and those of a good digital citizen as summarized in the following table.

Table1. Citizenship in the Digital Era

A good citizen	A good digital citizen
1. advocates equal human rights for all.	advocates equal digital rights and digital access for all.
2. treats other people with respect.	tries to understand all points of view.
3. does not damage or steal other people's belongings (assets).	respects the digital privacy, intellectual property and other rights of online people.
4. communicates openly, respectfully and empathetically	communicates and empathizes with other people through digital channels and treats them with empathy.
5. speaks honestly and does not repeat unconfirmed news.	uses critical thinking for all online resources and does not share unreliable sources such as fake news or advertisements.
6. works to make the world a better place.	uses technology to support and develop social goals.
7. protects himself and other people from harm.	gives importance to physical, emotional and mental health while using digital tools.
8. works with other people in social projects.	uses digital tools to collaborate with other people.
9. always maintains a positive self-image.	understands the permanence of the digital world and manages his/her

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(1) - International Society for Technology in Education [ISTE], Citizenship in the digital age, 2018.

	digital identity by taking the necessary measures.

Source: ISTE, 2018

Digital citizenship cannot be separated from citizenship as digital citizenship is an inherent feature of modern citizenship. Digital citizenship expanded the technical skills of the use of technology to include other elements that allow citizens to actively and safely participate in society online. The successful digital citizen needs to develop these skills to use them in different domains such as work, society and school[1].

4. Theoretical Framework of Digital Citizenship and the Teaching of it

4.1. The Nine Elements of Digital Citizenship

The interest in the literacy of digital citizenship is increasing especially in the second half of 21st century which has witnessed huge technological advances. Ribble identified nine basic elements that are important to optimize the use of technology in the community, and which are helpful in digital citizenship education. These nine elements are classified into three main themes called REPs[2]: Respect (Respect for self and other people), Educate (Self-education and connecting with other people) and Protect (Protecting self and other people). Each theme comprises three detailed types of behaviors that are necessary for digital citizens.

4.1.1. Respect for Self and Other People

4.1.1.1. Digital Etiquette: It refers to "electronic standards of conduct or procedure. Do users consider others when using digital

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(1) - International Society for Technology in Education [ISTE], Citizenship in the digital age, 2018.
(2) - Mike Ribble, Digital Citizenship in Schools: Nine Elements All Students Should Know, Washington DC: International Society for Technology in Education, 2015.

technologies"[1]. Learners need to be aware that their use of technology can affect others. Therefore, they have to learn about the appropriate and inappropriate online behaviors.

4.1.1.2. Digital Access: It means defending opportunities to "full electronic participation in society. Can all users participate in a digital society at acceptable levels if they choose? [2]. In reality, students do not have equal opportunities to access and use technological tools because of different factors such as financial and social disparities. For example, schools in rural areas can face difficulties due to low-speech Internet connection. Therefore, the good digital citizen should advocate the social justice and the digital inclusion of all individuals, and support the equal rights to access technology.

4.1.1.3. Digital Law: It refers to "electronic responsibility for actions and deeds. Are users aware of laws (rules, policies) that govern the use of digital technologies?" [3]. Learners need to understand and adhere to the different digital laws, regulations, rights, restrictions and rules of the digital community to use technology appropriately. Nowadays, technology facilitates the access and the repost or the use of people's properties and materials without giving credit to them. However such act is unethical and illegal because they do not respect privacy and the intellectual property rights which can result in the commitment of digital crimes and plagiarism if they are not aware of the digital laws.

4.1.2. Self-Education and Connecting with Other People.

4.1.2.1. Digital Communication: This element focuses on electronic exchange of information. Do users understand the various digital communication methods and when each is appropriate?" [4]. Technological advances offer many digital communication methods

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(1) - Mike Ribble, op. cit, p.16.
(2) - Ibid, p.16.
(3) - Ibid, p.16.
(4) - Ibid.

such as e-mail, mobile phones and instant messages such as messengers which ensure the constant contact among members of different social networks. Learners as digital citizens need to learn how to choose the right communication method depending on the audience and the message. For example, cell phones communications are more appropriate for personal communications while e-mails are more appropriate for professional communications.

4.1.2.2. Digital Literacy: It is the "process of teaching and learning about technology and the use of technology. Have users taken the time to learn about digital technologies and do they share that knowledge with others?" [1]. Students as well as teachers must receive digital training opportunities to learn how, when, and where to use and evaluate digital materials and to understand how technology works in order to take advantage of it.

4.1.2.3. Digital Commerce: It refers to "electronic buying and selling of goods. Do users have the knowledge and protection to buy and sell in a digital world?" [2].

As technology allows us to buy and sell in digital marketplaces, students need to know how to pursue legal and legitimate procedures when they make purchases online safely in order to protect themselves from scams.

4.1.3. Protecting Self and Other People.

4.1.3.1. Digital Rights and Responsibilities: They are the "requirements and freedoms extended to everyone in a digital world. Are users ready to protect the rights of others and to defend their own digital rights?" [3]. Digital citizens should be aware of the different digital rights they enjoy in their digital society such as privacy and

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(1) - Ibid.
(2) - Ibid.
(3) - Ibid.

freedom as well as their responsibilities and duties in order to actively participate in the digital community.

4.1.3.2. Digital Security: It means "electronic precautions to guarantee safety. Do users take the time to protect their information while taking precautions to protect others' data as well? [1]. Learners should learn how to protect their digital tools and their electronic data from the harm of intruders and hackers by using security software and applications such as virus protection software, data backups and firewall protection.

4.1.3.3. Digital Health and Wellness: It refers to "physical and psychological well-being in a digital technology world. Do users consider the risks (both physical and psychological) when using digital technologies? [2].

Students need to be informed about the potential risks of using technology such as the harm that computer screen can cause to the users' eyes, physical injuries caused by digital tools and mental addition to internet games.

Alberta Education added two other elements in Digital Citizenship Policy Development Guide in addition to the nine elements[3].

a. **Cloud Computing**: it refers to the use of transparently networked servers across the Internet to store, manage, process data and connect people together.

b. **Personally Owned Devices**: Students have to bring their own personalized technologies at hand such as smartphones, laptops and notebooks.

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(1) - Ibid. p.17.

(2) - Ibid.

(3) - Alberta Education, Digital Citizenship Policy Development Guide, 2012.

According to Alberta education, personally owned devices and Bring Your Own Device Model (BYOD) model can provide meaningful learning opportunities for learners since they are already familiar with the operations of their devices[1].

4.2. Digital Citizenship in Education and COVID-19 Pandemic

COVID-19 spread impacted almost all the educational systems around the world. The class time has been interrupted by the partial or the full closure of universities; and technology has been viewed as the effective solution that can solve the educational dilemma. Nevertheless, the digitalization of the classroom is a challenging process which requires the experts' planning. Therefore, the sudden shift to online educational practices during the virus outbreak is not distance learning or online schooling; it is rather a COVID-19 schooling[2]. From this perspective, what is called distance learning is, in fact, a form of crisis management[3]. One of the ramifications of the current health crisis is the deep problem of digital divide and disparities of access among students in the Algerian universities. Students' and teachers' need to develop digital competencies to use technology appropriately and effectively should be emphasized to "to become members of a digital citizenry"[4] who call for an engagement in justice-oriented digital citizenship and socially inclusive learning[5]. Thus, the integration of digital citizenship principles, skills and values has become indispensable in the globalized world and online

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(1) - Ibid.
(2) - Hilary Hughes & Stephanie Jones, This is not home schooling, distance learning or online schooling, 2020.
(3) - Beth A. Buchholz, Jason DeHart & Gary Moorman, Digital citizenship during a global pandemic: Moving beyond digital literacy, Journal of Adolescent & Adult Literacy, Vol 64, n01, 2020, pp. 11–17.
(4) - Mike Ribble & Gerald Bailey, Digital Citizenship in Schools, Washington DC: ISTE, 2007.
(5) - Beth A. Buchholz, Jason DeHart & Gary Moorman, Digital citizenship during a global pandemic: Moving beyond digital literacy, Journal of Adolescent & Adult Literacy, Vol 64, n01, 2020, pp. 11–17.

communities. These elements should be addressed in digital citizenship education and in the assessment of students' as well as teachers' citizenship levels. Digital citizenship encompasses the development of related critical thinking skills, technical knowledge of technology and its use, fulfillment of responsibilities and respecting ethical regulations for online conduct[1]. Syllabus designers can devote a chapter or a unit to target the development of one of these skills and abilities by approaching critical literacy pedagogy to prepare productive, responsible, and critical digital citizens[2].

5. CONCLUSION

Technology has the power to accelerate the pace of the growth and the development of nations. It shapes and refines citizens' attitudes, perceptions, and behaviors. The use of technology and digital tools becomes a prerequisite in today's educational practices to solve the severe problems aggravated by COVID-19 pandemic outbreak. In order to ensure the effectiveness of the integration of technological tools and digital devices into the classroom, teachers and students should be well prepared and trained to use them in a safe, secure and responsible manner. This asserts the need to teach and promote digital citizenship in universities. Today, university curricula in Algeria are devoted to the literacy of technical skills and knowledge related to software and hardware devices in ICT class. However, the current health crisis which led to the sudden shift to electronic teaching/learning practices is an opportunity to revise our teaching practices and reconsider the importance of the introduction of digital citizenship knowledge, skills, principles and values in the curriculum for a lifelong learning experience to prepare learners to actively participate in social, educational, professional and civic roles.

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(2) - Beth A. Buchholz, Jason DeHart & Gary Moorman, Digital citizenship during a global pandemic: Moving beyond digital literacy, Journal of Adolescent & Adult Literacy, Vol 64, n01, 2020, pp. 11–17.

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