

Rethinking environmental education and digital skills

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If we compare environmental education (EE) in Latin America with other regions, we can observe our first task: the challenge of coverage of EE's contents in the classroom related directly with our quotidian practices. Nevertheless, today the first great task for Latin American universities is more than teaching theoretical EE's contents in the classroom, there is no doubt about its relevance in the middle of ethical, environmental and social scenarios; encompassing the solidity of professionals' capacities of young people. It relates to one concern: equal employment opportunity with environmental scope for the future (Global Challenges Foundation, *Global Challenges Annual Report*, 2017). Thus, if we are investigating design methods for EE, we should consider contents, because designing methods for EE is not just for modeling a better consumer of green products but an actual deaccelerated consumption and the destructive economic growth. In our century there is a major claim: a radical critique against consumption practices, and then, a proposal for a construction of degrowth, as a critique of such enormous practices in the world.

Another concern in our times is the improvement of better digital skills. It simply means to think beyond the technical appropriation of skills, that is to say, to highlight ethical cum more humanistic and responsible scope of digital practices. In the twenty first century such improvement is a task for institutions of higher education in regions with economical and social inequalities. For instance, Latin America specific urgency, due to the rapidity of changes, is the improvement and expansion of a responsible, ethical usage of ICT and the social opportunity that represents asynchronic education, especially with open access tools which are integrated in e-learning. A present task of right understanding and effort for the future of education requires to challenge our values, institutions, understanding and efforts. A strong recommendation, to nourish an EE and a responsible digital skills, is to develop capacities as resilience, self-regulation in learning process, contemplative creativity, digital ethics, skills for a culture of peace and well-being, as well as, nurture to complex and conscious non-routine answers for everyday life situations. These twenty first century skills show that in many cases, some of

them are not taken as formal in scenarios previous to the digital revolution. Nevertheless, today a critical use of technology and ICT in current education must suggest an open critical analysis. So, I am not claiming that the future can be predicted, but much probably causes that shape it are identifiable. In this scenario I am suggesting a brief consideration of EE and responsible digital skills as a case to take into account in the design of our education.

Developments and research on EE and responsible digital skills show that it is not a panacea in Latin America, however, we must consider an important expansion of e-Learning education as a way to reduce social and educational inequality. If we recover regional research (*E-Learning in Higher Education in Latin America*, 2015), we can observe that expansion with relevant and positive impacts for the population at large depends on many factors, such as the investment in technology and the development of appropriate educational policies. It is significant that for some institutions, a student in the distance learning modality can be costlier than a student in the traditional model. In these cases, if the costs of the technological investment for the updating of equipment, tutors and efficient administration are not addressed, they represent a risk not only for the existing distance learning modality, but also for its expansion in Latin America, some of these ideas were developed thinking in future impact in this region (Martínez Ruiz, 2016).

The task of successfully developing distance learning with significant impacts requires us to address fundamental topics. Among these are the investment in technological efficiency with environmental sustainability, cost reduction and the responsible construction of future with a strong scope of EE, and the continuing education of instructors in new didactic strategies with recent EE contents. Nevertheless, current challenges allow us to take into account other relevant topics, specially, if we are approaching the costs of violence in Latin America and the central role of education to reduce these costs and their risks. Thus, other relevant topics are, the understanding and incorporation of responsible digital skills with a scope on ethics and open access in the production, management and dissemination of data, information and knowledge. For example, ethics of data is a clear and relevant subject to be considered in responsible digital skills, Floridi and Taddeo (2016) explain what the data ethics is:

... data ethics can be defined as the branch of ethics that studies and evaluates moral problems related to data (including generation, recording, curation, processing, dissemination, sharing and use), algorithms (including artificial intelligence, artificial agents, machine learning and robots) and corresponding practices (including responsible innovation, programming, hacking and professional codes), in order to formulate and

support morally good solutions (e.g. right conducts or right values). (p. 3)

Thus, digital skills should focus on ethical problems of digital era, as the collection of large data we use in everyday life. In a socially just educational project, we would need to seriously consider the investment of resources to include such data ethics as well as democratize the use of recent research on EE and communication technology. This investment in ICT could be guided by the focus on data ethics, responsible digital skills, and open non-commercial access to recent research and information. The use of ICT and its ongoing updating are tools that allow the significant improvement of the objectives of teaching and the corresponding updating of curricular content. The updating of programs of study does not always take place at the same rate as the challenges of EE that we face everyday at work, society and most importantly: in nature. The incorporation of communication technology that reinforce contents of EE should be expanded and democratized, especially if our aim is to use distance learning as a way to reach places with clear inequality in access to higher and postgraduate education.

The possibilities of responsible digital skills and data ethics in distance learning, as well as blended or semi-face-to-face access to recent research and information general or specialized on EE, depends—in large part—on infrastructure and technological investment that is not solely focused on urban areas. This topic is related with that of employability and its preservation through ICT that allows the updating of curricular contents focused on the more sophisticated requirements of employment. However, those requirements should be aligned by EE criterion, and a more responsible digital skills developed in higher education. By the way, the graduation rates of professionals have grown in Latin America, but not the number of appropriate job offers. Even salaries have been affected by the increase of unemployed graduates of institutions of higher education. This topic is urgent because without employment opportunities, what kind of equality and society are we creating?

In two documents, *Trends in Global Higher Education: Tracking an Academic Revolution* (UNESCO, 2009), and a document of Declaration of the “Third Regional Conference on Higher Education for Latin America and the Caribbean” (CRES, 2018); we can see an overview of Latin American vision for trends and the future. In *Trends in Global Higher Education* is clear that the enrollment in higher education in Latin America has increased due to the offer by the private sector, but with a commercial purpose. In the second document, “Declaration”, we have an overview of a major theme for universities in Latin America: it is the strategic role of higher education in fostering sustainable development.

This is directly related with the topic of designing relevant syllabus including EE and responsible digital skills for employment and equal income.

Considering the value of the future also refers to the indispensable ethic dimension of what drives technological innovation and education today. Our ongoing dialogue takes place with what we have before us, a reality with which we converse everyday. On one edge, it is outlined by the dream of an education for freedom and citizenry, in general, guided by the key role of EE, in particular, that we desire for millions of children and youth, and on the other, by what reality requires us to understand and respect for. It is a reality woven by contradictions. If we start off from this moment right before us, let us look beyond the immediate, let us aim to create a future from the present moment. Words are presence and opens up new cycles. May the idea of rethinking EE and responsible digital skills become possibility and hope for current environmental concerns.

References

- Conferencia Regional de Educación Superior, CRES (2018). *Declaration*. Third Regional Conference on Higher Education for Latin America and the Caribbean. Córdoba, Argentina, June 14th, 2018. Argentina: CRES. Retrieved from: <http://www.cres2018.org/uploads/declaration.pdf>
- Floridi, L., and Taddeo, M. (2016). What is data ethics? *Phil. Trans. R. Soc. A* 374: 20160360. <http://dx.doi.org/10.1098/rsta.2016.0360>
- Global Challenges Foundation (2017). *The Global Catastrophic Risks 2017*. Stockholm: Global Challenges Foundation. Retrieved from: <https://api.globalchallenges.org/static/files/Global%20Catastrophic%20Risks%202017.pdf>
- Martínez Ruiz, X. (2016). El otoño se disipa. Latinoamérica, educación y futuro, en Rama, C. *Mutaciones universitarias latinoamericanas. Cambios en las dinámicas educativas, mercados laborales y lógicas económicas*. México: IPN. Retrieved from: <http://www.innovacion.ipn.mx/ColeccionLibros/Documents/mutaciones/Mutaciones.pdf>
- OECD (2015). *E-Learning in Higher Education in Latin America*. París, FR: Development Centre Studies, OECD Publishing. <http://dx.doi.org/10.1787/9789264209992-en>
- UNESCO (2009). *Trends in Global Higher Education. Tracking an Academic Revolution*, París, FR: UNESCO. Retrieved from: <http://www.uis.unesco.org/Library/Documents/trends-global-higher-education-2009-world-conference-en.pdf> 010_