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Open Education Leadership Summit

Achieve More through Collaboration

OELS 2018: 3.-4. December, CNAM, Paris, France

PANELS PROCEEDINGS

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Open Education Leadership Summit Achieve More Through Collaboration

Introduction

The <u>Open Education Leadership Summit</u>¹ has been organized by the International Council for Open and Distance Education (ICDE), Open Education Consortium (OEC), the Ministry of Higher Education, Research and Innovation (MESRI), and the Ministry of National Education and Youth (MENJ) of France. It has been hosted by MESRI and by the *Conservatoire des Arts et Métiers* (CNAM), 3-4 December 2018.

According to their own presentation, the International Council for Open and Distance Education (ICDE)² is the leading global membership organization for open, distance, flexible and online education, including e-learning, and draws its membership from institutions, educational authorities, commercial actors, and individuals. Open Education Consortium (OEC)³ is a global network of educational institutions, individuals and organizations that support an approach to education based on openness, including collaboration, innovation and collective development and use of open educational materials.

The two French Ministries of Education were involved in the organization of this event, which brought together more than 170 participants from 55 countries.

Panels and roadmap creation

The Open Education Leadership Summit was organized around two parallel concurrent strands of activities - 1. thematic keynotes and 2. roadmap creation. This second strand has engaged participants in hands-on development of a roadmap representing their own open education initiative.

Then, regional roadmaps, including the contributions from individual roadmaps, have been designed. The analysis of roadmaps identified common themes, challenges, and opportunities: MOOCs – Peace and Conflict Resolution; Nursing OER; Open Recognition & Badging; Sustainable Development Goals (SDG's); Open Education Practices & Pedagogy; Use of OER in Rural Locations & Global South; Open Education Implementation & Culture Change; Research on Open Education; Open Education Policy & Advocacy; Open Assessments; OER Coaching; Moodle.net; Multilingual OER and OER for Language Acquisition.

More information in the OEC website: <u>https://www.oeconsortium.org/2019/01/oels2018/</u>

In parallel with the design of the roadmaps, Eric Bruillard and Perrine de Coëtlogon set up a programme of interventions in the form of panels. The aim was to take stock of the issues of openness around education, but also more broadly on openness in science and governance, to give a voice to international institutions such as UNESCO and OIF, to report on ongoing actions in Open Education, particularly around OERs, to reflect on links with the Commons, following the work of Elinor Ostrom.

This resulted in a series of thematic keynotes and discussions:

¹ <u>https://www.openeducationleadershipsummit.com/</u>

² <u>https://www.icde.org/</u>

³ <u>http://www.oeconsortium.org/</u>

- 1. Different forms of open education including Open Educational Resources (OER), MOOCs, Open Access, Open Science, Open Data and Open Source Software and Hardware
- 2. Dialogue between the Anglophone and Francophone Worlds of Education
- 3. Emerging open education opportunities including OER recommendations, blockchain, microskills, open badges and open recognition
- 4. The commons of education general, legal, norms and roles including that of teachers' associations
- 5. Open education and the UN Sustainable Development Goals
- 6. Perspectives from the Global South

A <u>web page</u>⁴ gives access to the various presentations in PDF format.

Proceedings of panels

This document, which is deliberately limited in size, contains the main elements of the various presentations. Authors were asked to provide a short text with their main ideas. The objective was to provide the most recent elements around Open Education in a relatively compact form. One exception concerns open recognition, with a slightly longer development of Serge Ravet, which seemed justified to us in view of the novelty of this concept, as envisaged in his text.

Concerning open access of research publications, things are progressing significantly. **The Plan S** was launched on 04 September 2018 at the initiative of the European Commission and "cOAlitionS", a consortium supported by the European Research Council and research funding agencies from 12 European countries. The plan requires that scientists and researchers receiving public funding for their projects publish their work in open access as of January 1, 2020.

Two points are worth noting. First, the document reflects a broad vision of openness. Beyond open educational resources or open access, different notions of openness are interrelated, from open science to open government, and several authors defend the idea that these different openings converge in meaningful ways.

Secondly, openness is not only a matter of access, licensing or organization, but depends on the people, their ability to work together, and communities in which they participate.

A better understanding of the characteristics of collective work, building an education that promotes its development, bringing people together around common goals and values, are key objectives for which the various forms of openness appear to be essential components.

⁴ <u>http://sites-e-play.parisdescartes.fr/eda/?page_id=3066&preview=true</u>

Panel 1

Different Forms of Openness; open access, open educational resources, open science, open government...

Danièle Bourcier, Director of Research, Centre for Administrative Science Research (CERSA), Paris University (France)

The society in which we are living, working, voting, reading, learning, buying is supposed to become an Open society: open government, open data, open access, open education and so on. A few decades ago, we were confronted with the information society. Is it the same project? Does Open mean open, or free?

We have discovered that a so-called Open society is full of constraints, be it financial, technical, legal or political ones. Of course, this opaque and secret society has to become truly open and accessible.

However, on the one hand, the implementation and generalization of openness has encountered many barriers and, on the other hand, openness supports strategic management plan in organizations and not necessarily the "public good".

For example, the Open government movement has a secret agenda: fewer teachers and fewer professors in public schools. Is it a compatible alternative?

The (golden) Open access in the sector of scientific publishing incorporates the necessity for the author to obtain subsidies in order to publish on an open access basis. Even in the Open education movement, many impediments must be considered at the same time: privatization of knowledge access, and "over proprietarization" (Lessig, 2001) of copyright. The motto "Some rights reserved" rather than "All rights reserved" has emerged from these reflections through the Creative Commons licences. At last, in the era of Artificial intelligence, in accordance with the principles of Open data, new rules have been introduced so as to preserve the transparency of algorithmic decisions; yet nothing has been said concerning the data that will influence these algorithms.

In this context, to spread universal access to education while maintaining quality, equitability and openness remains a challenge. It is the reason why this Summit has been organized.

In this session, Alain Beretz, Strasbourg University and past General Director for Research and Innovation at the French ministry of Higher Education and Research, will announce the launch of an ambitious Open Science Plan in France, introducing transparency and faster access to results. All the French scientific players are included in this project. Following on from this, Nicole Allen, SPARC, will give a vibrant talk on her initial presentation of the Open movement before the U.S. congress and of the way she tries to embody these various forms of openness within SPARC

References

Lessig L. (2001). *The future of ideas, The fate of the Commons in a connected world*, Random House. http://www.the-future-of-ideas.com/download/lessig_FOI.pdf

The French Open Science Plan

Alain Beretz, University of Strasbourg, past General Director for Research and Innovation, French Ministry for Higher Education and Research

The French government has announced in July 2018 the launch of an ambitious <u>Open Science Plan</u>⁵. There are three reasons that caused this decision. The first one is the important change in paradigm in science, which is now opening up for society as a whole. The second reason is the risk that France might miss the ongoing global shift towards open science. And finally, the fact that the actual closed practices that still hold sway induce inadequate exploitation of our scientific potential.

Indeed, the situation of spreading the results of science is reoccupying: you have to pay exaggerated and unjustified fees to have access to researchers' publications sponsored by public resources. While fake news are very easily accessible, scientific publications are protected behind paywalls that act as barriers preventing access to knowledge. Of course, this is not an obstacle for the richest universities in the world and for the large industrial groups. But it severely limits the potential impact of our research on campuses around the world, on society, on economy.

The French plan for Open follows a **comprehensive approach** and does not just deal with the open publications issue. We sustain that open science should seek to create an ecosystem in which scientific research is more cumulative, better supported by data and more transparent with faster and more universal access to results.

The plan builds on key principles and commitments⁶. The principles are:

- Knowledge that is kept locked up is sterile knowledge
- Open science is not a fashion, it is not a discipline, it is a paradigm.
- It thus involves new *practices* and new *skills*.

Three main commitments form the plan's backbone:

- 1. generalize open access to publications
- 2. structure research data and make it available through open access
- 3. be part of sustainable European and international open science dynamics

The first commitment is to generalize open access to publications. The principle underlying this action is that we need more *bibliodiversity*, i.e. we should move towards greater diversity and balance in the editorial landscape. Three sets of actions will be launched:

- 1. Make open access mandatory when publishing articles and books resulting from governmentfunded calls for projects. The French national research fund (<u>ANR</u>) has already made this mandatory for the research it sponsors.
- 2. Create an Open Science fund. This will contribute to the development of innovative French and international solutions, both from a technical and economic point of view. For example, it will enable to explore the development of participatory funding models involving all the world's libraries. France will thus help the scientific community regain control of publishing.
- 3. Support the <u>HAL</u> national open repository and simplify the publication filing procedures for researchers who publish through open access platforms around the world. HAL allows articles

⁵ <u>http://cache.media.enseignementsup-</u>

recherche.gouv.fr/file/Recherche/50/1/SO_A4_2018_EN_01_leger_982501.pdf

⁶ See <u>Amsterdam Call for Action on Open Science</u> and <u>Jussieu Call for Open science and bibliodiversity</u>.

which have been published in closed journals to be deposited for open access. It also guarantees long-term conservation of national publications and is an open archive.

The second commitment aims to structure research data and make it available through open access. Data can serve as an educational tool, a scientific substrate and a catalyst for innovation. We should not lose our rights on our data as we have lost our rights on our journals. The objective of the plan is to structure and preserve the data, prior to making them freely available, following the principle "As open as possible...as closed as necessary". This commitment is based on three main actions:

- 4. Make open access dissemination mandatory for research data resulting from governmentfunded projects.
- 5. Create the post of Chief Data Officer and the corresponding network within the relevant institutions.
- 6. Create the conditions for and promote the adoption of an Open Data policy for articles published by researchers.

The third commitment will aim at being part of sustainable European and international open science dynamics. If we seek to make France an open science country, this means transforming scientific practices so that they integrate and adopt open science on a routine basis, as well as contributing to the structuring of the international open science landscape. This transformation has to take into account the wide range disciplinary specificities and constraints. This last commitment is also based on three main actions:

- 7. Develop open science skills, especially in postgraduate schools. Open science is not a fashion, it is not a discipline, it is a paradigm. It thus involves new practices and new skills. That should be part of the initial background skills of young researchers. Open science will not be the business of a small group of specialists; it will have to permeate the entire research world.
- 8. Encourage universities and research performing organizations to adopt open science policies.
- 9. Actively contribute to structuring European data in the European Open Science Cloud (EOSC) and by participating in GO FAIR.

This open science plan is not an isolated initiative but it resonates with other "open" initiatives, such as the **Paris OER** (*open education resources*) **declaration** in 2012⁷, which defined OER as "teaching, learning and research materials (...) that (...) have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions."

Another example is the <u>Open Government Partnership</u>, which "...brings together government reformers and civil society leaders to create action plans that make governments more inclusive, responsive and accountable." France has included several commitments on Open Science in its own <u>Open government plan</u>⁸.

Finally, it should be stressed that such an ambitious plan requires an underlying backbone of **regulations and infrastructures**. This is very important order to transform these political commitments into concrete actions visible in the field. We can cite two of these.

First the "law for a digital republic"⁹ published in October 2016, includes regulations for <u>publications</u>, <u>with a new right for authors</u>¹⁰. <u>Article 30</u> states that when a research is 50% publicly funded, the author retain the right to publish in open repositories 6 (STM) to 12 months (HSS) after publication. This law

⁷ <u>https://en.unesco.org/oer/paris-declaration</u>

⁸ <u>https://www.etalab.gouv.fr/wp-content/uploads/2018/10/2015-07-09</u> Plan-gouvernement-ouvert-EN-Version-Finale 0.pdf

⁹ <u>https://privacylawblog.fieldfisher.com/2016/france-adopts-digital-republic-law</u>

¹⁰ <u>https://www.republique-numerique.fr/pages/digital-republic-bill-rationale</u>

also sets up, in the field of data, a new duty for universities and research performing organizations, as it states in its article 6 that open data should be the default for all publicly funded data, including research.

Secondly it is crucial to invest in **infrastructures for open science**, which provide structures and organizations to implement the plan. We can briefly cite here: <u>Huma-Num</u> (Digital Humanities services), <u>Collex-Persée</u> (Open access legacy journals), <u>METOPES</u> (XML workflow for digital publishing), <u>OpenEdition</u> (comprehensive platform for open access academic publishing in HSS), <u>HAL</u> (centralized, national and multidisciplinary archive). 500 000 documents, <u>Centre Mersenne</u> (publishing infrastructure for mathematics), etc.

Conclusion

Open science is the key to better scientific research, but it is also contributing to social and economic progress. In choosing open science we allow our scientists to find the audience for their work, to reach the broad and universal readership they deserve, and optimize the role of science in our society.

Thinking Big About Openness

Nicole Allen, Director for Open Education, SPARC, advocate for OER, OpenGov and Higher Education Reform (USA)

Everyone has a story about their "ah hah" moment with openness. Mine began 13 years ago as a student protesting outside in the rain. It was in 2005, the day before the U.S. Congress would vote to cut funding from a program many students relied on to finance their education. The vote was close: if one lawmaker switched sides it would stop the bill. So I recruited a group of fellow students to rally outside a local Congressman's office, waiving signs and yelling chants despite pouring rain. And then came the moment that changed the course of my life: a woman came down from the office and said, "The Congressman would like to speak with you."

That day, I learned several lessons. First, student leadership matters. Where no one else was able to get through, a group of students got the Congressman to stop and listen to what we had to say. Second, I learned that victories can come out of losses. While the lawmaker did not ultimately change his vote, we formed a relationship, and I won his support down the road on other reforms that helped students. Finally, I came to the realization that we had to start thinking *bigger* about education. While incremental changes to traditional systems were then — and still are now — critically important, I looked at the interconnected world around me and saw the potential for knowledge to flow freely and equitably, if only we could tap into it.

It was not until 2008 when I read the <u>Cape Town Open Education Declaration</u> that it all fell into place: that potential is *openness*. In the decade since, I have watched (and in many cases helped) thousands of others come to see that potential too. Each person arrives at the "ah hah" on their own, but there is something fundamental about openness that people just come to see. Many of us have reached it through the lens of education, but there are many other movements that embrace openness such as open software, open science, open knowledge, and open government, just to name a few.

As these different streams of openness begin to gain traction and work into both policy and practice in various contexts around the world, we must push ourselves to think bigger about how they intersect and converge in meaningful ways. Here are three examples of where this is already happening. In policy, The <u>Open Government Partnership</u> (OGP) is a multilateral initiative where governments make commitments to share information with the public, be more transparent, and engage citizens in decision-making. As a critical public service, education can become more open when government becomes more open. For example, <u>Mexico's government</u> released open datasets about teachers and schools, which were used to build a portal for parents to better understand and take action in their local communities. <u>Brazil</u> and <u>Slovakia</u> have committed to developing plans to improve procurement and acquisition of publicly funded educational materials to make them more open. The <u>U.S.</u> committed to running pilot programs that expand the use of open educational resources overseas. All of these ideas sit at the intersection of open government, open education, open data, and open knowledge.

Various forms of openness intersect every day in the classroom. At the 2018 Open Education Global conference, Professor Erin McKiernan <u>spoke about</u> how she engages students in open science by combining open software, open data, and open educational resources at Universidad Nacional Autónoma de México. In Senegal, the organization <u>SeeSD</u> is working to inspire new generations to pursue STEAM education, including efforts to translate, localize, and share back open resources. In the U.S., a group of universities in the city of Denver participate in the <u>Data to Policy Project</u>, which engages students in research projects that feed open information back to local policymakers. All of these projects not only combine various forms of openness, they are also led by early career academics who are part of the growing <u>OpenCon</u> community, which seeks to empower the next generation who sees open as the default.

At my own organization, <u>SPARC</u>, we embody the intersection of different forms of openness, as we coordinate programs and policy agendas across open access, open education and open data. While each area is distinct, we tie them together by leveraging open as an enabling strategy to achieve larger ends. Our goal isn't just to advance open access, open education, or open data. It's to advance open "in order to..." Each person, organization, or government ends that sentence in their own way. For SPARC, it's open in order to democratize access to knowledge, accelerate discovery, and increase the return on our investment in research and education. For governments it may be to spur economic development and innovation. For universities it may be to increase the reach of their world class scholarship. For teachers it may be to provide a more engaging experience in their classroom.

As we move forward into the next decade of open education, we need to keep pushing ourselves to think bigger about open, how different areas converge, and the ultimate goals we hope to achieve. While we all may have moments where we feel like students standing out in the rain, support is growing for the open agenda and together we can help unlock the potential it holds to accelerate change and improve lives.

Some complements about SPARC

(Text written by the editors)

SPARC (the Scholarly Publishing and Academic Resources Coalition) works to enable the open sharing of research outputs and educational materials in order to democratize access to knowledge, accelerate discovery, and increase the return on our investment in research and education. (https://sparcopen.org/)

SPARC works to create a world in which anyone can access, build upon, translate, and improve knowledge. Students should have access to their learning materials—and teachers should be able to update, improve, and customize resources with ease. Researchers should be able to read any article

and its supporting data—and, without having to negotiate, they should be able to use text and data mining tools that have the potential to optimize their results.

Definitions¹¹

Open Access is the free, immediate, online availability of research articles combined with the rights to use these articles fully in the digital environment. Open Access ensures that anyone can access and use these results-to turn ideas into industries and breakthroughs into better lives.

Open Education encompasses resources, tools and practices that are free of legal, financial and technical barriers and can be fully used, shared and adapted in the digital environment. Open Education maximizes the power of the Internet to make education more affordable, accessible and effective.

Open Data is research data that Is freely available on the Internet permitting any user to download, copy, analyze, re-process, pass to software or use for any other purpose without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself.

In the SPARC website, for the US, an interesting page updated weekly tracks the latest state-by-state policy activity relevant to the SPARC community, along with policies enacted in past years. See https://sparcopen.org/our-work/state-policy-tracking/

We can mention other SPARC groups in Japan, Africa and Europe; see https://sparceurope.org/

¹¹ <u>https://sparcopen.org/</u>

Panel 2

Dialogue between the Anglophone and Francophone Worlds of Education

Open educational resources at OIF

Papa-Youga Dieng, IFADEM, International Organisation of Francophonie (OIF) (Senegal) Coordonnateur de l'initiative francophone pour la formation à Distance des Maîtres (IFADEM) Institut de la Francophonie pour l'éducation et la Formation (IFEF) Organisation internationale de la Francophonie (OIF)

Since 2002, Open Educational Resources (OER) have occupied an increasing place on the international educational scene. Their transformative potential, ease of access and the values they convey make them a central challenge for achieving the fourth sustainable development objective of "ensuring access for all to quality education on an equal footing and promoting lifelong learning opportunities".

The International Organization of la Francophonie (OIF) has decided to take full advantage of this challenge and to act in a resolutely committed way to promote open, free and accessible education for all.

Since 2013, the OIF has set up a series of international expert workshops (Moncton - 2013, Tunis - 2015, Paris - 2016) to develop and refine an action plan for the Francophonie on OER. Thus, the implementation of the action plan has had the following results:

- the creation of the open and massive online course "OER 2014 For a free education",
- the development of the OER Competency Framework and the trainer's guide on OER;
- the development of the IDNEUF meta-portal developed with the *Agence universitaire de la Francophonie* (AUF), designed to manage educational resources and promote the digital heritage freely accessible in French;
- the production of a significant number of OER for students and teachers, including some sixty selfstudy booklets for teachers in schools in some fifteen member countries of La Francophonie.

More generally, through the *Institut de la Francophonie pour l'éducation et la formation*, the Francophonie's digital strategy (*Direction de la Francophonie numérique*) and the use of OER, the OIF aims to contribute to increasing equity, relevance and access to quality education for all. The development and integration of tools and OER in teacher education, curricula and pedagogical resources all contribute to these objectives.

To increase Francophone capacity in OER, OIF has established a broad partnership framework with key actors such as the ministries of education of OIF member countries, UNESCO, the Open Education Consortium, the Arab League Educational, Cultural and Scientific Organization (ALECSO), the University of Moncton, the African Virtual University and the Tunis Virtual University.

Policies on OER

Mona Laroussi, IFEF, International Organisation of Francophonie (OIF)

Introduction

Lažetić et al. (2015)¹² classify openness in education in four categories: Content, Infrastructure, Culture and Process. We often limit openness to content taking into account data, research literature, resources and software.

A more global vision introduced by an open culture would allow a more democratic practice and especially a more beneficial and anchored use and would allow us to introduce the notion of policies in the different categories.

In JRC technical reports "policy approaches to open education"¹³, four types of policies are introduced: Policies focusing specifically on opening up education through the promotion of open educational resources (OER) and open educational practices (OEP); Policies relating to general ICT (Information and Communication Technologies) for learning with some open education component; Comprehensive strategic educational policies with some open education component; Polices designed as National Open Government Plans with some open education component.

Open education is an important part of how educational institutions deliver their mission and increase quality. Open education needs support from policies, via a multi-stakeholder approach, that can act systemically to further advance open education.

We present in this paper the policies in OER in French-speaking countries. Work is not exhaustive but just a beginning of classification to identify the different actors.

Open Education

Open education can be defined¹⁴ as mode of realising education, often enabled by digital technologies, aiming to widen access and participation to everyone by removing barriers and making learning accessible, abundant, and customisable for all. It offers multiple ways of teaching and learning, building and sharing knowledge, as well as a variety of access routes to formal and non-formal education, bridging them.

Basically, openness in education needs to be reflected on a macro, meso and micro level, coupled with that strategic policy-making needs to consider inclusive programme designs and funding mechanisms. Furthermore, there is a clear need for more collaboration and mutual learning in order to capitalize and exchange.

At a macro level, we can find Policies and Curricula Open Education and Learning Quality coupled with the Need for Changing Strategies and Learning Experiences. At the meso level: Organisation and Design. At the micro level: Learner and resources. Our work is situated at the micro level. We treat policies in OER.

¹² Lažetić, P., Souto-Otero, M., Shields, R., Muñoz, J. C., & Punie, Y. (2015). OpenCases: A Catalogue of Mini Cases on Open Education in Europe.

¹³

http://publications.jrc.ec.europa.eu/repository/bitstream/JRC107713/jrc107713 jrc107713 policy approache s to open education.pdf

¹⁴ JRC IPTS Report: Opening up Education: a support framework for higher education institutions (2016) <u>http://publications.jrc.ec.europa.eu/repository/bitstream/JRC101436/jrc101436.pdf</u>

OER Policies

Definition

The term OER was proposed in 2002 during the UNESCO Forum, which was defined as "the open provision of educational resources, enabled by information and communication technologies, for consultation, use and adaptation by a community of users for non-commercial purposes.

OER policies are generally those that support the assembly, use and reuse of OER in an institution or within a jurisdiction.

The Creative Commons has established an OER policy registry that, as of November 2015, included more than 70 policies. Commonwealth of learning¹⁵ adopted an OER policy in 2011, while UNESCO adopted an open access policy in 2013¹⁶.

Types of policy

Policies can be categorized into 3 types.

- Policies linking OER to open access for research and for education
- Policies facilitating quality access, reducing costs but also others such as development and informed citizenry
- Policies reducing or dismantling the barriers to creation of innovative institutions and innovative practice (including OER, MOOCs and open educational practice)

Categories

Four categories of OER policies have been identified: Policies for OE Development, Policies for Open Standards (government's open access and licensing methods), Specific Policies for Constructing OER (encourage the construction of OER with financial resources), OE Policies Imbedded in Other Education Strategic Plans (promoting educational equity and quality by using information technology)

OER in French-Speaking African Countries

Context

The context is very different when comparing countries located in the south and the north.

The situation in the northern countries is punctuated by the presence of clear strategies and policies letting the creation, adoption, and sharing OER and the design and integration of OEP into programs of study. Such policies identify open licensing standards, technical formats, and accessibility for OER, and they articulate appropriate and permitted uses of funds in support of OER and OEP. They promote good stewardship of those resources by sharing in public repositories. For example, foundations, governments, and other public entities often have open licensing policies to ensure the resources they fund or procure are OER and are shared broadly. Policies at colleges and universities support the academic use of OER and OEP. Policies by international non-governmental organizations often seek to frame broad standards and articulate accepted practices for OER and OEP and to promote their adoption.

In the southern French-speaking countries, the OER are dependent on personal initiatives and political decisions. We can mention associations¹⁷ such as associations created by the University of Cadi Ayed in Morroco, Virtual Tunisian University. Those associations try to influence behaviours and practices, to increase awareness of open education and intellectual property rights (IPR). We also find resources from people's specialists in the field. They coach and supervise a group of young teachers and

¹⁵ <u>https://www.col.org/</u>

¹⁶ <u>https://oerknowledgecloud.org/content/commonwealth-open-educational-resources-oer-policy-brief</u>

¹⁷ (<u>https://oerworldmap.org</u>

researchers. This interesting expertise remains precarious in the sense that it depends heavily on the person. We also find many projects financed by foreign operators in order to promote the use of OER. These projects made possible to set up repositories of free indexed educational resources. Projects, foundations, associations are developing and implementing their own open policies and they can continue to refine, test and nuance open education policies.

Policy changes needed to make more effective use of OER?

OER policies should be integrated into global strategy of OE including policies and guidelines; funder mandates; and declarations from influential bodies such as UNESCO. Making access to high-quality education more equitable and affordable and express a concerted commitment to use OER and OEP for these purposes.

It is important to integrate public and non-public funding models in order to reduce education costs and maximize public investment returns. This suggests that the international OER partnerships will be the norm in the future and new models of funding will be required to support this trend which will need to be based on collaboration.

The objective of policies shouldn't be just to produce OER but also to produce guidelines explaining access and use; that is what it was noticed in the various observations made, that teachers use the resources put at their disposal only if they are supervised. Teachers have difficulties in integrating a resource with their training support; we noticed that usually teachers take all the resources or nothing.

Conclusion

In order to encourage the implementation of OER policies in emergent countries, copyright policies for education need to be flexible enough to allow educators and/or institutions to retain all rights reserved copyright for resources that have this potential commercial value.

So we have to encourage:

- a) the development of diversified learning resources (mother tongue or LUL);
- b) policies that require publicly funded educational resources, being openly licensed;
- c) incentives for teaching staff to publish editable, accessible OER digital files in public repositories.

Connected Learning as a driver of change

Alex Grech, Commonwealth Centre for Connected Learning (Malta)

Connected learning is a transversal policy for changes that need to be activated not just within the Maltese education system, but in developing countries where technology may be used as an enabler of much-needed change in education frameworks.

In a seminal report, Ito et al. (2013) define connected learning as an approach to education that is "socially embedded, interest-driven, and oriented toward educational, economic, or political opportunity". Connected learning is typically realised when a young person is able to pursue a personal interest or passion with the support of friends and caring adults and is in turn able to link this learning and interest to academic achievement, career success or civic engagement. This model is based on evidence that the most resilient, adaptive, and effective learning involves individual interest as well as social support to overcome adversity and provide recognition. Built on the three core values of social equity, full participation and social connection, connected learning advocates for broadened access to learning that is socially embedded, interest-driven, and oriented toward educational, economic or political opportunity.

Faced with the current stasis about OER, policy-makers need to become pragmatic. It is within this context - an increasing awareness of how education systems fail learners whose real lives outside the learning environment bear little resemblance to what is being served as 'curriculum' or 'training materials' - that connected learning becomes a compelling proposition. Although its principles have been part of the education vernacular before the advent of the Internet, in 2019 connected learning is closely associated with the development and exchange of knowledge and ideas among students and educators through the use of information technology that enables learning that is not bound by geographical limitations. The emergence and mass uptake of online social networks revived interest in connected learning as a learner-centric framework (see Benkler (2006, 2011); Rheingold 2012). Social media, digital games and digital production tools are used by lone educators to push against the boundaries of one-size-fits-all curricula in the belief that the most resilient, adaptive, and effective learning involves individual interest combined with social support. This is inclusive yet very personalised learning by praxis, overcoming adversity and providing recognition for skills gained via alternative routes. For educators adopting connected learning principles, the various experiences, interests and contexts in which learners participate—in and out of school—are potential learning opportunities that may also lead to academic achievement, career success or civic engagement.

The use of online social networks also activates communities that are not necessarily geographic: young people use social media to connect with others who share similar interests and co-learn; older learners can lever on online peer-learning networks to pursue niche interests in the information age where in principle, social connections are abundant; academics can actively start to pursue opportunities for curriculum re-design.

Connected learning draws on technology to activate people's interests, friendships, relationships and academic achievement through experiences grounded in hands-on production, shared purpose and open networks. It represents a framework for understanding and supporting learning, as well as a theory of intervention that grows out of our analysis of today's changing social, economic, technological and cultural context. Connected learning experiences are also increasingly associated with 21st Century skills and 'deeper learning' demanded by the labour market. Framed against this ideal context is the embedded 20th century model of teaching and learning in classrooms that still have young people in assembly lines.

We need to shift the discourse on technology in education, from policy and investment in ICT infrastructure and copyright to praxis. Education systems should contribute to the development of 21st century skills, including digital literacy, and increasingly data literacy. Yet algorithms in education tend to be designed by people with strong data and technical skills but a narrow perspective of equity and social inclusion. The bias that exists within such systems needs to become explicit, particularly if we want to address inequities and integrate social learning and eliminate bias towards learners who are disenfranchised, such as refugees or people in poverty.

There is a need to address the issue of universal accreditation of learning, irrespective of the medium used for teaching and learning. Technology can be used for individual learning profiling, paving the way for radical changes to curricula. It is more than timely to investigate those attributes of education systems that are no longer aligned with the affordances of technology and analytics.

The Commonwealth Centre for Connected Learning (3CL)

see www.connectedlearning.edu.mt

The Centre was set up in 2017. Based in Malta, it operates as a virtual knowledge hub for a global network of groups, agencies, institutions and activists interested in the rapid deployment of pilots for

connected learning. It connects stakeholders in the Commonwealth with EU countries on projects and opportunities of mutual interest.

The Centre has four intervention areas:

- 1. Learning content and approaches
- 2. Teachers, educators and school leaders
- 3. Democratic learning culture
- 4. Cooperation, partnerships and synergies.

The Centre follows four strategic objectives:

- 1. Increase quality and relevance of digital learning
- 2. Increase impact of educators
- 3. Address inequalities and social integration in society through accessible and cost-effective education
- 4. Support and disseminate applied research and best practices in tech-enabled and connected learning

The Objectives are underpinned by three Strategies (Action Research, Praxis, Advocacy) and in turn by five Strategic Programmes.

Programme 1: Blockchain in Education Programme 2: Small States & Technology Programme 3: Conferences & Training Programme 4: Open Education Programme 5: Digital & Media Literacies

The Strategic Plan 2019-2021 is being published in March 2019.

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Panel 3

Open Education Recognition

How to Open Recognition?

Serge Ravet, president, Association Reconnaître, organizer of ePIC conferences (France)

Recognition precedes Knowledge (Axel Honneth)

Context

Open Recognition is a concept coined in 2016 with the publication of the Bologna Open Recognition Declaration¹⁹, "a call for a universal open architecture for the recognition of lifelong and lifewide learning achievements." It is part of a wider group of open things that comprises open science, open knowledge, open learning, open educational resources (OER), open data, open standards, open identity, open society and several more, in particular Open Badges.

"Open Badges, the open standard for the recognition of learning achievements has proved the power of a simple, affordable, resilient and trustworthy technology to create an open recognition ecosystem working across countries, educational sectors, work, social environments and technologies." (ibid.)

Without Open Badges the concept of Open Recognition might not have emerged and been adopted by an ever increasing number of individuals and organisations across the world. But Open Recognition is not limited to what Open Badges were designed for: *making visible informal learning*. As it will be developed below, designed to make informal learning visible, Open Badges have opened the path to *making informal recognition* [also] visible.

To attempt a definition of what Open Recognition is, it might be helpful to first define what *recognition* is and explore how *Open Recognition* could be related to the definition of other *open things*.

What is recognition?

Recognition can take many different forms: validation, certification, accreditation, endorsement, etc. which are *formalised* forms of recognition generally delivered by formal institution of education, awarding or accrediting bodies. Yet, there are other forms of recognition, less formal, like when one acknowledges someone else with a *thank you*, *you did a fantastic job*, *I trust you* or *you are my friend*. These forms of recognition are just as important as the formal ones, if not more so. Just as *informal learning* represents probably over 90% of all our learnings, *informal recognition* is likely to represent even more than 95% of all the expressions of recognition during a lifetime.

And while some energy and thinking has been devoted to the recognition of informal learning, Open Badges being the most recent and prominent initiative in that matter, much less efforts have been dedicated in the field of *informal recognition*. Where is the equivalent of Prior Learning Assessment and Recognition (PLAR) in the field of recognition? Is there anything to "recognise" the value of

¹⁹ <u>https://www.openrecognition.org/bord</u>

Informal Recognition of Informal Learning or something like Formal Recognition of Informal Recognition?

While those ideas might be perceived as farfetched to those for whom the only valuable recognition is the one delivered by a "recognised authority," Open Recognition is mostly an unknown territory which might be worth exploring.

As the result of an exploration of the *recognition territory*, we have created a map defined by two axes:

- Formal / non-formal institution / community centred;
- Traditional / non-traditional past / future, static / dynamic.

Inclusion	Non-Formal (Community-centred)	Empowerment
	Collective Badges	Dream Badges
Attiliation Ba Scout Badges	Badges	Self-Issued Badges Peer Issued Badges
	Peer	r Endorsed Badges
Traditional (Stotic/Post)	ogni	tion Non-Traditional (Dynamic/Future)
Competency Badges	5	Conversational Badges
Micro-Credentials Nano-Diplomas		Smart Badges
Dipiomas		badges as idunchpdos
Conformance	Formal (Institution-centred)	Enabling

Figure 1: Open Recognition Map—Source: Serge Ravet.

To populate the map, a number of "badges" have been added with names eliciting either the type or modality of recognition. For example, Smart Badges are recognition tokens whose display can change over time, depending on how they are being "fed", like a Tamagotchi.

The two axes split the space into four quadrants:

- **Conformance** the focus is on the alignment to institutional [predefined] standards;
- Inclusion the focus is on alignment to community norms;
- **Enabling** the focus is on providing dynamic recognition instruments that, unlike traditional diplomas and certificates [and badges used as micro-credentials!] are not static, are oriented towards the future; and
- **Empowerment** the focus is on providing individuals and communities the means to have a say in the design, implementation and running of open recognition ecosystems.

While the *conformance* quadrant might seem the least open and the *empowerment* one the most open, in reality all four quadrants can be opened, so that an institution of formal education could develop Open Recognition practices contributing to an Open Recognition Ecosystem. One example would be an institution working within its community, small or large, to recognise the *actual learning* that takes place within the community, beyond the funnel vision defined by predefined standards and diplomas.

Conversely, communities could be tempted to mimic traditional institutions of formal education and implement recognition practices that are not open in order to get a funding they would not get

otherwise. This is a real danger that could be described as either *the colonisation of the informal by the formal* or *the formalisation* of informal learning and recognition.

How does Open Recognition fit in the community of *Open* Things

Let's have a look at the definition of other open things, for example Open Learning:

"an innovative movement in education that emerged in the 1970s and evolved into fields of practice and study. The term refers generally to activities that either **enhance learning opportunities** within formal education systems or **broaden learning opportunities** beyond formal education systems." Source <u>Wikipedia</u>²⁰, highlights are mine.

And Open Science, defined by *Foster*²¹ as:

"the practice of science in such a way that others can collaborate and contribute, where research data, lab notes and other research processes are freely available, under terms that enable reuse, redistribution and reproduction of the research and its underlying data and methods."

Or Open Educational Resources (OER) defined by Unesco²² as:

"teaching, learning and research materials in any medium – digital or otherwise – that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions."

We have here three definitions of openness using different terms relevant to their contexts:

- A *movement* for Open Learning
- A *practice* for Open Science
- A *license* for OERs

A definition of Open Recognition might combine several terms:

- a *movement* emerging from the development of
- a practice, making informal learning visible, enabled by the adoption of
- a technology, the Open Badges, based on
- a license, the Open Badges standard.

Transposing the above into a definition could lead to:

Open Recognition is a movement born from the practice of Open Badges, exploring and promoting practices, technologies and policies enhancing and broadening the opportunities for everybody, individuals and communities, to be recognised <u>and contribute to the recognition of others</u>. (the underlined part is explained below)

Initially developed by the Mozilla Foundation and the MacArthur Foundation, Open Badges played a significant role in instrumenting an *emerging practice*, the recognition of a form of learning that, until their invention, remained mostly invisible—unlike formal learning and its paraphernalia of diplomas and certificates.

But there is more to that story: once we had at our disposal an instrument making informal learning visible, the very same instrument had the capacity to make *informal recognition* visible as well. While

²⁰ <u>https://en.wikipedia.org/wiki/Open_learning</u>

²¹ <u>https://en.wikipedia.org/wiki/Open_learning</u>

²² <u>https://en.unesco.org/themes/building-knowledge-societies/oer</u>

an arcane distinction at first sight, it is of critical importance to establish to its full extent what Open Recognition is about:

- Formal recognition of informal learning, is usually understood as the recognition of informal learning by an institution of formal education. It is the institution that has the power to recognise. A typical example is Prior Learning Assessment and Recognition (PLAR) where work and life experiences can be translated into credits that might count towards an academic qualification.
- Informal recognition of informal learning, on the other hand, is the recognition which remains mostly *unrecognised* by institutions of formal education. Yet it exists under many different guises, like the promotion to a new job, a pay raise, a celebration or congratulation.

Informal learning and informal recognition have at least one thing in common: unlike their formal counterparts, they are not visible. To be more precise, they might be visible and meaningful locally, within a very narrow range of action, but rarely beyond. The strength of formal education is that the recognition produced *locally* within the institution is in general translated into a credential that can be displayed and understood within a much larger community. Beyond its educational mission, formal institution, into global recognitions by professions, the industry, nationally or internationally, depending on the level of recognition of the institution itself and their alumni.

Open Badges offer the opportunity to make all forms of recognition visible, whether formal or informal, issued by an institution of formal education, an organisation, a community or an individual. What was only visible locally can now be made visible globally.

Who has the legitimacy to recognise?

When someone receives a recognition, the person can accept or refuse it. A way to show that a badge has been accepted is to make it visible in one's Open Badge passport, social media (Twitter, Facebook or LinkedIn) or personal site/blog. In accepting a badge, the implicit message from its recipient to the issuer is: "I recognise you who has recognised me." The recognition is *mutual*.

And if a recognition is *mutual* then a logical inference might be that the process for the delivery of a badge as a token of recognition can be initiated by any of the two parties—there could be more than two, but let's start with a simple case.

A recognition process can be triggered by:

- The recipient who *claims* a badge by asking another party to *issue* the badge on his/her behalf;
- The issuer of a badge who *notifies a* recipient that he/she can collect a badge in his/her name.

When the recipient asks another party to issue a badge on his/her behalf, it is an act of recognition of the future issuer. If the invited issuer issues the badge claimed by the recipient, it is an act of recognition of the recipient.

This point was obviously not understood during the developed the first Open Badge technologies: the Backpack created by the Mozilla Foundation only allowed individuals to collect badges issued by institutions or organisations that had the "legitimacy" to recognise. The first Open Badges were clearly designed to solely support the *formal recognition of informal learning*. They were not designed to support the *informal recognition of informal learning*. The recognition ecosystem was deeply

asymmetrical, with *the power to recognise* (issuing badges) solely into the hands of institutions and denied to individuals.

NB: The "Open" in "Open Badges" refers to the openness of a technical standard, not to the practices they enable, and the only practice they were designed for was the *formal recognition of informal learning*. Open Badges were not *open* to support *informal recognition of informal learning*.

While a step forward when compared to the statu quo ante, keeping the badge earners at the periphery of the ecosystem had a negative influence on the development of Open Badge practices: when institutions of formal education started to use them to recognise *informal learning*, they also decided to use them to recognise *formal learning* as well, and in doing so often retrofitted traditional recognition practices into Open Badge practices in a process that could be described as a *colonisation of informal learning by institutions of formal education*.

While the beauty of informal learning resides precisely in its *informality*, by introducing Open Badges to recognise *informal learning* a number of institutions of formal education engaged a process of formalisation that ultimately would destroy the very notion of informal learning through its normalisation and standardisation. If to be recognised informal learning has to be aligned against some kind of standard, if the implicit message is *only the learning that can be aligned to a formal framework will be recognised* where is the space for freedom, creativity and authenticity?

A badly designed informal learning recognition system could just kill the appetite for informal learning altogether. Conversely, a well-designed informal recognition ecosystem could influence positively the traditional recognition approaches based grades and certificates. It could be the opportunity to recognise informal learning to explore innovative thinking and methods, trying to avoid using those that are already used in traditional formal education.

Could Open Badges be an opportunity to... decolonise formal recognition?

How to open recognition?

Opening recognition is about creating the conditions, the ecosystem, enabling *the recognition of all by all*. It should start by recognising that everybody is both in search of recognition by others as well as having the power to recognise others.

When someone objects to the value of a recognition performed by an entity other than a recognised authority, an institution of formal education or an awarding body, the objection can be challenged on several grounds:

- An individual can make an authoritative judgement independently from the institution she belongs to, e.g. when an expert endorses a peer;
- A group of people can make an authoritative judgement, something that could be understood in relation to collective intelligence.

In 1907, <u>Francis Galton</u> published <u>Vox Populi</u>, a paper studying how a group of people attending a Fat Stock and Poultry Exhibition in the West of England were able collectively to guess within 1% the weight of a certain ox would be after it had been slaughtered and "dressed." He found that if individuals were almost never able to estimate the exact weight of the cattle, the median of the individual estimates was close to the actual result within 1%.

If we replace the challenge of assessing the weight of a "dressed" ox by assessing someone's ability to perform a certain task, we might find similar results. So to the objection that the value of a recognition performed by one person might be out of range, weighing a number of them would lead closer to the actual result. Of course, the people engaged in the assessment should understand what they assessing,

as did the participants in Francis Galton's original study: most of the participants who assessed the weight of the animal were trained professionals.

If one way to open recognition is to recognise the value of the recognition of individuals and [informed] communities (not just "crowds"), the *recognisant agents*, another approach could start from the person (or a community) in search of recognition who would define what she wants to be recognised for. We could start with the question: *how could we open formal recognition?* Which leads to the following question: *if diplomas are the way to recognise a successful formal education, could we imagine Open Diplomas?*

The following scenarios elicit ways formal recognition could be made more open:

- Marie is actively engaged in a trans-disciplinary study for which she picks and mixes different modules from different disciplines at different universities and other places of learning. She asks one of the universities she is attending to recognise that her learning has the value of a master degree. The diploma is a unique diploma, Marie's diploma and nobody else has the same. Although unique it is recognised to be at the level of a master degree.
- John, who has 20 years' experience in the industry goes to a university and asks to have his unique experience recognised as a master degree. The diploma is a unique diploma, John's diploma and nobody else has the same. Although unique it is recognised to be at the level of a master degree.
- Representatives of a professional community with its own professional development curriculum and practice (peer review) negotiate with a university to have their curriculum endorsed and get credits towards academic degrees for the recognition they have obtained in the field.

These examples tick several of the boxes of Open Recognition: it is open to people and communities, they combine formal and non-formal recognition (academic credit and peer review), they are open to innovative practice, and probably to emergent knowledge too. In all instances, it is the individuals and the communities that are at the initiative of the recognition process. They also recognise those who will recognise them.

(provisional) Conclusion

Open Recognition is about *opening recognition* and make everybody an active participant in an ecosystem conducive to mutual recognition. It is a movement in its infancy and there is still much work to be done to develop a shared understanding of the issues at stake and the range of solutions to address them. Ultimately it is about creating the conditions for an Open Society, i.e. a society open to others.

The Present and Future of Alternative Digital Credentials

Gary W. Matkin, Associate Dean, Career Pathways, University of California, Irvine (USA)

Summary of Remarks by Gary W. Matkin

The adoption of alternative digital credentials is an imperative in higher education and those institutions that do not adopt the issuance of ADCs (badges) will fall behind in the competitive marketplace. One of the major issues in starting an ADC issuance infrastructure is to decide what to issue such credentials for and what not to "badge." A failure of rigor and clarity in the issuance of ADCs

will result in an overall failure of acceptance of the credentials and a tarnishing of institutional reputation. ADCs should be issued for the demonstration of competencies rather than learning achievement. Competency is the demonstration of the ability to apply learning to workplace relevant activities. Institutions that 1) do not centralize the ADC issuance function under the appropriate administrative and oversight structure and 2) who allow ADCs to be issued for all manner of activities including particularly unevaluated learning and competencies will diminish the legitimacy not only of their won ADCs but that of the entire movement.

Z-Degrees/OER Degrees/ZedCred

James Glapa-Grossklag, Dean, Educational Technologies, Learning Resources and Distance Learning (USA) Z-Degrees

(Text written by the editors)

A "Z degree" is an academic program offered without textbook or instructional material cost to students.²³ Z as in zero: increasing college access and success through zero-textbook-cost degrees (Hewlett Foundation)²⁴ This question seems to concern colleges first and foremost.

With the support of William & Flora Hewlett Foundation, the Student Public Interest Research Group, an independent statewide student organizations²⁵, has launched a study (Senack, 2014) which showed that a majority of college students actually base course selection decisions on textbook prices and avoid courses with expensive content.

The zero-textbook-cost degrees at institutions like TCC²⁶ and NOVA²⁷ seems to represent models that other institutions can adopt. Again, with the funding from The William and Flora Hewlett Foundation, the website OER-based Degrees²⁸ shows that OER "dramatically reduce the cost to graduate, increase student success, radically increase pedagogical freedom" (with some references to research).

As "University enrolment decline continues into sixth straight year"²⁹ and "college students predicted to fall by more than 15% after the year 2025"³⁰, according to James Glapa-Grossklag, Z Degrees can help to save formal higher education.

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Blockchain & Education, some keywords, their link to education and the initiative to develop a sovereign and sustainable Blockchain compliant with our education values focusing on two innovations

Perrine de Coëtlogon, Project Manager Blockchain & Education, University of Lille (France)

Some key words and concepts in the blockchain technology

Most experts of the blockchain use a specific vocabulary that is difficult for most people to understand, including distributed system (peer-to-peer, disintermediation), certification (or the common law notarization's system, which is more about issuing certified copies), ledgers, proof of work, token, governance...

Each of these words reflects some key concepts of human inventions.

For example: one of the major human inventions is writing. And writing was invented 5000 years ago in order to record legal transactions. Ledgers and trusted third parties (authorized writers) were created -and still exist- to ensure legal certainty and avoid litigation. So too does the blockchain: each connected server possesses a copy of an immutable and secure ledger of legal transactions (distribution). Blockchain was conceived as an open source technology to ensure anyone could read the proof of transactions (transparency) in these records. This is still the case: almost every blockchain is open source.

Another example with the invention of currencies. The rise of human exchanges was -and still is- based on trust. Bitcoin was invented as an alternative currency following the financial crisis of 2008 that betrayed this trust, in order to propose a currency based on peer-to-peer decisions.

In blockchain technology, connected servers are in competition to resolve a complex mathematical problem (they are "mining"). The system is able to decide which server was successful and therefore, to certify the webpage (the block) containing a certain amount of transactions and to bind it to the previous page. The blockchain technology rewards this server with tokens for its successful contribution to a collaborative work (proof of work). No human intervention is required. This is a major informatics innovation.

The two major problems with blockchain technology identified by many experts are the questions of sustainability, identity in connecting and using the technology and the faculty to allow citizen to erase the personal data they do not wish to appear in the ledger. However, many researchers and companies are working already on addressing these questions.

Application of these principles in Education

In Education, these attractive and complex concepts have led to the identification of blockchain technology as an interesting solution to a few problems with regards to:

- **distributed and open ledgers**: retain shared records of all learning outcomes (diplomas, competences, diploma supplement, open badges...), in initial or lifelong learning, on a lifelong basis. Any world citizen having studied at some point in Europe would be able to find a certified copy of his or her diploma at any stage of his or her life.
- **disintermediation**: empower teachers to recognize and award their students directly with something else than the diploma (disintermediation): credentials or open badges. Whereas credentials can be seen as higher education credits that, put together, will constitute a diploma, open badges can be considered as a more flexible way to recognize any skills and competences, even acquired outside formal institutions.

- identity, open licences and reward of contributions in Open Educational Resources: ensure the traceability of remixed open educational resources and reward the contributors thanks to the issuing of "credits" that could be used as proof of work for their carrier path.

The "Netflix" of Open Educational Resources (OER)?

The last use case has led the author of this article to conceive of a blockchain capable of certifying the intellectual property rights of teachers and researchers (and even students) bound to their professional identity. The idea is to create a global platform comparable to a "Netflix" dedicated to Open Educational Resources and subject to open licenses.

It could be tested on the 30 000 French OER that are documented, available, and that may be found through a single search engine.

It would of course be free for anyone to use, with the possibility of payment for commercial uses, in order to explore a sustainable model for OER.

In a sense, it would mimic a plagiarism software, tracking the legal use and reuse of OER.

It would also allow visualizing a "family tree" of the uses and modifications of a resource, growing with the years.

Finally, application of blockchain technology would recognize and reward contributions to the OER movement. A sort of Open Badge / digital credit identifying the contributor and their contributions, easily embedded showable in curricula, serving as official proof in support of career paths.

The European Blockchain Observatory-Forum and initiative for Education

The blockchain use case identified by most governments and institutions in Education aims to create the distributed ledgers of diploma and competences.

27 State members of the European Union and Norway have set up a partnership on blockchain. This partnership has also identified the use case on certification of diplomas as an innovative public service to citizens. 2019 will should be the year to set up a global project in this regard.

In 2017, the French Ministry for Education and Youth set up a working group on Blockchain & Education at national level, based at the University of Lille. One of the objectives of this working group is to help test the sovereign and sustainable Blockchain developed within the IT system department of the European Commission.

Panel 4

The Commons of Education. General, legal, norms and role of teachers' associations

Introduction to the panel

Georges-Louis Baron, Paris Descartes University (France)

Open education is like a young tree with many roots, some of them in progressive education, some in the commons movement, some in the historical and cultural specificities of each country where it grows. Its development is mainly influenced by policies setting laws, rules and norms and by the involvement of different institutions, aiming to implement those policies. But it also has a very important dimension, linked to the involvement of actors within communities, informal online networks and associations, promoting generous ideas, defending values and patrimonies and producing resources, which are now mainly online. Among these actors, teachers play a key role.

Regarding open education, it is therefore very important to study communities of teachers, the context in which they develop, what they produce, their economic models, the way they do adopt and modify rules that allow them to move on and to convince other people.

For this purpose, research fortunately offers powerful theoretical models. Prominent among them is what has produced Elinor Ostrom and her school about the management of common resources. It occupies a privileged place because it provides a useful framework for understanding how agents may create sustainable communities with a limited intervention of external institutions.

These models are based on the study of communities producing and maintaining tangible resources (irrigation systems, fisheries...). But they are also well adapted to communities that produce, transform and disseminate online resources and may offer convincing examples of efficient organization.

The focus of this round table has precisely been on the links, in the field of open education, between the global context of norms and practitioners' commons. What are the available legal solutions, the tensions, and synergies, how main actors organize themselves?

Some of the ideas that were expressed at the round table are rooted in the experience of a country where teachers have relatively wide margins of action, even if they have to respect strong norms: France. Still, the examples given and the reflection produced are of a general value.

The dynamics of Commons in Open education

Danièle Bourcier, Director of Research CERSA, Paris University (France) Sophie Touzé, VetAgro Sup/University Lyon, Open Education Consortium President

Universal access to education is the best way to contribute to individual, social and economic development, and cultural exchange. With the emergence of digital technology and the Internet, Open Education refers to publicly accessible and shareable materials and resources for any user wanting to improve one's knowledge. Resources (OER) includes teaching, learning or research materials that are

in the public domain or released with intellectual property licenses that facilitate the free use, adaptation and distribution of resources.

The UNESCO Education Sector focuses on monitoring and analyzing global progress in adopting OER as well as supporting the development of national OER policies.

The principles of UNESCO have been enriched in 2015: Education has become a global "*public good*"³¹ or rather a "*common good*". Many researchers and educators were convinced that the world of education has changed firstly under the pressure of market (privatization of educational institutions). Secondly, for financial reasons, states often diminished the quality of public service of teaching.

Why Open Commons in education?

A Common is not only defined by its nature (water, lands, ...) but also by its function in the community (Lessig, op.cit.). Several factors may justify the creation of common. Firstly, common goods imply certain values that would vanish if these goods were privatized. Secondly, some resources may be more efficiently used if they are held in common goods. Copying the defaults of both the market and States, many actors of education willingly gathered contents, which fed common pool resources and organized themselves through common governance. MIT (OpenCourseWare, OCW) was the first academic initiative sharing a lot of resources and courses on line. This pool is accessed by a broadly international population of educators and learners and receives millions of visits each year. These visits come from all over the world, with over half coming from outside of North America. In France FUN (France Université Numérique) launched in 2013 aims to promote the acquisition of digital skills, with the possibility of developing them, thanks to an independent certification, recognized by the public administrations and the business world.

Two organizations have been notably involved in this process of commoning through open and free licenses: Commonwealth of Learning and Creative Commons. Creative Commons oversees a system of common rights that provide creators and licensors a simple method of indicating what freedoms they would like to pertain to their creative work.

But what does it mean "commons" in the field of open education and research? How have societies developed diverse institutional arrangements for sharing resources?

The Commons is a general term for shared resources in which each stakeholder has an equal interest. The new book "Open: The Philosophy and Practices that are Revolutionizing Education and Science", edited by Rajiv Jhangiani and Robert Biswas-Diener, features the work of open advocates around the world.

Many Commons have been developed in agriculture, or fishery. Let us take the example of the Water Court of Valence (Spain) that created irrigation Commons because of the loss of water. A common institution was responsible for settling disputes over irrigation among peasants. Nowadays, at noon, every Thursday, while the bells of the Miguelete Tower rang, the Tribunal formally met before the Door of the Apostles.

Building scientific commons took more time. The circulation of scientific knowledge has followed several steps. The first step (until 1980) was characterized by the birth of academies. Raw data were out of intellectual property. And Common law did not recognize moral rights. The second step fostered the market of scientific publishing: it was the time of "publish or perish" for the researchers. Internet then burst, and sharing was the *golden rule* (Open source). Arxiv.org was the first common depository

³¹ For economists, strictly speaking, a public good is characterized by non-rivalry and non-excludability.

(1991). But privatization and proprietarization became the standard with exclusive access, embargo, and fees for genetic data.

In 21st century, how to facilitate sharing and avoid enclosures of knowledge commons?

Many initiatives contribute to create a new economy of commons-based, non-proprietary production: Yochai Benkler (2006) sets the idea of "*peer production*" alongside other mechanisms for market and political governance. Eric Von Hippel (2005) shows that innovation happens in *end-user communities*. Jonathan Zittrain (2008) argues that "*the main force of Creative Commons as a movement has not been in the Courts but in cultural mindshare*". Lessig the founder of Creative Commons conceived a complementary mechanism to disenclose proprietary works in a new "*hybrid economy*".

Scientific commons were launched to avoid the alternative between States and private sector. The *Global Earth Observing System of Systems* (GEOSS) is major international initiative that proposes that *"all shared data, metadata and products will be made available with minimum time delay and at a minimum cost"* to develop earth observations (Uhlir,2009). The *Global Alliance for genomics and health,* an initiative in the field of human biology in 2013 was a successful example of open networking initiated by researchers. More than 285 member institutions from 30 countries contributed to the common database. They have decided to contribute to facilitate the sharing of scientific data by establishing standards, sharing experience and best practices and establishing a framework for responsible data sharing (Bourcier & De Filippi, 2017).

The need to rethink education

We all agree that our universities were designed around a model of education that has remained fairly constant for hundreds of years (@Stanford 2025). But the potential disruption posed by the digital, OER and MOOCs, drive us to questions: how we can make more space for the common good and how can Higher Education better contribute to human sociability according to the institutional theory of Elinor Ostrom (Weinstein, 2013).

The presentation argues that the translation from the principle from education as a fundamental human right and a public good, posed by the United Nations discourse since 1945 to the recognition, as education as a common global good is essential.

It poses three major observations: the power of the international commons movement in education, the delay of state actors to fully engage, the acceleration of merchandization.

First, commons movement. Openness is now recognised as of value for the modernisation of public action and a key tendency for the future of education. The OER community has grown considerably over the past 10 years and the impact of OER on educational systems has become a pervasive element of educational policy (Orr *et al.*, 2015).

Second, delay of state actors. "The difficulties come (...) from the fact that we are in a transitional period between the current academic world and a future world in which free access will be the default solution" (Suber, 2012).

Third, the acceleration of merchandization. "Throughout the world, governments are turning over to private managers control of everything from electrical utilities to prisons, from railroads to education. Education is also increasingly seen as an instrument of economic competition and has developed into a profitable industry in and of itself." (Goodman & Loveman, 1991).

The authors signal a risk to the shift in the conception of education as a public, collective good to an individual, positional good. On the other hand, many edTech startupers are currently looking at this model with fresh eyes and change the world of education.

Once one accepts reality in its drifts distance education from its fundamental principles, it is urgent to find a new balance with the state and the market to protect it against the enclosure. We have to explore the impact on privatization of education and think how the private and public sectors can work together while promoting common interests.

It needs to change the minds, the norms and the practices of all the actors including civil society to move from the concept of commons in education to education in commons but as difficile as is this bet it has the power to engage us in a humanistic vision of global common education.

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Commons and Collectives of teachers

Éric Bruillard, Paris Descartes University (France)

Educational resources: understanding personal and collective work of teachers

In France, we have been conducting research for several years on how teachers, individually and collectively, work on educational resources; in particular, within the ReVEA project, which focuses on so-called living resources for teaching and learning. The educational resources are alive thanks to the communities of teachers who support them.

Educational resources: commons managed by teachers' collectives

In this part, the idea is to highlight different issues to attest that contemporary education requires a collective management of educational resources by teachers.

Key importance of educational resources

- For instrumental reasons: the transition from paper to digital, with a lot of different hybridizations, spreading infrastructure and explosion of individual use of digital objects
- For social reasons: new subjects to be learned, new knowledge and a pressure towards more interactivity in teaching and learning activities; towards a postmodern school, which implies multiple views, multiple voices, more than one source of knowledge; and Google, social networks, smartphones... new relationship with knowledge

The situation is not uniform and if we are rather in a context of abundant educational resources in developed countries, there are still many cases of scarcity.

This situation (abundancy) leads to an Increasing responsibility of teachers concerning educational resources: less external authority guarantee, less or no validation, new legitimization (notably by peers); also an increasing duration of preparation partly due to new pressure from students and parent expecting visible quality of documents (presentation and readability), up to date data...

Access (open) not sufficient to insure equity

This is a very well-known and stable result: great benefice for those well-equipped, with self-directness... It is confirmed in recent studies about MOOCs

MOOC "despite their basis in democratic values and principles, there are still many inequalities in access and outcomes in both compulsory academic and vocational education" Éléonore Vrillon PHD Thesis (Sept., 2018)

"Due to poor collective self-regulation, and due to the lack of pedagogical guidance and legal framework, there is a high risk that only the most self-regulated individuals benefit from such opportunities." Jean Condé PHD Thesis (Dec., 2018)

These observations lead to some key issues concerning training (e.g. Moocs): who has access / who succeeds / who benefits from the use?

Teachers, resources and environment allowing capabilities development

The main role of teachers is to respect national programs (prescribed curricula), select educational resources and adapt them finely to the group they have to manage in order to design pedagogical situations for their students. Educational resources at the heart of teaching profession.

Research shows the great diversity of the relationships between teachers and their resources, often very or even strictly personal. They are constantly on the lookout (continuous monitoring process) and have control over resources is necessary for them to take ownership of them. Focussing on the opposition paper / digital is not productive, as we observe continuity of practices and hybridation.

Many stakeholders focus on skills, in an individual vision, but the working environment plays a central role and research around capabilities (Sen) or emancipating environments is to be taken into account.

State and Market: complex interaction and a world cult of innovation

The landscape of educational resource production has evolved, with traditional school publishers and edTech start-ups. A recent report on the French situation (Levoin, 2018)³² shows slow developments, with many digital products but not very well adapted to the school culture

We face a sort of innovation trap: we do not cultivate the "common", we constantly import new products, opposed to practices considered commonplace not seen externally as innovative, but essential in daily work. How to design the adapted glasses to be able to perceive the innovation in commonplace activities?

Being aware of new enclosures

New web platforms, including services, managing resources Instead of teachers, ready-made resources preventing for any appropriation process, neurosciences and artificial intelligence, misunderstood or misused, may reinforce teacher exclusion: offering data processing leading to decisions by experts or by machines reducing the decision-making power of teachers, reducing teachers' agentivity.

There is a risk of teachers' downgrading or proletarization. Examples in US show teachers having to counterbalance the deleterious effects of programs that they do not understand. For example:

³² Levoin X. (2018). *Mutations dans le paysage des ressources numériques à la lumière des BRNE. Synthèse de l'enquête BRNE 2018*. Rapport à la DNE. Université Paris Descartes, 20 p.

Worried about students' social detachment in tech-based learning, some schools are trying to weave social-emotional support into lessons. Sarah D. Sparks, Education Week, Nov. 6, 2018³³

Importance of teachers' collectives

A lot of teachers networks, communities, collectives (unions), producing, discussing, exchanging resources, exist in a lot of countries, using websites, blogs, Facebook, Twitter... There several well-known effects of teachers' collective work: professional development, innovation (inventing new pedagogical situations), legitimation by peers.

The question of the quality of educational resources is often raised. Quality is linked to a development process, a quality approach, compliance with standards leading to final production. It is also a by-product of collective management, constant adaptation to different audience, a process linked to teachers' collective work.

Tensions around resources

A central issue is the control of educational resources. Is it the responsibility of the teacher or an organization beyond his or her responsibility (control of (by) resources)?

First of all, there is a tension between pedagogical freedom, which is granted to the teacher, particularly in France, and the necessary infrastructures to be installed, which cannot be chosen by each teacher (for example, particular platforms, shared work spaces, etc.).

A temptation that is spreading more and more is to reduce teaching to simple techniques, using a medical or pharmaceutical metaphor. All you have to do is find the best methods and apply them. The teacher is no longer a professional who follows a group of students but a kind of nurse who takes care of students according to prescriptions imposed on him. To conclude, the way in which educational resource management is viewed underlies a vision of education and of the role of the teaching profession.

³³ <u>https://www.edweek.org/ew/articles/2018/11/07/why-does-personalized-learning-sometimes-feel-impersonal.html</u>

Panel 5

Open Education and UN Sustainable Development Goals

Introduction to the panel

Yoko Mochizuki, Program Expert, UNESCO, Mahatma Gandhi Institute for Education for Peace and Sustainable Development (India)

A plenary panel on 'Open Education and the Sustainable Development Goals (SDGs)' presented multiple perspectives on the theme and ongoing work undertaken by UNESCO and UNESCO Chairs around integrating digital technology in education in order to achieve the sustainable development agenda.

First, as a Chair of the panel, I introduced the SDGs as a shared global ambition and a set of goals to be achieved by the year 2030. Governments around the world have committed themselves to 'transforming the world' to put it on a more sustainable development path. As UNESCO's Category I institute focusing on education for peace and sustainable development, UNESCO MGIEP has been exploring the use of digital technology in enabling a shift from 'transmissive' to 'transformative' pedagogy, through platforms such as TECH (Transforming Education Conference for Humanity), which takes place in India annually. In November 2018, participants of TECH 2018 adopted 'Vizag Declaration on Guidelines for Digital Learning', calling for a global action on developing a set of guidelines on digital resources.

Following my introduction, Zeynep Varoglu spoke about UNESCO's work in the field of OER, addressing Quality education (Goal 4), Gender equality (Goal 5), Infrastructure (Goal 9), Reduced inequalities within and across countries (Goal 10), Peace, justice and strong institutions (Goal 16) and Partnerships for the goals (Goal 17), as well as a UNESCO Recommendation on OERs to be presented to the UNESCO General Conference in 2019.

Following this, the two UNESCO OER Chairs elaborated good examples where Artificial Intelligence (AI) can contribute to achieving the SDGs. Threats and benefits of using digital technology and ethical issues were also discussed. The magnitude of the tasks related to Sustainable Development Goal 4 (Quality Education) makes technological solutions based on AI be of practical interest. De la Higuera argued that the incorporation of these technologies should take into account the following four points: (1) a strong North-South collaboration through research and development of the technologies; (2) openness not limited to education, including open data and open research; (3) the acceptability of these solutions which will depend heavily on the fact that they do not claim extra resources; and (4) the inclusion of the teachers at all stages. According to Jermol, AI can help transform the current learning and teaching practices. He detailed three areas where AI can provide support in creating more personalized learning experiences: (1) content understanding (for example, to collect or map the vast array of OER sites); (2) user modelling and assessment; and (3) intelligent tutors and chat bots (virtual assistants).

The panel concluded with Dan Shefet's intervention raising fundamental questions about the purpose of education. Making a contrast to the previous presentations highlighting the potentials and promises

of AI, Shefet took a sceptical perspective on it. As has been repeatedly emphasized by UNESCO during the UN Decade of Education for Sustainable Development (2005-2014), which preceded the SDGs, Education for Sustainable Development (ESD) goes far beyond instilling environmental awareness in learners. While there are high hopes and hypes around the role of digital technology in enabling this transformative shift, political agreements, financial incentives or technological solutions alone are not sufficient to grapple with the challenges of making a global transition to sustainability. It will require a fundamental rethinking of how we relate to one another and how we interact with the ecosystems that support us.

The recent UNESCO report **Rethinking Education: Towards a Global Common Good?** highlighted the importance of learning to live together on a planet under pressure by calling for the principle of education as a 'global common good' (UNESCO 2015). Through its publication **Rethinking Schooling for the 21**st **Century**, based on a policy and curriculum review across 22 Asian countries, UNESCO-MGIEP (2017) has made a compelling case that the purpose of schooling must be redefined to effectively address the interconnected challenges around promoting peace, sustainability, and global citizenship through education. To create a world that is more just, peaceful, and sustainable, we must rethink the fundamental purpose of education. **SDG Target 4.7** rearticulates a humanistic agenda for education and underscores the international consensus around promoting transformative education to advance well-being for all:

By 2030 ensure all learners acquire knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and of culture's contribution to sustainable development.

Research and practice on the role of digital technology in achieving SDGs, in particular SDG Target 4.7, are still at the nascent stage. UNESCO promotes Education for Sustainable Development (ESD) and Global Citizenship Education (GCED) as two pillars of SDG 4.7 implementation (UNESCO 2016), but fundamental efforts to redefine the purpose of education towards peace and sustainability are missing from the larger picture of the SDGs implementation, despite its emphasis on transforming our world to ensure a life of dignity for all. Much more work needs to be done to transform education for sustainable development, fostering transdisciplinary dialogue and platforms to articulate the vision of education, bringing together diverse stakeholders not only in Open Education but also in ESD, GCED, peace and human rights education, Social and Emotional Learning (SEL) and more.

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UNESCO's work on Open Education in the context of SDGs

Zeynep Varoglu, Communication and Information Sector, UNESCO, Paris

The 2030 Agenda for Sustainable Development recognizes that the prevalence of Information and Communication Technologies (ICTs) has a significant potential to accelerate progress, to bridge the digital divide and support the development of inclusive Knowledge Societies based on human rights, the achievement of gender equality and empowerment. For UNESCO, the development of inclusive Knowledge Societies is based on four pillars: freedom of expression and freedom of information; universal access to information and knowledge; quality learning for all; and respect for linguistic and cultural diversity. From this perspective, OERs are critical for progress towards the achievement of all 17 Sustainable Development Goals (SDGs). Namely, ICT related targets are addressed in Quality education (Goal 4), Gender equality (Goal 5), Infrastructure (Goal 9), Reduced inequalities within and across countries (Goal 10), Peace, justice and strong institutions (Goal 16) and Partnerships for the goals (Goal 17).

In response to these, two major UNESCO initiatives in OER are in the area of capacity building – the ICT Competency Framework for Teachers (ICT CFT) Harnessing OER project; and in the area of policy – the organization of the 1st and 2nd World OER Congresses and the ensuing UNESCO OER Recommendation development process currently underway. Both processes have supported the mainstreaming of OER worldwide, and in consequence have a very clear impact on ensuring that the potential of OER to support the SDGs is realized to its full impact.

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Open Education and UN SDGs: Artificial Intelligence contributions

Mitja Jermol, UNESCO Chair on Open Technologies for Open Educational Resources and Open Education, Director, Center for Knowledge Transfer at the Jozef Stefan Institute (Slovenia)

Artificial Intelligence (AI) technologies are getting more and more attention due to a series of successful applications ranging from intelligent environments, intelligent networks, smart cities, autonomous systems to humanoid robotics and self-aware and cognitive systems. Although AI is a set of algorithms, its impact and potential consequences globally are seen to be crucial for humanity. To date many AI applications have been successfully implemented in various areas but only few are supporting learning and education.

AI technologies are a set of algorithms that either dealing with data (data intensive AI) or with knowledge (knowledge intensive AI). The first category of algorithms deals with content processing, user modelling, social networks, language technologies and knowledge extraction and formalization. The second category is mainly focused on higher level cognitive abilities like reasoning, explaining and semantically rich interactions. These technologies are supporting intelligent (AI) tutors, automatic assessment and further quality and didactical processing of materials.

The discussion at the Panel attempted to present holistically how AI can help transform the current learning and teaching practices. In general, three important sets of problems with solutions that can be provided by using AI have been discussed as outlined below:

First, **content understanding** includes structuring, translating, combining and distribution that take personal learners/teachers and learning/teaching characteristics into account and creates personalized learning experiences. OER presents a good case where AI can bridge the current gap of low usage of large OER content base. After the OER inception in 2002, and through and following the first Word OER congress in Paris in 2012, awareness about the needs and benefits of OERs have grown significantly at the policy level and among education stakeholders. OER is seeing exponential growth, currently exceeding the number of more than a billion content elements all over the world. Although there have been many good practices reported, OERs still have not reached wider deployment. This is due to a chaotic OER space that is scattered across many sites, content that is available in various modalities, formats, languages and quality and the lack of services to allow easy discovery, structuring and bundling, personalised digestion of content to serve teachers and learners needs and preferences. Several attempts have been made to either collect or map the OER sites which resulted in thousands of dispersed siloes. There are several projects and initiatives on the run one notable example being http://x5gon.org which develops among others a global OER processing pipeline.

The second area is **user modelling and assessment** utilising machine learning methods; the system creates a model of a user that is then being used for personalized education. Although these methods are interfering with privacy issues and consequently are being limited with the introduction of regulation such as the EU General Data Protection Regulation (GDPR), still significant insights can be gathered about the learning styles and approaches on the level of groups. For instance, applying educational data mining into MOOCs provided an opportunity to gather large collections of data from students interacting with the MOOC contents. After mining such data sets, they were able to detect which student groups were not able to grasp the concepts given in the course (i.e. did not pass the final exam) although they were able to find a valid solution for the automatic checker in early assignments.

Intelligent tutors and chat bots (conversational clients) are the third set of AI methods that can contribute to learning and teaching support. Here we are using a combination of shallow and deep semantics together with language technologies and reasoning. The field of knowledge reasoning is almost as old as the field of artificial intelligence and currently is represented by a diverse set of research activities. These activities are lately achieving even more possibilities with the explosion of semantically annotated data. There are several methods that can support intelligent tutoring like automated theorem proving, Logic Programming Systems and inference systems for the Semantic. Although the majority of work focuses on limited forward materialisation of large data, importance of backward (query-directed) inference over large knowledge bases is of increasing importance.

There are several very successful chat bots available and still in rapid development like Google Home, Alexa, Siri just to mention the three most used. All of these are actually based on the statistical and pattern data and are not using deep semantics and formalized knowledge descriptions. But certainly there are good examples of how these technologies can be applied in the learning context.

Some points to consider when making use of technology for SDG 4

Colin de la Higuera, UNESCO Chair in technologies for the training of teachers by OER, University Nantes (France)

The magnitude of the tasks related to SDG 4 (Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all) makes technological solutions be of practical interest. Indeed, the quality and quantity of open educational resources is ever increasing while the possibilities

of access to these resources is more and more present everywhere. With the right technologies everyone should be able to benefit from much better learning opportunities.

A number of global actors are addressing these issues today, whether they come from Academia or Industry. The impact of these technologies has been discussed in recent forums, for example, in September 2017 in Ljubljana³⁴ or in October 2018 in Nantes³⁵.

During this panel my colleagues Zenep Varoglu and Mitja Jermol presented some ongoing work, showing how technology training was an important task for UNESCO and how current projects, like X5-GON³⁶, are aiming at allowing a simplified access to educational resources.

Although I advocate strongly in favour of the introduction of technologies for education, and specifically of Artificial Intelligence (AI), for Education, I want to examine some possible obstacles which we should care about.

The first one is that the development of new AI-inspired technologies should be global. These should not be prepared and matured in northern hemisphere labs (possibly even only in those having access to the right quantities of data and traffic). Most researchers are aware of this and important efforts are already taking place in order to build more inclusive solutions. More and more innovations are taking place in the global south and it is interesting to notice that an increasing amount of research and technology events taking place in Africa, for instance. We should all work hard on this. There are opportunities as many of the available technologies are open-source and can therefore not just be deployed but also be modified anywhere.

The second one is that opening up education cannot take place without opening up many other things: data, software, traffic, research, access, government. This is not just a rhetorical position: it is hugely practical. You can build great open educational resources, but if the system on which you intend to have them is closed, these will remain invisible. Privacy concerns are of course important. Education data is sensitive. But one should be careful in not using the privacy argument in order to somehow confiscate the data. There is a possible compromise to be found: sharing data will allow to build better applications and more importantly to have more people and teams able to build these. If the data is withheld to ensure privacy, the result may be disastrous.

A third issue is that of building economical solutions. Too often, when technology is deployed for education, the results won't follow because the new tools will require an important investment by the teachers and/or learners. Because of the nature of the topic everyone feels that this effort is both unavoidable and well take place. When this is not the case (most often) we are then disappointed by the result.

The fourth issue is to bring in the teachers. We have been running program Class'Code³⁷ in France since 2015. Class'Code has the goal of contributing to the training of the teachers and educators which are to teach code and computational thinking in the schools. Class'Code was awarded in 2017 the Informatics Europe Best practice in Education award in 2017. It is built upon MOOCs and a web platform allowing the construction of a hybrid social network. In a reasonably favourable environment (France) the program which is built on open technologies and resources is currently contributing both

³⁴ Conference on Artificial Intelligence: Research, Technology and Business in Open Educational Resources (OER). Ljubljana, 19 &20/10/2017 <u>https://www.k4all.org/event/ai-oer/</u>

³⁵ Workshop on Technologies for Open Educational Resources. Nantes, 16/10/2018 <u>https://www.x5gon.org/event/tech-for-oer/</u>

³⁶ X5-GON <u>https://www.x5gon.org/</u>

³⁷ Class'Code: <u>https://pixees.fr/classcode-v2/</u>

to the technological training of teachers and to the construction of a network including teachers, educators, companies, local authorities and parents.

The Role of Education

Dan Shefet, Lawyer (IT-law and Human Rights), President, Association AAID

Try to put away your philosopher stone just for a few minutes. Yes, I know it's hard, but let's see whether you know the answers to the following quotations.

So who do think said this? "Man is nothing but what education makes of him." And this: "Education is a weapon whose effects depend on who holds it in his hands and at whom it is aimed."

Try this one: "*Education is what remains after one has forgotten what one has learned in school.*" And finally this one: "*Don't let schooling interfere with your education.*" All witty and profound. Here now are the answers: Kant, Stalin, Einstein and Mark Twain.

They don't seem to agree on much except maybe on the underlying truth in Stalin's reflection whose roots can be traced back to the so-called "Prussian School System": "*Education is designed to create obedient workers and soldiers who do not question authority*". This is the philosophy that shaped education from the 18th century around the world and arguably the true driving force behind mandatory schooling. Education had little to do with self-realization, enfranchisement, emancipation, enlightenment and human betterment.

Fortunately, the "obedient citizen dogma" underwent severe criticism in the 20th century epitomized by John Taylor Gatto 's: "How Public Education Cripples Our Kids, and Why". The dogma was abandoned in favour of a human centred approach rather than power conservation. The time has now come to revisit yet again the role and purpose of education - and this time in a completely new paradigm: The knowledge free world. The reign of Homo Zapiens. Should education shape the world or should it shape citizens to adapt to the world in the least conflictual manner? Political leadership and vision have disintegrated into nebulous cyber space and no one seems to be capable of outlining any meaningful direction. Democracy has been transformed into tweetocracy - a continuous slalom the purpose of which is to avoid the steep slopes and hope you make it past the next tweet. No vision, no leadership. Society is created by supernatural forces. Technology has reduced politics to the frightening next tweet.

How does this affect education?

If the course is determined by currents and winds - if navigation is reduced to staying afloat - maybe the role of education is in the old Prussian model (a horrible thought). If that is the case education will be all about creating obedient consumers living on basic universal income. From a cost-benefit point of view (the only "value" that applies) there can be no doubt that the role of education in the absence of political leadership must be reduced to consumerism. The less knowledge the better. It's just an irritant and serves no economic or commercial purpose. Reading and writing won't be necessary (the philosopher stone speaks all languages). This time the dogma will be immensely more powerful: Artificial Intelligence does not enhance intelligence, it destroys it. Only this time there will be no renaissance.

Panel 6

Perspectives from the Global South

Introduction to the panel

(Text written by the editors)

OER play a very important role in Global South and their adaptation is a key issue. This corresponds to different processes: recognition, re-acculturation (or locating), incorporating OER, translating OER, remixing OER, creation of original OER... Figure 2 (Hodgkinson-Williams et al., 2017) shows an optimal cycle.



Figure 2: An "optimal" Open Education cycle (Hodgkinson-Williams et al., 2017, p. 32). Image CC BY

In the first contribution, Cheryl Hodgkinson-Williams makes a link between Open Education and Social Justice, advocating for transformative social change.

Then, as editors, we have summarized some elements of the intervention of Belinda Tynan, giving some insights into current developments in the Oceania continent and presenting effective open licensing policy and practice for Australian universities.

The last contribution comes from Monterey, Mexico. María Soledad Ramírez Montoya presents a series of Moocs that have been produced on energy issues. In the Latin America context, she defends the idea of linking the efforts of society, governments and public and private organizations in co-construction of educational material.

Open Education & Social Justice in the Global South: Opportunities, seized, missed & to be grasped

Cheryl Hodgkinson-Williams, Associate Professor, University of Cape Town, UNESCO Chair in Open Education (Africa)

Informed by a social justice framework proposed by political philosopher Nancy Fraser (2005), this presentation drew upon the meta-synthesis of the Research on Open Educational Resources for Development (ROER4D) project (2013–2017), to interrogate the question: To what extent does the adoption of OER have the potential to promote socially just education in the Global South?

Hodgkinson-Williams firstly presented an 'optimal' cycle of open education (which includes OER and their underlying OEP) as a way to conceptualise the process of creating, adapting and using OER. Referring to examples from the ROER4D project Hodgkinson-Williams then illustrated the extent to which university lecturers create, use and/or adapt OER in the sites studied in Global South countries. Drawing upon data from the 9-country survey (de Oliveira Neto, Pete, Daryono & Cartmill 2017), she highlighted how faculty are more likely to use OER, than either create or adapt OER.

As a way to conceptualise to what extent the use, adaptation and/or creation of OER can enable more socially just education, Hodgkinson-Williams appropriated Fraser's concept of social justice as "parity of participation" (2005, p. 73) and illustrated how Fraser's three dimensions of social justice – namely the economic, cultural and political – can be used to analyse various open education practices. Drawing on examples from the ROER4D meta-synthesis (Hodgkinson-Williams & Trotter, 2018), she illustrated how these practices could respond positively to economic maldistribution, cultural misrecognition and political misrepresentation. Furthermore, she explained how these practices could provide what Fraser terms an "affirmative" (2005) response that ameliorates or a more deeply "transformative" (ibid) response that counters the roots causes of economic inequality, cultural myopia and political inequity.

In relation to OER, Hodgkinson-Williams suggested that educators and students in the Global South can be economically impeded from full participation by the lack of access to material resources such as uninterrupted power supply, functional technological infrastructure, affordable and stable connectivity and adequate digital literacy skills. These types of obstacles, following Fraser, indicate "distributive injustice or maldistribution" (2005, p. 73) and need to be addressed through economic redistribution. With respect to OER, this means that educators and students in the Global South can be culturally deprived of participatory parity and be subjected to the status of "inequality or misrecognition" (2005, p. 73–74) through the current domination of Western oriented epistemic perspectives and English-language OER unless the opportunity to create or, at least, localise and redistribute OER in preferred languages and from alternative epistemic stances, is grasped and recognised. In the context of OER, this suggests that political representation (e.g. geographical, gender) and decision-making power (e.g. institutional and national intellectual property rights) are important to consider, lest "those who suffer it may become objects of charity or benevolence [...] or non-persons with respect to justice" (Fraser, 2005, p. 77).

The presentation concluded with a call for faculty and institutions from the Global South to deliberately share OER to showcase additional epistemological perspectives to bolster the OER being shared by the Global North to ultimately promote educational interventions that provide not only ameliorative relief for students and educators, but transformative social change as well.

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Down under perspectives

Belinda Tynan, Deputy Vice-Chancellor of Education, RMIT University, (Australia) Carina Bossu (Open University, UK)

(Text written by the editors)

Some references

The authors have presented OERu³⁸ international network of recognised partner institutions from five continents – providing courses to students everywhere. They then gave some insights into current developments in the Oceania continent.

- The Guide to Open Source Software for Australian Government Agencies³⁹
- Government 2.0⁴⁰
- Adoption, use and management of open educational resources to enhance teaching and learning in Australia 2010 – 2012: Office for Learning and Teaching⁴¹
- University Librarians Committee on Open Education Resources established 2018
- MOOCS- most universities have something
- Business models- Open courseware leading to awards (eg. UQ, Curtin, Deakin EdX, FutureLearn)
- Publishers
- Open textbooks RMIT, USQ, UniCanberra & others- event just two weeks ago- (Rajiv)
- OEP Special Interest Group, 1 year old, ASCILITE, 20 members

Effective open licensing policy and practice for Australian universities

The Open Education Licensing Project was a joint research and development project undertaken by Swinburne University of Technology and the University of Tasmania in 2015/16. In 2015 the project team surveyed and collected information from managers, educators and information professionals in Australian universities about their understanding and experiences with licensing issues for open online education. On the basis of information collected, in 2016

³⁸ https://oeru.org/

³⁹ <u>http://www.finance.gov.au/policy-guides-procurement/open-source-software/</u>

⁴⁰ <u>http://www.finance.gov.au/policy-guides-procurement/gov20/</u>

⁴¹ <u>http://www.olt.gov.au/resource-adoption-use-management-open-educational-resources</u>

the team developed the OEL Toolkit to support the use and development of Open Educational Resources (OER) in the Australian higher education sector.⁴²

The OEL Toolkit is essentially a decision-tree web application designed support the use, creation, modifying or sharing of Open Educational Resources in the Australian higher education sector. See https://www.oel.edu.au/toolkit/

Graffiti

The authors take photographs of the graffiti they find in cities, and have presented several of them from Melbourne and Paris. They make a link between OER and graffiti. Indeed, the latter are open access, transient and repurposeable. There is no obsession with the permanence- is the tag the license? There are commentaries on the world we live in and perhaps wish to be part of? Originally 'illicit' but now a phenomenon- a movement and discourse. The authors love their graffiti! Leadership comes from unexpected places.

Interdisciplinary, Collaborative and Open Innovation to train in Energy Sustainability through MOOCs in the Latin American context

María Soledad Ramírez Montoya, Research Professor, UNESCO and ICDE Chair Open educational movement for Latin America, Tecnologico de Monterrey (Mexico)

Citizen training in energy sustainability is a central issue to advance in the strengthening of a culture aimed at the common good, through collaboration. Society, governments and public and private organizations are strategic sectors to create flexible and sustainable environments that we all want. In this area, open education has much to offer, from a multidisciplinary and innovation perspective, to create new possibilities for development, especially in the Global South regions.

This contribution is framed in a macro project, where open education activities are creating possibilities in the strategic area of energy sustainability. The objective of the project is to support the training of human resources specialized in energy sustainability, and to develop human talent with the necessary capabilities to respond to the technological conditions prevailing in the energy value chain (Electric sector), through graduate programs and massive open online courses that will be available nationwide, validated through competencies certification processes. This project includes research for open science (Valdivia et al., 2018), practices of co-creation of open innovation (Ramírez-Montoya, & García-Peñalvo, 2018) and development of competences through massive open online courses (MOOC) (García-López et al., 2017). See <u>Bi-National Laboratory on Smart Sustainable Energy</u> Management and Technology Training⁴³.

The project linked different sectors: the Federal Electricity Commission, academia and the government, with support from the Energy Secretariat and the National Science and Technology Council. The production of MOOCs was developed through interdisciplinary teams: specialists in the areas of energy, educational technology, and educational research. The collaborative work was a substantial element to achieve these designs and their implementations, where two of Tecnológico de Monterrey's Strategic Focus Research Groups coordinated these actions: the School of Engineering and Sciences' Energy and Climate Change Group, and the School of Humanities and Education's

⁴² <u>https://www.oel.edu.au/</u>

⁴³ https://energialab.tec.mx/en

Research and Innovation in Education Group. International networks were also linked in these works: the <u>Openergy network</u>⁴⁴ and the UNESCO ICDE Chairs of the <u>Open Educational Movement for Latin</u> <u>America</u>⁴⁵.

In total, 12 MOOCs have been designed and implemented in four types of courses ranging from general knowledge, basic theoretical, basic theoretical/experimental, to advanced/experimental (Figure 3). The MOOCs are implemented on the MexicoX and EdX platforms, and on the date that this paper is published, more than 160,000 people have participated in them, and certifications have been given to more than 17% of the participants.

An important aspect of this project has been to integrate innovative educational trends.in the MOOCs, such as biometrics, virtual and remote laboratories, gamification, augmented reality and compilations of open educational resources (OER). It is important to note that the resources designed for the MOOCs were certified with open licensing and are available in Tecnológico de Monterrey's institutional repository (<u>RITEC</u>⁴⁶), with open access to the world to more than 1300 OER, which creates opportunities to design other open education practices.

Similarly, research has been conducted within the training experiences, which has been disseminated in open journals, books, and conferences. The topics of study are located in open and interdisciplinary educational innovation.

Reflections and points of view on Latin America contextual perspectives

In Latin America, open education has great opportunities to contribute to training environments. Coconstruction that links the efforts of society, governments and public and private organizations can generate value for sustainability. The practices presented in this paper show strategic contributions to create flexible, creative and open environments, where the MOOCs started from the linking of different sectors (public, private, government, and university). Collaboration is undoubtedly the engine that can make the difference to work in strengthening an energy culture.

Innovation strategies that enable new answers for current problems and anticipation to generate energy transformation ventures are required. In the MOOCs, some examples bet on innovations for training and the creation of new certifications, as well as new products and services. The transformation of energy requires differentiating options that provide additional value.

Finally, networking and interdisciplinarity can undoubtedly lead to generating possibilities of greater projection and impact. In the mapping of the investigations carried out around the project, collaborations where individual capacities are united for a greater good were proposed. The combined knowledge of experts in energy, in educational innovation, and in international networks (Openergy network, UNESCO / ICDE Chair) has been a key element in this project aimed at training in energy sustainability.

This experience that takes place in Latin America presents valuable empirical evidence that can be on input for decision makers, government authorities, innovators, the academic community, public or private organizations, interested in the development of energy culture and educational research and innovation. Invitations are open to continue looking for synergies that generate opportunities for the energy culture; studies and experiences where several different sectors (not only the energy sector)

⁴⁴ http://energialab.tec.mx/redopenergy/

⁴⁵ <u>https://oerunesco.tec.mx/</u>

⁴⁶ <u>https://repositorio.itesm.mx/discover?scope=%2F&query=266632&submit=</u>

are analysed, will be substantial for the sustainable development of our communities. Open education, undoubtedly, opens up options for all regions, especially for the Global South.

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