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Human Rights and Social Justice through Open Educational Resources and Lifelong Learning

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ARTICLE INFO	ABSTRACT
	A landmark in the realization of UNESCO's Sustainability Goals, Education for All (SDG4), was passed when the organization's Recommendation of Open Educational Resources (OER) was uniformly adopted in 2019. Now it is time to transfer from the consciousness of OER to their mainstream realization at all levels, micro, meso, and macro, including all stakeholders, such as governments, institutions, academics, teachers, administrators, librarians, students, learners, and the civil service. The OER Recommendation includes five areas: building capacity and utilizing OER; developing supportive policies; ensuring effectiveness; promoting the creation of sustainable OER models; promoting and facilitating international collaboration; monitoring and evaluation. OER are valued as a catalyst for innovation and the achievement of UNESCO's SDG 4, education for all, lifelong learning, social justice, and human rights. The OER Recommendation will be a catalyst for the realization of several other SDGs. Because access to quality OER concerns human rights and social justice, this Recommendation is vital. In 2020, the effects of the worldwide COVID-19 pandemic clearly demonstrated the importance of opening up education and the access to internationally recognized, qualified learning resources. This article describes and discusses how the promise of resilient, sustainable quality open education can be fulfilled in the new normal and the next normal.

1. Introduction

In November 2019, a milestone in achieving UNESCO's Sustainability Goals (SDG), Education for All (SDG4), was passed when the Recommendation for the implementation of UNESCO's Open Educational Resources (OER) was uniformly adopted by nearly 200 member states of the United Nations (UN). This Recommendation was only the 12th of its kind by UNESCO, and just the second one which was adopted in full both in content, format and outline, which calls for conclusions to be drawn about its meaning. It is time to transfer from the consciousness to mainstream realization at all levels, micro, meso, and macro, including all stakeholders, such as governments, institutions, academics, teachers, administrators, librarians, students, and all learners. The civil service is responsible for the implementation of OER at the public level. The OER Recommendation includes five areas: building capacity and utilizing OER; developing supportive policies; ensuring effectiveness; promoting

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sustainability models of OER; promoting and enabling global collaboration; monitoring and evaluation [1, 2, 3].

OER are valued as catalysts for innovation and for achieving the SDG4, lifelong learning, social justice, and human rights [4]. The execution of the OER Recommendation will be a catalyst for the realization of at least six SDGs: SDG 4 (quality education); SDG 5 (gender equality); SDG 9 (industry, innovation, and infrastructure); SDG 10 (reduced inequalities within and between countries); SDG 16 (peace, justice, and strong institutions); and SDG 17 (partnerships to achieve these goals) [2]. Because access to quality OER concerns human rights and social justice, this Recommendation is vital. In 2020, the global COVID-19 pandemic clearly demonstrated the importance of opening up education and the access to internationally recognized, qualified learning resources [5, 6, 7]. Moreover, the pandemic has taught us lessons about the value of a culture of sharing.

This article describes and discusses how OER serve as a game changer for novelty, lifelong learning, human rights, and social justice, which will shape the new normal, the next normal, and the fulfillment of the promise of resilient, sustainable quality education in what has been defined as the post-pandemic era.

After this short introduction, the methodology of this study is briefly outlined, followed by a background including global challenges, open education, UNESCO's SDGs, SDG4, the CPT+10. Then the main focus of this article, OER, lifelong learning, and COVID-19 are presented. Finally, this article ends with a discussion, conclusions, and recommendations for future research.

2. Methodology

This article is more a theoretical paper grounded on literature research, than grounded on experimental research. The author is ICDE Ambassador for the advocacy of OER worldwide, and chairs the International Council for Open and Distance Education (ICDE) OER Advocacy Committee. The author does not claim to provide an extensive overview of developments in the field and in the world in this article, but rather an overview is provided.

3. Background

Before discussing the main topic of this article, which is OER, some global megatrends and challenges are outlined, as well as the UN and UNESCO's SDGs and challenges for universities, such as open education and the modernization of higher education.

3.1 Main Global Challenges

Globally, four major challenges are underscored:

globalization, demographic change, increasing digital transformation, and technological expansion, all of which affect the world and daily life, and will continue to shape the future [8]. Because they affect education to a very large extent, its position needs to be re-calibrated. At large, the character of schooling is to coach individuals to resolve difficulties both straightaway and potential ones, and even unfamiliar concerns. Specifically, education aims to educate the public and individuals in societies to solve complications in society and the world that have not yet been identified, using procedures and techniques that have not yet been developed. Therefore, yesterday's procedures and techniques cannot be used to train today's learners for a future that we cannot predict. Therefore, the role of lifelong learning is more relevant than ever [9]. In higher education, the challenge is to modernize, especially through the practice of seamless learning, and to promote the same, as well as to cultivate a culture of openness and the practice of OER [9].

Schwab [10], Schwab and Davis [11], the World Economic Forum (WEF), and the Davos Conference in 2016 argued that the Fourth Industrial Revolution (4IR) [8] has changed everything from how we relate to each other, to the work we do, to economic and human concerns. Yet there are global needs to help shape the future we want to live in. The question is what is needed to make this happen and what needs to be known to make this happen. There is evidence that the 4IR is more about the requirements of a social revolution than just technology and digitization. Schwab [10], Schwab and Davis [11] and the WEF [8] argue that the 4IR will affect the way we live, work, learn, connect, network, collaborate and relate to each other. Moreover, the social revolution affects emotions, empathy, ethics, values, identity, "just for me" and "just in time" learning, and personal interests. In addition, they emphasized that education and learning must include social justice, human rights, and well-being. They also emphasized that global megatrends affect people, culture, society, civilization, the physical ecosystem, as well as the global economy. It is noteworthy that the focus is on human communication and how people and civilizations respond or fail to respond to large-scale encounters

3.2 Open Education

Open education is an umbrella term under which various interpretations of open education are housed, with diversity at the level of open. However, in most of the interpretations OER plays a supporting role [12, 13]. Globally, open education has increasingly become part of conventional education provision [14]. To achieve several of the UNESCO SDGs, the role of open education is critical [1].

SDG4, for example, emphasizes access, equity, equality, inclusivity, quality, and lifelong learning. Many manifestations of open education, even including the use of OER, will promote greater access along the lifelong learning continuum [5, 6]. Open education is one of many open movements. The open education society is seen as part of a larger movement to promote Open Access to knowledge that supports cultures of sharing. In addition, open pedagogy, open research, open data, a culture of sharing, and copyright reform are also critical, as is the use of Creative Commons licenses. Other broad open movements characterize movements that seek openness in other ways, including free and open-source software, administration, management, and governance, in addition to an open culture. As the open education movement moves into the next decade, it should consider how to achieve these common goals [15, 16].

Through open education, affordable, appropriate, and meaningful educational opportunities can be accessible to everyone at every stage of their lives and professional development. This includes access to content, courses, support, evaluation, and documentation in ways that are seemingly unlimited, elastic, diverse, and responsive to different needs. Barriers related to access and cost, for example, are condensed or removed. For example, there are now Open Access publication requirements and guidelines worldwide OER. In addition, a growing number of advocates, scholars, and experts worldwide are committed to strengthening international and large-scale networks for open education and OER [14, 17, 20, 21].

In European higher education, open education is becoming increasingly important as the digital transformation is one of the key catalysts for the modernization of education. However, open education does not only refer to opening educational materials under an open license. Nor does it only mean the accessibility of Open Access research in repositories. However, both should be encompassed in the comprehensive conception of open education. The practice of digital technologies in teaching and learning is no longer restricted to open universities or virtual universities, but has spread to all categories of institutions, both established and unconventional.

The European Research Center (JRC) has acknowledged a framework for the openness of universities [12]. This is based on a comprehensive definition of open education that takes into account different practices that aim to support the ecosystem, as well as transparency with a universal methodology in practice. It attempts to go beyond OER, MOOC and Open Access and includes 10 dimensions of openness. The framework can be used as a tool by educational organizations to make tactical decisions about pedagogical methods, partnerships between individuals and institutions, recognition of non-formal learning, and different ways of delivering content. Because open education is now largely enabled by information and communication technologies (ICTs), there are almost limitless opportunities for advances that contribute to the transformation of higher education. Open education has a strong link to SDG4, which is briefly summarized in the following section.

3.3 UNESCO Sustainability Development Goals

When the United Nations and UNESCO SDGs were presented, a specific goal was dedicated to education, SDG4, because education, and in particular the position of open education, has an impact on the others in one way or another, either directly, or it promotes innovation in some of the SDGs, or it will lead to an impact on others. Globally, open education is becoming more commonplace, and SDG4 emphasizes that the use of OER will support expanded access in lifelong learning [5, 6, 22].

SDG4 emphasizes access, equity, equality, inclusion, quality and lifelong learning and includes several dimensions of open education [22]. SDG4 contains 10 targets, seven of which are expected follow-on targets and three are the means to achieve them: 4.1 - Universal primary and secondary education; 4.2 - Early childhood development and universal pre-primary education; 4.3 - Equitable access to technical, vocational and higher education; 4.4 - Relevant skills for decent work; 4.5 - Gender equality and inclusion; 4.6 - Universal youth literacy; 4.7 - Education for sustainable development and global citizenship. The three means of executing SDG4 are about effective learning circumstances, grants and teachers and educationalists [22].

The Cape Town Open Education Declaration is a major international statement on Human rights, Social justice, Open Access, Open Education and OER [15]. It is based on the principle that everyone has the freedom to use, adapt, improve and attribute educational resources without reservation. The Cape Town Declaration in 2007 was followed up 10 years later by the Cape Town Open Education Declaration 10th Anniversary [16].

3.4 CPT +10

The Cape Town Open Education Declaration celebrated its 10th anniversary in 2017. In conjunction with this anniversary of the Cape Town Open Education Declaration, 10 directions for promoting open education were presented in CPT+10 [16].

Over the past decade, the focus of the open education

movement has been on the creation and adoption of OER. Some of the most extraordinary frontier areas of open education lie in open pedagogy, broadly understood as teaching and learning practices empowered by the capability to preserve, reuse, revise, remix, and share educational materials. The open ecosystem facilitates educators to break free from the confines of static textbooks and old-fashioned assignments and open the door to imaginative, collaborative, and engaging educational capabilities that help transform teaching and learning for the future [16].

The basic idea of going beyond the classical textbook has been at the heart of the open education movement from the beginning. In the last era, however, some works have been pushed in the opposite direction by OER. Making open textbooks look, feel, and function like traditional books has proven to be a very effective support tactic under compelling circumstances. This work has made remarkable strides in intensifying practice and recognition OER. Nonetheless, the open education society should respond to the fact that the strategy of linking OER to textbooks limits the inspiration of teachers and learners in relation to current technology-enabled open learning materials. CPT +10 provided the following 10 courses [16]:

● Communicate openly: Take the message of open education into the mainstream.

● Empower the Next Generation: The open education movement needs to focus on the next generation.

● Connect with others: The movement becomes stronger by working with allied movements.

● Open education for development: Opening new opportunities for education supports development.

● Open pedagogy: Harnessing the power of open teaching and learning.

● Thinking outside the institution: Enabling anyone anywhere to learn anything.

● Data and Analytics: Explore the intersection of open content, open data, and open learning.

● Beyond the textbook: Create the open learning materials of the future.

● Open publicly funded resources: Publicly funded educational resources should be openly licensed by default.

● Copyright reform for education: Copyright reform and advocacy for open education are two sides of the same coin.

4. Open Educational Resources

The concept Open Educational Resources was coined and first used in 2002 in Paris at a conference hosted by UNESCO. Almost 20 years later, in 2019, a Recommendation on the implementation of OER was unanimously adopted after several years declarations and conferences, by all UNESCO members, which represents a breakthrough in the field [1, 3, 23, 24].

4.1 The UNESCO OER Recommendation

In November 2019, at the General Conference of UNESCO, the member states of UNESCO adopted the OER Recommendation for implementation and agreed to strengthen their promise to open knowledge sharing and learning [25]. This was a significant milestone in the history and development of quality resources for all and for open education advocates. This Recommendation had its foundation from several conferences and statements already since the Paris UNESCO conference 2002, when the term OER was coined. Consequently, Paris Declaration [26], Cape Town Open Education Declaration, Anniversary 10+ [15] and Ljubljana Declaration [24] were declared in the foundation of the OER Recommendation for implementation 2019.

The OER Recommendation will have an impact to the achievement of at least six of the SDGs: SDG4 (quality education), SDG5 (gender equality), SDG9 (industry, innovation and infrastructure), SDG10 (reducing inequalities within and between countries), SDG16 (peace, justice and strong institutions) and SDG17 (partnerships to achieve these goals) [25]. Access to quality OER is related to human rights and social justice, which is why this Recommendation is of utmost importance.

OER offer promising solutions for accessing, creating, sharing, and supporting learning at all grade levels. OER offer benefits to teachers, parents, education policy makers, and government agencies [15, 16, 27, 28, 29, 30, 31, 32, 33]. In addition, OER is valuable to a variety of groups, involving cultural establishments (e.g., libraries, archives, and museums), and their users, academics, civil society establishments (e.g., professional and student associations), publishers, the public and private sectors, intergovernmental organizations, copyright holders, authors, media, and broadcast groups. OER can support to meet the requirements of individuals, involving people with disabilities and those from marginalized or underprivileged, and vulnerable groups. It can be used to magnificently encourage gender equality and encourage ground-breaking educational, didactic and methodological advances. The OER Recommendation focuses on the next five areas [4, 25]:

● Capacity building and use of OER: Develop the capability of all key stakeholders in education to create, access, reuse, adapt, share and apply open licenses for OER in means coherent with national copyright laws and international agreements.

● Develop supportive policies: governments and educational authorities and institutions should be confident to

launch legal structures to maintain the open licensing of publicly financed educational and research materials and to develop policies that enable the use and modification of OER to encourage high-quality, comprehensive education and lifelong learning for all, sustained by significant research in this area.

● Ensure effective, inclusive and equitable access to quality OER: Encourage the implementation of strategies and programs, embracing applicable technology solutions, that ensure OER is standardized in any channels and distributed in open designs to extend equitable access, co-creation, curation and searchability, including people in vulnerable groups and people with disabilities.

● Promote the creation of sustainability models for OER: Support and promote the establishment of sustainability models of OER at national, regional and institutional levels, and the development and examination of new resilient practices of education and learning.

● Encourage and facilitate global collaboration: support worldwide collaboration among actors to reduce redundant replication of investment OER. Cultivate a universal pool of culturally diverse, locally appropriate, gender-sensitive, user-friendly learning materials in various languages and designs.

To support member states in successfully implementing the OER Recommendation, the UNESCO OER Dynamic Coalition was launched in March 2020 [4]. The Coalition is a multi-stakeholder group of associates devoted to sharing proficiency in encouragement of collaborative movements and employment of the OER Recommendation.

Since its adoption in November 2019, the definition of OER has been revised as follows [25 n.p]:

OER[s] are learning, teaching, and research materials in any format and medium, which are publicly available or are protected by copyright under an open license allowing free access, reuse, reuse, re-utilization, adaptation, and redistribution by others.

The definition of open license was also revised to the following:

An open license refers to a license that respects the intellectual property rights of the copyright owner and provides permissions granting the public the rights to access, reuse, repurpose, adapt, and redistribute educational materials.

The adoption and use of OER are strongly linked to the four Creative Commons (CC) conditions BY (Attribution), SA (Share Alike), NC (Non-Commercial) and ND (No Derivatives), which can be shared in six means to describe what they permit and how open or locked they are [34, 35, 36, 37]. All six variants have CC BY at the beginning, which means that the author is always recognized. As can be un-

derstood in Figure 1, the utmost open are Public Domain (PD) and CC BY and CC SA. The most inaccessible ones are Copyright, all rights reserved, CC BY, CC NC and CC ND.
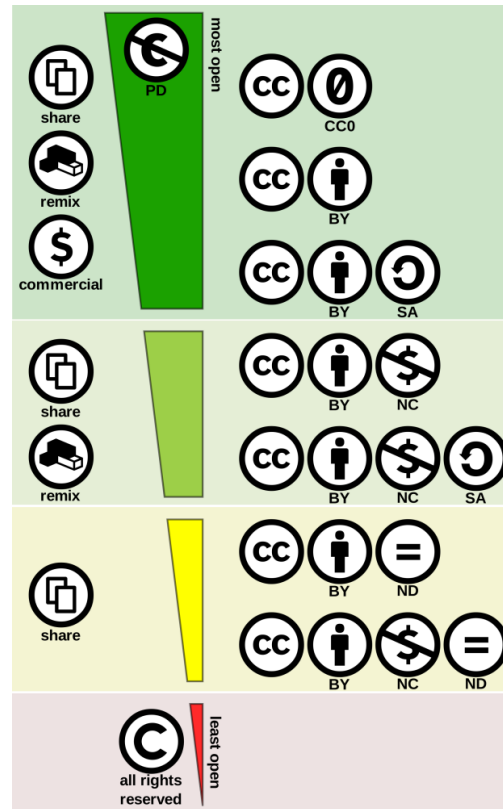

Figure 1. The conditions of Creative Commons

The concepts "open content" and "open educational resources" define any copyrightable work (conventionally omitting software, which is designated by other concepts such as "open source") that is authorized in a way that gives users unrestricted and perpetual approval to partake in Wiley's 5R activities [35]. retain, reuse, revise, remix, and redistribute (Table 1).

Table 1. What Can I Do with OER?

What can I do with OER?

Open content is licensed in a way that grants users the permission to:

Retain	Make, own, and control copies of the content (e.g., download, duplicate, store, and manage)
Reuse	Use the content in a wide range of ways (e.g., in a class, in a study group, on a website, in a video)
Revise	Adapt, adjust, modify, or alter the content (e.g., translate the content into another language)
Remix	Combine the original or revised content with other material to create something new (e.g., incorporate the content into a mashup)
Redistribute	Share copies of the original content, your revisions, or your remixes with others (e.g., post a copy of the content online for others to download)

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5. A Culture of Lifelong Learning

The lifelong learning initiative by UNESCO is based on the premise that the creation of a global lifelong learning ethos is essential to address the encounters that humanity faces, such as environmental catastrophe, high-tech and demographic change, the pandemic COVID-19 and the inequalities it exacerbates. The policy agenda must prioritize lifelong learning beyond education and labor market policies [9, 38]. It is distinguished that the impact of COVID-19 on communities is severe, but it also calls for an opportunity to reflect on how learning can better contribute to the creation of sustainable and inclusive societies in which people participate as active and global citizens. Overcoming prevailing barriers, encouraging participation and ensuring that services are equitable, open and participatory have been explored in the Lifelong Learning Initiative by UNESCO.

All over the world, even in the richest economies, people face economic and other difficulties that prevent them from learning and from realizing their potential. The complexity and multidimensionality of the challenges people face require ecosystem execution and a holistic vision of lifelong learning. Further disruption will be caused by climate change, demographic change and labor market transformation during the 4IR. Therefore, the adoption and realization of open education and OER are critical to the success of quality education for all as predicted by SDG4.

This UNESCO work on lifelong learning contributed to the UNESCO Futures of Education, Learning to Become [38] action. Lifelong learning intensifies the ability to follow change and shape the future, which is of paramount importance given the disruptions and uncertainties posed by the threats and opportunities of demographic change, the climate crisis, rapid technological advances, and the COVID-19 pandemic [9]. The initiative reflects the potential impact of lifelong learning in transforming schooling and generating a resilient, ecological, healthful and comprehensive forthcoming. It offers a compelling foresight of lifelong learning and the beliefs and values that essentially strengthen it. It addresses the global society to deliberate education as both a civic and private value and to identify that lifelong learning is a novel human right. The UNESCO Institute for Lifelong Learning (UIL) Director David Atchoarena noted that we are leaving behind an era portrayed by an extreme focus on the professional and skills measurements of lifelong learning. Recognition of the complexity and multidimensional description of the encounters fronting humankind involves the renewal of a universal foresight of lifelong learning. Moreover, he stressed that due to the expected further dislocations caused by the consequences of climate change, demographic change and the fundamental transformation of the labor market through the 4IR, lifelong learning must be prioritized in the policy agenda beyond the fields of education and labor market policies.

The Lifelong Learning Report [9] outlined the key characters of the empowering ecosystem needed to ensure that lifelong learning is the guiding principle of education and policy and to provide chances for lifelong learning for people regardless of their background or context. Looking to the future, 10 key messages are set out that are critical for generating a culture of lifelong learning:

- Identify the universal nature of lifelong learning.
- Encourage transdisciplinary exploration and cross-sectoral partnership for lifelong learning.
- Position disadvantaged groups at the heart of the lifelong learning program.
- Dedicate lifelong learning as a public good.
- Guarantee better and fair access to learning knowledge.
- Alter educational institutions into lifelong learning establishments.
- Acknowledge and endorse the united facets of learning.
- Inspire and encourage lifelong learning initiatives at local levels incorporating learning cities.
- Improve and regenerate learning at workplaces.
- Acknowledge lifelong learning as social justice and a human right.

UNESCO [9] emphasized that a vision of lifelong learning must be embedded in a broad understanding of the future. Therefore, a shared vision that explores the potential of lifelong learning from the perspective of each discipline is crucial. At the same time, the vision focuses on learners (i.e., incentives, talents, and learning processes) and on the social dimensions of learning (i.e., learning as a collective endeavor that strengthens a sense of community). By 2050, the realization of this vision will have led to a profound cultural shift based on a solid awareness of the potential of learning. Societies will self-consciously aspire to be learning societies, and people will recognize themselves as lifelong learners. As an ethos of continuous learning will permeate all areas of life, education will be perceived as much more than simply completing a course. Lifelong learning will have fundamentally changed the way the traditional life course is perceived and how individuals deal with its complexity. Learning trajectories will no longer be tied to the categories of age and formal education. Life choices will have become more diverse, and education and learning will take place throughout the life course. Formal, non-formal and informal learning activi-

ties will permeate all dimensions of life, including work, family, civic engagement and leisure, as summarized in the I4R. Regardless of age, method, or context, learners will be able to learn whatever they want to update their knowledge or skills, adapt to an ever-changing ecosystem, get a better job, or simply for the joy of expanding their skills or satisfying their curiosity. Learning to learn, managing a learning journey creating a learning biography become first skills.

6. Learning and Knowledge Sharing in Response to the COVID-19 Crisis

In response to the pandemic COVID-19, UNESCO launched a global call to provide education and knowledge partaking through OER [6]. As discussed above, adoption of OER is one of the few available options to successfully achieve SDG4 and quality education for all.

The COVID-19 has led to a paradigm shift in the way learners of all ages acquire learning [5, 7]. Therefore, it is more important than ever for the global society to organize and to promote worldwide access to information and knowledge through OER. The collective action in response to the UNESCO call addresses the encounters of this and coming crises for learners and lays the foundation for the systematic integration of best practices to enhance knowledge sharing in post-crisis potentials of learning [7]. The call encouraged the implementation of the OER Recommendation [5, 25] and also highlighted the important role of the recently launched COVID-19 Global Education Coalition, and the Dynamic OER Coalition [4]. The UNESCO Global Education Coalition, which focuses on the development and deployment of inclusive distance learning solutions, emphasizes the importance of access OER, which is fundamental to ensuring continuity of learning. Therefore, in the spirit of consistent execution of the UNESCO OER Recommendation, the global community was called upon in April 2020 to promote the practice of OER in the open sharing of learning and knowledge worldwide in order to build inclusive, sustainable and resilient knowledge societies.

As local and global inequalities were dramatically exposed during the pandemic COVID-19, OER and open educational practices (OEP) have facilitated practical and equitable approaches to learning, teaching, and assessment in our respective contexts [14, 20, 21, 39]. The pandemic has also moved the adoption of MOOC from the margins to the center of the educational field. According to Coursera [40]. the rise and scale of MOOC have been tremendous. It has been estimated that more than 1.6 million learners around the world have benefited from Coursera's partners'

contributions to the pandemic.

The pandemic has led to a paradigm shift in the way learners of all ages around the world acquire learning. Therefore, it is more important than ever for the international community to work together to promote global access to materials and realization OER. UNESCO [2, 25] has argued that collective action aims to manage the encounters of this and coming crises for learners, as well as to lay the groundwork for the systematic integration of the best preparations to increase knowledge sharing in the post-crisis period.

It is crucial to prepare workforces for innovative and higher-skilled roles, as competition for skills and talent will intensify in the near future. Employees need to take more personal responsibility for their learning journey and identify themselves as lifelong learners. Labor market demands focus on "just for me" and "just in time learning" as well as microlearning [41]. Education and training institutions need to keep pace with this extraordinary change. Moreover, redesigning curricula, towards curricula 4.0 to meet the demands of society and the 4IR is a major challenge as it involves multi-layered management processes and various organizational hurdles. Many educational organizations are still guided by old-fashioned tactics and discipline-specific "silo approaches," while the novel post-crisis era requires new resilient modes of tactics and creative governance and management.

7. Discussions

Although open education has a long tradition, it gained increasing attention in 2020 as educators responded to the pandemic COVID-19. Its potential benefits are evident in three areas: expanding access to education, improving pedagogy, and promoting equity.

OER can have a notable impact on the SDGs, especially SDG4, in the area of education, based on the pillars of access, equity, equality, quality and inclusion. OER can expand access to lifelong learning opportunities, deliver quality education, and create legal and policy frameworks that support synchronized partnerships, among others. It is widely recognized that OER serves as a game changer and catalyst for lifelong learning and uninterrupted professional development for upskilling, reskilling, and unskilling. Similarly, OER is used as a microlearning in workplaces and vocational training.

International research has shown that the employment of OER and open education at local, regional and national levels has been too relaxed, notwithstanding international proposals since its launch in 2002. Research and experiences worldwide have even shown that the implementation of OER is highly related to policies and tactics, so it

is a matter of organized governance and leadership at all levels, including top, middle and senior managers [20, 21, 42].

Several countries and institutions have tactics to realize OER and/or CC licenses. They have been shown to be better prepared and better equipped for the digital transformation of education because of their underlying ideologies, values, and visions of OER. Therefore, tactics to leverage OER are important catalysts in the transformation of higher education and the digital transformation of education. OER are expressions of successful global academic collaboration in teaching and learning and the ways in which partnership and cooperation can grow. Arguably the most important argument is that what is paid for by taxpayers should be returned to taxpayers to serve global SDG4, including its core tenets of access, equity, equality, inclusion, quality and lifelong learning.

Based on the ICDE Lifelong Learning Summit 2019, a roadmap for lifelong learning was developed. It included actions at three levels, consistent with UNESCO's OER 2019 Recommendation: (i) government for encouragement structures; (ii) employers and educational leaders for implementation; and (iii) educators for implementation [20]. Stephen Downes [43] emphasized the need to consider the future of OER in relation to broader quality concerns. He argued for the need to refer to concepts such as environment, culture and participation, not just content, and the need to maintain collaborative working.

Both OER and MOOC enable learners and scholars to stay current and relevant in the changing international environment. Similarly, networked people, such as teachers and learners, have constant access to up-to-date knowledge through the use of social media. Through the use of OER and MOOC, learners can access the highest quality and latest assets and research from the global professional community. Through OER, people can retain, reuse, revise, remix, redistribute, and even sell knowledge for commercial purposes [35]. Individuals can contextualize and adapt their knowledge to their learning context and culture without having to "reinvent the wheel". Consequently, people can devote more time and resources to deep learning and reflection. With business models that include both MOOC and OER, the following benefits can be achieved:

● Ongoing qualified growth
● Promotion and branding
● Enrollment of new scholars
● Part of learning resources in ordinary courses
● Learning here and now "just for updating" and "just for me"
● Informal and formal learning, that are progressively merged

● Up-sklling, reskilling and un-skilling

Developing a lifelong learning ethic and culture requires new educational policies and the provision of real opportunities for people to learn throughout their lives, and to orchestrate their own learning. This learning ecosystem fluidly integrates different learning modalities and combines case-based forms of learning, such as formal, non-formal and informal learning. The learning occasions allow for planned or unstructured personal or collaborative learning. In this ecosystem, there is easy access to both campus and online learning opportunities as local organization, global connectivity, and devices available to all. In the lifelong learning paradigm, diversity and multi-faceted learning opportunities are needed at all stages, from the novice to the very sophisticated learner, and at a pace that matches the learner. Another issue is the need to ensure safety standards, which includes learning about risks, safety and rights in the online world, as well as improving health, digital health literacy and well-being.

8. Conclusions

There is an urgent need to create a culture of lifelong learning. Understanding that all levels of learning are learner-centered represents a critical, resilient shift in traditional assumptions about education and needs-based planning. Based on this understanding, learners are operational representatives rather than inactive beneficiaries of prepared information. They themselves actively shape each learning process and its outcomes and use them to maximize their potential to become what they want to become. To effectively support individuals in constructing and shaping their learning profiles, there is a need to recognize authorized and other formal means of recognizing, validating and accrediting learning outcomes achieved in different contexts. This has led to a democratization of negotiation processes and forums aimed at balancing individual and societal learning needs. Moreover, learning needs to be embraced as a shared progress that takes place among colleagues, in different societies and across generations. School accentuates the growth of international inhabitants who are attentive to themselves, to others, to other communities, and to the globe. Consequently, lifelong learning is for anyone and everyone, and learning opportunities should even be created for the most vulnerable and otherwise often ignored learners. A global learning ecosystem should therefore be mutually and equitably fostered to encourage and enable learners by creating a wealth of opportunities for the well-being and achievement of SDG4 and the future of education so that everyone can learn to become what they want to become, to orchestrate their learning and contribute to strong soci-

etal development and prosperity.

Cultivating a culture of lifelong learning requires new educational policies and the creation of real opportunities for people to learn throughout their lives. To achieve and cultivate this culture, universities must develop breakthrough business models. The pursuit of sustainability and resilience will be another key feature of universities in 2030. Following the guidance in this chapter, by then universities will have embedded sustainability and resilience as an integral part of their mission in learning, teaching, research, innovation, and culture. To achieve these goals, the civic functions of universities must be brought to the fore. Universities are at the forefront of promoting public debate about respect for evidence-based arguments. Universities need to encourage engagement of their staff, and learners, researchers and other stakeholders and other shareholders need to connect with society at all levels by building bridges with other communities, external partners and citizens, all of whom need to be welcomed as active participants in the activities of the university. Accordingly, universities and the academic community must open their doors to and collaborate with society and the external world.

The social, ethical and moral dimensions of learning and education must be taken seriously because they are a priority in the agenda for social justice and human rights, for well-being and growth in all means. Only in this way can resilient and sustainable education be achieved aligned with human rights and social justice for everyone, in line with the major global initiatives described and discussed in this chapter.

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