Open Educational Resources through the European lens: Pedagogical opportunities and copyright constraints

by Giulia Priora and Giovanna Carloni *

Abstract: The adoption of Open Educational Resources ("OERs") in schools and universities is a phenomenon also on the rise in Europe. Increasingly relying on digital, open, freely adaptable materials that are specifically designed for educational purposes is not only a response to the disruptions brought by the COVID-19 pandemic, but a consistent policy step towards an inclusive, diverse, and quality education in the EU. The article examines the potential and constraints of OERs from both a pedagogical and legal perspective. It demonstrates how these types of resources are fit for purpose to achieve diversity, knowledge co-creation, and student agency in educational ecosystems. It also flags points of weakness of the EU copyright legal framework, such as the lack of harmonization of rules on co-authorship and adaptation, which need to be tackled to fully enable OER-enabled pedagogies across the Union.

Keywords: Open Educational Resources, Europe, OER-enabled pedagogy, EU copyright law, open access

A. Introduction

1   The educational sector has been undergoing constant, profound changes reflecting the evolution of societies. Recently, the COVID-19 pandemic represented a disruptive boost towards an almost complete reliance on digital technologies to impart education. This has led institutions, teachers, and students to suddenly face the opportunities and challenges of the online world. The pandemic experience also re-emphasized the inequalities persisting within the sector: from infrastructural gaps to technological illiteracy.[1] It became ever

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*   Giulia Priora is Assistant Professor at NOVA School of Law Lisbon (Faculdade de Direito da Universidade Nova de Lisboa), Director at NOVA IPSI Knowledge Centre on Intellectual Property and Sustainable Innovation, Researcher at CEDIS (Centre of Research and Development in Law and Society) (giulia.priora@novalaw.unl.pt). Giovanna Carloni is Adjunct Lecturer in World Language Didactics at University of Urbino, Italy (giovanna.carloni@uniurb.it).
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1   E.g., Herman G van de Werfhorst, Emma Kessenich, Sara Geven, 'The digital divide in online education: Inequality in digital readiness of students and schools' [2021] Computers & Education 168; María José Sosa Diaz, 'Emergency remote education, family support and the digital divide in the context of the COVID-19 lockdown' (2021) Int J Environ Res Public Health 18(15), 7956; Natacha Duroisin, Romain Beauset, Chloé Tanghe, 'Education and digital inequalities during COVID-19 confinement: From the perspective of teachers in the French speaking Community of Belgium'

more evident that we cannot simply presume that everyone can access and benefit from quality education. The pandemic exacerbated the need to promptly tackle relevant social inequalities. As the problem is multi-faceted, solutions are expected to stem from different angles and synergic approaches between the regulatory responses, the technological reality, and—not less importantly—practices and behaviors of schools, universities, teachers, and students. In this light, one of the developments that has been underemphasized, at least from a European doctrinal point of view, is the role played by Open Educational Resources ("OERs") in Europe.

2   OERs represent a typology of freely accessible, reusable, and mostly digital content that is specifically designed for educational purposes. OERs, and the pedagogical approaches relying on them, pursue the objective of bringing diversity, equality, and inclusion into the teaching and learning environments. OER-enabled pedagogies pivot on teaching techniques that maximize access to education, acknowledge differences in the classroom, and embrace those differences transforming the way we learn, act, and perceive the world following criteria of fairness and justice in society.[2] As a research topic, OERs are often associated with the US and Canadian realities.[3] This

article takes up the challenge of looking at OERs through a European lens, investigating their main features, pedagogical traits, and legal constraints from a EU perspective. The study aims to support any processes of assessment by institutions, teachers, or students that look into the *why* and *how* to choose OERs. To achieve this goal, the article first presents OERs and their evolution across the EU (Section B). It then dives into their pedagogical value, offering a European take on the practical access, use, and creation of OERs (Section C). Lastly, it explores the legal constraints and uncertainties related to the reliance on OERs by educational institutions, teachers, and students within the EU (Section D).

B. Open Educational Resources as an (also) European phenomenon

3   OERs are generally understood as freely available contents specifically designed for teaching and learning purposes. As the term suggests, the emphasis is on the openness of such materials. On the EU Science Hub portal,[4] OERs are defined as "content that is *libre* (openly-licensed content) and at the same time *gratis* (free of charge)."[5] Similarly, yet more precisely, the dedicated webpage run by UNESCO identifies OERs as "learning, teaching and research materials in any format and medium that reside in the public domain or are under copyright that have been released under an open license, that permit no-cost access, re-use, re-purpose, adaptation and redistribution by others."[6] In light of both these definitions, freely downloadable course pack materials, video lectures, open access handbooks, Creative Commons-licensed presentations would be rightly understood as examples of OERs.

4   The idea of openness behind OERs is, however, very rich in meanings. This is because of how openness can be concretely built and what it aims to achieve. Concretely, OERs are not only easily retrievable online and free of charge, but openly licensed, meaning that, in line with the so-called

(2021) Eur J Educ 56, 515-535; Sara M González-Betancor, Alexis J López-Puig, M Eugenia Cardenal, 'Digital inequality at home. The school as compensatory agent' [2021] Computers & Education 168.

2   See Beth Tillinghast, Marie K Fialkowski, Jennifer Draper, 'Exploring Aspects of Open Educational Resources Through OER-Enabled Pedagogy' (2020) Frontiers in Education 5(76); Cailean Cooney, 'What impacts do OER have on students? Students share their experiences with a health psychology OER at New York City College of Technology' [2017] Intl Review of Research in Open and Distributed Learning 18, 155–178; Rajiv Jhangiani and Surita Jhangiani, 'Investigating the perceptions, use, and impact of open textbooks: a survey of post-secondary students in British Columbia' [2017] Intl Review of Research in Open and Distributed Learning 18, 172–192; Fred Mulder, 'The logic of national policies and strategies for open educational resources' [2013] Intl Review of Research in Open and Distributed Learning 14, 96–105.

3   Among the remarkable efforts to study and promote OERs in the US see e.g., American University Washington College of Law Program on Information Justice and Intellectual Property, 'Code of best practices in fair use for Open Educational Resources' (2021) <auw.cl/oer>; Tanya Spilovoy, Jeff Seaman, Nate Ralph, 'The impact of OER initiatives on faculty selection of classroom materials' (2020) <www.onlinelearningsurvey.com/oer.html>; Hong Lin, 'Teaching and learning without a textbook. Undergraduate student perceptions of Open Educational Resources' (2019) International Review of Research in Open and Distributed Learning 20(3); in Canada e.g., Rory McGreal, Terry Anderson, Dianne Conrad, 'Open Educational Resources in Canada' (2015) Intl Review of Open and Distributed Learning

16(5), 161-175; Stephen Downes, 'Models for Sustainable Open Educational Resources' (2007) Interdisciplinary Journal of E-Learning and Learning Objects 3(1), 29-44.

4   The EU Science Hub is one of the main websites run by the European Commission's Joint Research Center, which compiles together information about scientific research and education in the EU. See European Commission, 'EU Science Hub – science for policy', <https://joint-research-centre.ec.europa.eu/index_en>.

5   European Commission, 'Open Educational Resources (OER)', <https://joint-research-centre.ec.europa.eu/what-open-education/open-educational-resources-oer_en>.

6   UNESCO, 'Open Educational Resources' (2020), <https://www.unesco.org/en/open-educational-resources>.

5Rs framework, OERs can be Re-used, Retained, Revised, Remixed, and Redistributed.[7] This implies huge impacts on the educational sector. In the UNESCO Recommendation on Open Educational Resources issued in 2019, the key objectives being discussed are access, inclusion, equity, and pedagogical innovation. In particular, UNESCO calls for "nurturing the creation of sustainability models for OERs (...) at national, regional and institutional levels, and the planning and pilot testing of new sustainable forms of education and learning".[8] This endorsement of OERs as a key tool to foster a more equitable and innovative education is in line with the UN Sustainable Development Goal 4 of the 2030 Agenda, which focuses on promoting lifelong learning opportunities for all.[9] The need to devise sustainable and OER-supported models for teaching and learning—also known as Open Educational Practices ("OEPs")—takes centre stage in today's and tomorrow's learning activities and cultures.[10]

5   Although OER repositories are mostly available online, OEPs have not tapped their potential at global level yet.[11] A gap between Northern America and the rest of the world, including Europe, emerges in this respect. In the US and Canada, the adoption of OEPs, particularly in higher education, has developed

consistently and exponentially in the last decades. The publication and adoption of open textbooks have characterized several academic disciplines and so-called Zero-Textbook-Cost ("ZTC") degree programs and courses are broadly available in various Canadian and US colleges.[12] North American universities have also started offering capacity-building programs specifically targeted at developing educators' skills to enhance the implementation of OER-supported methods.[13] Efforts have been put forward also to support the scaling-up of OEPs in the region. A meaningful example in this regard is the quality assurance mechanism developed at BCcampus in Canada, which provides guidance in the form of checklists for teachers, students, and librarians to enable them to assess the quality of OERs before using them.[14] The BCcampus quality assurance mechanism has turned into a model of reference to guarantee the reliability and effectiveness of OERs.

6   The European scenario on OERs looks rather different. Despite the ambition of the EU to achieve an open, diverse, and inclusive educational environment[15] and an open science culture that builds, in particular,

7   David Wiley, TJ Bliss, Mary McEwen, 'Open Educational Resources: A Review of the Literature' in J Michael Spector, M David Merrill, Jan Elen, MJ Bishop, *Handbook of Research on Educational Communications and Technology* (Springer 2014) 782; David Wiley, 'The access compromise and the 5th R' (*Improving Learning*, 5 March 2014) <https://opencontent.org/blog/archives/3221>.

8   UNESCO, Recommendation on Open Educational Resources (OER) of 25 November 2019, CL/4319.

9   UNESCO, 'Unpacking Sustainable Development Goal 4: Education 2030' (2016) <https://unesdoc.unesco.org/ark:/48223/pf0000246300>.

10   On the interplay of OEPs and sustainability see also Maria S Ramirez-Montoya, 'Challenges for open education with educational innovation: A systematic literature review' (2020) Sustainability 12(17), 7053; Andreia Inamorato dos Santos et al, 'Policy Approaches to Open Education--Case Studies from 28 EU Member States (OpenEdu Policies)' (2017) European Commission Joint Research Center Technical Report EUR 28776 EN.

11   Daniel Otto, Nadine Schroeder, Daniel Diekmann, Pia Sander, 'Trends and Gaps in Empirical Research on Open Educational Resources: A Systematic Mapping of the Literature from 2015 to 2019' (2021) Contemporary Educational Technology 13(4); Olaf Zawacki-Richter et al, 'Elements of Open Education: An Invitation to Future Research' (2020) Intl Review of Research in Open and Distributed Learning 21, 319–334; Daniel Otto, 'Adoption and diffusion of open educational resources in education: A meta-analysis of 25 OER-projects' [2019] The International Review of Research in Open and Distributed Learning 20, 122–140.

12   Among the higher education institutions where ZTC degrees and/or ZTC courses are available are: Kwantlen Polytechnic University (KPU), Canada, https://www.kpu.ca/open/ztc; CUNY (The City University of New York), USA, https://sps.cuny.edu/academics/zero-textbook-cost-courses; SUNY (The State University of New York), USA, https://oer.suny.edu; University of Northwestern St. Paul, USA, https://unwsp.edu/news/introducing-unws-first-z-degree-zero-textbook-cost-degree.

13   Examples are: the professional program in Open Education offered at Kwantlen Polytechnic University, Surrey, Canada; the program for Open Scholarship and Education offered at the University of British Columbia, Vancouver, Canada; the master's degree program in Learning and Technology offered at Royal Roads University, Victoria, Canada; the Open Education Resources for Instruction Certificate offered at the University of Illinois, Springfield, USA; the Certificate in Open Educational Practices offered at the University of Minnesota, Minneapolis, USA; the Certificate in OER Librarianship offered at the University of Minnesota, Minneapolis, USA.

14   BCcampus OpenEd, 'Collection Evaluation Rubrics' <https://open.bccampus.ca/use-open-textbooks/evaluate-open-textbooks>.

15   Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on achieving the European Education Area by 2025, 30 September 2020, COM/2020/625 final. See also e.g., European Commission, 'Towards equity and inclusion in Higher Education in Europe. Eurydice report' (Publications Office of the European Union 2022) <https://op.europa.eu/en/publication-detail/-/publication/fa946919-b564-11ec-b6f4-01aa75ed71a1/language-en/format-PDF/source-255273612>.

on EU-funded research initiatives,[16] the uptake of OEPs in Europe still appears to be a scattered and disharmonized phenomenon.[17] To start with, across Europe there is neither a consolidated definition nor shared understanding of what OERs are.[18] In light of the existing literature, the main obstacles to the flourishment of a European OER culture could be identified in the scant number of OER repositories and OER-proof learning ecosystems,[19] a problem of mistrust in such resources due to the absence of coordinated OER quality assurance mechanisms,[20] and the lack of dedicated training to teachers and students.[21]

7   Despite these structural deficiencies, recent developments showcase a newly rising attention towards OERs in Europe. As Ehlers and Kunze observe during their coordination of the European Network for Catalysing Open Resources in Education ("ENCORE"), the topic of OERs in Europe is "moving from a phase in which it was representing a philosophy and activist movement to a phase in which OER infrastructures are more and more available to students and to teachers as a normal phenomenon in education processes".[22] The focus on OERs is growing from sev-

eral different national and disciplinary angles.[23] European universities are moving their first steps towards the promotion of OERs and OEPs. Pilot projects carried out in Estonia and Romania and the Master's Degree Program in Leadership in Open Education offered by the University of Nova Gorica in Slovenia[24] are examples of capacity-building efforts in this direction. Some broader-scope initiatives have been launched in Ireland, with the creation of a forum for the enhancement of higher education targeted at fostering the adoption of OEPs nationwide,[25] and in Austria, with a national repository of massive open online courses ("MOOCs"), a national inter-university OER infrastructure enabling access to open textbooks and the adoption of OERs in online training courses for teachers.[26]

8   Even in these countries where OEPs seem to be flourishing, there is a lack of nation-wide policy strategies supporting these efforts.[27] As highlighted

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16   European Commission, 'Open access' (*Funding and Tender Opportunities*) <https://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/open-access-data-management/open-access_en.htm>.

17   See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, 'Opening up Education: Innovative teaching and learning for all through new Technologies and Open Educational Resources' COM/2013/0654 final, 8 ("The use of OERs in Europe is still too fragmented and not sustained."); European Network for Catalysing Open Resources in Education, 'Open Education and Training. Where does Europe go from here? State of Play for an Emerging European OER Ecosystem' (2021) <https://encoreproject.eu/2021/11/09/open-education-and-training-where-does-europe-go-from-here/?utm_source=rss&utm_medium=rss&utm_campaign=open-education-and-training-where-does-europe-go-from-here>. '

18   Grainne Conole and Mark Brown, 'Reflecting on the Impact of the Open Education Movement' (2018) Journal of Learning for Development 5(3), 196.

19   Daniel Otto and Michael Kerres, 'Increasing Sustainability in Open Learning: Prospects of a Distributed Learning Ecosystem for Open Educational Resources' [2022] Front Educ 7, 5.

20   European Network for Catalysing Open Resources in Education, 'Open Education and Training. Where does Europe go from here?', 10.

21   Conole and Brown, 'Reflecting on the Impact of the Open Education Movement', 197.

22   European Network for Catalysing Open Resources in Education, 'Open Education and Training. Where does Europe go from here?', 26.

23   The Support Framework for Higher Education Institutions compiled by Inamorato dos Santos, Punie, and Castaño Muñoz represents an unprecedented comprehensive attempt to map OEPs across Europe. See Andreia Inamorato dos Santos, Yves Punie, Jonatan Castaño Muñoz, 'Opening up Education: A Support Framework for Higher Education Institutions' (2016) <https://publications.jrc.ec.europa.eu/repository/handle/JRC101436>. See also, among others, Martin Ebner, Sandra Schön, Swapna Kumar, 'Guidelines for leveraging university didactics centers to support OER uptake in German-speaking Europe' (2016) Education Policy Analysis Archives 24, 39; Giles Pepler, 'Developing Policies To Stimulate The Uptake Of OER In Europe' (2014) eLearning & Software for Education 1, 276-282; Jonatan Castaño Muñoz, Christine Redecker, Riina Vuorikari, Yves Punie, 'Open Education 2030: planning the future of adult learning in Europe' (2014) Open Learning: The Journal of Open, Distance and e-Learning 28(3), 171-186; Isobel Falconer, Lou McGill, Alison Littlejohn, Eleni Boursinou, 'Overview and Analysis of Practices with Open Educational Resources in Adult Education in Europe' (2013) <http://oro.open.ac.uk/50933/1/JRC-Adult%20Learning%20Report%202013.pdf>.

24   University of Nova Gorica, <https://www.ung.si/en/schools/school-of-engineering-and-management/programmes/2NVOI/>.

25   National Forum for the Enhancement of Teaching and Learning in Higher Education, 'Supporting Open Education', <https://www.teachingandlearning.ie/our-priorities/digital-transformation/supporting-open-education/>.

26   Sandra Schön and Martin Ebner, 'Open Educational Resources in Austria' in Ronghuai Huang et al (eds), Current State of Open Educational Resources in the "Belt and Road" Countries. Lecture Notes in Educational Technology (Springer, 2020), 17-33.

27   See Gabriela Grosseck, Carmen Holotescu, Diana Andone, 'Open Educational Resources in Romania' in Ronghuai Huang et al (eds), *Current State of Open Educational Resources in the "Belt and Road" Countries. Lecture Notes in Educational*

by Nascimbeni with regards to the Italian national scenario, the absence of institutional regulatory strategies is one of the main reasons why the country is not fully embracing OERs, alongside with problems related to the quality perception, searchability, language, and teachers' skillsets.[28] Slovenia and Germany represent two, very recent, meaningful exceptions in this regard. In the last decade, the German government has set a solid focus on OERs, moving towards a wider digitization of learning materials and a more education-friendly legislation.[29] This led to a substantial policy paper in 2022 that advances proposals for legislative reforms focused on the balance and consolidation of the reliance and lawful use of OERs through the establishment of so-called "communities of practices".[30] Slovenia has embraced a more bottom-up policy approach. Since 2015, through the government-funded initiative "Opening Up Slovenia",[31] the country has progressively implemented a national strategy of dialogue between stakeholders, providing them the resources to develop their own pathways towards open educational and professional training.[32] Among the expected outcomes of the initiative, coordinated by the Slovenian Ministry of Education, are the enhancement and decentralization of digital infrastructures and nationwide OER repositories, and the collection of valuable inputs for effective legislative reforms to the extent and in the specific scenarios where this turns to be necessary.[33]

9   In the wake of these national developments, several EU-funded projects are studying ways to further support and coordinate OEPs across Europe. Among them, the ENCORE Network[34] aims to study four identified challenges to OERs in Europe, i.e., the lack of adequate technology, policy, quality, and innovation by raising awareness among educators and practitioners in educational and business sectors and supporting the development of OER repositories and open learning cultures.[35] Other initiatives pilot new ways to introduce openness in education, such as the Open Game project,[36] which produced gamified online learning materials and made them available as OERs for university instructors all across Europe. One of the main objectives pursued by these EU-funded initiatives seems to be to introduce educators to the use, selection, and adoption of OEPs in their classrooms. In light of all these developments, it cannot be excluded that OERs may start playing a decisive role in European education. OER- and OEP-focused parameters could be soon included in the evaluations of projects and universities' performance, and specific training could be provided ever more widely across schools, universities, and libraries. It is, therefore, necessary to scrutinize the main features of OERs embracing the perspective of their most proactive promoters and users, i.e., teachers and students.

C. The OER-enabled pedagogy

10   The achievement of openness and inclusivity in the educational sector requires all actors involved, in particular teachers and students, to undergo a shift in terms of "changed mindsets, attitudes, and values",[37] as well as, more concretely, professional habits and practices.[38] In this respect, it is worth noting that the term Open Pedagogy, describing the interaction

Technology (Springer, 2020), 151-174; Hans Põldoja and Mart Laanpere, 'Open Educational Resources in Estonia' in Ronghuai Huang et al (eds), *Current State of Open Educational Resources in the "Belt and Road" Countries. Lecture Notes in Educational Technology* (Springer, 2020), 35-48.

28   Fabio Nascimbeni, 'Open Educational Resources in Italy' in Ronghuai Huang et al (eds), Current State of Open Educational Resources in the "Belt and Road" Countries. Lecture Notes in Educational Technology (Springer, 2020), 49-62.

29   See Inamorato dos Santos et al, 'Policy Approaches to Open Education', 60-62.

30   German Ministry of Education and Research, 'OER-Strategie. Freie Bilgungsmaterialen für die Entwicklung digitaler Bildung' (2022) <https://www.bmbf.de/SharedDocs/Publikationen/de/bmbf/3/691288_OER-Strategie.html>, 4, 10.

31   Opening Up Slovenia, <https://ouslovenia.net>.

32   See Inamorato dos Santos et al, 'Policy Approaches to Open Education', 118-122.

33   Ibid, 120 ("(...) the following objectives of the initiative: (...) Develop a legislative environment and mechanisms for quality assurance and control of open learning services. The objective will be achieved by: updating the existing legislation, and where necessary introducing new legislation that will be geared to enable the development and implementation of open learning principles; creating clear quality standards of open education in cooperation with all the relevant stakeholders.").

34   European Network for Catalysing Open Resources in Education, <https://encoreproject.eu>.

35   European Network for Catalysing Open Resources in Education, 'Open Education and Training. Where does Europe go from here?', 7.

36   Open Game, <https://opengame-project.eu/project>.

37   Ebba Ossiannilsson, 'Ecologies of Openness: Reformations through Open Pedagogy' [2018] Asian Journal of Distance Education 2, 103. See also Ebba Ossiannilsson et al, 'From Open Educational Resources to Open Educational Practices' [2020] Distances et médiations des savoirs 31.

38   See A W Tony Bates, 'Teaching in a Digital Age. Guidelines for Designing Teaching and Learning' (2019) <https://teachonline.ca/teaching-in-a-digital-age/teaching-in-a-digital-age-second-edition>, who stresses how, for OEPs to trigger pedagogical innovation, "it is essential to embed OER within a robust and appropriate teaching framework or pedagogy that exploits the potential of OER".

between the open movement and pedagogy,[39] has recently been criticized as too general.[40] De Rosa and Jahngiani define Open Pedagogy as a "site of praxis, a place where theories about learning, teaching, technology, and social justice enter into a conversation with each other [...]. This site is dynamic, contested, constantly under revision, and resists static definitional claims."[41] Due to the excessive malleability of this term, the concept of Open Pedagogy has transitioned into the idea of OER-enabled pedagogy, that is "the set of teaching and learning practices that are only possible or practical in the context of the 5R permissions which are characteristics of OER".[42]

11 In OER-enabled pedagogies, the main focus can be on contents or processes.[43] They are content-centric, if the focus lies on the creation of new OERs, while if they look primarily at the interactions among knowledge co-creators, they are process-centric.[44] They can also be teacher-centric, if the instructor is expected to mostly operate with OERs, or learner-centric, if students engage in knowledge co-building and the teachers limit their activity to providing only scaffolding.[45] In both cases, learners are constantly and fundamentally deemed to be co-creators of knowledge, engaging with learning materials and showing their degree of understanding by way of collaborative exercises. In other words, OER-enabled pedagogy implies a process of knowledge production that is "not a closed process, but one to which information is continually added".[46] This means that, essentially, OER-enabled pedagogies are conceptualized as a learner-focused approach which entails a participatory component fostering students' agency and empowerment, often reframing the relationship between educators and learners.

12 If teachers adopt OERs in their courses, they can personalize their teaching materials by "adapt[ing], adjust[ing] and/or modify[ing], or alter[ing] the content itself"[47] and remix it by "combin[ing] the original or revised content with other open content to create something new".[48] The benefits of such practices enhance the effectiveness of teaching activities, as materials result being more suitable, if not tailored, on the students' needs. As Moist suggests: "adaptation or adoption of OERs will almost always be more efficient than creating teaching materials from scratch".[49] This reflects in a wide array of different teaching activities, including assessment and student-centred exercises. Through the use of OERs, collaborative knowledge production is facilitated in activities like the creation of public webpages, the revision or remixing of learning materials by teachers, as well as by senior students for more junior peers, annotated bibliographies,[50] and Wikipedia edit-a-thons.[51] Both teachers and students share the experience of the potential of OERs in stimulating creativity and inclusivity in the educational sector[52] in the same threefold way: accessing, using, or creating them.

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39 Alan Witt 'Towards a Working Definition of Open Pedagogy' (2020) Milne Library Faculty/Staff Works 8, <https://knightscholar.geneseo.edu/library-research/8>.

40 See Michelle Reed, 'Creating learning opportunities in open education: An exploration of the intersection of information literacy and scholarly communication' in Andrew Wesolek, Jonathan Lashley, Anne Langley (eds), *OER: A field guide for academic librarians* (Pacific University Press 2018) 73-92; David Wiley and John L Hilton, 'Defining OER-enabled pedagogy' (2018) International Review of Research in Open and Distance Learning 19(4), 133-146; Fredrick W Baker, 'An alternative approach: Openness in education over the last 100 years' (2016) Tech Trends 61(2), 130–140; Martin Weller, *The battle for open: How openness won and why it doesn't feel like victory* (Ubiquity Press 2014).

41 Robin Derosa, Rajiv Jhangiani, 'Open pedagogy' in Elizabeth Mays (ed), *A guide to making open textbooks with students* (Rebus Press 2017), 7.

42 Wiley and Hilton, 'Defining OER-enabled pedagogy', 135.

43 See Suzan Koseoglu and Aras Bozkurt, 'An exploratory literature review on open educational practices' (2018) *Distance Education* 39(4), 441–461; Jeremy Knox, 'The limitations of access alone: Moving towards open processes in education technology' (2013) Open Praxis 5(1), 21–29.

44 See Maha Bali, Catherine Cronin, Rajiv S Jhangiani, 'Framing Open Educational Practices from a Social Justice Perspective' (2020) Journal of Interactive Media in Education 1(10).

45 Ibid.

46 Eric Werth and Katherine Williams, 'The why of open pedagogy: a value-first conceptualization for enhancing instructor praxis' (2022) Smart Learning Environments 9(10) ("Collaborative knowledge construction is at the heart of Open Pedagogy, where learners are able to provide valuable insight into learning materials, and the open practitioner recognizes that knowledge construction is not a closed process, but one to which information is continually added.").

47 David Wiley, 'The access compromise and the 5th R' (*Improving Learning*, 5 March 2014) <https://opencontent.org/blog/archives/3221>.

48 Ibid.

49 Shannon Moist, 'Faculty OER Toolkit' (2018) <https://eduq.info/xmlui/handle/11515/35733>.

50 Delene White, 'Students Creating a Shared Bibliography' (2018) <http://delenecasewhite.net/ITW101_27/course-info/student-work-contribution-to-knowledge/students-creating-a-shared-bibliography-on-zotero/>.

51 Elvis Bakaitis, 'Zines as Open Pedagogy' (Open Pedagogy Notebook, 4 August 2019) <https://openpedagogy.org/assignment/zines-as-open-pedagogy/>.

52 Michael Paskevicius and Valerie Irvine, 'Open Education and Learning Design: Open Pedagogy in Praxis' (2019) *Journal of Interactive Media in Education* (1) 10; Torrey Trust, Robert Maloy, Sharon Edwards, 'College Student Engagement in OER Design Projects: Impacts on Attitudes, Motivation, and Learning' (2022) Active Learning in Higher Education 340.

I. Access to OERs

13 The choice to embrace an OER-enabled pedagogy can be motivated by the push towards social justice.[53] Conceived as the "parity of participation [...] [where] all the relevant social actors [...] participate as peers in social life",[54] social justice in educational contexts acquires a particularly meaningful role in "enhanc[ing] opportunities for self-development and self-expression, and [...] encourag[ing] participation of different groups in decision-making through group representation".[55] OEPs set the limelight on the potential of education in achieving these goals, by promoting a threefold evolution: "from content-centric to process-centric; from teacher-centric to learner-centric; from primarily pedagogical to primarily social justice focused".[56]

14 The idea of social justice underlying OER-enabled pedagogy is multi-fold, touching upon moral, economic, and cultural aspects that lie at the core of society in and beyond the classroom.[57] In this light, the main definitional feature of OER-enabled pedagogies is their potential in widening the access to education to everyone, including those who might not otherwise afford to take advantage of other educational resources and opportunities.[58] In other words, the embedded value of OERs, as materials that are and need to remain freely accessible to everyone, lies in the equal opportunity given to all teachers and all learners. This implies a second important characteristic, which is the inclusivity of OERs. While opening education to everyone, OER-enabled pedagogies foster the diversity of learning communities. Pedagogically, this is an effective way to include and involve cultural minorities, vulnerable and under-represented groups, enabling them to

access and proactively engage with all educational materials.[59]

II. Use of OERs

15 The open use of OERs is often listed as the first requisite of OER-enabled pedagogies,[60] presuming the ability to search, identify, and select OERs based on their value and potential within the design and development of learning activities. These aspects are or should be tackled in dedicated training activities. Not less importantly, the adoption and use of OERs is closely linked to the idea of openness in a creative and remixing way. There is a vast array of uses that can and are expected to be done with OERs; based on the so-called 5Rs framework, sharing, revising, remixing, transforming, and peer reviewing educational materials are all acts that are and need to remain freely possible while working with OERs.[61]

16 In particular, educators engage in open teaching by way of designing their courses, selecting and sharing OERs, digitizing and transforming materials to devise activities targeted at fostering students' active learning, providing room for learners to act as knowledge co-builders, and adapting materials to the needs of the class and the learning objectives.[62] The markedly creative and participatory nature of OER-enabled pedagogies sheds light on the importance of fostering teachers' and students' autonomous and collaborative construction of knowledge. Both these categories of actors in the educational sectors are deemed a fundamental part of the open learning community, with students being engaged in knowledge co-construction, enhancing reflective and critical thinking.[63]

53 See Sarah Lambert and Laura Czerniewicz, 'Approaches to Open Education and Social Justice Research' (2020) Journal of Interactive Media in Education 1(1); See Bali, Cronin, Jhangiani, 'Framing Open Educational Practices from a Social Justice Perspective'; Sarah R Lambert, 'Changing our (Dis)Course: A Distinctive Social Justice Aligned Definition of Open Education' (2018) Journal of Learning for Development 5(3).

54 Nancy Fraser, 'Reframing Justice in a Globalizing World' in Julie Connolly, Michael Leach, Lucas Walsh (eds), *Recognition in Politics: Theory, Policy and Practice* (Cambridge Scholars 2007).

55 Ibid.

56 See Bali, Cronin, Jhangiani, 'Framing Open Educational Practices from a Social Justice Perspective'.

57 See ibid; Cheryl A Hodgkinson-Williams and Henry Trotter, 'A social justice framework for understanding open educational resources and practices in the Global South' (2018) Journal of Learning for Development 5(3), 204–224.

58 See Hodgkinson-Williams and Trotter, 'A social justice framework for understanding open educational resources and practices in the Global South'.

59 See Phil Tietjen and Tutaleni I Asino, 'What Is Open Pedagogy? Identifying commonalities' (2021) Intl Review of Research in Open and Distributed Learning 22(2), 185–204.

60 See Tietjen and Asino, 'What Is Open Pedagogy? Identifying commonalities'; Ronghuai Huang et al, 'Disrupted classes, undisrupted learning during COVID-19 outbreak in China: Application of open educational practices and resources' [2020] Smart Learning Environments 7, 19.

61 Tietjen and Asino, 'What Is Open Pedagogy? Identifying commonalities', 196.

62 See Fabio Nascimbeni and Daniel Burgos, 'In Search for the Open Educator: Proposal of a Definition and a Framework to Increase Openness Adoption Among University Educators' (2016) Intl Review of Research in Open and Distributed Learning, 17(6).

63 See Huang et al, 'Disrupted classes, undisrupted learning during COVID-19 outbreak in China: Application of open educational practices and resources'. See also Bronwyn Hegarty, 'Attributes of Open Pedagogy: A Model for Using Open Educational Resources' (2015) Educational Technology 55(4), 3–13, in which the main attributes of OER-enabled

III. Creation of OERs

17 Most of the studies and assessments of the potential of OERs presume their existence and abundance online. OERs do not simply exist, but they need to be created, updated, remixed, and kept alive. Students' participation emerges as a key dimension in this regard.[64] In OER-enabled pedagogies, learners join their teachers in the shaping and design of the learning experience.[65] The case of renewable assessments, also known as non-disposable assessments, is particularly insightful in this regard. Under the OER-enabled pedagogy model, the renewable assessments given to the students to assess their understanding and knowledge have a purpose beyond class grading.[66] Motivated by the connection of the tasks with real-life contexts, renewable assessments pivot on the impact the students can have in applying their knowledge, shaping new views, and engaging with the topics more extensively.[67]

18 Renewable assignments often require students to co-create OERs, such as updating materials,

writing commentaries, and remixing parts of open textbooks.[68] Through renewable assignments, learners become knowledge co-creators and engage in critical and creative thinking.[69] Wiley and Hilton provide a framework to assess the effectiveness of such pedagogical practices based on four key aspects: "1. Are students asked to create new artifacts (essays, poems, videos, songs, etc.) or revise or remix existing OERs? 2. Does the new artifact have value beyond supporting the learning of its author? 3. Are students invited to publicly share their new artifacts or revised or remixed OER? 4. Are students invited to openly license their new artifacts or revised or remixed OER?".[70] By and large, the proactive role of students in the creation of knowledge, both within and beyond the scope of their renewable assessments, can be defined as the most innovative elements of the evolving OER-enabled pedagogies at global scale.

D. EU copyright law and OERs

19 It turns evident that OERs epitomize one of the most innovative attempts to build a fairer and inclusive educational sector. As illustrated above, their underlying idea of openness is deeply intertwined with the notions of diversity, equality, and collaboration.[71] This is highly meaningful from the EU legal perspective. Aware of the recognition of all EU Member States of the human right to education,[72] and in virtue of Article 14 of the Charter

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pedagogies are listed to be participatory technologies; people, openness, and trust; innovation and creativity; sharing ideas and resources; connected community; learner-generated knowledge; reflective practice; and peer review.

64 Bali, Cronin, Jhangiani, 'Framing Open Educational Practices from a Social Justice Perspective'; Werth and Williams, 'The why of open pedagogy: a value-first conceptualization for enhancing instructor praxis'.

65 In terms of pedagogical practices, this connotation of social justice has recently been reframed under the notion of Design Justice by Costanza-Chock: "Design justice rethinks design processes, centers people who are normally marginalized by design, and uses collaborative, creative practices to address the deepest challenges our communities face. [...] Design justice focuses explicitly on the ways that design reproduces and/or challenges the matrix of domination (white supremacy, heteropatriarchy, capitalism, ableism, settler colonialism, and other forms of structural inequality). Design justice is also a growing community of practice that aims to ensure a more equitable distribution of design's benefits and burdens; meaningful participation in design decisions; and recognition of community-based, Indigenous, and diasporic design traditions, knowledge, and practices." See Sasha Costanza-Chock**,** Design Justice: Community-Led Practices to Build the Worlds We Need (MIT Press 2020), 6-23. See also Hodgkinson-Williams and Trotter, 'A social justice framework for understanding open educational resources and practices in the Global South'.

66 David Wiley, 'Toward Renewable Assessment' (*Open Content*, 2016 <https://opencontent.org/blog/archives/4691>.

67 See ibid; Aderson Oliveira, 'Seven Considerations When Creating Renewable Assessments' in Students of TLHE 720 at Centennial College (eds), *On Assessment. An Exploration of Emerging Approaches* (Pressbooks 2021).

68 See Rajiv S Jhangiani and Arthur G Green, 'An open athenaeum: Creating an institutional home for open pedagogy' in Andrew Wesolek, Jonathan Lashley, Anne Langley (eds), *OER: A Field Guide for Academic Librarians* (Pacific University Press 2018).

69 Ibid; Ragad Anwar et al, 'Encouraging Academic Integrity Through a Preventative Framework' (Pressbooks 2020).

70 Wiley and Hilton, 'Defining OER-enabled pedagogy', 137.

71 On the interplay between the principles of diversity, equality, and inclusion, and the educational sector, see e.g., Gregor Wolbring and Aspen Lillywhite, 'Equity/Equality, Diversity, and Inclusion (EDI) in Universities: The Case of Disabled People' (2021) Societies 11(2), 49; Milton A Fuentes, David G Zelaya, Joshua W Madsen, 'Rethinking the Course Syllabus: Considerations for Promoting Equity, Diversity, and Inclusion' [2021] Teaching of Psychology 48, 69–79; Lisa M Harrison-Bernard et al, 'Knowledge gains in a professional development workshop on diversity, equity, inclusion, and implicit bias in academia' [2020] Advances in Physiology Education 44, 286–294; Gary S Weissmann, Roberto A Ibarra, Michael Howland-Davis, Machienvee V Lammey, 'The multicontext path to redefining how we access and think about diversity, equity, and inclusion in STEM' [2019] Journal of Geoscience Education 67, 320–329.

72 Protocol No. 1 to the European Convention for the Protection of Human Rights and Fundamental Freedoms, 1952, art.2

of Fundamental Rights of the EU,[73] the European Commission has been working on regulatory measures that consistently aim at promoting lifelong, inclusive, digital, quality learning experiences, from early childhood until adult learning.[74] The specific goals being pursued are the enhancement of EU competitiveness, its economic and cultural growth, higher and better qualified employment rates, and the valorisation of its rich cultural diversity.

20 In a Communication issued in 2013, the Commission expressly recognized the key role and potential of OERs as "opportunities to reshape EU education",[75] stressing how their developments and availability enable teachers and education institutions to "reach thousands of learners from all five continents simultaneously", and stating that "stimulating the supply and demand for high-quality European OERs is essential for modernizing education".[76] Even though in absence of an ad hoc legal framework dedicated to this specific type of learning materials, the Commission identifies best practices in, *inter alia*, the coordinated attempt to launch a European Massive Open Online Courses ("MOOCs") portal,[77]

and national initiatives designed to foster innovative learning environments, including the online adaptation of analogue contents and broad uses of digital-born teaching materials.[78]

21 However, the EU approach towards OERs shows an important clash between policy and legal objectives. If, on the one hand, the goal is to foster quality and inclusive education, on the other hand, the legal protection of intellectual property rights, and specifically copyright, has been expanding in size and scope.[79] In other words, the tightening of the enclosure of intellectual works within the idea of exclusive control by their creators can represent a strong constraint to the culture of openness sought in the educational sector.

22 As seen at the beginning of this study, the 2019 UNESCO Recommendation on OERs seems to reflect this clash rather explicitly, defining OERs as "learning, teaching and research materials in any format and medium *that reside in the public domain* or are *under copyright that have been released under an open license*".[80] This definition showcases the reality in the EU and beyond: it is copyright protection that draws the boundaries between what is an OER and what is not. OERs qualify as such due to the possibility of accessing and using them freely, despite being types of works and resources that are typically protected by copyright law. This means that OER-enabled pedagogical activities use works that are:

i outside of copyright protection (i.e., works belonging to the public domain due to copyright expiration or falling outside of copyright subject matter, e.g., news and facts of the day[81]), or

("No person shall be denied the right to education. (...)").

73 Charter of Fundamental Rights of the European Union, 2012, art.14 ("Everyone has the right to education and to have access to vocational and continuing training. This right includes the possibility to receive free compulsory education. (...)").

74 See Joint Report of the Council and the Commission on the implementation of the Strategic Framework for European cooperation in education and training (ET 2020) — 'Education and Training in a smart, sustainable and inclusive Europe' (2012) OJ C 70, 9–18; Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, 'Strengthening European Identity through Education and Culture. The European Commission's Contribution To The Leaders' Meeting In Gothenburg 17 November 2017' COM(2017) 673 final ("Provided that it is of *good quality and inclusive*, education from childhood on lays the groundwork for social cohesion, social mobility and an equitable society. (...) education and culture help make Europe an attractive place to live, study and work, marked by freedom and common values, which are reflected in fundamental rights and an *open society*. Europe's cultural diversity is a strength that fuels creativity and innovation (...). Education and culture play a pivotal role for people to (i) know better each other across borders, and (ii) experience and be aware of what it means to be 'European'.") (emphasis added). For an overview of EU policies on education, see European Commission, 'Policy on educational issues' <https://ec.europa.eu/info/education/ policy-educational-issues_en>.

75 Communication from the Commission, 'Opening up Education', 2.

76 Ibid, 8.

77 The European Commission refers in particular to the

efforts put forward by the European Association of Distance Teaching Universities, <https://www.openuped.eu/>.

78 Communication from the Commission, 'Opening up Education', 7-9 ("(...) stakeholders involved in the provision of 'traditional' educational materials can also help to make high-quality digital content more available: textbook authors, publishers and booksellers can contribute to joint collaborative efforts to find new innovative technical solutions ensuring that high-quality resources are available to all."). See also Inamorato dos Santos et al, 'Policy Approaches to Open Education'.

79 See e.g., Bernt P Hugenholtz, 'Copyright in Europe: Twenty years ago, today, and what the future holds' (2013) Fordham Intellectual Property, Media and Entertainment Law Journal 23(2); James Boyle, 'The second enclosure movement and the construction of the public domain' (2003) *Law and Contemporary Problems* 66(1), 33-74.

80 See also the EU Commission Communication of 2013 calling for coordinated national action to make "the rights and obligations of users of educational materials under copyright (...) more transparent". Communication from the Commission, 'Opening up Education', 9.

81 Berne Convention for the Protection of Literary and Artistic

ii subject matter of copyright protection, whose use is permitted by law (i.e., uses of protected works covered by copyright exceptions and limitations, e.g., the free use of works for teaching purposes[82]), or

iii subject matter of copyright protection, whose use is licensed (i.e., uses of protected works that are authorized by the copyright holders, e.g., Creative Commons licensed materials).

23 Despite providing clarity to the definition of OERs, copyright law may present a serious obstacle to their adoption for three main reasons. First, copyright is a *broad* type of legal protection. This means that its subject matter and scope covers an extremely wide range of different types of creative contents (e.g., texts, music, videos, images, multimedia works).[83] It also means that copyright holders enjoy the exclusive right to authorize (or prohibit) numerous uses of their works by third parties: from the act of mere copying to the revision, adaptation, translation, sharing of the work up to its commercial distribution.[84]

24 Second, copyright is an *automatic* right that is *long* in its duration. The sole creation of an original work automatically confers to its author the exclusive control over it for 70 years after their death in the EU.[85] This occurs without the need to deposit or otherwise formally register the work at any public authority.[86] This generates a presumption of non-openness: in absence of any indications by the author, materials found online are presumed to be covered by copyright protection and thus *not* free to be used.

25 Lastly, copyright law presents a firmly rooted problem of *unawareness* across society. The poor

familiarity with the technicalities and with the application of copyright rules often leads to chilling effects affecting teachers and students uncertain whether and how they can use content found online,[87] thus playing against one of the main objectives pursued by copyright law itself, i.e., the flourishment of knowledge and culture.[88]

26 In the EU, copyright legislation presents one additional disadvantage and one recent advantage to the wide spreading of OERs. On the problematic side, copyright rules in the EU are still significantly fragmented.[89] Substantial differences exist between how the 27 Member States regulate, for example, how much of a book teachers can freely use in their activities, or which entities qualify as educational institutions.[90] However, on the bright side, the EU

Works, 1886 as last amended in 1979 (Berne Convention), art.2(8).

82 Berne Convention, art.10(2); Directive 2001/29/EC on the harmonization of certain aspects of copyright and related rights in the information society [2001] OJ L167 (EU InfoSoc Directive), art.5(3)(a); Directive EU 2019/790 on copyright and related rights in the Digital Single Market and amending Directives 96/9/EC and 2001/29/EC [2019] OJ L130 (EU CDSM Directive), art.5.

83 See e.g., Enrico Bonadio and Nicola Lucchi, 'How far can copyright be stretched? Framing the debate on whether new and different forms of creativity can be protected' [2019] Intellectual Property Quarterly 2, 115-135; Tanya Aplin, *Copyright Law in the Digital Society. The Challenge of Multimedia* (Hart 2005) 16-35.

84 Berne Convention, artt.8-11; EU InfoSoc Directive, artt.2-4.

85 Directive 2006/116/EC on the term of protection of copyright and certain related rights [2006] OJ L372/12 (EU Term Directive), art.1.

86 Berne Convention, art.5(2).

87 Communication from the Commission, 'Opening up Education', 9, observing from the public consultations that "[t]he absence of clear information on authorised uses for a specific online learning material (e.g. text, images and videos) deters users." See also Péter Mezei, Digital Higher Education and Copyright Law in the Age of Pandemic - The Hungarian Experience, 14 (2023) JIPITEC 328 para 1.; Bernd J Jütte et al, 'Zooming in on education: An empirical study on digital platforms and copyright in the United Kingdom, Italy, and the Netherlands' (2022) European Journal of Law and Technology 13(2).

88 See e.g., Hayleigh Bosher, 'An Explorative Review of Copyright Education: Studies and Resources' (2017) CREATe Working Paper 2017/04; Jane Secker and Chris Morrison, 'Copyright literacy in the UK: A survey of librarians and other cultural heritage sector professionals' (2015) Library and Information Research 39(121), 75-97.

89 Communication from the Commission, 'Opening up Education', 2 ("Even though the key for success depends foremost on Member States, the EU also has a role to play. It can promote best practices and support exchanges across Member States. It can deliver benefits from economies of scale and interoperability, thus avoiding fragmentation.").

90 Communication from the Commission, 'Opening up Education', 9 ("The EU copyright framework includes exceptions for the use of material for teaching purposes. The implementation of these exceptions varies across Member States. Given the cross-border potential of innovative practices in using educational content, it is important to assess whether the current legal framework ensures in practice sufficient transparency and legal certainty for users."). See also Inamorato dos Santos et al, 'Policy Approaches to Open Education'. See also Teresa Nobre, 'Educational Resources Development: Mapping Copyright Exceptions and Limitations in Europe' (2014) Creative Commons Project Open Educational Resources Policy in Europe Working Paper; Raquel Xalabarder, 'Study on Copyright Limitations and Exceptions for Educational Activities in North America, Europe, Caucasus, Central Asia and Israel' (2009) WIPO Standing Committee on Copyright and Related Rights Nineteenth Session Proceedings,

legislator is committed to building a more uniform and education-sensitive system of copyright rules. The EU Directive on Copyright in the Digital Single Market ("CDSM")[91] of 2019 represents a step forward in this direction. In virtue of its Article 5, teachers and students all across the EU can share materials online via their school/university electronic environments without the need for authorizations by or payments to the copyright holders—as long as the Member State where their education institution is based do not give expressed priority to licensing mechanisms or compensation schemes.[92] This new provision carries the potential to enlarge the definition and use of OERs in Europe. This potential is dramatically lowered in those Member States where the use of textbooks and educational materials is excluded from the scope of Article 5 and, for those, the need to seek authorization is preserved.[93]

27 In this light, OERs represent not only a phenomenon on the rise, but an opportunity to critically assess EU copyright law and finetune it with the evolving needs of the educational sector and society as a whole. It is thus worth focusing on each of the three main activities teachers and students engage with in OER-enabled pedagogies, i.e., the access, use, and creation of OERs, and inquire which obstacles EU copyright law might pose to them.

I. Identifying the public domain and OERs

28 *Accessing* OERs has to do with knowing how to identify works of public domain. As briefly mentioned above, this is both the case of works whose copyright protection have expired and of those that fail to qualify as copyright subject matter. With the progressive expansion of the long-arm of copyright[94], the public domain has been shrinking over the centuries. It still includes ideas, methods,

procedures, mathematical concepts, news of the day,[95] and, in some countries, official documents issued by public authorities (e.g., parliamentary acts, legislation, judicial and administrative proceedings).[96]

29 From the OER perspective comes a push towards an EU copyright legal framework that fully harmonizes and effectively protects the public domain. The current debate on the copyrightability of AI-generated works resonates with this line of argument, too. The emergence of machine learning models and the valuable outcomes of these automated processes, in the form of data, texts, or of even more complex nature such as artworks and music works,[97] might represent an opportunity to achieve a more open and flourishing public domain educational culture.[98]

II. Lawfully using OERs

30 *Using* OERs, when these are not public domain but rather protected works, needs to be lawful. This emphasizes an important premise to the study of OERs from a copyright perspective: not all OERs can be used in any way, by anyone, for any purpose. In order to be lawful, any specific uses of copyrighted OERs carried out by teachers and students need to be either licensed or covered by copyright teaching exceptions. Due to lack of expertise, it may be difficult for them to autonomously determine the legality of their uses of OERs. Uncertainties may arise, for instance, with regards to the amount of material they can use, the possibility of digitizing analogue contents, the sharing of OERs outside institutional channels, the assessment of the non-commercial nature of their activities.

31 On the side of licensing, such uncertainties have been mitigated by the advent of open licensing practices[99]

SCCR/19/8.

91 EU CDSM Directive.

92 For thorough analyses on Article 5 CDSM Directive, see Alina Trapova, The exceptional mismatch of copyright teaching exceptions in the post-pandemic university – insights from Germany, Bulgaria, and Ireland, JIPITEC 14 (2023) 307 para 1; Giulia Priora, Bernd J Jütte, Péter Mezei, "Copyright and digital teaching exceptions in the EU: Legislative developments and implementation models of Article 5 CDSM Directive" (2022) IIC 53(4), 543-566; Ana Lazarova, 'Bulgaria falls into all the traps set by Article 5 of the CDSM Directive' (2022) JIPLP 17(5), 407-413.

93 See e.g., Italian Copyright and Related Rights Act, art.70-bis(3).

94 Pamela Samuelson, 'The Copyright Grab' (1996) Wired Magazine 4(1).

95 Berne Convention, art.2; Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs Agreement), art.9(2).

96 Berne Convention, art.2(4).

97 Daniel J Gervais, 'The machine as an author' (2020) Iowa Law Review 105, 2053; Martin Senftleben and Laurens Buijttelaar, 'Robot creativity: An incentive-based neighboring rights approach' (2020) EIPR 42(12), 797-812.

98 Begoña Gonzales Otero, 'Machine learning models under the copyright microscope: Is EU copyright fit for purpose?' (2021) GRUR Intl 70(11), 1043-1055.

99 See OECD/Jan Hylén, 'Open Educational Resources: Opportunities and Challenges', <http://www.oecd.org/edu/ceri/37351085.pdf> ("Open licensing provides a way of controlled sharing with some rights reserved to the author. Open licenses have the benefit of introducing certainty and clarity into the process of obtaining permission to use the work of others.").

and Creative Commons licenses,[100] which represent a virtuous example of sensitive legal design for the educational sector. Their standardization of licensing terms has managed to empower copyright holders to clearly indicate which uses they license for free. In turn, this makes teachers and students more aware and confident in adopting and working with OERs. On the side of copyright teaching exceptions. The introduction of a new digital teaching exception in Article 5 of the EU CDSM Directive attempts to improve a framework of provisions that allows Member States to fully promote open education, should they wish to do so.[101]

32   What remains problematically unharmonized in the EU are the rules on the act of adaptation. In light of the analysis above, it could be stated that most of the activities promoted in OER-enabled pedagogies, in copyright jargon, qualify as adaptations: e.g., the revision of a textbook, the creative rethinking of a text or an assignment, the translation of materials. In the words of one of the former Advocates General of the Court of Justice of the European Union, adaptation is to be understood as an encompassing "technique of creative expression which seeks to intervene in the work itself (...), making the work, in its own language, a different work in so far as it is only vaguely recognisable in its original expression."[102] International copyright law imposes that authors shall enjoy the exclusive right to authorize or prohibit any of these adaptations, arrangements, adjustments, and translations of their works.[103] These rights, however, are regulated only at national level in the EU and very rarely specifically regulated by licenses attached to OERs,[104] thus

leaving teachers and students unsecure about how they can use educational materials in their offline and online class activities.[105]

III. Co-authoring OERs

33   *Creating* OERs is, as seen above in this study, very often a process of co-creation. Besides the problems of poor copyright literacy by the individual authors of OERs,[106] the collaborative approach to the production of knowledge and the direct involvement of students that characterize OER-enabled pedagogies pose serious questions to the fitness of copyright rules in the EU to fairly protect among all authors involved, teachers and students alike. The rules on co-authorship are largely left unharmonized in the EU.[107] In the case of educational materials, it is left to Member States to determine *what* can qualify as an original contribution and *who* can be defined a co-author in a co-created OER.

34   This creates a twofold problem. On the one side, a problem of consistency in the regulation, due to the important objective of EU copyright law of providing a fair and equitable protection to all creators, especially those in vulnerable contractual positions.[108] On the other side, the diversity of co-authorship rules across the EU generates, once again, a problem of fragmentation of the public domain: depending on whether the collaboration of students qualifies as an act of original (co-)creation, the date of expiration of the copyright on the resulting OERs may vary from country to country.[109]

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100   Creative Commons, 'About the licenses' <https://creativecommons.org/licenses/>.

101   Alongside with the illustration for teaching exception ex EU InfoSoc Directive, art.5(3)(a) and the digital teaching exception ex EU CDSM Directive, art.5, several other EU copyright provisions allow for the introduction of copyright exceptions pursuing an educational and cultural purpose. Among them, the exception for reproduction by educational establishments ex EU InfoSoc Directive, art.5(2)(c); the exception for the use of public lecture for informatory purpose ex EU InfoSoc Directive, art. 5(3)(f); the exception for private study ex EU InfoSoc Directive, art. 5(3)(n); the exception for public lending ex Directive 2006/115/EC on rental right and lending right and on certain rights related to copyright in the field of intellectual property [2006] OJ L376 (EU Rental Directive), art.6.

102   *Case C-419/13 Art & Allposters International BV, Opinion of AG Cruz Villalón* [58].

103   Berne Convention, artt.11ter(2) and 12.

104   Some Creative Commons licenses display a "non-derivative works" reservation option, which, besides being inspired by the US copyright legal language, may not fully cover the exclusive right of adaptation, depending on its scope at the various national levels in the EU.

105   See Jonathan Griffiths, 'Exhaustion and the Alteration of Copyright Works in EU Copyright Law (C-419/13) *Art & Allposters International BV v Stichting Pictoright*' (2016) ERA Forum 1-17

106   Communication from the Commission, 'Opening up Education', 9 ("(...) it is difficult for authors of new content to define the usage rights and/or limitations they wish to associate with a certain resource.").

107   EU copyright law limits itself to comply with Article 7(2) of the Berne Convention obligation to measure the duration of the copyright protection of a co-created work starting from the death of the last surviving co-author (EU Term Directive, art.1(2)) and regulating the scenarios of songs, movies, computer programs, and databases by appointing the legal status of co-authors to all the typical actors involved in the creation of such works. For a complete overview of co-authorship regulation at EU level, see Giulia Priora, 'Copyright law and the promotion of scientific networks: some reflections on the rules on co-authorship in the EU' (2019) Queen Mary Journal of Intellectual Property 9(2), 217-232.

108   See e.g., EU CDSM Directive, artt.18-23 and recitals 72-81.

109   Highlighting this same problem in the music industry scenario before the 2011 amendment of the Term Directive,

35 One possible solution, timidly advanced by the European Commission in 2013, would be to assign the copyright over OERs created in public schools and universities automatically to public authorities.[110] Although this proposal still needs to be fully developed and scrutinized, what emerges already is its apparent opposition to the essence and the evolution of EU copyright law in the last decades. Comparing the educational sector with the scientific research scenario, which share the EU policy objective to build more open, collaborative, and quality ecosystems, one can notice how copyright law in the EU is supporting the quest for "openness" in scientific research without any shift of authorship from the individual authors to the State. On the contrary, national legislations and policy initiatives are moving towards the creation of a new right for *authors* to allow their second (open access) publication of their contributions stemming from publicly funded research projects.[111]

E. Conclusion

36 Our analysis stems from the observation of a phenomenon in expansion. From several disciplinary angles, OERs are starting to be studied, embraced, fostered, and used across Europe. The policy intent at both international and EU levels is straight-forward: building inclusive and quality education by, also, endorsing the creation of OERs and maximizing their use and visibility.[112] This represents a threefold

opportunity for today's Europe. Firstly, it leads European schools and universities, as well as their teachers and students, to reflect on their pedagogical choices and learning approaches. It also raises awareness about the lawfulness of specific uses of third parties' creative content within and beyond the classrooms and empowers all the contributors in this collaborative effort of knowledge co-creation to know about their rights and possibilities to proactively pursue openness. Secondly, it leads EU and national legislators to assess and finetune copyright rules to strike a sustainable balance between authors' protection and right to education. In particular, the policy intention to promote OERs builds a strong case for the full EU harmonization of public domain, adaptation, and co-authorship rules. Lastly, the advent of OER-enabled pedagogies in Europe calls for a coordinated effort of incentivization and support of open licensing practices in the educational sector since, as the European Commission declares, this is a pondered and sustainable choice of sharing and generating information and knowledge, thus benefiting teachers and students alike.[113]

which harmonized the legal status of co-authors for lyricists and music composers in the EU, is Christina Angelopoulos, 'The Myth of European Term Harmonisation: 27 Public Domains for the 27 Member States' (2012) 43 International Review of Intellectual Property and Competition Law 572.

110 Communication from the Commission, 'Opening up Education', 10 ("Encourage formal education and training institutions to include digital content, including OERs, among the recommended educational materials for learners at all educational levels and encourage the production, including through public procurement, of high-quality educational materials whose copyrights would belong to public authorities.").

111 See e.g., Christina Angelopoulos, 'Study on EU copyright and related rights and access to and resuse of scientific publications, including open access' (Publications Office of the European Union 2022); Roberto Caso and Giulia Dore, 'Academic copyright, open access, and the 'moral' second publication right' (2022) Trento LawTech Research Paper 47; Christoph Bruch and Thomas Pflüger, 'Das Zweitveröffentlichungsrecht des § UrhG § 38 Abs. 4: Möglichkeiten und Grenzen bei der Anwendung in der Praxis' (2014) Zeitschrift für Urheber- und Medienrecht 58(5), 389-394.

112 See UNESCO/International Council for Open and Distance Education, 'Ljubljana OER Action Plan' (2017) <https://

www.icde.org/knowledge-hub/join-icde-and-partners-for-a-side-event-at-the-2nd-world-open-educational-resources-oer-congress-19-september-from-14-00-to-15-30-in-room-m2>; EU Communication from the Commission, 'Opening up Education', 8-10.

113 Communication from the Commission, 'Opening up Education', 8 ("European education and training institutions, teachers and learners should also be encouraged to share their own educational materials freely with peers through the use of open licenses.").