



JRC SCIENCE FOR POLICY REPORT

Going Open

*Policy Recommendations on
Open Education in Europe
(OpenEdu Policies)*

Andreia Inamorato dos Santos

Editors: Yves Punie, Konstantin D.A.
Scheller

2017

This publication is a Science for Policy report by the Joint Research Centre (JRC), the European Commission's science and knowledge service. It aims to provide evidence-based scientific support to the European policymaking process. The scientific output contained herein does not imply a policy position on the part of the European Commission. Reproduction and reuse is authorised provided the original source is acknowledged and the original meaning or message of the documents is not distorted. The European Commission shall not be held liable for any consequence stemming from the reuse. For further information and recommendations, please see: <https://ec.europa.eu/jrc/en/open-education/legal-notice>

Contact information

Andreia Inamorato dos Santos/Yves Punie

Address: JRC. Edificio EXPO, Calle Inca Garcilaso, 3 – Seville, Spain

Email: andreia-inamorato-dos.santos@ec.europa.eu/yves.punie@ec.europa.eu

JRC Science Hub

<https://ec.europa.eu/jrc>

JRC107708

EUR 28777 EN

PDF ISBN 978-92-79-73496-0 ISSN 1831-9424 doi:10.2760/111707

Luxembourg: Publications Office of the European Union, 2017

© European Union, 2017

Reproduction and reuse is authorised provided the original source is acknowledged and the original meaning or message of the documents is not distorted. The European Commission shall not be held liable for any consequence stemming from the reuse. For further information and recommendations, see <https://ec.europa.eu/jrc/en/open-education/legal-notice>

How to cite this report: Inamorato dos Santos, A. (2017) Going Open – Policy Recommendations on Open Education in Europe (OpenEdu Policies). Ed: Punie, Y., Scheller, K.D.A., EUR 28777 EN, Publications Office of the European Union, Luxembourg, 2017, ISBN 978-92-79-73496-0, doi:10.2760/111707, JRC107708

All images © European Union 2017

Title *Going Open: Policy Recommendations on Open Education in Europe (OpenEdu Policies)*

Abstract

Open education is an increasingly important part of how educational institutions deliver their public mission and commit to increased quality and more effective education, and it is also a potential means of achieving social inclusion and equal opportunities. Open educational practices provide paths for educational institutions to be more accountable to society, they modernise education by embracing the use of digital technologies, and they also promote transparent strategies.

Going open is a *process* for all involved: institutions, learners and society. It depends on creating both digital and non-digital opportunities to make education more collaborative, more transparent and more inclusive. Open education needs support from policies, via a multi-stakeholder approach, that can act systemically to further advance open education in Member States and create an "open education ecosystem".

Contents

1.1 OpenEdu Framework.....	9
1.2 OpenEdu Policies	10
1.2.1 OpenEdu Policies Methodology	11
2.1 The benefits of going open.....	15
2.1.1 Challenges	18
2.2 Updating the concept of open education	20
2.3 Open to what extent, and for whom?	21
2.4 Creating an ecosystem for open education	23
4.1 Creating an open education ecosystem.....	26
4.1.1 Awareness raising	26
4.1.2 Regulation, initiatives and funding	27
4.1.3 Partnerships	27
4.1.4 Teachers' professional development	28
4.1.5 Accreditation and recognition of open learning	28
4.1.6 Open educational resources.....	29
4.1.7 Support and infrastructure	29
4.1.8 Research and evaluation	30
4.2 Policy recommendations from the OpenEdu Policies research	31
6.1 The role of the European Commission	38
6.2 The role of ministries	39
6.3 The role of the regions and regional authorities	40

Foreword

This study presents policy recommendations for open education in the European Union and its Member States. It aims to inspire policymakers to design or further develop an open education strategy at European, national and regional level. The diversity of policies and approaches included in this report reflect the diversity that is intrinsic to the European Union. Each European Member State has its own specific goals for education and priority areas to consider when designing and implementing open education policies. This report argues, however, that a more systemic and holistic view of open education could be beneficial in all European countries.

This report, *Going Open: Policy Recommendations on Open Education in Europe (OpenEdu Policies)*, is a further contribution to building a JRC knowledge base on open education, developed mainly on behalf of the European Commission's Directorate General for Education, Youth, Sport and Culture (DG EAC). It is connected to earlier published studies such as the *OpenEdu Framework* and related reports which can be found at <https://ec.europa.eu/jrc/en/open-education>.

The JRC has carried out research on [Learning and Skills for the Digital Era](#) since 2005. It aims to provide evidence-based policy support to the European Commission and its Member States on how to harness the potential of digital technologies to encourage innovation in education and training practices; improve access to lifelong learning; and impart the new (digital) skills and competences needed for employment, personal development and social inclusion. More than 20 major studies have been undertaken on these issues, resulting in more than 120 different publications.

Recent work on capacity-building for the digital transformation of education and learning, and for the changing requirements for skills and competences, has focused on the development of digital competence frameworks for citizens ([DigComp](#)), educators ([DigCompEdu](#)), educational organisations ([DigCompOrg](#)) and consumers ([DigCompConsumers](#)). A framework for opening up higher education institutions ([OpenEdu](#)) was also published in 2016, along with a competence framework for entrepreneurship ([EntreComp](#)). Some of these frameworks are accompanied by (self-) assessment instruments. Additional research has been undertaken on Learning Analytics, MOOCs ([MOOCKnowledge](#), [MOOCs4inclusion](#)), Computational thinking ([Computhink](#)) and policies for the integration and innovative use of digital technologies in education ([DigEduPol](#)).

More information on all our studies can be found on the JRC Science hub: <https://ec.europa.eu/jrc/en/research-topic/learning-and-skills>.

Yves Punie
Deputy Head of Unit
DG JRC Unit Human Capital and Employment
European Commission

Acknowledgements

Many thanks to everyone who contributed directly or indirectly to this report and made it possible: first and foremost the European Commission itself and colleagues at DG EAC (Georgi Dimitrov, Deirdre Hodgson and Julie Anderson) and at the JRC (Ioannis Maghiros, Patricia Farrer, Maria Romero Lopez).

Thanks also to the team at the Universidad Internacional de la Rioja (UNIR), for , for collaborating with the JRC in the case study report¹ that accompanies this publication: Daniel Burgos, Fabio Nascimbeni, Paul Bacsich, Javiera Atenas and Stefania Aceto. This complementary report includes in-depth interviews with policymakers in Member States, some of the results of which are mentioned in this report.

Last but not least, very special thanks go to all those who participated in the JRC's workshops and focus groups in Seville or in the UNESCO and Commonwealth of Learning's EU regional consultation on OER, which took place in Malta in February 2017. Their engagement made this research possible:

Country	Name	Institution
Austria	Peter Seitz	Federal Ministry for Science Research and Economy
Croatia	Marina Crnčić Sokol	Ministry of Science and Education
Croatia	Sandra Kucina	EDEN
Cyprus	Panicos Giorgoudes	Ministry of Education and Culture
Czech Republic	Jaroslav Fidrmuc	Ministry of Education, Youth and Sport
Finland	Ilmari Hyvönen	Ministry of Education and Culture
France	Catherine Mongenet	FUN MOOC
France	Sophie Touzé	Ministry of Higher Education and Open Education Consortium
Germany	Stefanie Stegemann	Federal Ministry of Education and Research
Greece	Sofia Papadimitriou	Ministry of Education and Research
Italy	Fabio Nascimbeni	EDEN, Universidad Internacional de la Rioja (UNIR)
Lithuania	Giedrius Vaidelis	Education Development Centre
Lithuania	Airina Volungevičienė	EDEN
Malta	Emanuel Zammit	Ministry for Education and Employment
Malta	Jeffrey Zammit	Ministry for Education and Employment
Malta	Alexander Grech	StrategyWorks
Portugal	António Moreira Teixeira	Universidade Aberta
Portugal	João Carlos Sousa	Directorate General, Ministry of Education

¹ *Policy Approaches to Open Education – Case Studies from EU Member States (OpenEdu Policies)*, upcoming JRC report, 2017

Portugal	Maria Teresa Godinho	Directorate General, Ministry of Education
Romania	Larisa Panait	Chancellery of the Prime Minister and Secretariat General of the Government
Slovakia	Iveta Ferčíková	Office of the Plenipotentiary
Slovenia	Borut Cempelj	Secretary-Ministry of Education, Culture and Sports
Slovenia	Davor Orlic	Jožef Stefan Institute, videolectures.net
Spain	Felix Serrano Delgado	Ministry of Education
Sweden	Ebba Ossianilsson	Swedish Association for Distance Education
United Kingdom	Dominic Newbould	Independent Consultant

Executive Summary

This report presents evidence-based *policy recommendations* for policymakers at European Union, national and regional levels on open education, based on research evidence. These policy recommendations are the main outcome of the OpenEdu Policies project, which the JRC carried out on behalf of the European Commission's Directorate General for Education, Youth, Sport and Culture (DG EAC) during 2016-2017. These policy recommendations are derived from JRC research focusing on higher education. However, whenever possible, evidence from other levels of countries' education systems has been included, and indeed the policies can often be applied to all educational levels: school, higher education, VET (vocational education and training), adult education, LLL (lifelong learning) and non-formal learning. They are based on the evidence gathered from a qualitative research process in which all EU Member States were consulted. The triangulation method for data collection and analysis consisted of focus groups (workshops), interviews and desk research. The interviews and desk research are presented in the case studies report of OpenEdu Policies². The workshop participants were representatives from the ministries of education, science and culture in their respective countries, or expert-advisors to those Ministries. There were also participants who were representing intergovernmental organisations such as UNESCO, the World Bank and the OECD.

The report focuses on policies from a broad perspective. It takes the view that policies at the EU, national and regional levels are important in order to foster open education not only within institutions such as schools and universities but also in society as a whole. For example, employers can also be actively involved in recognising open education credentials as part of a continuous professional development path, and for individuals open education can provide the means to re-skill. At the same time, individuals are increasingly looking for alternative, free and open ways of studying using digital technologies to improve their skills and competences.

Open education is becoming increasingly important for universities as a means for them to deliver their public mission, address issues of social inclusion and equal opportunities, and become more accountable to society. In addition, open education also increases the quality and relevance of higher education (European Commission, 2015, 2016, 2017; OECD, 2015; UNESCO-COL, 2016). Furthermore, open education approaches education through a set of core values, based on transparency, sharing and collaboration. It proposes a shift in mindset in order to allow the implementation of a number of practices focused on openness. These practices are referred to as *open educational practices* (OEP), and they aim to create suitable new ways for organisations to operate and for individuals to learn. Open education also argues in favour of making learning content more affordable and accessible. In fact, open educational practices, such as the creation and use of open educational resources, could address this issue and expand access to lifelong learning opportunities (UNESCO, 2015; UNESCO-COL, 2016).

In summary, open education as presented *in this report* is an approach to modernising education in a systemic and holistic way, which embraces the use of digital technologies and goes beyond it.

Previously, from 2013 to 2016, JRC research on open education had helped to scope the open education field from a contemporary perspective (OpenEdu Project). That period saw the elaboration of a working definition of open education along with the conceptualisation of the 10 dimensions of open education, which were defined in the *OpenEdu Framework*³. Open education was defined as:

“a way of carrying out education, often using digital technologies. Its aim is to widen access and participation to everyone by removing barriers and making learning accessible,

² *Policy Approaches to Open Education – Case Studies from 28 EU Member States* (JRC, 2017).

³ <https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/opening-education-support-framework-higher-education-institutions>

abundant, and customisable for all. It offers multiple ways of teaching and learning, building and sharing knowledge. It also provides a variety of access routes to formal and non-formal education, and connects the two.”

(OpenEdu, JRC, 2016)

The *OpenEdu Framework* was designed within this contemporary definition of open education, in consultation with European and international stakeholders. It is a tool to help higher education institutions open up education. In the *OpenEdu Framework*, a number of practices are described, and suggestions are made to university decision makers to help them create appropriate strategies for open education in a contextual and holistic way. The framework is not a benchmark, but **a tool to prompt critical thinking and strategy design**. Therefore, for open education approaches specifically for higher education institutions, we recommend that the reader consults the *OpenEdu Framework* report, which provides a full set of open education practices.

Policy context

The research on open education carried out by the JRC is a contribution to the European Commission’s initiative on open and innovative education *Opening up Education: Innovative Teaching and Learning for All through New Technologies and Open Educational Resources* (European Commission, 2013). It also contributes to Communications on a *Renewed Agenda for Higher Education and School Development and Excellent Teaching for a Great Start in Life* (European Commission, 2017) and can be understood as an important element in working towards a European Education Area, as outlined in the Commission Communication *Strengthening European Identity through Education and Culture* (European Commission, 2017). In addition, OpenEdu Policies aims to support the Education and Training 2020 agenda, the new priorities⁴ of which include open education.

Key conclusions

The OpenEdu Policies research leads us to conclude that an **ecosystem for open education (OE) should be developed**, in which different policies, implemented by a multi-stakeholder approach, act systemically to further advance open education in the Member States. The research also compiled existing and planned policies on open education, analysing the approaches used by each Member State – whether they have a specific policy on open education or whether their open education policy is embedded into other, more generic educational policies. This diversity in approach to policy design in the EU means that not all European countries share the same priorities in education; and if they do, they do not pursue those priorities in the same way.

Open education is already being established at both strategic and practical levels in various contexts in educational institutions in Europe. In some countries there are national policies on open education which tap into practices that contribute towards modernising education from various perspectives, including the pedagogical, technological and strategic ones. Participants in the OpenEdu Policies research reaffirmed the importance of open education practices as grassroots changes in education systems at all levels.

Participants in this research, who are representatives of the 28 EU Member States, also proposed that the European Commission (EC) should consider taking on the role of key enabler of open education in Europe. With the European Commission as the ambassador, the participants believe that Member States will be more confident in embracing open education and more likely to design policies to implement it. At the same time, the participants believe that the EC should not be the only player but instead that Ministries should take charge and work in partnership with stakeholders at national and local levels to make open education a reality. Ministries should therefore consider initiating or partnering

⁴ http://europa.eu/rapid/press-release_IP-15-5568_en.htm

with national-level initiatives, supporting and providing the necessary infrastructure and legal frameworks for open education. Whenever possible the regions, via their regional authorities, should consider acting alongside the Ministries and other stakeholders to co-support open education initiatives. It is expected that the knowledge base presented in this report will be used as a tool which will inspire policymakers to think about and design open education strategies suitable to their Member State or region.

Quick guide

This report is accompanied by a catalogue and analysis of case studies from the European Union's 28 Member States, entitled *Policy Approaches to Open Education – Case Studies from 28 EU Member States* (OpenEdu Policies, European Commission – JRC 2017). It provides an in-depth look at current policies in Europe. For suggestions at an institutional level (e.g. universities), see the report *Opening up Education: A Support Framework for Higher Education Institutions* (European Commission – JRC, 2016).

1 Introduction: The OpenEdu Project

The JRC research into open education contributes to the European Commission's Communication *Opening up Education: Innovative Teaching and Learning for All through New Technologies and Open Educational Resources* (EAC, 2013), and the Communications *Renewed Agenda for Higher Education and School Development and Excellent Teaching for a Great Start in Life* (EAC, 2017). It can be understood as an important contributor towards the vision of a European Education Area outlined in the Commission Communication *Strengthening European Identity through Education and Culture* (European Commission, 2017) The OpenEdu Policies project also supports the Education and Training 2020 agenda, and one of its new priorities includes open education.

The report *Going Open: Policy Recommendations on Open Education in Europe (OpenEdu Policies)* is the final outcome of the OpenEdu Policies research, which is part of the overarching OpenEdu project. The first phase of the OpenEdu project was carried out by the Joint Research Centre between 2016 and 2017 on behalf of DG EAC. It aims to support policymakers at EU and Member State levels through a series of policy recommendations on open education. It is accompanied by another report, *Policy Approaches to Open Education – Case Studies from 28 EU Member States* (OpenEdu Policies, European Commission, 2017), which provides an in-depth analysis of EU Member States' open education policies.

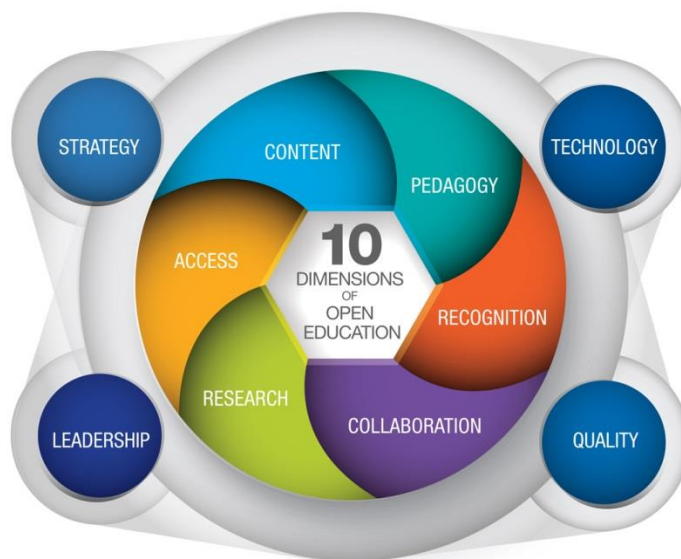
The *Going Open* report presents policy recommendations for policymakers at EU, national and regional levels based on research evidence and covers all educational sectors. In particular, policies for higher education institutions' decision-makers have also been previously covered by the *OpenEdu Framework* report which was published in 2016⁵.

1.1 OpenEdu Framework

The *OpenEdu Framework* is a tool that can be used in the design of open education strategies in higher education institutions. It is based on 10 dimensions of open education (6 core and 4 transversal), which interact with one another. These dimensions are: access, content, pedagogy, recognition, collaboration, research (core dimensions) and strategy, leadership, technology and quality (transversal dimensions). Users can adapt the framework to their own needs, and choose to focus either on specific dimensions or on all of them simultaneously, using the holistic approach to open education which the framework provides.

⁵ *Opening up Education: A Support Framework for Higher Education Institutions* (JRC, 2016).

Figure 1. The 10 dimensions of open education, *OpenEdu Framework* (2016)



The framework also offers educational institutions a strategic template for the design of their policies. In the next section, the follow-up project on open education policies is discussed.

1.2 OpenEdu Policies

OpenEdu Policies⁶ follows up on the *OpenEdu Framework* to provide guidance on how and why policymakers can or already do pursue open education. The first phase of the OpenEdu research resulted in the development of a framework for *open education strategy design* for HE institutions, while the second phase (OpenEdu Policies) presents the state-of-the-art of open education policies in the European Member States, and a set of policy recommendations for the EU, Member States and Regional authorities. The outcomes of the OpenEdu Policies project are presented in two complementary reports⁷ which together aim to provide a full picture of open education policies in the EU. The reports also focus on the main challenges and drivers for these policies.

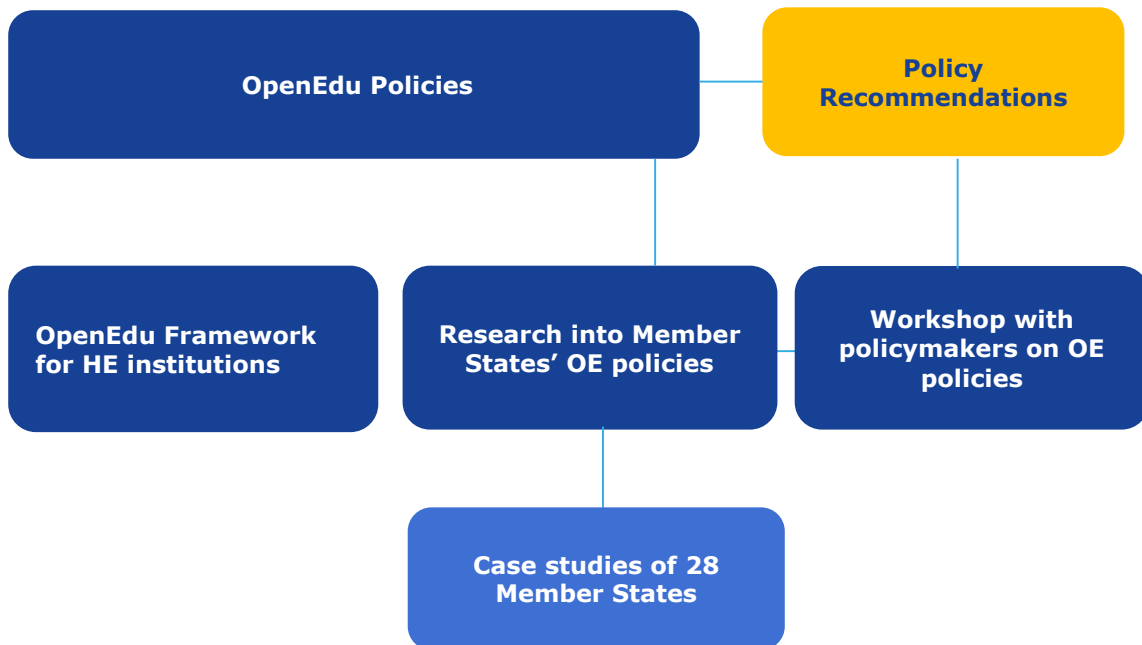
The project focused on building a knowledge base on open education, which allows for the planning of strategies and the tracking of processes and results by anyone interested in policy design and implementation in the field of OE. It has collated existing and planned policies on open education, and has analysed the approaches used by each Member State. For example, some have a dedicated policy on open education whereas others embed aspects of open education as part of broader educational policies. The research evidence shows that not all European countries share the same priorities in education; and even if they do, they do not necessarily pursue those priorities in the same way

Figure 3 shows the research structure of OpenEdu Policies:

⁶ <https://ec.europa.eu/jrc/en/open-education>

⁷ *Going Open: Policy recommendations on Open Education in Europe* (OpenEdu Policies, JRC 2017) and *Policy Approaches to Open Education - Case Studies from 28 EU Member States* (OpenEdu Policies, JRC 2017).

Figure 2. Research structure of OpenEdu Policies



1.2.1 OpenEdu Policies Methodology

The OpenEdu Policies project uses a qualitative method for collecting and analysing evidence on policies for open education in the EU. A qualitative approach allowed us to carry out an in-depth investigation into the challenges, barriers and enablers for the development of policy on open education in each Member State.

The research was carried out via a triangulated data collection method, which involved the following steps:

- Desk research and document analysis
- Case studies (semi-structured interviews)
- Workshops (focus groups with policymakers and stakeholders)

The desk research and document analysis phase was an iterative process that gathered initial information on existing policies at either national or regional levels in European Member States. It also looked at the current literature (mostly reports) which could add some information on the current state-of-the-art of policies on open education in Europe. In this phase, very little written material on policies was found. Even the countries which have some sort of national-level policy on open education either do not have it in written format (yet) or embed a mention of open education or OER in a higher-level policy such as a national education strategy⁸. The desk research phase also helped the research team to identify suitable interviewees for the case study phase.

The case studies phase of OpenEdu Policies involved in-depth, semi-structured interviews with research participants. This study was carried out by the JRC in collaboration with the Universidad Internacional de la Rioja. It was designed to encompass information on all the 28 Member States of the European Union. The data collection consisted of semi-structured

⁸ Details on the policies can be found in the OpenEdu Policies case studies report: *Policy Approaches to Open Education – Case Studies from 28 EU Member States* (JRC, 2017) and *Case Studies on Policy Approaches to Open Education: a closer look at open educational strategies of EU Member States* (OpenEdu Policies, JRC, 2017).

interviews with stakeholders – mostly in ministries of education but in some cases in ministries of science, sport, or research and technology. This depended on which ministry was responsible for initiatives on open education in a given country, or was in a position to provide information. In the few cases in which ministries were not able to be part of the study, national agencies or national-level experts and advisors to ministries were contacted instead. The case studies report, which accompanies the *Going Open* report, provides an analysis of open education policies in relation to the 10 dimensions⁹ of open education of the *OpenEdu Framework*. This report also includes detailed descriptions of the policy approaches of each Member State that took part in the study.

Finally, two workshops with policymakers and experts were organised. These provided input for the policy recommendations presented in this report. The workshops were held on:

- 16-17 February 2017 in Seville. In this workshop (or focus group), representatives from 20 EU Member States attended, mostly from the ministries of Education, Science and Technology, as well as representatives from international organisations such as UNESCO, OECD and the World Bank. They discussed open education strategies and brainstormed policy recommendations at both European and national levels. The countries which took part in this workshop were: Austria (AT), Croatia (HR), Cyprus (CY), the Czech Republic (CZ), Finland (FI), France (FR), Denmark (DE), Greece (EL), Hungary (HU), Ireland (IE), Italy (IT), Lithuania (LT), Malta (MT), Portugal (PT), Romania (RO), Slovakia (SK), Slovenia (SI), Spain (ES), Sweden (SE), and the United Kingdom (UK).
- 23-24 February 2017 in Malta. This thematic working group on policies for open education was part of the UNESCO-Commonwealth of Learning's *European Regional Consultation on Open Educational Resources*¹⁰, which preceded the II UNESCO OER World Conference which will take place in September 2017 in Slovenia. This group was mostly made up of experts and advocates of open education.

We hope that the OpenEdu Policies knowledge base will be used as a tool that will inspire policymakers to think about and design policies and implementation strategies that are either dedicated to open education or take up specific elements of this report suitable to specific national or regional contexts.

⁹ The 10 dimensions of OE, as presented in the *OpenEdu Framework* report, are: access, content, pedagogy, recognition, collaboration, research, strategy, leadership, technology and quality.

¹⁰ A report with an overview of this consultation can be accessed at:
http://rcoer.col.org/uploads/2/2/8/4/22841180/europe_rcoer_report_21april.pdf

2 Why Contemporary Open Education Matters

"Openness is a core value guiding practice at all levels."

(OpenEdu Policies project)

Going open can provoke a profound change in the way education systems are organised and education is carried out. In a contemporary setting, open education is mostly based on digital technologies and is primarily about removing all sorts of barriers to education, hence making it more inclusive and accessible to all. Open education promotes openness in both formal and non-formal education sectors, representing a new set of educational routes that a learner can follow, thus allowing more freedom and opportunities. It also encourages educational institutions to be more transparent and make themselves more accountable to society with regard to how they deliver their public mission, thus further enabling equal opportunities and inclusion. In addition, open education prompts a change of mindset, since openness becomes a core value at all levels in education systems¹¹: educational policies, teaching and learning processes, educational resources, technologies, leadership, research, professional and career development. Open education (OE) can further help make education systems and processes transparent to society in terms of policies, content, budget, assessment, certification, recognition, leadership and educators' careers.

Open education is first of all about a change in mindset towards openness, which can then be put into practice via a number of routes, some involving digital technologies and others simply involving a change of attitude. In practice, open education can take different forms—for example the use of massive open online courses (MOOCs) or the possibility for learners to gain credits during their bachelor studies for open learning they have previously undertaken. Similarly, the use of open textbooks in schools is also a way of putting open education into action.

In sum, open education has the potential to increase the quality and the relevance of the educational offer¹². In HE and VET, this is normally done by:

- using open approaches to teaching and learning via digital technologies, such as free and open online courses, MOOCs, open educational resources (OER), flipped classroom etc.);
- creating and using open source software and encouraging open standards;
- making research available as open access publications;
- facilitating digital credentials and encouraging personalised learning portfolios;
- recognising open learning and new ways of issuing and registering verifiable credentials (e.g. badges, blockchain);
- promoting new funding opportunities for universities and diverse career paths for lecturers and researchers who are committed to open education; and
- including multiple stakeholders in the making of a relevant and transparent higher education sector, as for example ministries, regional authorities, decision makers, headmasters, educators, parents, researchers and the private sector;

In the school sector, the relevance of open education lies mostly in:

- the availability of OER, which are openly licensed educational materials; or, in the public domain, in the format of text, video, software or any other media. Given the

¹¹ School education, higher education, adult learning, VET and non-formal learning.

¹² (European Commission's JRC 2015, 2016, 2017; OECD, 2015; UNESCO-COL, 2016)

prevalence of textbooks in schools, dedicated open textbooks have been developed and used in a number of countries¹³.

- As can be expected, going open is a trajectory that needs policy support from a number of stakeholders in all education sectors.

The policy relevance of open education is becoming increasingly evident, as can be seen in the work of intergovernmental organisations. For example, in 2015 the United Nations adopted the 2030 Sustainable Development Agenda with 17 goals (SDGs)¹⁴. Goal 4 is about quality in education, and calls on the international community to "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all". To further disseminate open education as a valuable support mechanism to achieve SGD4, UNESCO in 2017 organised the 2nd World OER Congress, in which a call for stakeholders to move from commitment to action was made. For the European Commission (EC), open education is part of two complementary agendas: the modernisation of education and the future of learning in the digital age. There has also been a dedicated communication¹⁵ to open education in 2013 entitled *Opening up Education: Innovative Teaching and Learning for All through New Technologies and Open Educational Resources*. More recently, open education has featured in two EC Communications¹⁶ for the higher education and school sectors:

In the higher education Communication:

"The Commission will: [...]

*4. Develop and roll out a **digital readiness model** to help HEIs, their staff and students implement digital learning strategies and exploit the potential of state-of-the-art technology, including learning analytics. This will be accompanied by **guidance on open education initiatives**".*

In the schools' Communication:

*"[...] **Collaborative environments and digital technologies can enhance teacher learning.** Traditional workshops and training courses away from school still prevail. Educational innovations such as collaborative peer networks, massive open online courses (MOOCs), and the sharing of open educational resources can complement these methods and help overcome barriers to participation."*

In addition, the Communication "Strengthening European Identity through Education and Culture" stated:

*"If European Leaders and their citizens call for an open Europe in which learning mobility is the norm and if Europe wants to remain a continent of excellence, an attractive place to study, to carry out research and to work, the time has come to work towards a **European Education Area**". Open education is a natural contributor to this vision.*

Since today's open education is mostly based on digital technologies, one may argue that open education can only be exploited to its full potential by individuals who are digitally competent. This is partially true, but open education practices can also support the non-digitally competent to become competent; as well as a route for individuals to gain credit for their non-formal and maybe even informal learning. Open education has a role to play for everyone, and needs to be tailored to achieve different but complementary goals for all of its participants. Not only is open education about using technologies for producing and sharing open learning materials (OER), offering free online courses and encouraging open

¹³ For example, see Poland's experience: <https://www.opensocietyfoundations.org/voices/poland-pioneering-worlds-first-national-open-textbook-program>

¹⁴ <http://www.un.org/sustainabledevelopment/education/>

¹⁵ <http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex:52013DC0654>

¹⁶ HE: https://ec.europa.eu/education/sites/education/files/he-com-2017-247_en.pdf and Schools: https://ec.europa.eu/education/sites/education/files/school-com-2017-248_en.pdf

research practices, promoting new ways of teaching in the digital world, and facilitating the recognition of previous and open learning credentials: it is also about making education systems more open, inclusive and transparent, thereby *empowering learners*.

In order to achieve a common language on open education (JRC, 2016) that will enable stakeholders to share and build upon collective practices and values, the section below briefly discusses the concept of open education as it is today.

2.1 The benefits of going open

Going open not only enables advancement and cohesion at an institutional level, but also at the national level via policies on innovation and technology use in education¹⁷, which promote professional development opportunities, improved education provision, more diverse learning processes, and opportunities for all learners. Open education has the potential to foster innovation from the roots of the education system.

To support the above statement, the list below identifies **some of the most important benefits of open education**. As this list is based particularly on JRC's own research, it focuses mostly on higher and adult education. Information regarding the school sector is presented with supporting evidence via sources other than the JRC. In addition, reference to Commission policy is made where appropriate. Some of these benefits are:

- **Contributing towards modernising education and tackling skills mismatches (A Renewed Agenda for Higher Education¹⁸, EC Communication, 2017, p.6)**

Every time a learner finds a suitable course and studies online for free, a lecturer creates an MOOC or an OER, and a researcher publishes in an open access journal, they are becoming increasingly competent in and engaged with the use of digital technologies to support new practices in education. New opportunities for all are created by this new mindset of engaging with the potential of the digital world to learn, create and reuse learning materials as OER, and disseminating research "openly". For example, open education:

- ✓ enables learners to upskill and re-skill on demand, and more cheaply
- ✓ enables the sharing of educational content online, for free and often openly licensed (and therefore also reusable)
- ✓ promotes fast and efficient dissemination of research and learning materials (via social media for example)
- ✓ increases the visibility of individuals and institutions
- ✓ improves personal and institutional reputations
- ✓ creates further opportunities for collaboration.

- **Promoting social accountability via transparent practices (OpenCred, 2016 and national policy examples)**

Many countries' policies make reference to the social dimension of open education and its contribution to increasing transparency in educational

¹⁷ For a discussion of the benefits of having a macro reference model for national policy design, see the Portugal case study in the OpenEdu Policies case study report.

¹⁸ https://ec.europa.eu/education/sites/education/files/he-com-2017-247_en.pdf

practices. For example the *Irish National Principles for Open Access Policy Statement*¹⁹ is designed to support the production of OER, to contribute to open innovation through richer and more effective knowledge transfer, and to support greater transparency, accountability and public awareness of the results of publicly funded research, The *Austrian National Strategy for the Social Dimension in Higher Education – Widening Access and Participation* is currently being developed, and open education has been identified as a tool for widening access and participation. In addition, the principle of compatible and transparent information about learning outcomes via MOOCs is also discussed in the OpenCred²⁰ report, and sustained by the case studies it presents.

There is an intrinsic link between open education practices and social accountability, and therefore educational authorities in EU Member States have come to perceive open education as another means to support social inclusion and equality.

- **Increasing collaboration opportunities between different stakeholders (*OpenEdu Framework, 2016; OpenEdu Policies case studies, 2017*)**

Collaboration (and hence also internationalisation) is one of the most direct benefits of open education practices. Since OEP are designed to be open for sharing and reuse, collaboration then becomes one of their intrinsic features. Open education practices inherently promote the formation of partnerships, study groups and communities of practices around technologies, teaching and learning, and research (*OpenEdu Framework*²¹, 2016, pp.26-27, 30 and 54-57). Specifically in terms of national policies, the collaborative aspect of policy design becomes evident whenever policies result from consultations between open stakeholders²². The case studies on Slovenia and France in the upcoming JRC report²³ exemplify how top-down and bottom-up collaborations on open education foster the formation of partnerships.

- **Contributing towards new pedagogical models for teaching and learning (*OpenEdu Framework, 2016; OpenCases, 2016*)**

Since open education today is mostly based on the use of digital technologies, open educational practices bring about a new range of methodologies and resources for teaching and learning, such as the flipped classroom, OER, MOOCs, free and open online courses, and vlogs and blogs. Examples of open educational practices with a focus on different pedagogical models can be found in the *OpenEdu Framework* (p.26, pp.43-46) and in the *OpenCases* report (e.g. FUN Case p.31; OERu case p.42; TU Delft case, p.53; BVU case, p.82)

- **Improving the reputation of higher education institutions while helping them achieve their social mission (*OpenSurvey, 2016; OpenCases, 2016*)**

¹⁹ <http://openaccess.thehealthwell.info/sites/default/files/documents/NationalPrinciplesonOAPolicyStatement.pdf>

²⁰ <https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/validation-non-formal-mooc-based-learning-analysis-assessment-and-recognition-practices>

²¹ <http://publications.jrc.ec.europa.eu/repository/bitstream/JRC101436/jrc101436.pdf>

²² *Policy Approaches to Open Education – Case Studies from 28 EU Member States* – forthcoming JRC report

²³ As above

In the OpenSurvey report²⁴ (p.27), a representative survey of HEIs in five countries (France, Germany, Spain, Poland, United Kingdom), the main reasons HEIs gave for engaging with open education were:

- To enhance the image and the visibility of the institution (97%)
- To reach more learners (97%)

In the survey, HEIs also argued that open education has contributed to increasing student enrolment, enhanced the quality of education, and potentially also reduced the cost of educational provision for the institution.

Furthermore, the OpenCases study illustrated several rationales for HEIs to become involved in OE (p.102). These relate to two major themes: the public mission of HEIs, and institutional enhancement. The case studies revealed that the prospect of institutional enhancement – particularly an improved reputation and the raising of the quality of learning for traditional students – is often the driving force in institutional discussions about OE initiatives such as MOOCs.

- **Using open license to facilitate the sharing of practice, content and data, as well as to improve the quality of education and to reduce costs (OER4Adults 2013)**

The study²⁵ has identified enablers to the successful implementation of practices with OER. The study drew upon an inventory of more than 150 OER initiatives relevant to adult education in Europe, and analysed data from surveys with OER leaders and lifelong learners.

The study shows that open license is a major strength of OER, and that the initiatives and users consulted in the research have benefited from it (p.38). This is because OER:

- Provides free (no-cost) access to an enormous variety of resources – which was regarded by the initiatives as the major benefit of OER
- Places few or no restrictions on the ways these resources can be adapted and reused
- Enables teachers to see a variety of alternative approaches to teaching, thereby broadening and enriching the curriculum
- Prompts the sharing of practice, thereby improving the quality and lowering the cost of curriculum development

- **Promoting digital competence development in both formal education and professional development activities (JRC 2016)**

In addition, the JRC conducted a study²⁶ in 2016, in collaboration with external partners, which focused on the influence of background variables such as digital competence, age, gender and educational level in MOOC participation. The results showed that MOOCs were an important tool for unemployed participants, who were more likely to enrol in MOOCs than employed learners. "MOOCs were also a way for workers who did not receive employer support for training activities to be involved with professional development activities. [...] Overall, for workers in Europe to benefit from open education and MOOCs, it is essential that they have a

²⁴ <http://publications.jrc.ec.europa.eu/repository/bitstream/JRC99959/lfna27750enn.pdf>

²⁵ <http://ftp.jrc.es/EURdoc/JRC85471.pdf>

²⁶ <https://rd.springer.com/article/10.1007/s12528-016-9123-z>

high level of digital skills. Enhancing digital skills, and especially digital interaction skills, can reduce training costs and make education more flexible. This finding showed that employers can also invest in the development of the digital skills of their employees to equip them to be active learners in an open education context” (Castaño-Muñoz et al, 2016, p.43).

For example, the Spanish Ministry of Education, via the INTEF-EDUCALAB, offers an MOOC on digital competence entitled *Enseñar y Evaluar la Competencia Digital*²⁷ (Teaching and Assessing Digital Competence). This MOOC is primarily designed for teachers, aiming to help them teach and evaluate digital competence at the same time increasing their own. The power of open education in this case is evident in terms of *scalability* – to date this MOOC is already in its 4th edition.

The promotion of inclusion and more opportunities for learners via open learning recognition (OpenCred, 2016)

The OpenCred report²⁸ (2016) analysed practices for the assessment and recognition of non-formal learning via MOOCs, and presented examples of how recognition is dealt with in formal higher education and continuing professional development. It points to some initial cases of recognition by employer bodies in Europe of MOOC-based learning for continuous professional development. One case study revealed insights into how a professional body co-created an MOOC with a university in the UK. The University of Exeter’s MOOC, *Discovering Business in Society*, was explicitly recognised by the UK’s Association of Chartered Certified Accountants (p.68).

However, recognition of open learning is currently in the early experimental stages. It has not generally been integrated by HEIs into their strategies for mobility and recognition of prior learning, nor has it been widely deployed in professional training or continuing professional development (p.68).

An important outcome of the OpenCred study was the “open learning recognition traffic-light model”. This model, based on making transparent a number of aspects of non-formal learning provision (such as identity verification, supervised assessment, quality assurance, etc.), aims to allow higher education institutions and employers to make an informed decision on whether to recognise achieved learning outcomes. It can also be used to guide a discussion about which elements are most suitable for a strategic provision of open learning. Furthermore, the model can be used by learners to guide them on opting in or out of an MOOC if recognition is desired.

This is just a modest selection of the long list of benefits of going open in education, as identified through research projects since 2013. Each stakeholder might want to reflect on how the various contextual reasons for going open would apply in their countries or regions. A framework to help institutions to go open, as well as examples of successful practices and ideas on how to do so, can be found in the *OpenEdu Framework*²⁹ (2016) and *OpenCases*³⁰ (2016) reports respectively.

2.1.1 Challenges

²⁷ http://mooc.educalab.es/courses/course-v1:MOOC-INTEF+INTEF175+2017_ED4/about

²⁸ <http://publications.jrc.ec.europa.eu/repository/bitstream/JRC96968/lfna27660enn.pdf>

²⁹ <http://bit.ly/openeduframework>

³⁰ <http://bit.ly/opencasesreport>

The process of opening up education does not come without its challenges. In the OpenSurvey report³¹ HEIs indicated that the main challenges in engaging with OE are:

- That *teachers lack skills in OE* (92% of respondents agreed that there was a need for more teacher-training, and 77% with the fact that lecturers are accustomed to pedagogies that do not include OE)
- Difficulties associated with the *formal recognition of Open Education* (78% of agreement), with some significant differences between countries.

Other challenges for open education, which are often tied together, are *mainstreaming, scale, cost and quality*. The effective delivery of open education on a large scale, in the format of open online courses or MOOCs, can require a significant capital investment to ensure quality of teaching and learning. This tends to be the case particularly for the HEIs that focus on campus-based education rather than online. That investment can be difficult to secure unless it is supported by national government; or it is a sizeable HEI which can deliver on a large scale, with all the concomitant scale economies, infrastructure and staffing support. Open education can be provided in a considerable variety of ways, but it needs pointing out that, if the quality of courses is poor, the process can be ineffectual and counterproductive. When it is a high quality delivery, the effect is validating. This should not preclude small-scale and low-resource interventions, but they should be accompanied by an understanding that high-quality, effective open education delivered in the format of courses may be much more labour intensive and capital intensive than first anticipated.

This leads to another challenge for mainstreaming open education, which is the design of a *business model* that would ensure the financial sustainability and longevity of an initiative. It requires strategic thinking and action, but it is an achievable goal. The OpenCases report (JRC 2016, p.59) refers to the example of TUDelft, in the Netherlands:

"Delft's engagement with open education was reported to be based on its conception of publicly financed higher education as a public good, but at the same time the university has put in place a range of strategies to create income streams from its open education initiatives: around certification, third-party use of its open education materials for commercial purposes, activities in the area of professional education and continuing education, attraction of additional students to its regular courses, and externally funded research projects. The objective of the creation of such income streams is not necessarily to make a profit, but to generate an income that can be reinvested in open education to drive up Delft's capacity for innovation, recruitment, teaching quality (and students' achievement), visibility and reputation in an increasing competitive global higher education landscape."

Last but not least, *awareness raising* is an area that requires constant action. Despite the efforts to date by the open education community and the European Commission itself to make the open education concept accessible to and understood by key stakeholders, more dissemination is needed. Coalitions and research groups have been working with targeted areas of open education such as OER and recognition of non-formal and informal learning (e.g. the Open Education Working group³², the ReOpen³³ project; the Open Badge Network³⁴, and the MIRVA³⁵ project, to cite a few). It is expected that over

³¹ <http://bit.ly/opensurveyreport>

³² <https://blog.okfn.org/2017/08/22/the-open-education-working-group-what-do-we-do-and-what-is-coming-up-next/>

³³ <http://reopen.eu/>

³⁴ <http://www.openbadgenetwork.com/>

³⁵ <http://www.openrecognition.org/blog/2017/09/27/making-informal-recognition-visible-and-actionable-mirva/>

time the efforts of all these and many other stakeholders will lead to a broader acceptance and uptake of open education principles.

2.2 Updating the concept of open education

One could argue, justifiably, that the process of widening access to education commenced many years ago with the Open and Distance Learning (ODL) universities (also known as “open universities”). Most of those universities were founded more than 30 years ago, with a specific commitment to ODL and an explicit mission to widen access to higher education. They provided less privileged learners with the opportunity to study at a substantially lower financial cost than would have been the case at “conventional” institutions. They nevertheless achieved comparable academic standards (Garrett, 2016). At the time, the term “openness” was mostly used in relation to these open universities and did not refer to the experimental distance learning that was also being developed by conventional institutions during this period. The students registered in ODL courses had a specific profile; they tended to be studying later in life, to be in employment, and to have family commitments. For them, flexibility was the most important element of the ODL format.

However, the profile of the learner opting for distance (online) learning has changed over time. This is also because there is a new kind of open and distance learning offering available. Today’s open education is no longer a second opportunity in life, mostly for mature students in full-time employment or with family commitments. Nowadays open learning is for all. Studies conducted in the 1990s indicated that about 70% of distance learners worked full time. This contrasts with data from the first decade of this millennium, by which time the figure had already decreased to 40% (Latanich et al, 2008). In 2016 the Open University in the UK (OU), which is among the most well-known and well-established open universities, concluded that “There is no typical OU student. People of all ages and backgrounds study with us, for all sorts of reasons” (*OU Facts & Figures, 2015-16*³⁶). The OU also reported that 31% of new OU graduates were under the age of 25.

There are a number of reasons for this change in distance learner profiles (e.g. changing in funding opportunities, and new preferences for geographical and time freedom). But the principal reason was the growing use of digital technologies in education: these provide exciting opportunities for learning online, in particular through open learning opportunities. In addition there is an increasing need for lifelong learning opportunities (Rudestam and Schoenholtz_Read, 2002). McAndrew concluded in 2010 that a new “type” of distance learner has also emerged in this millennium: the “open learner”. McAndrew argued that learning for such individuals is not a linear, start-stop, formal process. Instead it is much less formal and continuously shifts between learning, working and living, often based on bite-sized chunks of knowledge. Most importantly, today’s open education is supported by a strong online component that simply was not possible before. These transformations have also had an impact on traditional universities, which face the challenge of providing lifelong learning opportunities for open learners in addition to the formal, registered learner.

McAndrew (2010) also argued that “open and distance universities lowered the barrier to learning by removing entrance requirements and the need to attend in a particular place at a particular time. Now the open world asks more of education providers to grasp the opportunity of true openness”. In other words, contemporary open education goes beyond the scope of the original open universities, reaching an even broader and more diverse audience. “Traditional” institutions have begun to enter the “business” of ODL by offering courses accessed largely or exclusively online, and more recently also by offering MOOCs and OER. They have also started to design curricula in a more flexible way, to allow students more flexibility and to integrate some of the potential of open education (e.g. fewer constraints in terms of time and location) into “regular” courses (perhaps less experimentally than before). Open and online learning now represent new business

³⁶ <http://www.open.ac.uk/about/main/strategy/facts-and-figures>

opportunities and new audiences, in addition to being a means to increase social inclusion, which has always been at the core of open universities' mission.

In other words, *open education as a concept* stems from the 1960s but has achieved a renewal and revival through technological change. In today's context, open education refers to a situation in which more players are offering open and online education and there is increasing demand for both new learning opportunities for skilled individuals as well as equal opportunities for learners, transparency, fair treatment, distributed leadership and responsible use of public resources. Open education is not just a synonym for open educational resources (JRC, 2016): it is a way of thinking about how education should be carried out, based on a shared understanding of core values.

Contemporary open education goes beyond online learning and the well-known open and distance learning (ODL) field developed in the 1960s. It offers a new set of practices based on openness at all levels, which are the **key to modernising education**, and can be applied by both formal and non-formal learning. Nowadays open education is no longer the exclusive domain of open universities; nor is it always tied to the use of distance learning technologies, although they are indeed an important component. Open education is becoming increasingly important in helping universities deliver their public mission and in pursuing the goals of social inclusion and equal opportunities.

Open education is not about reinventing the wheel. Instead it presents the new business models and technologies that have emerged in a new configuration, more appropriate to the reality of society today. At the same time it builds upon everything that has been learned so far in terms of open and distance learning. Contemporary open education goes beyond the institution and underprivileged learners to become an opportunity to completely modernise education. Open educational practices are relevant at all levels of education and make available valuable instruments supporting the mission and priorities of all types of organisations active in the education field: ministries, schools and universities, employers, teachers and learners – and will therefore require that everybody adopts new practices.

The OpenEdu Policies research presents evidence that open education is no longer the domain of a specific type of university, or of a particular department of a "conventional" university. Instead it is a holistic perspective on education, based on accountability to society. It consequently fosters transparency, sharing and collaboration, and encompasses all types of educational practices, thus prompting a change of mindset and attitude.

Going open is a *process* for all involved: institutions, learners and society. *The Cape Town Open Education Declaration*³⁷ (2007) stated that OE is not only about OER and that it can grow to include new approaches to assessment, accreditation and collaborative learning, and also embrace flexible learning and empower educators. But the declaration also anticipated that there would be barriers to realising the vision of the open education movement (openness to all, inclusiveness), one of them being *stakeholders' lack of awareness of the benefits of open education*.

2.3 Open to what extent, and for whom?

It is important to acknowledge that open education does not mean the same thing to everybody. It should therefore be approached as an umbrella term under which *different types of practices* can be accommodated (JRC, 2016). For some, open education means only OER and MOOCs, while for others it is much broader, for example also encompassing various kinds of open educational practice, open research and open access, along with

³⁷ <http://www.capetowndeclaration.org/read-the-declaration>

open leadership and recognition of open learning. The working definition of open education used here is:³⁸

“a way of carrying out education, often using digital technologies. Its aim is to widen access and participation to everyone by removing barriers and making learning accessible, abundant, and customisable for all. It offers multiple ways of teaching and learning, building and sharing knowledge. It also provides a variety of access routes to formal and non-formal education, and connects the two.”

So that collaboration can take place, it is important to achieve some degree of shared understanding of what constitutes open education. First the stakeholder needs to consider the question of how “open” education can and should be – from partially to fully open – in their own context. The OpenEdu Policies research suggests there is no right or wrong answer here: it is simply a choice to be made upon the basis of one’s priorities. Opening up education necessitates a full re-evaluation of core values, which may be different depending on the type of institution, its role, its main audience and mission statement. Therefore, arguing for just one type of openness is not consistent with the ethos of open education, where freedom of choice is important.

Secondly, depending on the audience and education sector (school, HE, VET, etc.), the strategy will develop accordingly. If the recipients of the open education made available by a given institution are both formally registered learners and open learners outside the institution, then the types of openness will vary in accordance with the needs of each cohort of learners (e.g. MOOCs for flipped classroom activities for formally registered learners, versus MOOCs which provide the possibility of verified certificates with ECTS for open learners – or for registered learners as an optional course). The bottom line is that going open will inevitably bring into play the different dimensions of open education, which are interconnected and will probably require different levels of openness depending on the audience. “How open” a strategy, an educational resource or practice should be is an issue to be decided according to the ultimate goal of each education offering (e.g. on campus or online, for registered learners or open learners, with formal certificates, verified certificates or no certificates, and so on). For example, if the audience is made up of researchers, the focus is often on open science.

The question “open for whom?” also arises when school teachers are the main audience for open education. In this case OER become extremely important and are often a policy goal. Slovenia, for example, via the Opening up Slovenia initiative³⁹, has designed a strategy, using some of its structural funds, to provide teachers’ professional development in digital competences and open education. In this case, OER awareness and digital competences are seen as complementary: they enable teachers to create and reuse educational materials, as well as share pedagogical experiences.

If the ultimate audience of open education is society as a whole, from the view that “publicly funded resources should be made available as open educational resources”, then OER should be at the centre of the strategy. This strategy can be national, regional or institutional. However, it should always be remembered that OER should be viewed from a holistic perspective of open education (JRC, 2016), in which they are just one part of what can be achieved through openness.

Finally, the most important shared understanding in relation to open education is that it is not a case of one size fits all. Flexibility is the key to operating within this complex scenario, and it is vital also to have a strategy in place⁴⁰.

³⁸ <http://publications.jrc.ec.europa.eu/repository/bitstream/JRC101436/jrc101436.pdf>

³⁹ Check the OpenEdu Policies case study report for a full discussion of the Opening Up Slovenia initiative.

⁴⁰ In the annex of the *OpenEdu Framework* report (JRC, 2016) there is worksheet to help higher education institutions design an open education strategy based on the 10 dimensions of open education.

2.4 Creating an ecosystem for open education

The participants in the OpenEdu Policies research argued that in open education it is important to have a vision of what the policy objective is. For example, France's vision for open education is realised via FUN and the FUN MOOC platform. These form part of a nationwide project which is being implemented by a public organisation⁴¹. In Slovenia, however, the system is more "distributed" and has no legal identity of its own. Instead it involves a combination of partners and a project framework developed by all of them (the Opening Up Slovenia initiative⁴²). In both these examples, scaling up open education to embrace all the 10 dimensions of open education as per the *OpenEdu Framework* has happened intrinsically by strategic design. In both cases the design was "holistic" (embracing the 10 dimensions) and "systemic" (understanding open education as a system involving interdependent parts).

Open education should be thought of systemically and holistically so that an ecosystem can be created. Again the Opening Up Slovenia initiative serves as an example, where openness is thought of not only in terms of the 10 dimensions of open education as per the *OpenEdu framework*, but also beyond the educational domain to embrace businesses, industries and the government.

Put more simply, if policymakers can identify and map their policy priorities in a systemic way against one or more of the 10 dimensions of open education of the *OpenEdu Framework*, their policies will have openness at their core. They will also have the potential to promote transparency and social accountability.

Moreover, the OpenEdu Policies research data have shown that not every institution or EU Member State will go open in the same way or at the same pace. It all depends on national priorities, and some Member States may be more advanced than others in terms of both policies and initiatives for open education. Opening up education is contextual and processual: therefore there are no benchmarks to be achieved except those that Member States may set for themselves.

Member States or regions that feel they are lagging behind on open education initiatives and policies can put strategies in place whenever it is most convenient for them. These Member States can use the experiences of their peers⁴³ to full advantage when it comes to designing their own open education strategies.

At the same time, institutionalising openness can be a way forward for institutions – whether they be ministries, national authorities, or educational institutions – to open up education. However, openness is about an attitude that goes beyond policies at an institutional level, reaching down to the individual level. Indeed, open education policies can start at the institutional level but in order for them to be fully effective **they must interact beyond the institutional level.**

Participants in the OpenEdu Policies research argued that dynamic policies are needed, aligned with other institutions' policies so that they can provide a fertile ground for collaboration and help towards creating an open education ecosystem. These policies must be easily transferable and must not restrict open education within institutional boundaries.

⁴¹ Check the complementary OpenEdu Policies case study report for a full discussion of France's open education policies.

⁴² <http://www.ouslovenia.net/>

⁴³ The JRC (2017) report *Case Studies on Policies for Open Education* is an interesting read, containing ideas on how to open up education at policy level.

3 Types and Levels of Policies

"Policies provide a fertile framework which works as a catalyst for action."

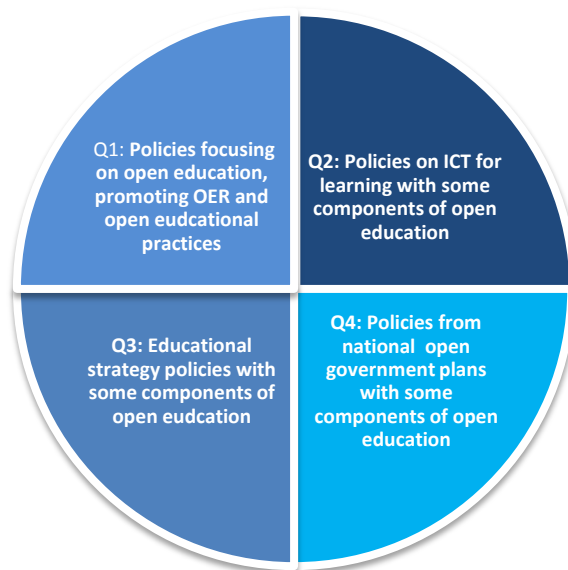
OpenEdu Policies

The OpenEdu Policies research found that policies on open education are extremely important in encouraging institutions and individual educators to embrace open education in their own work. Besides providing the right framework for action, they raise awareness and help individuals make decisions that will lead to the achievement of a common goal.

However, **both top-down and bottom-up policies should be encouraged**. A range of stakeholders should be involved in policy design and share responsibilities for implementation, results and accountability.

The research published in the complementary JRC report *Case Studies on Policy Approaches to Open Education: EU Member States (OpenEdu Policies, JRC 2017)* pointed to four different types of policies on open education:

Figure 4. Four-quadrant diagram on types of policies on open education



Policies and actions need to go hand in hand. Institutions need to find concrete ways to open up education (e.g. open publications, recognition of open learning, and career progression for open educators), and ministries should support these actions by providing appropriate legal frameworks. A collaborative bottom-up and top-down approach to policymaking is ideal, since it simultaneously empowers all players and supports a systemic approach for policymaking on open education. Through a bottom-up/top-down approach, the process of opening up education can take place in different dimensions of open education, not only in openness of content or research (see the 10 dimensions of open education, *OpenEdu Framework*).

Figure 5. Systemic approach to policymaking



All the above policy levels are important. However, policies at the EU level are essential enablers for OE since they will help Member States develop their own policies. It was explained that the effect of policies at the EU level on the Member States (e.g. communication, initiatives, specific funding lines and research and evaluation to inform Member States) is substantial, because they create a favourable environment for national policymaking. EU-level policies provide a European political framework for agenda-setting in most countries. These are often welcomed by the Member States' administrative bodies because they help them to justify and plan initiatives.

Policies at all levels are needed so that a common agenda enabling specific goals for open education can be set.

4 Policy Recommendations on Open Education

The policy recommendations presented in this report are the result of a triangulated data collection process: meetings with experts, analysis of case studies⁴⁴ and previous OpenEdu studies' data (see methodology section 2.3.1). These recommendations illustrate what is possible. They must however be subject to contextual appropriation, adaptation or any changes that may be required if they are to be replicated or used as inspiration for new policies.

The following areas⁴⁵ for policy development were elicited in the research process. Together these areas contribute to what the research participants referred to as an “**open education ecosystem**”:

- awareness-raising
- regulation, legislation and funding
- partnerships
- teachers' professional development
- accreditation and recognition of learning
- open educational resources
- support and infrastructure
- research and evaluation

4.1 Creating an open education ecosystem

Policies on open education should be part of a broader vision or holistic strategy which is consistent with, for example, a university's mission or with the educational ethos of a region or nation. Isolated policies on specific topics may produce specific expected results. However, if they are not placed in the context of a broader vision or strategy, they may at best result in successful ad hoc experiments. These will lead to partial – but not systemic – change (JRC, 2016). In the following sections we describe the policy areas identified by participants in the OpenEdu Policies research as essential in order to start the process of opening up education in a systemic and holistic way.

4.1.1 Awareness raising

Awareness-raising is still needed in the EU with regard to open education. This is because there are many different stakeholders that need to interact with each other and play a role in order to further develop OE.

Within a multi-stakeholder approach to developing an OE ecosystem, awareness-raising is an essential component and should be integrated into every policy or initiative. Each stakeholder can play their role, be it designing and offering training, promoting activities and courses on OE, or providing funding or advocacy and dissemination activities in general.

⁴⁴ See Section 5 of the technical report *Policy Approaches to Open Education in Europe: Case Studies on 28 EU Member States* (JRC, 2017). This section contains policy recommendations in different areas of open education proposed by Member States during the interview process.

⁴⁵ Specific policy recommendations for this action area can be found in section 4.2.

4.1.2 Regulation, initiatives and funding

Evidence from the OpenEdu Policies research shows that OE policies in the EU reflect the current diversity in governments and educational systems in the Member States. The case studies carried out as part of this research show that these policies can take the form of regulations (legally binding) or initiatives (non-legally binding). Funding is important to both regulations and initiatives. In the following paragraphs an example of how regulations and initiatives have been used in Spain will be given. Note that sometimes an initiative can have financial commitments that are legally binding – but in order to simplify these will be treated in this report as “funding”.

In Spain, OE policies⁴⁶ at the national level sometimes take the form of legally-binding *regulations* (e.g. the National Centre for Curriculum Development in Non-Proprietary Systems⁴⁷ - CEDEC). At other times they take the form of non-legally binding *initiatives* (e.g. Edupills and EDUCALAB-INTEF MOOCs).

The *regulation* (expressed as a ministerial order published in the State journal) which created CEDEC in 2009 supports an item of *legislation*⁴⁸. The latter focuses on three principles: quality, equity of access, and continuous education based on a flexible and open educational system.

The *initiative* Edupills, which was created and is supported by the Ministry of Education, Culture and Sport’s INTEF⁴⁹, is a mobile application that teachers can use to learn education topics relevant to their professional development. They can access so-called “pills” – small chunks of content that allow teachers to learn at their own pace and in their own time. Edupills has a “pill” on the potential of open educational resources, for example. Another *initiative* by the Spanish Ministry of Education, Culture and Sports is to offer MOOCs via EDUCALAB-INTEF, to support teachers’ professional development. All these MOOCs are Creative Commons-licensed (CC-BY SA 4.0 International). These Spanish examples show how diverse open education policies can be.

Participants in the OpenEdu Policies research agree that funding plays a very important role. It can support both regulations and initiatives at different levels, and is allocated by different stakeholders (e.g. by the European Commission, ministries, regional authorities, NGOs, foundations, crowdsourcing initiatives, donations, etc.).

Funding for open education initiatives is a powerful catalyst for change because it prompts **strategic thinking followed by practice**. Funding opportunities require strategic thinking on the part of the funding body: it must have a clear strategy on why and how to release the funding, and for how long the funding will be available. It must make provisions for the sustainability and longevity of initiatives. Research participants argued that specific funding lines for open education often contribute to the **initiation** of OE initiatives, or the continuation for a set period of previously initiated actions. However, grantees should also take longevity strategies into consideration when they issue the funding call. Research participants emphasised throughout the project the importance of **specific funding lines for open education**. They see the European Commission and national and regional authorities as being responsible for providing this (e.g. via Erasmus+ and Horizon 2020).

4.1.3 Partnerships

Partnerships between stakeholders are essential in order to foster open education. OE was not seen as the responsibility of a single institution or actor, but instead as calling for joint

⁴⁶ For the full case study of Spanish OE policies, see the OpenEdu Policies technical report.

⁴⁷ <http://www.boe.es/boe/dias/2009/09/03/pdfs/BOE-A-2009-14159.pdf>

⁴⁸ <https://www.boe.es/buscar/act.php?id=BOE-A-2006-7899>

⁴⁹ Instituto Nacional de Tecnologías Educativas y de Formación del Profesorado (National Institute of Educational Technologies and Teachers’ Professional Development) <http://educalab.es/intef>

action in the form of a multi-stakeholder approach. This was the suggested way to achieve an open education ecosystem as desired. In order to be able to partner with each other, stakeholders need to have a clear strategy for open education and to set goals. The transparency of activities and communication between stakeholders is therefore essential in order to enable them to identify collaboration opportunities. At a national level, countries such as France and Slovenia have developed partnerships between ministries and other stakeholders to support the adoption of open education practices on a large scale⁵⁰.

Research participants suggested that the EC should consider playing a key role in this, mostly by enabling and promoting different communication channels between stakeholders **for open education purposes specifically**.

4.1.4 Teachers' professional development

Teachers need **capacity-building and training in open education practices**. "Collaboration around OER production and application must be explicitly supported for greatest effect" (OECD, 2015). This would promote a change in mindset and allow teachers to learn how to produce, share and reuse OER. It would enable them to tap into all the potential that open education offers at all levels in the teaching and learning process of a variety of audiences. A continuous professional development programme on open educational practices is always beneficial but should ideally be formally accredited by the school, the HE institution, or the agency or ministry in charge.

4.1.5 Accreditation and recognition of open learning

Accreditation and recognition of open learning is an area of open education in particular need of further action on the part of all stakeholders. Dealing with this area is often considered complex but essential. It is complex because, according to the OpenCred study (JRC, 2015), providers of open learning should be able to ensure quality and curricular transparency (with appropriate metadata, for example) in order for recognition to occur. At the same time they should ensure that the identity of the learner is verified. In addition, institutions should trust one another so that collaboration can take place between them (OpenCred, 2015). Furthermore, the participants in the OpenEdu Policies research argued that existing frameworks and practices for the recognition of prior learning must be adapted and integrated into the contemporary open education "mode" of teaching and learning. Accreditation and recognition of open learning can make a significant difference to open learners in their lifelong learning and professional development (OpenCred, 2015).

By accrediting and recognising open learning, a bridge between formal and non-formal learning is created (JRC, 2016). Participants in the workshops run by the OpenEdu Policies project argued that **institutions should consider using current frameworks⁵¹ for open education while governments should consider changing and adapting regulations to support institutions**. To this end, some countries have started experimenting: France, for example, has launched the FUN MOOC⁵². Some institutions belonging to this network have started to recognise each other's certificates. In the Netherlands⁵³, TU Delft has also been offering MOOCs with formal credits.

⁵⁰ See the cases of France and Slovenia in the report *Policy Approaches to Open Education – Case Studies from 28 EU Member States* (JRC, 2017).

⁵¹ For example: OpenCred's traffic-light model, *OpenEdu Framework*, OpenupEd Quality Label.

⁵² The FUN MOOC case study is presented in the accompanying technical report.

⁵³ The Netherlands case study is presented in the accompanying technical report.

4.1.6 Open educational resources

OER can be promoted to decision makers at all levels as being complementary, for example, in order to:

- meet the recommendations on open education initiatives contained in the Communication on a “renewed agenda for higher education”⁵⁴ (EC, 2017);
- address the recommendations on OER contained in the Communication on “School development and excellent teaching for a great start in life”⁵⁵ (EC, 2017);
- meet priority number 3 of the Education and Training 2020 goals⁵⁶ (EC, 2016), and
- achieve the SDG4 goal⁵⁷.

Each EU Member State has its own national agenda for education, which quite often involves widening access to education. OER constitute a powerful mechanism for this purpose.

Ministries should consider creating the conditions that enable organisations to engage with the production, reuse and adaption of OER, at all levels of education (schools, higher education institutions, adult and VET sectors, and also non-formal learning). This policy area relates to a number of dimensions of the *OpenEdu Framework*: content, pedagogy, quality, strategy, leadership, collaboration. Specific policy recommendations for this action area can be found at the end of this section.

4.1.7 Support and infrastructure

For open education to achieve its full potential, suitable technological infrastructures need to be in place. Technology is an important facilitator of open learning since the latter is based on the principle of flexibility in order to increase access to education. Open learning forms part of wider efforts to achieve equity in society, by giving the learner much more freedom to determine what, how and when they learn (Butcher and Wilson-Strydom, 2008). Therefore the affordances of technology in open education are various, and include wider audience reach, faster sharing opportunities (of practices, resources, and information), and enhanced teaching and learning practices.

Technology design and choice in open education should be based on open standards – as advocated in the open source movement, which is a stand-alone movement of proven take-up and reach. This can potentially reduce long-term costs while at the same time enabling access and equal opportunities in technology use for teaching, learning and research.

This means that in open education, efforts should be made to develop and use open source technologies, which are interoperable with other technologies and thus enable and support collaboration, sharing and co-design. Open source technologies also enable easier content and course publishing by reusing and sharing (e.g. OER, MOOCs, and free online courses), training, and communities of practices.

Technological choices will have a direct impact on how open education is configured (*OpenEdu Framework*, 2016). Consequently, which technology to use and how to use it should be considered when planning open education policies, in order to align these policies with appropriate ICT investment. This goes beyond open source software to

⁵⁴ https://ec.europa.eu/education/sites/education/files/he-com-2017-247_en.pdf

⁵⁵ https://ec.europa.eu/education/sites/education/files/school-com-2017-248_en.pdf

⁵⁶ The European Commission’s Education and Training 2020 new priority (number 3) is “Open and innovative education and training, including by fully embracing the digital era” http://ec.europa.eu/education/news/20150901-et2020-new-priorities_en

⁵⁷ The United Nations Sustainable Development Goal number 4 is to “ensure inclusive and quality education for all and promote lifelong learning” <http://www.un.org/sustainabledevelopment/education/>

embrace functionalities and interfaces that are user-friendly, open to the contribution of all (always subject to appropriate security measures, both of data and legitimacy of content), accessible and which have appropriate metadata for the benefit of the learner (e.g. metadata in open badges).

4.1.8 Research and evaluation

Participants in the OpenEdu Policies research argued that the EU and its Member States should carry out further research on open education in order to be able to advise on best practices, identify challenges, and share information. Appropriately designed research should be carried out not only by the EU but by the Member States themselves, to inform policymaking at national and regional levels.

Participants said that research evidence on what works and what does not in open education was very helpful for policy design (see the Portugal and Finland case studies – OpenEdu Policies case study report).

In addition it was argued that a strategy for the evaluation of the funding policy should also be in place. In the OpenEdu Policies research no evidence was found of OE policies being evaluated. According to the interviewees this was either because the policies were quite new or because for some older policies no measurement of impact was initially planned, which is indeed not only the case for open education but also for many other education policies. **Although much of the impact of open education initiatives is initially intangible, over time it should become visible.**

In France, for example, there is no benchmark for impact but the very fact that most French universities have joined the FUN MOOC initiative⁵⁸, and international universities from the francophone world also want to join, is itself an indication of success and impact. But it is indeed very difficult to quantify and qualify the impact of OER on users for personal growth, professional development and for improving teaching quality. This is because there is a natural time cycle that needs to elapse before tangible results can be verified⁵⁹. In addition, due to the very nature of open education, a lot of “what is done with OER” does not get reported back to the OER provider (McAndrew; Godwin and Santos, 2009). On the whole, contemporary open education policies tend to be quite recent, hence they need suitable evaluation methods that are able to consider the intangible results as well as the long-term, tangible ones. In the case of open education policies, qualitative approaches to policy evaluation are preferred over quantitative approaches because humanist approaches make policy evaluation more effective and legitimate (see Hörner and Stephenson⁶⁰, 2013).

It is clearly the case that at European, national and regional levels, appropriate technologies can support open educational practices if users (teachers, learners and researchers) know how to use them in the context of openness (e.g. by knowing where to find free and openly licensed educational content; by knowing where and how to publish and share content; by understanding the use of technologies for open pedagogical practices exchange, etc.). This will require appropriate digital competences⁶¹, digital readiness and, in specific cases, for-purpose training on “how to do” open education and open science; and on “how to be an open learner or an open educator”.

⁵⁸ See the OpenEdu Policies case study report for a full discussion of FUN MOOC.

⁵⁹ See the Mooknowledge study: <http://mooknowledge.eu/>

⁶⁰ <http://blogs.lse.ac.uk/europpblog/2013/01/10/eu-policy-evaluation/>

⁶¹ http://publications.jrc.ec.europa.eu/repository/bitstream/JRC106281/web-digcomp2.1pdf_%28online%29.pdf

4.2 Policy recommendations from the OpenEdu Policies research

Cross-reference: For a list of institutional practices and policies on open education, see the *OpenEdu Framework*⁶²

EU	National	Regional
Awareness-raising		
<p>The European Commission should consider further promoting open education by:</p> <ul style="list-style-type: none"> • Contributing to awareness-raising on open education among all EU Member States • Incentivising MS to integrate open education into their national education strategies 	<p>Ministries should consider being initiators and supporters of OE initiatives. This can be done by:</p> <ul style="list-style-type: none"> • Being a strategist and drafting, proposing and supporting initiatives and policies on OE • Promoting awareness-raising activities on OE for teachers, learners, the community and all interested parties • Making the policies clear and openly available (transparency) • Awareness-raising towards empowering open learners to be able to tap into open education: via free-of-charge and face-to-face adult learning courses in local centres, printed and digitised material, open online courses or MOOCs on how to study online, how to find content and courses, how to use and reuse, how to create and share content, how to follow a study path, how to apply for a formal or non-formal certificate. 	<p>Regional education authorities should consider being initiators and supporters of local policies on open education whenever possible. This can be done by:</p> <ul style="list-style-type: none"> • Designing a roadmap for policy implementation and evaluation, with goals and a strategy for the region • Making the policies clear and openly available (transparency) • Promoting open education locally to schools, universities, teachers, learners, and the community, via diverse awareness-raising activities
Regulation, legislation and funding		
<p>The European Commission should consider:</p> <ul style="list-style-type: none"> • Continuing to introduce and integrate open education into all relevant policy documents • Providing specific funding for initiatives on OE within European Programmes such as Erasmus+ and Horizon 2020 	<p>Ministries should consider:</p> <ul style="list-style-type: none"> • Including OE in national education plans or strategies • Designing a specific strategy for open education for the country • Creating national education initiatives which provide the opportunity for a stream of funding to be put into open education • Providing funding for national stakeholders for infrastructure maintenance and update whenever appropriate 	<p>Regional education authorities should consider:</p> <ul style="list-style-type: none"> • Developing a regional strategy for open education, aligned with the national strategy • Providing funding opportunities for parties interested in developing open education initiatives which are aligned with the regional strategy

⁶² <http://publications.jrc.ec.europa.eu/repository/bitstream/JRC101436/jrc101436.pdf> . Check the report annex for a checklist and worksheet.

EU	National	Regional
Partnerships and collaboration		
<p>The European Commission should consider taking the lead in building and supporting open education ecosystems in Europe. This could be done by:</p> <ul style="list-style-type: none"> • Facilitating a European network for open education in which MS, regional authorities and other interested parties could work closely together and spot opportunities for partnerships and collaboration (e.g. via an open education working group, or any other form of peer-to-peer learning/information exchange platform) 	<p>Ministries should consider being active stakeholders for open education take-up. This could be done by:</p> <ul style="list-style-type: none"> • Acting as partners in open education initiatives developed by all sectors of society: schools, universities, businesses, public organisations, NGOs • Collaborating with regional stakeholders (governments, regional authorities, industry, NGOs etc.) in the development and implementation of their strategy for open education 	<p>Regional education authorities should consider:</p> <ul style="list-style-type: none"> • Collaborating with local stakeholders to realise the region's open education strategy • Partnering with schools, universities, businesses and NGOs to propose and carry out local open education initiatives • Collaborating with national governments to design effective local OE policies
Teachers' (continuous) professional development		
<p>The European Commission should consider:</p> <ul style="list-style-type: none"> • Creating regular opportunities for Member States to exchange information on the various practices on teachers' CPD they may have developed with a focus on open education 	<p>Ministries should consider taking a leading role in providing training for teachers and lecturers on open education. This can be done by:</p> <ul style="list-style-type: none"> • Designing and offering (recognised) training and other continuous professional development activities alongside regional authorities and other stakeholders on open education practices for teachers and any other interested parties • Requiring that both pre-service and in-service teachers and headteachers go through appropriate training on OEP 	<p>Regional education authorities should consider various ways to promote local capacity-building for teachers, such as:</p> <ul style="list-style-type: none"> • Providing and/or supporting (recognised) training for teachers and lecturers on all aspects of OEP • Requiring/making sure that both pre-service and in-service teachers and headmasters go through appropriate training on OEP
Accreditation and recognition of open learning		
<p>The European Commission should consider:</p> <ul style="list-style-type: none"> • Exploring how existing frameworks for the recognition of non-formal learning could be effectively used for open education within the context of contemporary open education practices • Proposing a European reward and incentives system for open education initiatives 	<p>Ministries should consider:</p> <ul style="list-style-type: none"> • Providing the legal frameworks for schools and universities to take the necessary steps towards the recognition of OEP as one of the paths for career development and progression of teachers and lecturers • Providing the legal frameworks for open learning to be formally recognised at all levels of 	<p>Regional education authorities should consider:</p> <ul style="list-style-type: none"> • Providing recognition for teacher training on "how to do" open education, in terms of content production, reuse and sharing, pedagogies and assessment for open learning

	<p>formal education</p> <ul style="list-style-type: none"> • Supporting digitally signed certificates, digital credentials and badges • Exploring new ways to verify and store credentials, such as by decentralised networks and/or consortia models • Promoting the formal recognition of time spent on creating and engaging with open education activities; for career development and progression purposes 	
--	---	--

EU	National	Regional
Open educational resources (OER)		
<p>The European Commission should consider being a catalyst for OER adoption, use and reuse. This could be done by:</p> <ul style="list-style-type: none"> • Discussing with stakeholders the implementation of the General Data Protection Regulation (GDPR) in relation to educational materials and how to work with it in practice, taking into account the contexts of different MS • Fostering whenever possible the use of open licenses for publicly funded materials • Requiring (and following-up) grantees of EU funds to make deliverables available under open licenses, whenever there are no sensitivity restrictions. These deliverables should also be made available online for easy access by any interested party • Supporting MS in the development of OER in different languages and in disseminating them 	<p>Ministries should consider taking a leading role in fostering the take-up and use of OER. This could be done by:</p> <ul style="list-style-type: none"> • Requiring that publicly funded educational materials and research are published under an open license • Providing training for teachers specifically for OER production, use and reuse, as well as pedagogical principles for teaching with them • Working in collaboration with schools, teachers and other organisations to harvest quality OER and create databases/platforms for public access. These should reflect the national curriculum and priority areas for continuous professional development of the population in general (e.g. digital competence). • Granting specific organisations or interested parties the role of keeping OER updated in national databases/platforms 	<p>Regional education authorities should consider:</p> <ul style="list-style-type: none"> • Being co-responsible for OER production and use within their region (alongside schools, universities, NGOs, businesses and industries), taking into account the subject areas or topics that most need to be promoted in the region (e.g. local needs, local strengths) • Exploring how open educational resources can help bridging the skills gap and support smart specialisation⁶³ strategies in the region
Support and infrastructure		
<p>The European Commission should consider taking a leading role in the provision of support and infrastructure to MS to foster their open education activities. This could</p>	<p>Ministries should consider:</p> <ul style="list-style-type: none"> • Providing a common technological infrastructure in which to 	<p>Regional education authorities should consider:</p> <ul style="list-style-type: none"> • Co-designing and co-sponsoring regional

⁶³ <http://s3platform.jrc.ec.europa.eu/>

<p>be done by:</p> <ul style="list-style-type: none"> • Creating and supporting technology infrastructures (by providing a common EC platform in which MS could access and publish OER, MOOCs, provide training and have communities of practices). It should observe being open source and interoperable with other formats, as well as based on the participatory web. The MS should have full responsibility over their share of the platform; common services and joint activities to be offered to all. • Supporting the approach for information-tracking, making available and keeping up to date an open-licensed and open source platform which gathers information and results of all EC-funded projects (research and practice) on open education, OER, and digital technologies for education 	<p>build open education initiatives (based on the participatory web)</p> <ul style="list-style-type: none"> • Requesting that websites and new education platforms built with public funds by any organisation meet open source and interoperability standards • Encouraging and providing infrastructure for schools and universities to experiment with new types of digital certification, to include those based on the blockchain 	<p>platforms/databases of OER, based on the principle of the participatory web</p> <ul style="list-style-type: none"> • Working in partnership with ministries, local governments, schools and universities to foster citizens' digital competence for open educational practices • Empowering individuals to be open learners (awareness-raising, skills development), by working alongside other stakeholders in the development of the technological infrastructure and support which are necessary to reach the local community and wider audiences • Supporting open learners in using technologies as routes to developing their employability (e.g. via face-to-face adult learning courses, printed and digitised materials, open online courses or MOOCs)
EU	National	Regional
Research and evidence		
<p>The European Commission should consider:</p> <ul style="list-style-type: none"> • Evaluating a full policy cycle on open education in the EU • Continuing to publish evidence-based research on OE to support decision making in Member States (e.g. OpenEdu Policies research) • Further disseminating its existing research and guidelines on best practices in OE for all sectors • Developing new research and updating guidelines regularly to keep pace with OE developments whenever appropriate 	<p>Ministries should consider:</p> <ul style="list-style-type: none"> • Researching the state-of-the-art of open education in the country regularly (e.g. every two years) and publishing the updates • Planning the evaluation of regional open education policy cycles within specific timeframes 	<p>Regional education authorities should consider:</p> <ul style="list-style-type: none"> • Planning the evaluation of regional open education policy cycles within specific timeframes • Researching the open education 'state-of-the-art' of its region and proposing action • Publishing regular updates on the OE developments in the region

5 Policy Examples and Cross-References to the Case Study Report

The policies and case studies mentioned in this section are taken from the report *Policy Approaches for Open Education – Case Studies from 28 EU Member States*⁶⁴ (JRC, 2017)

Type of policy (Quadrant 1): focus on open education, promotion of OER and open educational practices
Level: National (initiative)

One of the main foci of the national policy “Open Educational Practices in Scotland” (OEPS) is **collaboration**. The policy goes beyond OER to provide practitioners with a peer-support network on open education for practitioners, which focuses on pedagogies and open educational resources. OEPS was launched and funded by the Scottish government to increase equity and social justice and is led by the Open University in Scotland. The policy applies to all universities and colleges in the country, and also to the non-formal education sector.

OEPS has 1.3 million euros of funding for three years initially (from 2014). It has already had an impact in creating partnerships between institutions, through the platform OpenLearnWorks⁶⁵, which supports the collaborative design of OER among the different HEIs involved with OEPS. The policy interplays with a number of dimensions of the *OpenEdu Framework*: access, content, pedagogy, collaboration, strategy, quality and leadership.

Type of policy (Quadrant 1): focus on open education, promotion of OER and open educational practices
Level: National (initiative)

The various initiatives on open education in France are examples of partnership and leadership at a ministerial level. The Ministry of Higher Education and Research initiated the FUN MOOC initiative back in 2013 in response to the need to enhance digital technology use in HE for teaching and learning purposes, making it part of France’s Digital Strategy. HE lecturers had argued for an MOOC platform in which they had control over editorial rights, hence the birth of FUN MOOC. This is an example of a bottom-up, top-down approach to policymaking.

The French model is nationwide. The Ministry conceptualised the FUN MOOC initiative, gave it initial funding, and afterwards created a public organisation which took over responsibility for it (now FUN MOOC-GIP – Groupement d'Intérêt Public). This public organisation is supervised by the Ministry and has external stakeholders in charge of its administration. It receives partial funding (40%), and is responsible for generating the other 60% of its income. It does this mostly via membership fees paid by universities, partnerships with third parties and fees for verified certificates.

Type of policy (Quadrant 2): policies on ICT for learning with some components of open education

⁶⁴ Upcoming JRC report , 2017

⁶⁵ www.open.edu/openlearnworks

Level: national (initiative)

In Portugal, the Directorate General of Education plays a technical role when it comes to policies but it is the national government which defines them. Some regional governments are responsible for specific areas of education.

In terms of policy, *Conta-nos uma história* is a initiative for schools with national government support, which focuses on ICTs (responsible media production and use). It is a competition, in which stories are submitted to the initiative's website by the schools themselves. Even young learners who are not yet literate can submit stories via their schools. This initiative has proven to be an important way of fostering education for the use of media. As producers of content, students learn to be responsible and critical consumers of media content.

All the content available on *Conta-nos uma história* is licensed under a Creative Commons license. The initiative cross-references with the following *OpenEdu Framework* dimensions: access, content, pedagogy, leadership and collaboration.

Type of policy (Quadrant 3): educational strategy with some components of open education

Level: National (legislation)

In the Flanders region in Belgium, open and online education is not itself a policy objective; **it is related to other HE policy objectives** with regard to accessibility and flexibility, lifelong learning and innovation in HE. It is seen as a tool that contributes to improving flexibility and innovation in HE. It is also used to develop learning paths for mature students and for students who are studying and working.

The legislation on HE covers many different areas, including some aspects of open (and online) education, such as recognition of prior learning – RPL (formal, non-formal and informal learning). Therefore, in Flanders, policies on open education (RPL specifically) are embedded into higher-level policies.

The law in Belgium states that universities have to comply with recognition conventions when they deal with students' applications for recognition – every applicant has the right to fair judgement and treatment of their application, whatever this may be (e.g. work experience, MOOC, foreign study experience). Belgium uses the CODEX⁶⁶ (Codex Hoger Onderwijs) of HE to collect all HE legislation. It was released in 2013 and is a post-factum collection of all the legislation that existed up until that moment. RPL was introduced into the legislation in 2004.

Type of policy (Quadrant 4): national open government plan with some components of open education

Level: National (initiative)

In Greece, the **3rd National Action Plan on Open Government 2016-2018** has a clear commitment to open education.

⁶⁶ <http://data-onderwijs.vlaanderen.be/edulex/document.aspx?docid=14650#13>

The two main open education projects that were launched by the Ministry as part of the Action Plan were *Open Academic Lessons* and the depository *Photodentro*⁶⁷. These projects aimed to create open lessons for everyone at all academic levels. Together they cost €25 million. Many more projects are due to be funded in order to implement open education policy across all education levels.

The most important policy dimensions of the 3rd National Action Plan on Open Government 2016-2018 are: open data, open materials, open lessons, open collaboration, open research, open certification, and open source.

⁶⁷ <http://photodentro.edu.gr> states (in translation): "Photodentro is the National Repository of Learning Content for Primary and Secondary Education. It is the central e-service of the Ministry of Education for unified search and distribution of digital educational content to schools. It is open to everyone: students, teachers, parents and anyone else interested... It promotes the use of open educational resources (OER) for schools, implementing the national strategy for digital educational content. All material is freely available under license Creative Commons CC BY-NC-SA or other similar, more open licenses."

6 Conclusions

The OpenEdu Policies research leads us to conclude that appropriate and sustainable policies are needed in order to further promote and support open education in the EU Member States. The research participants argued that policies play a central role in supporting practices and promoting a mindset change. However, the “making of policies” for the successful implementation of open education in the various education systems should not be undertaken by a single player, nor should an exclusively top-down approach be taken. Instead, a **multi-stakeholder approach should be encouraged**.

The EU, ministries and regional authorities have been identified as key stakeholders. These should provide the infrastructure for the creation of a European **open education ecosystem**. This means fostering the conditions for OE to flourish simultaneously on different fronts, such as the ones described in the 10 dimensions of open education in the *OpenEdu Framework*.

Other stakeholders identified were: associations (of universities, rectors, and students), educational institutions, NGOs, intergovernmental organisations (UNESCO/OECD, COL, etc.), existing advocacy communities, coalitions, and open government partnerships. Besides collaborating with one another in OE practices, these stakeholders should consider providing straightforward reasons for open education in order to prompt appropriate top-down policies.

In terms of current policies on open education, there is a mix of approaches and types. In some EU Member States, open education policies emerge from national education strategies or ICT for education strategies. In others there are specific policies on open education. In very few Member States do open education policies derive from open government plans.

In addition, as expected, there are few examples of legislation on open education. Often the approach taken is to allow stakeholders (e.g. ministries) to develop initiatives to support national strategies, which are based on some sort of higher-level educational legislation.

Below we highlight the key policy messages to stakeholders, based on the evidence gathered in this research project:

6.1 The role of the European Commission

The EC should consider mediating and supporting the creation of a European open education ecosystem. This ecosystem would scale up open education projects and support a mindset change, which could lead to organisational change.

Participants in the OpenEdu Policies project have called on the EU to consider promoting further action in support of open education, by being a key enabler. The EC has supported open education over the past decade but it could widen its support to promote an entire open education ecosystem. It could do this, for example, by providing funding, research, technological infrastructure, benchmarks, and guidelines to recognition and accreditation of open learning via open education. This would enable a complete modernisation of education via an ethos of openness and new practices at all levels. Furthermore, stakeholders argue that the Member States pay considerable attention to policy documents from the EU, which often support actions proposed at the local level. Therefore the EC should consider sending stronger and clearer messages in support of open education in these documents. It could provide opportunities to further discuss and put forward strategies on how to strengthen the field. It could, for example, dedicate funding lines via Erasmus+, and provide technological infrastructure and tools that could be adapted by the Member States to their specific situations. Participants in the OpenEdu Policies research

also argued that the EC should consider collating and further disseminating the outcomes of all the research carried out by EC-funded projects in the area of open and digital education.

6.2 The role of ministries

The ministries should consider acting in partnership with stakeholders in open education

Participants in the OpenEdu Policies research argued that policies are most effective if they are designed to be carried out in **partnerships** between different stakeholders. This has been demonstrated by the open education experiences in Slovenia and France (Opening Up Slovenia and FUN MOOC respectively). A top-down policy from ministry level, for example, was extremely important for *agenda setting* and *awareness raising* in the two cases mentioned above. However, these experiences were seen as not only the responsibility of the relevant ministries: a simultaneous bottom-up approach was observed, for example involving regional administrations, schools, universities, businesses and NGOs.

The role of the ministries is therefore seen by the participants as that of providing the right framework for action, for example by:

- **setting up a national strategy**, possibly embedded in an existing education strategy
- **promoting initiatives** on open education at all levels and enabling the involvement of different stakeholders: schools, universities, national agencies, associations, NGOs, businesses, industry, individuals, etc.
- **collating, disseminating and making easily available** the existing knowledge on open education (OE) in the country (e.g. research, content, tools, infrastructure)
- **supporting** pre-service and in-service education for teachers on open educational practices
- **supporting** the development of and enabling and **encouraging legislation** on open education, making use of existing and available networks

The ministries therefore have a central role when it comes to national-level support and dissemination of open education. Without their support, isolated initiatives tend to evolve more slowly.

6.3 The role of the regions and regional authorities

Regions should consider providing capacity-building on open education to its educators, and work as partners of the ministries in the development, funding and co-management of OE initiatives.

Regions were also seen as playing an important role in acting both as initiators of local policies and as co-designers and supporters of national-level policies, which would benefit from a top-up with local funding. Policies at the local level are normally supported by regional authorities, but can also be prompted by advocacy coalitions which provide advice to the regional authorities. Regional policies also serve as inspiration for national ones, and as pilots for more comprehensive policies.

Regional open education policies can also be tailored to meet local needs. In this sense Smart Specialisation and capacity-building via open education can go hand in hand. But this requires strategic design and work in partnership with schools, universities and local businesses.

In summary, contemporary open education calls for multi-stakeholder action to create an ecosystem in which open practices can flourish. Open Education is not the exclusive domain of any one institution – be it a school, a university or even a ministry. Openness can and should be promoted by all in order to achieve transparency, collaboration and above all social accountability in educational practices.

References

- Alquezar-Sabadie, J.J., Castaño-Muñoz, J., Punie, Y., Redecker, C., Vuorikari, R. (2014/05) OER: A European Policy Perspective. *Journal of Interactive Media in Education (JIME)*
- Arnold, D., Wade, J. (2015) A Definition of Systems Thinking: A Systems Approach. In: *Procedia Computer Science* Vol. 44, pp. 669-678.
- Butcher N., Wilson-Strydom M. (2008) Technology and Open Learning: The Potential of Open Education Resources for K-12 Education. In: Voogt J., Knezek G. (eds) *International Handbook of Information Technology in Primary and Secondary Education*. Springer International Handbook of Information Technology in Primary and Secondary Education, vol 20. Springer, Boston, MA.
- Carretero, S., Vuorikari, R., Punie, Y. (2017) *The Digital Competence Framework for Teachers: with eight proficiency levels and examples of use*. Joint Research Centre, European Commission. Available at http://publications.jrc.ec.europa.eu/repository/bitstream/JRC106281/web-digcomp2.1pdf_%28online%29.pdf. Last accessed 20th June 2017.
- Castaño-Muñoz, J., Kreijns, K., Kalz, M. and Punie, Y. (2016) Does digital competence and occupational setting influence MOOC participation? Evidence from a cross-course survey. In: *Journal of Computing in Higher Education*, 29:p. 28-46. Available at <https://rd.springer.com/content/pdf/10.1007%2Fs12528-016-9123-z.pdf>
- European Commission (2016) Assessment of the impact of the European Copyright Framework on digitally supported education and training practices. Available at: <https://publications.europa.eu/en/publication-detail/-/publication/1ba3488e-1d01-4055-b49c-fdb35f3babc8/> Last accessed 21st June 2017.
- Garret, R. (2016) *The State of Open Universities in the Commonwealth: A Perspective on Performance, Competition and Innovation*. *British Columbia: Commonwealth of Learning*. Available at: <https://www.col.org/resources/state-open-universities-commonwealth-perspective-performance-competition-and-innovation> Last accessed 13th June 2017.
- Hörner and Stephenson (2013) EU policy evaluation should make greater use of interpretative, qualitative research methods. Available at: <http://blogs.lse.ac.uk/europpblog/2013/01/10/eu-policy-evaluation/> Last accessed 27th June 2017.
- Inamorato dos Santos, A., Punie, Y. and Castaño-Muñoz, J. (2016), *Opening up Education: A Support Framework for Higher Education Institutions*, JRC Science for Policy Report, European Commission, EUR 27938, doi 10.2791/293408. Available at: <https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/opening-education-support-framework-higher-education-institutions>. Last accessed 30th May 2017.
- Latanich, G., Nonis, S. Hudson, G. (2008) Profile of Today's Distance Learners: An Investigation of Demographic and Individual Difference. In *Journal of Marketing for Higher Education*, 11:3,1-16. Available online at http://dx.doi.org/10.1300/J050v11n03_01. Last accessed 21st June 2017.
- McAndrew, Patrick; Godwin, Stephen and Santos, Andreia (2009). Research 2.0: How do we know about the users that do not tell us anything? In: Vavoula, Giasemi; Pachler, Norbert and Kukulska-Hulme, Agnes eds. *Researching Mobile Learning: Frameworks, Tools and Research Designs*. Bern, Switzerland: Peter Lang, pp. 277–288. Available at <http://oro.open.ac.uk/23854/1/mcandrew-rmiml-submitted.pdf>. Last accessed 26th June 2017.

- McAndrew, P. (2010) Defining openness: updating the concept of "open" for a connected world. JIME: Journal of Interactive Media in Education. Available at:
<http://www-jime.open.ac.uk/articles/10.5334/2010-10/> Last accessed 21st June 2017.
- Miao, F., Mishra. S., McGreal, R. (2016, eds.) *Open Educational Resources: policy, costs and transformation. UNESCO and Commonwealth of Learning*. Available at <http://unesdoc.unesco.org/images/0024/002443/244365e.pdf> . Last accessed 13th June 2017.
- Orr, D., Rimini, M., Van Damme, D. (2015) *Open Educational Resources: a catalyst for innovation*. Available at <http://www.oecd.org/innovation/open-educational-resources-9789264247543-en.htm> . Last accessed 13th June 2017.
- van Mourik Broekman, P., Hall, G., Byfield, T., Hides, S. and Worthington, S. (2014) *Open education: A study in disruption*. London: Rowman & Littlefield International. Available at <https://curve.coventry.ac.uk/open/file/c04530ce-d16a-46ca-b359-a905195a76cb/1/Open%20education.pdf> Last accessed 10th July 2017.
- Rudestam, K. E. and Schoenholtz-Read, J. (2002). *Handbook of Online Learning Innovations in Higher Education and Corporate Training*. Sage Publications. ISBN: 0 761 92402 7.

Acronyms

EC	European Commission
EU	European Union
HE	Higher education
HEI	Higher education institution
LLL	Lifelong learning
MS	Member States
MOOC	Massive open online course
NGO	Non-governmental organisation
OE	Open education
OEP	Open educational practices
OER	Open educational resources
VET	Vocational education and training

List of Figures

FIGURE 1. OPENEDU PROJECT RESEARCH DESIGN	ERROR! BOOKMARK NOT DEFINED.
FIGURE 2. THE 10 DIMENSIONS OF OPEN EDUCATION, <i>OPENEDU FRAMEWORK</i> (2016)	10
FIGURE 3. RESEARCH STRUCTURE OF OPENEDU POLICIES	11
FIGURE 4. FOUR-QUADRANT DIAGRAM ON TYPES OF POLICIES ON OPEN EDUCATION.....	24
FIGURE 5. SYSTEMIC APPROACH TO POLICYMAKING	25

***Europe Direct is a service to help you find answers
to your questions about the European Union.***

Freephone number (*):

00 800 6 7 8 9 10 11

(*) The information given is free, as are most calls (though some operators, phone boxes or hotels may charge you).

More information on the European Union is available on the internet (<http://europa.eu>).

HOW TO OBTAIN EU PUBLICATIONS

Free publications:

- one copy:
via EU Bookshop (<http://bookshop.europa.eu>);
- more than one copy or posters/maps:
from the European Union's representations (http://ec.europa.eu/represent_en.htm);
from the delegations in non-EU countries (http://eeas.europa.eu/delegations/index_en.htm);
by contacting the Europe Direct service (http://europa.eu/eurodirect/index_en.htm) or
calling 00 800 6 7 8 9 10 11 (freephone number from anywhere in the EU) (*).

(*) The information given is free, as are most calls (though some operators, phone boxes or hotels may charge you).

Priced publications:

- via EU Bookshop (<http://bookshop.europa.eu>).

JRC Mission

As the science and knowledge service of the European Commission, the Joint Research Centre's mission is to support EU policies with independent evidence throughout the whole policy cycle.



EU Science Hub
ec.europa.eu/jrc



@EU_ScienceHub



EU Science Hub - Joint Research Centre



Joint Research Centre



EU Science Hub



Publications Office

doi:10.2760/111707

ISBN 978-92-79-73496-0