Going Open

Policy Recommendations on Open Education in Europe (OpenEdu Policies)

Andreia Inamorato dos Santos
Editors: Yves Punie, Konstantin D.A. Scheller

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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”.
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.

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Thanks also to the team at the Universidad Internacional de la Rioja (UNIR), 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:

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

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

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 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.

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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 Policies\(^6\) 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 reports\(^7\) 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:


\(^{7}\) *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).
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 strategy. 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

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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 Resources10, 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.

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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.

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

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11 School education, higher education, adult learning, VET and non-formal learning.
prevalence of textbooks in schools, dedicated open textbooks have been developed and used in a number of countries\textsuperscript{13}.

- 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)\textsuperscript{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 communication\textsuperscript{15} 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 Communications\textsuperscript{16} 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

\textsuperscript{13} For example, see Poland’s experience: https://www.opensocietyfoundations.org/voices/poland-pioneering-worlds-first-national-open-textbook-program
\textsuperscript{14} http://www.un.org/sustainabledevelopment/education/
\textsuperscript{15} http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=celex:52013DC0654
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 education\(^\text{17}\), 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 Education\(^\text{18}\), 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’ polices make reference to the social dimension of open education and its contribution to increasing transparency in educational

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\(^{17}\) 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.

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 OpenCred\(^{20}\) 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 stakeholders\(^{22}\). The case studies on Slovenia and France in the upcoming JRC report\(^{23}\) 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)*

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\(^{22}\) *Policy Approaches to Open Education – Case Studies from 28 EU Member States – forthcoming JRC report*

\(^{23}\) As above
In the OpenSurvey report\textsuperscript{24} (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 study\textsuperscript{25} 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 study\textsuperscript{26} 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

\textsuperscript{24} http://publications.jrc.ec.europa.eu/repository/bitstream/JRC99959/lfna27750enn.pdf
\textsuperscript{25} http://ftp.jrc.es/EURdoc/JRC85471.pdf
\textsuperscript{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 report[^28] (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
The process of opening up education does not come without its challenges. In the OpenSurvey report\(^\text{31}\) 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 group\(^\text{32}\), the ReOpen\(^\text{33}\) project; the Open Badge Network\(^\text{34}\), and the MIRVA\(^\text{35}\) project, to cite a few). It is expected that over

\(^{33}\) [http://reopen.eu/](http://reopen.eu/)
\(^{34}\) [http://www.openbadgenetwork.com/](http://www.openbadgenetwork.com/)
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, 2015-1636). 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 Declaration37 (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.

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.

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

- Q1: Policies focusing on open education, promoting OER and open educational practices
- Q2: Policies on ICT for learning with some components of open education
- Q3: Educational strategy policies with some components of open education
- Q4: Policies from national open government plans with some components of 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).
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 studies 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 areas 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.

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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 policies\(^{46}\) at the national level sometimes take the form of legally-binding regulations (e.g. the National Centre for Curriculum Development in Non-Proprietary Systems\(^{47}\) - 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 INTEF\(^{49}\), 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.


\(^{49}\) 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 another, 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 scale. 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 frameworks 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 MOOC. Some institutions belonging to this network have started to recognise each other’s certificates. In the Netherlands, 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

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 Moocknowledge study: http://moocknowledge.eu/
60 http://blogs.lse.ac.uk/europpblog/2013/01/10/eu-policy-evaluation/
### 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*.

#### Awareness-raising

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<tr>
<th>EU</th>
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<tr>
<td><strong>The European Commission</strong> should consider further promoting open education by:</td>
<td><strong>Ministries</strong> should consider being initiators and supporters of OE initiatives. This can be done by:</td>
<td><strong>Regional education authorities</strong> should consider being initiators and supporters of local policies on open education whenever possible. This can be done by:</td>
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<tr>
<td>- Contributing to awareness-raising on open education among all EU Member States</td>
<td>- Being a strategist and drafting, proposing and supporting initiatives and policies on OE</td>
<td>- Designing a roadmap for policy implementation and evaluation, with goals and a strategy for the region</td>
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<td>- Incentivising MS to integrate open education into their national education strategies</td>
<td>- Promoting awareness-raising activities on OE for teachers, learners, the community and all interested parties</td>
<td>- Making the policies clear and openly available (transparency)</td>
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<td>- Making <strong>Awareness-raising towards empowering</strong> 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.</td>
<td>- Promoting open education locally to schools, universities, teachers, learners, and the community, via diverse awareness-raising activities</td>
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#### Regulation, legislation and funding

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<tr>
<td><strong>The European Commission</strong> should consider:</td>
<td><strong>Ministries</strong> should consider:</td>
<td><strong>Regional education authorities</strong> should consider:</td>
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<tr>
<td>- Continuing to introduce and integrate open education into all relevant policy documents</td>
<td>- Including OE in national education plans or strategies</td>
<td>- Developing a regional strategy for open education, aligned with the national strategy</td>
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<td>- Providing specific funding for initiatives on OE within European Programmes such as Erasmus+ and Horizon 2020</td>
<td>- Designing a specific strategy for open education for the country</td>
<td>- Providing funding opportunities for parties interested in developing open education initiatives which are aligned with the regional strategy</td>
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<td>- Creating national education initiatives which provide the opportunity for a stream of funding to be put into open education</td>
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<td>- Providing funding for national stakeholders for infrastructure maintenance and update whenever appropriate</td>
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**Partnerships and collaboration**

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<tr>
<td><strong>The European Commission should consider</strong> taking the lead in building and supporting open education ecosystems in Europe. This could be done by:</td>
<td><strong>Ministries</strong> should consider being active stakeholders for open education take-up. This could be done by:</td>
<td><strong>Regional education authorities</strong> should consider:</td>
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| • 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) | • Acting as partners in open education initiatives developed by all sectors of society: schools, universities, businesses, public organisations, NGOs | • 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 |

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<tr>
<th>Teachers’ (continuous) professional development</th>
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<tr>
<td><strong>The European Commission should consider:</strong></td>
<td><strong>Ministries</strong> should consider taking a leading role in providing training for teachers and lecturers on open education. This can be done by:</td>
<td><strong>Regional education authorities</strong> should consider various ways to promote local capacity-building for teachers, such as:</td>
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| • 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 | • 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 headmasters go through appropriate training on OEP | • 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 |

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<th>Accreditation and recognition of open learning</th>
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<td><strong>The European Commission should consider:</strong></td>
<td><strong>Ministries</strong> should consider:</td>
<td><strong>Regional education authorities</strong> should consider:</td>
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| • 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 | • 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 | • 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 |
formal education
- **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

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<td>Open educational resources (OER)</td>
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<tr>
<td><strong>The European Commission</strong> should consider being a catalyst for OER adoption, use and reuse. This could be done by:</td>
<td><strong>Ministries</strong> should consider taking a leading role in fostering the take-up and use of OER. This could be done by:</td>
<td><strong>Regional education authorities</strong> should consider:</td>
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<tr>
<td>- 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</td>
<td>- Requiring that publicly funded educational materials and research are published under an open license</td>
<td>- <strong>Being co-responsible</strong> 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)</td>
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<tr>
<td>- <strong>Fostering</strong> whenever possible the use of open licenses for publicly funded materials</td>
<td>- <strong>Providing</strong> training for teachers specifically for OER production, use and reuse, as well as pedagogical principles for teaching with them</td>
<td>- <strong>Exploring</strong> how open educational resources can help bridging the skills gap and support smart specialisation strategies in the region</td>
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<tr>
<td>- <strong>Requiring (and following-up)</strong> 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</td>
<td>- <strong>Working in collaboration</strong> 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).</td>
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<td>- <strong>Supporting</strong> MS in the development of OER in different languages and in disseminating them</td>
<td>- <strong>Granting</strong> specific organisations or interested parties the role of keeping OER updated in national databases/platforms</td>
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**Support and infrastructure**

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<td><strong>The European Commission</strong> should consider taking a leading role in the provision of support and infrastructure to MS to foster their open education activities. This could</td>
<td><strong>Ministries</strong> should consider:</td>
<td><strong>Regional education authorities</strong> should consider:</td>
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<td>- <strong>Providing</strong> a common technological infrastructure in which to</td>
<td>- <strong>Co-designing and co-sponsoring</strong> regional</td>
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63 http://s3platform.jrc.ec.europa.eu/
be done by:

- **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.

- **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.

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<td><strong>Research and evidence</strong></td>
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<td>The <strong>European Commission</strong> should consider:</td>
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<tr>
<td>- <strong>Evaluating</strong> a full policy cycle on open education in the EU</td>
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<td>- <strong>Continuing to publish evidence-based research</strong> on OE to support decision making in Member States (e.g. OpenEdu Policies research)</td>
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<tr>
<td>- <strong>Further disseminating</strong> its existing research and guidelines on best practices in OE for all sectors</td>
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<td>- <strong>Developing</strong> new research and updating guidelines regularly to keep pace with OE developments whenever appropriate</td>
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<td>Ministries should consider:</td>
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<tr>
<td>- Researching the state-of-the-art of open education in the country regularly (e.g. every two years) and publishing the updates</td>
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<tr>
<td>- Planning the evaluation of regional open education policy cycles within specific timeframes</td>
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<tr>
<td>- <strong>Researching</strong> the open education ‘state-of-the-art’ of its region and proposing action</td>
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<tr>
<td>- <strong>Publishing</strong> regular updates on the OE developments in the region</td>
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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 States64 (JRC, 2017)

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.

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.

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64 Upcoming JRC report, 2017
65 www.open.edu/openlearnworks
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.

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.

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

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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. 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.

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


Hörner and Stephenson (2013) EU policy evaluation should make greater use of interpretative, qualitative research methods. Available at: http://blogs.lse.ac.uk/europblog/2013/01/10/eu-policy-evaluation/ Last accessed 27th June 2017.


**Acronyms**

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>EC</td>
<td>European Commission</td>
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<td>EU</td>
<td>European Union</td>
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<td>HE</td>
<td>Higher education</td>
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<td>HEI</td>
<td>Higher education institution</td>
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<td>LLL</td>
<td>Lifelong learning</td>
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<td>MS</td>
<td>Member States</td>
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<td>MOOC</td>
<td>Massive open online course</td>
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<td>NGO</td>
<td>Non-governmental organisation</td>
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<td>OE</td>
<td>Open education</td>
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<td>OEP</td>
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<td>Open educational resources</td>
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